COACHELLA VALLEY
ASSOCIATION OF GOVERNMENTS
Riverside County, California

Certified Environmental Impact Report
(SCH No. 2013111050)

For The

CV LINK MULTI-MODAL TRANSPORTATION PROJECT

PREPARED FOR

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COACHELLA VALLEY ASSOCIATION OF GOVERNMENTS

CV LINK MULTI-MODAL TRANSPORTATION PROJECT

ENVIRONMENTAL IMPACT REPORT

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A. "Notice of Preparation of a Program Environmental Impact Report and Pubic Scoping Meeting," prepared for Coachella Valley Association of Governments, prepared by LSA Associates, Inc. January, 2014.

B. CV Link Route Map Book, November, 2016.

C. CV Link Master Plan Volumes 1 & 2 prepared by Alta Planning + Design, Inc. January, 2016.

D. "Visual Impact Assessment", prepared by Terra Nova Planning & Research, Inc. September 14, 2016.

E. "Air Quality and Greenhouse Gas Report", prepared by Terra Nova Planning & Research, Inc. October, 2016.

F. "Biological Resource Assessment Report and Coachella Valley Multiple Species Habitat Conservation Plan Compliance Analysis", prepared by Amec Foster Wheeler & Infrastructure, Inc., August 23, 2016.

G. "Jurisdictional Delineation Report", prepared by Amec Foster Wheeler & Infrastructure, Inc., Revised November 10, 2016.

H. "Historical Property Survey Report / Archaeological Survey Report", November 23, 2016 and "Findings of No Adverse Effect", prepared by CRM Tech, Inc., November 27, 2016.

I. "Preliminary Subsurface Investigation and Geotechnical Background Report", prepared by Petra Geosciences, Inc., November 7, 2016

J. "Initial Site Assessment", prepared by Terra Nova Planning & Research, Inc. August, 2016

K. "Location Hydraulic Study" Prepared by Stantec Consulting, Inc., July 2016

L. "Summary Floodplain Encroachment Report" prepared by Stantec Consulting, Inc., July, 2016

M. "Natural Environment Study", prepared by Terra Nova Planning & Research, Inc., Revised October 6, 2016

N. "Water Quality Assessment Report", prepared by Stantec Consulting, Inc. September, 2016

O. "Noise Impact Analysis", December 12, 2016 and "CV Link Bridge Pile Driving Noise and Vibration Addendum", November 9, 2016 prepared by Urban Crossroads, Inc.

P. "Community Impact Assessment", prepared by Terra Nova Planning & Research, Inc. August, 2016.

Q. "CV Link Corridor Transportation Analysis", prepared by Urban Crossroads, October 13, 2016

R. Resolution No. 17-003 and Resolution No. 17-004

ENVIRONMENTAL SUMMARY MATRIX

This Environmental Impact Report (EIR) has been prepared to assess the potential environmental impacts that may result from the development of the proposed CV Link Project. CV Link is proposed as a ±49-mile multi-modal transportation path that passes through some of the most developed and populated portions of the Coachella Valley, providing access and connectivity between residential, commercial, recreational, institutional, and other land uses throughout the region, and providing recreational opportunities for pathway users. It is also anticipated that the project will contribute to local reductions in traffic volumes and associated air pollutants.

This EIR evaluates potential impacts associated with the construction and operation of CV Link's Route, from Palm Springs to Coachella. The Proposed Project does not include the City of Rancho Mirage. CV Link will also incorporate and expand the Tahquitz Creek Trail in Palm Springs between South Palm Canyon Drive and the Whitewater Channel. The western termini are at Highway 111 (North Palm Canyon Drive) in northern Palm Springs (the Palm Springs Visitor Center at Tramway Road – access point for the Aerial Tram) and at South Palm Canyon Drive in central Palm Springs providing access to adjacent commercial services and to Downtown Palm Springs, as well as the Tahquitz Canyon Visitor Center.

The eastern terminus of the CV Link Route is at Airport Boulevard (Ave 56) and the Coachella Valley Stormwater Channel (CVSC) in the City of Coachella and the unincorporated community of Thermal. This terminus provides multi-modal access to the administrative offices of the Coachella Valley Unified School District, John Kelley Elementary School, the La Familia Continuing Education High School, a new Riverside County Sheriff's Station, US Post Office, the Jacqueline Cochran Airport, the Horses in the Sun (HITS) facility, and the Thermal Club Race Track (under construction).

To the extent possible, CV Link will be constructed on top of flood control levees and service roads, and at the top of stormwater channel slopes of Tahquitz Creek, the Whitewater River Stormwater Channel (WWR) and the Coachella Valley Stormwater Channel (CVSC). Grade-separated crossings (bridges or under-crossings) of major roadways are proposed. In areas where these major drainage corridors are inaccessible, on-street routes are proposed. Alignment variations using the street network are also analyzed and provide options for near and long-term implementation.

Project Boundary

The pathway Route largely follows, and is to be built upon, the levees of the region's principal watercourses, including Chino Wash, Tahquitz Creek, and the Whitewater River Stormwater Channel/Coachella Valley Stormwater Channel. In some locations, the pathway shares right-of-way with roads and provides direct access to key commercial districts and recreational and institutional venues.

CV Link is a multi-jurisdictional project. The Route analyzed in this EIR will extend across 12 jurisdictions, including eight incorporated cities, unincorporated county lands and three Native American tribes.

Summary of Alternatives

Alternative 1: Project Without Rancho Mirage and Indian Wells: This alternative was developed to analyze the environmental consequences of CV Link buildout but without the participation of the cities of Rancho Mirage and Indian Wells. The primary difference between the Proposed Project and Alternative 1 is the deletion of CV Link improvements in both cities and the provision of logical termini at and in the vicinity of respective city limits.

Under Alternative 1, the CV Link segments generally extending from Frank Sinatra Drive and along the stormwater channel and public streets, are not included. Neither are those street and channel alignments planned in Indian Wells and generally extending from Fred Waring Drive on the west to Washington Street on the east. With the deletion of CV Link segments through Rancho Mirage and Indian Wells, Alternative 1 requires the selection of logical termini at Indian Wells, as have been selected for Rancho Mirage under the Proposed Project.

Alternative 2: Project With All Eight Cities: This project alternative evaluates the environmental impacts associated with a complete and full buildout of the CV Link Route through all of the incorporated cities, unincorporated county and Native American lands from Pam Springs to Coachella. It evaluates all of the prospective Route alignments, including those that pass through the cities of Indian Wells and Rancho Mirage. This alternative, therefore, evaluates all of the alignment variations for the complete 49± mile long Route.

Alternative 3: No Build/No Project: Under the No Project alternative, the existing but limited multi-modal network in the vicinity of the CV Link Route will continue to provide current levels and types of service and facilities. Future facilities planned for and set forth in jurisdiction general plans or their equivalent will continue to expand both intra-city and inter-city multi-modal networks.

Definition of Impacts
The following discussion briefly summarizes each category of analysis, including existing conditions, project impacts and applicable mitigation measures recommended to reduce impacts to acceptable or insignificant levels. Levels of impact include:

Significant and Unavoidable Impacts: Those impacts, which constitute a potentially significant adverse change in the environment.

Potentially Significant Impacts: Those impacts, which, prior to the implementation of mitigation measures, could potentially adversely impact environmental conditions.

Less Than Significant Impacts: Those impacts, which, by virtue of the environmental conditions, predisposing existing development, or the implementation of mitigation measures, are reduced to acceptable or “insignificant” levels.

No Impacts: Those conditions where the Proposed Project will not impact the environmental condition.

Areas of Controversy: There are no known areas of controversy in the project’s physical characteristics that are not resolved by project design, development management and operation, mitigation measures or standard on-going monitoring. The cities of Rancho Mirage and Indian Wells have expressed concern regarding the Proposed Project’s occurrence in their respective jurisdiction. This has led to the development of the alternatives summarized above. Their inclusion in, or exclusion from CV Link is analyzed in Sections 4 and 5 of the EIR.

TABLE M-1: SUMMARY OF IMPACTS AND MITIGATION MEASURES			
Impact	**Level of Impact Before Mitigation**	**Proposed Mitigation Measure(s)**	**Level of Significance after Mitigation**
Section 4.2 Aesthetics			
a) Implementation of the Proposed Project could have a substantial adverse effect on scenic vistas for adjacent residents during construction, if staging areas are located in their viewshed.	Potentially Significant	AES-1: Construction staging areas shall be screened from public view. The screening will consist of a perimeter chainlink fence with a windscreen, which will also provide a view screen. When staging areas' use is complete, the land shall be restored to its original condition.	Less Than Significant
b) Implementation of the Proposed Project would not substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway.	Less Than Significant	No mitigation is required.	Less Than Significant
c) Implementation of the Proposed Project would not substantially degrade the existing visual character or quality of site and its surroundings.	Less Than Significant	No mitigation is required.	Less Than Significant
d) Implementation of the Proposed Project could create a new source of substantial light or glare, which would adversely affect day or nighttime views for residential properties located immediately adjacent to the Route.	Potentially Significant	AES-2: Lighting plans shall be prepared by the project design team, and shall demonstrate that lighting from all fixtures will not extend beyond the edge of the right-of-way. Any lighting fixture proposed above the path shall be fully shielded.	Less Than Significant

TABLE M-1: SUMMARY OF IMPACTS AND MITIGATION MEASURES			
Impact	**Level of Impact Before Mitigation**	**Proposed Mitigation Measure(s)**	**Level of Significance after Mitigation**
Section 4.3 Air Quality			
a) Implementation of the Proposed Project would not conflict with or obstruct implementation of the applicable air quality plan.	Less Than Significant	No mitigation is required.	Less Than Significant
b) Implementation of the Proposed Project would violate SCAQMD air quality standards relating to NOx and fugitive dust during construction, but would not contribute substantially to an existing or projected air quality violation.	Potentially Significant	AQ-1 To reduce particulate matter and NOx emissions construction equipment shall utilize aqueous diesel fuels, diesel particulate filters and diesel oxidation catalyst with a minimum 30% reduction rating during all construction activities. AQ-2 SCAQMD Rule 403 (403.1 specific to the Coachella Valley): A dust control Plan shall be prepared and implemented by all contractors during all construction activities, including ground disturbance, grubbing, grading, and materials import and export. Said plan shall include but not be limited to the following best management practices: • Chemically treat soil where activity will cease for at least four consecutive days; • All construction grading operations and earth moving operations shall cease when winds exceed 25 miles per hour; • Water site and equipment morning and evening and during all earth-moving operations; • Operate street-sweepers on paved roads adjacent to site; • Establish and strictly enforce limits of grading for each phase of development; • Wash off trucks as they leave the project site to control fugitive dust emissions • Cover all transported loads of soils, wet materials prior to transport, provide freeboard (space from the top of the material to the top of the truck) to reduce PM_{10} and deposition of particulate matter during transportation • Use track-out reduction measures such as gravel pads at project access points to minimize dust and mud deposits on roads affected by construction traffic.	Less Than Significant
c) Implementation of the Proposed Project would not result in a cumulatively	Less Than Significant	No mitigation is required.	Less Than Significant

TABLE M-1: SUMMARY OF IMPACTS AND MITIGATION MEASURES			
Impact	**Level of Impact Before Mitigation**	**Proposed Mitigation Measure(s)**	**Level of Significance after Mitigation**
considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions, which exceed quantitative thresholds for ozone precursors).			
d) Implementation of the Proposed Project would not expose sensitive receptors to substantial pollutant concentrations.	Less Than Significant	No mitigation is required.	Less Than Significant
e) Implementation of the Proposed Project would not create objectionable odors affecting a substantial number of people.	Less Than Significant	No mitigation is required.	Less Than Significant
Section 4.4 Biological Resources			
a) Implementation of the Proposed Project could have a substantial adverse effect, either directly or indirectly, or through habitat modifications, on Casey's June Beetle, a species identified as a candidate, sensitive, or special status species (including species listed as threatened or endangered) in local or regional plans, policies, or regulations, or by the California Department of	Potentially Significant	BIO-5 Prior to any construction in that portion of the Proposed Project occurring within the Survey Area for Casey's June Beetle, an HCP containing the following requirements shall be approved by the USFWS. a. Restoration of portions of Tahquitz Creek Golf Course (6.8 acres) to natural wash habitat suitable for CJB as identified on Exhibit 4.4-1. b. Establishment of conservation easement(s) on 6.8 acres of land within the restoration area of Tahquitz Creek Golf course, as described in item 1. c. Installation of 0.07 acres of native landscaping to enhance habitat adjacent to the path.	Less Than Significant

TABLE M-1: SUMMARY OF IMPACTS AND MITIGATION MEASURES			
Impact	**Level of Impact Before Mitigation**	**Proposed Mitigation Measure(s)**	**Level of Significance after Mitigation**
Fish and Game or U.S. Fish and Wildlife Service.		In addition, the following shall be incorporated by CVAG in its management and maintenance of the path within the Survey Area. a. Any and all lighting fixtures shall be turned off between April 1 and May 31 of any year. b. Construction activities will not occur within the Survey Area from April 1 to May 31 of any year. c. An education kiosk will be installed along the CV Link path with information about the species and the importance of native desert wash habitat. d. Signage will be placed along the CV Link path to alert users to the presence of habitat and to encourage respect for and avoidance of undisturbed habitat areas. e. Any lands conserved by CVAG may be available as sites for future CJB propagation, if such propagation is determined to be a viable means of conserving the species. f. Pesticide use on non-listed species is an allowable use, but no take of Casey's June Beetle associated with pesticide use will be authorized by the permit. Application, storage, and use of pesticides, herbicides, insecticides, biocides, and fertilizers in a lawful manner that does not affect Casey's June Beetle is allowed. All such use must occur in accordance with the EPA label on each product. g. CVAG shall post signage at each end of the path within the Survey Area, identifying the area as Casey's June beetle habitat, and cautioning users that mating season for the species occurs between April 1 and May 31. Signage shall also include warnings about not harming the species if it is encountered by the user or impacting adjacent habitat. h. No electronic "bug zappers" will be utilized. i. Irrigation at the surface of the soil will be prohibited in the habitat areas created, restored or conserved by CVAG. j. CVAG shall place $1,000,000.00 in an endowment approved by the Service to be used for the maintenance of all acreage conserved, created or restored as part of this HCP. k. CVAG shall assure that management and maintenance of all acreage conserved, created or restored is contracted in perpetuity with a qualified land management agency/organization approved by the Service.	

TABLE M-1: SUMMARY OF IMPACTS AND MITIGATION MEASURES			
Impact	**Level of Impact Before Mitigation**	**Proposed Mitigation Measure(s)**	**Level of Significance after Mitigation**
b) Implementation of the Proposed Project would not have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service.	Less Than Significant	No mitigation is required.	Less Than Significant
c) Implementation of the Proposed Project could have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.	Potentially Significant	BIO-6 Prior to the initiation of any construction within areas determined by the Jurisdictional Delineation to be waters of the US, a permit or permits shall be approved and issued by the USACE under Section 404 of the CWA to authorize the discharge of dredged or fill material into waters of the US. BIO-7 Prior to the initiation of any construction within areas determined by the Jurisdictional Delineation to be waters of the US or the State, a Water Quality Certification(s) shall be approved and issued by the Colorado River RWQCB (Region 7), and by the Twenty-Nine Palms Band of Mission Indians for lands within Tribal boundaries, under Section 401 of the CWA. BIO-8 Prior to the initiation of any construction within areas determined by the Jurisdictional Delineation to be waters of the State, a permit or permits shall be approved and issued by the Colorado River RWQCB (Region 7) under the Porter Cologne Water Quality Control Act. The permit could be a Construction General Permit, State General Waste Discharge Order, or Waste Discharge Requirements, depending upon the level of impact and the properties of the waterway. BIO-9 Prior to the initiation of any construction within areas determined by the Jurisdictional Delineation to be waters of the State, a 1602 Streambed Alteration Agreement shall be approved and issued by the California Department of Fish and Wildlife.	Less Than Significant

TABLE M-1: SUMMARY OF IMPACTS AND MITIGATION MEASURES

Impact	Level of Impact Before Mitigation	Proposed Mitigation Measure(s)	Level of Significance after Mitigation
d) Implementation of the Proposed Project could interfere with the nesting of birds protected under the MBTA, which would interfere with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.	Potentially Significant	BIO-3 If ground disturbance, tree or plant removal is proposed between February 1st and August 31st, a qualified biologist shall conduct a nesting bird survey within 14 days of initiation of grading onsite focusing on MBTA covered species. If active nests are reported, then species-specific measures shall be prepared. At a minimum, grading in the vicinity of a nest shall be postponed till the young birds have fledged. For construction between September 1st and January 31th, no pre-removal nesting bird survey is required. a. In the event active nests are found, exclusionary fencing shall be placed 200 feet around the nest until such time as nestlings have fledged. Nests of raptors and burrowing owls shall be provided a 500-foot buffer.	Less Than Significant
e) Implementation of the Proposed Project would not conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.	Less Than Significant	No mitigation is required.	Less Than Significant
f) Implementation of the Proposed Project could conflict with the provisions of the Coachella Valley Multiple Species Habitat Conservation Plan.	Potentially Significant	BIO-1 CVAG will be required to pay the local development mitigation fee to mitigate for impacts to covered species and natural communities within the plan area, inside or outside of Conservation Areas. Project activities inside Conservation Areas are subject to the Joint Project Review process to determine consistency with plan goals and objectives. BIO-2 CVAG shall comply with all terms and conditions of the CVMSHCP and Implementing Agreement including, but not limited to: 1) participation in the Joint Project Review Process with the Coachella Valley Conservation Commission for projects within conservation areas as described in Section 6.6.1.1 of the CVMSHCP, and 2) Implementation of the "Land Use Adjacency Guidelines" as described in Section 4.5 of the CVMSHCP for any portion of the proposed project that impact or are adjacent to the Whitewater Floodplain and Santa Rosa and San Jacinto Mountains Conservation Areas. Measures for the "Land Use Adjacency Guidelines" include:	Less Than Significant

TABLE M-1: SUMMARY OF IMPACTS AND MITIGATION MEASURES

Impact	Level of Impact Before Mitigation	Proposed Mitigation Measure(s)	Level of Significance after Mitigation
		a. Drainage: Development of the proposed project adjacent to or within a conservation area shall incorporate plans to ensure that the quantity and quality of runoff discharged to the adjacent conservation area is not altered in an adverse way when compared with existing conditions. Storm water systems shall be designed to prevent the release of pollutants (e.g., toxins, chemicals, petroleum products, exotic plant materials) or other elements that might degrade or harm biological resources or ecosystem processes within the adjacent conservation area. b. Toxics: Development of the proposed project adjacent to or within a conservation area shall be required to incorporate measures to ensure that application of fertilizers, pesticides, herbicides or similar chemicals does not result in any discharge to the adjacent conservation area. c. Lighting: Lighting in areas adjacent to or located within conservation areas shall be shielded and directed away from the conservation area, toward developed areas. Landscape shielding or other appropriate methods shall be incorporated in project designs to minimize the effects of lighting adjacent to or within the adjacent conservation area in accordance with the guidelines included in the Implementation Manual. d. Noise: Noise generated by construction adjacent to or within a conservation area in excess of 75 dBA shall incorporate setbacks, berms, or walls, as appropriate, to minimize the effects of noise on the adjacent conservation area according to Implementation Manual guidelines. e. Invasives: Landscape plans shall be prepared for the proposed project. Landscape plans for areas that are located adjacent to or within a conservation area are prohibited from using invasive, non-native plant species in their design. Prohibited invasive ornamental plant species are listed in Table 4-113 of the CVMSHCP (Appendix E). The Coachella Valley native plant species listed in Table 4-112 of the CVMSHCP shall be incorporated into landscape design within or adjacent to conservation areas.	

TABLE M-1: SUMMARY OF IMPACTS AND MITIGATION MEASURES			
Impact	**Level of Impact Before Mitigation**	**Proposed Mitigation Measure(s)**	**Level of Significance after Mitigation**
		BIO-4 A "take avoidance survey" for the burrowing owl no less than 14 days (in accordance with the Staff Report on Burrowing Owl Mitigation [CDFW 2012]) and no more than 30 days (in accordance with CVWD's Operations and Maintenance Manual) prior to ground breaking activities are required within and outside of conservation areas that contain suitable habitat for this species. Additionally, a final survey must be conducted within 24 hours of the initiation of ground disturbance activities in accordance with the CDFW 2012 protocol. If no burrowing owls are detected during those surveys, implementation of ground disturbance activities could proceed without further consideration of this species assuming there is no lapse between the surveys and construction as the protocol states "time lapses between Project activities trigger subsequent take avoidance surveys including but not limited to a final survey conducted within 24 hours prior to ground disturbance." If burrowing owls are detected during the take avoidance surveys, avoidance and minimization measures would then be required and could include the establishment of a buffer zone, the passive or active relocation of the individual(s) or other measures approved by the CDFW. BIO-10 **Fencing/Signage** – As a means to protect the adjacent lands of the Whitewater Floodplain Conservation Area present on Segment 1 of the CV Link Route (see Appendix B for location of this Segment), fencing and/or regularly placed signage shall be employed near the "top-of-slope" of the levee to prevent people and their pets (particularly dogs being walked by their owners) from straying off the designated CV Link path and into the adjacent natural habitat. Signage shall be placed intermittently along the entire CV Link Segment. BIO-11 **Pet Control** – Additional signage shall be placed intermittently along the entire CV Link Route indicating that all dogs shall be required to be on a leash while traversing CV Link. Aside from preventing individual animals from entering native habitat, the benefits of such a mandate are numerous including facilitating personal safety for other users of the Link, preventing altercations with other dogs present on the path, and increased safety for the individual pet in question (i.e. preventing collisions with bicyclists and LSEV users). In addition, disposal bins for pet waste shall also be provided throughout CV Link.	

TABLE M-1: SUMMARY OF IMPACTS AND MITIGATION MEASURES			
Impact	**Level of Impact Before Mitigation**	**Proposed Mitigation Measure(s)**	**Level of Significance after Mitigation**
		BIO-12 **Interpretive Signage** – Interpretive signs adjacent to areas of native habitat (such as the Whitewater Floodplain Preserve) shall illustrate and educate the public on some of the native wildlife, plant, or vegetation communities present adjacent to CV Link.	
Section 4.5 Cultural Resources			
a) Implementation of the Proposed Project will not cause a substantial adverse change in the significance of a historical resource as defined in § 15064.5.	Less Than Significant	No mitigation is required.	Less Than Significant
b) Implementation of the Proposed Project could cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5.	Potentially Significant	CUL-1 Construction-related earth-moving operations reaching beyond the disturbed surface and near-surface soils shall be monitored by a qualified archaeologist and Native American monitor. If cultural materials more than 50 years of age are discovered, they will be field-recorded and evaluated. The monitors shall be prepared to recover artifacts quickly to avoid construction delays, but will have the power to temporarily halt or divert construction equipment to allow for controlled archaeological recovery if a substantial cultural deposit is encountered. CUL-2 CVAG shall prepare a construction archaeological monitoring program, and the program shall be designed and implemented in coordination with local Native American groups, including the Agua Caliente Band of Cahuilla Indians, and the Twenty-Nine Palms and Cabazon Bands of Mission Indians, who have requested and in some cases wish to participate in such monitoring. CUL-3 Collected artifacts shall be processed, catalogued, analyzed, and prepared for permanent curation in a repository with permanent retrievable storage that would allow for additional research in the future. CUL-4Archaeological site records shall be prepared to document the cultural remains discovered during monitoring and submitted to the Eastern Information Center for incorporation into the California Historical Resources Inventory.	Less Than Significant

TABLE M-1: SUMMARY OF IMPACTS AND MITIGATION MEASURES			
Impact	**Level of Impact Before Mitigation**	**Proposed Mitigation Measure(s)**	**Level of Significance after Mitigation**
		CUL-5 Should unknown archeological or tribal materials become unearthed, the qualified archeologist shall prepare a findings report summarizing the methods and results of the monitoring program, including an itemized inventory and a detailed analysis of recovered artifacts upon completion of the field and laboratory work. The report shall include an interpretation of the cultural activities represented by the artifacts and a discussion of the significance of all archaeological or tribal finds. The submittal of the report to the CVAG, along with final curation of the recovered artifacts, will signify completion of the monitoring program and, barring unexpected findings of extraordinary significance, the mitigation of potential project impacts on cultural and tribal resources. CUL-8 All project-related ground disturbance and construction activities, including access and staging area, shall remain within the APE boundaries. CUL-9 In the event that project changes are made to include land not contained within the designated APE, subsequent surveys and revisions to the HPSR, HRER and ASR shall be required.	
c) Implementation of the Proposed Project could directly or indirectly destroy a unique paleontological resource or site or unique geologic feature	Potentially Significant	CUL-7 In the unlikely event paleontological resources be discovered, the monitor shall, upon discovery of any fossils, quickly salvage them as they are unearthed to avoid construction delays. The monitor shall remove samples of sediments that are likely to contain the remains of small fossil invertebrates and vertebrates. The monitor shall have the authority to temporarily halt or divert grading and excavation equipment to allow for removal of abundant or large specimens.	Less Than Significant
d) Implementation of the Proposed Project could disturb human remains, including those interred outside of dedicated cemeteries	Potentially Significant	CUL-6 Should buried human remains be discovered during grading or project development, in accordance with State law, the County coroner shall be contacted. If the remains are determined to be of Native American heritage, the Native American Heritage Commission and the appropriate local Native American Tribe shall be contacted to determine the Most Likely Descendant (MLD). CVAG shall work with the designated MLD to determine the final disposition of the remains.	Less Than Significant
Section 4.6 Geology and Soils			
a) i) Implementation of the Proposed Project would not be	Less Than Significant	No mitigation is required.	Less Than Significant

TABLE M-1: SUMMARY OF IMPACTS AND MITIGATION MEASURES			
Impact	**Level of Impact Before Mitigation**	**Proposed Mitigation Measure(s)**	**Level of Significance after Mitigation**
impacted by a rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area of based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.			
a) ii) Implementation of the Proposed Project would not be subject to strong seismic ground shaking.	Less Than Significant	No mitigation is required.	Less Than Significant
a) iii) Implementation of the Proposed Project will not result in seismic-related ground failure, including liquefaction.	Less Than Significant	No mitigation is required.	Less Than Significant
a) iv) The Proposed Project is located in an area susceptible to landslides at one location, adjacent to Point Happy at the Indian Wells/La Quinta boundary.	Potentially Significant	GEO-9 In order to address the potential rockfall hazards at Point Happy, the adjoining rock face shall be thoroughly evaluated and scaling of loose rock from the surface of exposed slopes shall be conducted, as determined by the project geologist. The installation of rock catchment devices, such as walls or steel mesh shall be installed, as determined by the project geologist, to mitigate the rockfall hazards.	Less Than Significant
b) The Proposed Project is not located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on or off-site landslide, lateral spreading, subsidence, liquefaction or collapse.	Less Than Significant	No mitigation is required.	Less Than Significant

TABLE M-1: SUMMARY OF IMPACTS AND MITIGATION MEASURES			
Impact	**Level of Impact Before Mitigation**	**Proposed Mitigation Measure(s)**	**Level of Significance after Mitigation**
c) Implementation of the Proposed Project could result in soil erosion or the loss of topsoil.	Potentially Significant	GEO-3 Ground improvements consisting of removal and recompaction of loose, near surface sandy soils, is required to minimize dynamic settlement of dry soils. Other methods may include deep dynamic compaction, additives to the soils, such as cement or fiber (e.g., nylon) and flooding of in-place loose granular soils, to increase the density of the resultant compacted fill and thereby removing or reducing to insignificant levels the tendency to settle under dynamic shaking. Deep foundation elements should also be considered, as determined by the project geologist, when effective at bypassing zones of loose sand subject to dynamic settlement. GEO-7 Utility trench excavations in slope areas or within the zone of influence of structures shall be properly backfilled in accordance with the recommendations of the project geotechnical consultant. Backfill of utilities within roads or public right-of-ways shall be placed in conformance with the requirements of the governing agency (water district, public works department, etc.). Utility trench backfill within the project area shall be placed in conformance with the provisions of the project geotechnical report. In general, service lines extending inside the project area may be backfilled with native soils compacted to a minimum of 90-percent relative compaction. Backfill operations shall be observed and tested to monitor compliance with these recommendations. GEO-8 Installation of slope protection, cutoff walls, deepening of proposed foundations below the maximum depth of scour and comparable measures shall be applied, as determined by the project geologist, to mitigate potential scour and any resulting instability. GEO-10 There shall be a cessation of grading activities during rainstorms or high wind events. The project contractor shall install flow barriers and soil catchments (such as straw bales, silt fences, and temporary detention basins) during construction to control soil erosion.	Less Than Significant
d) Portions of the Proposed Project could be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property.	Potentially Significant	GEO-1 CV Link final design and engineering shall conform to the prevailing California Building Code (CBC) for buildings and other structures, and Caltrans design standards for bridges where appropriate in order to mitigate the effects of groundshaking and earthquake damage. GEO-2 Structural foundation designs and subsurface soil improvements shall be conducted based on the California Code of Regulations Volume 18, Title 14, Article 10, Section	Less Than Significant

TABLE M-1: SUMMARY OF IMPACTS AND MITIGATION MEASURES			
Impact	**Level of Impact Before Mitigation**	**Proposed Mitigation Measure(s)**	**Level of Significance after Mitigation**
		3721[a]) to minimize liquefaction hazards. Such measures shall include but are not limited to overexcavation and hydrocompaction, other remedial grading, strengthening and deepening structural foundations. GEO-4 All grading plans shall include a soil erosion prevention/dust control plan. Blowing dust and sand during grading operations shall be mitigated by adequate watering of soils prior to and during grading, and limiting the area of dry, exposed and disturbed materials and soils during these activities. To mitigate against the effects of wind erosion after site development, a variety of measure shall be provided including maintaining moist surface soils, planting stabilizing vegetation, establishing windbreaks with non-invasive vegetation or perimeter block walls, and using chemical soil stabilizers. GEO-5 Unprotected, permanent graded slopes shall not be steeper than 3:1 (horizontal/vertical) to reduce wind and water erosion. Protected slopes with ground cover may be as steep as 2:1. However, maintenance with motorized equipment may not be possible at this inclination. Fill slopes shall be overfilled and trimmed back to competent material. Fill slope surfaces shall be compacted to 90% of the laboratory maximum density by either over-filling and cutting back to expose a compacted core or by approved mechanical methods. GEO-6 Positive site drainage shall be established during finish grading. Finish grading shall include a minimum positive gradient of 2% away from structures for a minimum distance of 3 feet and a minimum gradient of 1% to the street, channel or other approved drainage course. GEO-11 The project contractor shall ensure that the dust control measures set forth in Sections 4.3 and 4.9 are implemented to control wind-blown sand during construction. Project grading shall be conducted in strict compliance with the requirements of the SCAQMD and the Coachella Valley PM10 SIP. GEO-12 Excavated soils may be used as fill material so long as they are free of organic or deleterious matter. Rocks or concrete larger than 6 inches in greatest dimension shall be removed from fill or backfill material. Prior to integrating reconditioned fill soil onto	

TABLE M-1: SUMMARY OF IMPACTS AND MITIGATION MEASURES			
Impact	**Level of Impact Before Mitigation**	**Proposed Mitigation Measure(s)**	**Level of Significance after Mitigation**
		needed sites, receiving areas shall be scarified, brought to near optimum moisture conditions, and recompacted to at least 90% relative compaction (ASTM D1557). GEO-13 Imported soils (if needed) shall be non-expansive, granular soils meeting the USCS classifications of SM, SP-SM, or SW-SM with a maximum rock size of 3 inches and 5 to 35 percent passing the No. 200 sieve. Imported fill shall be placed in maximum 8-inch lifts (loose) and compacted to at least 90 percent relative compaction (ASTM D 1557) near optimum moisture content. GEO-14 Excavations within sandy soil shall be kept moist, but not saturated, to reduce the potential of caving or sloughing. Where excavations over 4 feet deep are planned, lateral bracing or appropriate cut slopes of 1.5:1 (horizontal/vertical) shall be provided. No surcharge loads from stockpiled soils or construction materials shall be allowed within a horizontal distance measured from the top of the excavation slope and equal to the depth of the excavation. GEO-15 Removal and recompaction of susceptible soils, flooding and surcharging, and/or other ground densification techniques shall be implemented to mitigate hydro-collapse potential. GEO-16 Standard geotechnical practices such as excavation of the expansive soils and replacement with non-expansive compacted fill (by using additional steel reinforcing in foundations, post-tensioned slabs, presoaking, and drainage control devices) shall also be used as determined appropriate by the geotechnical and structural engineers.	
e) The Proposed Project will not use septic tanks or alternative waste water disposal systems.	No Impact	No mitigation is required.	No Impact
Section 4.7 Greenhouse Gas			
a) The Proposed Project will not generate greenhouse gas emissions that exceed SCAQMD thresholds, either directly or indirectly, and will not have a significant impact on the environment.	Less Than Significant	No mitigation is required.	Less Than Significant

TABLE M-1: SUMMARY OF IMPACTS AND MITIGATION MEASURES			
Impact	**Level of Impact Before Mitigation**	**Proposed Mitigation Measure(s)**	**Level of Significance after Mitigation**
b) Implementation of the Proposed Project will not conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases.	Less Than Significant	No mitigation is required.	Less Than Significant
Section 4.8 Hazards and Hazardous Materials			
a) Implementation of the Proposed Project could create a significant hazard to the public or the environment through the disposal of hazardous materials only if the pad-mounted transformers located alongside the route are removed.	Potentially Significant	HAZ-1 If the pad-mounted or pole-mounted transformers situated immediately adjacent to the CV Link alignment must be removed during construction activities, they will be tested for PCBs prior to their removal and disposal. If PCBs are identified, the transformers and associated fluids shall be transported offsite and disposed of in accordance with the standards and requirements of the Riverside County Department of Environmental Health, including draining of materials into approved containers, and secured transport to approved disposal facilities.	Less Than Significant
b) Implementation of the Proposed Project will not create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.	Less Than Significant	No mitigation is required.	Less Than Significant
c) The Proposed Project will not emit hazardous emissions or handles hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school.	Less Than Significant	No mitigation is required.	Less Than Significant

TABLE M-1: SUMMARY OF IMPACTS AND MITIGATION MEASURES			
Impact	**Level of Impact Before Mitigation**	**Proposed Mitigation Measure(s)**	**Level of Significance after Mitigation**
d) The Proposed Project will not be located on a site which is included on a list of hazardous materials sites complied pursuant to Government Code Section 65962.5 and, as a result, would create a significant hazard to public to the public or the environment.	No Impact	No mitigation is required.	No Impact
e) The Proposed Project is not located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area.	No Impact	No mitigation is required.	No Impact
f) The Proposed Project is not within the vicinity of a private airstrip.	No Impact	No mitigation is required.	No Impact
g) The Proposed Project will not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.	Less Than Significant	No mitigation is required.	Less Than Significant
h) The Proposed Project will not expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are	No Impact	No mitigation is required.	No Impact

TABLE M-1: SUMMARY OF IMPACTS AND MITIGATION MEASURES

Impact	Level of Impact Before Mitigation	Proposed Mitigation Measure(s)	Level of Significance after Mitigation
adjacent to urbanized areas or where residences are intermixed with wildlands.			
Section 4.9 Hydrology and Water Quality			
a) Implementation of the Proposed Project could violate water quality standards or waste water discharge requirements.	Potentially Significant	HYD-3. The Proposed Project shall comply with the requirements of the National Pollution Discharge Elimination System (NPDES). HYD-4. As applicable, CV Link construction shall follow the design and development standards and guidelines promulgated by CVWD and RCFCWCD, including but not limited to the *Riverside County Whitewater River Region Stormwater Quality Best Management Practice Design Handbook for Low Impact Development* (RCFCWCD, 2014) and the CVWD *Development Design Manual* (CVWD, 2013). HYD-6 The implementation of BMPs during construction activities shall ensure that erosion and siltation from earthmoving and other construction activities is limited. Exposed soil from excavated areas, stockpiles, and other areas where ground cover is removed shall be stabilized by wetting or other approved means to avoid or minimize the inadvertent transport by wind or water. The project is subject to NPDES Construction General Permit requirements. Project implementation of a Stormwater Pollution Prevention Plan shall be required to ensure that erosion, siltation and runoff do not result in flooding on or off the project sites, and that impacts are less than significant. HYD-7 A Stormwater Pollution Prevention Plan (SWPPP) shall be prepared and implemented during construction of the Proposed Project. The SWPPP shall identify specific best management practices (BMPs) that will be implemented during project construction. BMPs implemented as a part of the project will ensure that the project meets the requirements of the California State Water Resources Control Board (SWRCB) NPDES Construction General Permit and the Caltrans NPDES Permit. BMPs appropriate for and applicable to the CV Link project include the following. Construction-related erosion and sediment controls, including any necessary stabilization practices or structural controls, shall be implemented at and in all potentially affected	Less Than Significant

TABLE M-1: SUMMARY OF IMPACTS AND MITIGATION MEASURES			
Impact	**Level of Impact Before Mitigation**	**Proposed Mitigation Measure(s)**	**Level of Significance after Mitigation**
		drainages. General structural practices may include, but are not limited to, silt fences, earth dikes, drainage swales, sediment traps, check dams, reinforced soil retaining systems, temporary or permanent sediment basins and flow diversion. Temporary erosion and sediment control measures shall be installed during or immediately after initial disturbance of the soil, maintained throughout construction (on a daily basis), and reinstalled until replaced by permanent erosion control structures or restoration of the construction right-of-way is complete. In addition, the following specific actions shall be taken to ensure that impacts are less than significant. a. CV Link construction shall be avoided within the limits of identified waterways as depicted on the Jurisdictional Delineation Report prepared for this EIR, except where authorized by federal, state or local permits. b. Protect inlets and outlets of culverts from construction material intrusions using temporary berms to prevent channel incision, erosion, and sedimentation. c. Erosion control measures appropriate for on-the-ground conditions, including percent slope, length of slope, and soil type and erosive factor, shall be implemented. d. Temporary erosion controls such as straw bales and tubes, geotextiles and other appropriate diversion and impounding materials and facilities shall be properly maintained throughout construction (on a daily basis) and reinstalled (such as after backfilling) until replaced with permanent erosion controls or restoration is complete. e. Where jurisdictional waters are adjacent to the construction right-of-way, the contractor shall install sediment barriers along the edge of the construction right-of-way to contain spoil and sediment within the construction right-of-way. f. Ensure that all employees and contractors are properly informed and trained on how to properly install and maintain erosion control BMPs. Contractors shall require all employees and contractors responsible for supervising the installation and maintenance of BMPs and those responsible for the actual installation and maintenance to receive training in proper installation and maintenance techniques. g. Project scheduling will include efficient staging of CV Link construction that minimizes the extent of disturbed and destabilized work area, and reduces the amount of soil exposed and the duration of its exposure to wind, rain, and vehicle tracking. h. The use of a schedule or flow chart will be incorporated to lay out the construction plan and will allow Link construction to proceed in a manner that keep water quality control	

TABLE M-1: SUMMARY OF IMPACTS AND MITIGATION MEASURES			
Impact	**Level of Impact Before Mitigation**	**Proposed Mitigation Measure(s)**	**Level of Significance after Mitigation**
		measures synchronized with site disturbance, paving and other construction activities. i. The sequencing and time frame for the initiation and completion of tasks, such as site clearing, grading, excavation, path construction, and reclamation, shall be planned in advance to ensure minimization of potential impacts. j. Erosion and sediment control BMPs shall be incorporated into travelway construction plans. HYD-8 To prevent petroleum products from contaminating soils and water bodies, the following BMPs shall be implemented: a. Construction equipment and vehicles shall be properly maintained to prevent leakage of petroleum products. b. Herbicides, fertilizers, vehicle maintenance fluids, petroleum products shall be stored, and/or changed in staging areas established at least 100 feet from delineated streams and other drainages. These products must be discarded at disposal sites in accordance with state and federal laws, rules, and regulations. c. Drip pans and tarps or other containment systems shall be used when changing oil or other vehicle/equipment fluids. d. Areas where discharge material, overburden, fuel, and equipment are stored shall be designed and established at least 100 vegetated (permeable) feet from the edge of delineated streams. e. Any contaminated soils or materials will be disposed of off-site in proper receptacles at an approved disposal facility. f. All erosion control measures shall be inspected and repaired after each rainfall event that results in overland runoff. The project contractor and CVAG shall be prepared year round to deploy and maintain erosion control BMPs associated with CV Link. g. Existing culverts shall be carefully maintained in place in order to ensure that they function properly. Considerations include: maintenance of inlet and outlet elevations, grade, adequate compacted material cover, and inlet/outlet protection. HYD-9 Restoration involves restoring the right-of-way to pre-construction conditions by final grading, installation of permanent erosion control measures such as slope breaks and retaining walls at appropriate distances to prevent rill (channel) formation between slope breaks, and re-establishing vegetation where it has been removed to facilitate construction.	

TABLE M-1: SUMMARY OF IMPACTS AND MITIGATION MEASURES			
Impact	**Level of Impact Before Mitigation**	**Proposed Mitigation Measure(s)**	**Level of Significance after Mitigation**
		a. Cleanup operations shall commence immediately following backfill operations on slopes approaching delineated streams and other drainages. b. Final grading to restore pre-construction contours shall be completed and soil left in pre-existing condition within 7 days after backfilling the trench. c. Restoration crew shall follow construction crews as they work systematically from one end to the other end of each Link alignment. If crews cannot work systematically from one end to the other, then erosion control BMPs shall be maintained on all slopes approaching a delineated stream and adjacent to these sensitive areas. If seasonal or other weather related conditions prevent compliance with these time frames, erosion control BMPs shall be maintained until conditions allow completion of cleanup.	
b) Implementation of the Proposed Project will not substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted).	Less Than Significant	No mitigation is required.	Less Than Significant
c) The Proposed Project would not alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or offsite.	Less Than Significant	No mitigation is required.	Less Than Significant

TABLE M-1: SUMMARY OF IMPACTS AND MITIGATION MEASURES			
Impact	**Level of Impact Before Mitigation**	**Proposed Mitigation Measure(s)**	**Level of Significance after Mitigation**
d) The Proposed Project would not alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate of surface runoff in a manner which would result in flooding on- or off-site.	Less Than Significant	No mitigation is required.	Less Than Significant
e) Create or contribute runoff water, which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff.	Potentially Significant	HYD-6 The implementation of BMPs during construction activities shall ensure that erosion and siltation from earthmoving and other construction activities is limited. Exposed soil from excavated areas, stockpiles, and other areas where ground cover is removed shall be stabilized by wetting or other approved means to avoid or minimize the inadvertent transport by wind or water. The project is subject to NPDES Construction General Permit requirements. Project implementation of a Stormwater Pollution Prevention Plan shall be required to ensure that erosion, siltation and runoff do not result in flooding on or off the project sites, and that impacts are less than significant. HYD-7 A Stormwater Pollution Prevention Plan (SWPPP) shall be prepared and implemented during construction of the Proposed Project. The SWPPP shall identify specific best management practices (BMPs) that will be implemented during project construction. BMPs implemented as a part of the project will ensure that the project meets the requirements of the California State Water Resources Control Board (SWRCB) NPDES Construction General Permit and the Caltrans NPDES Permit. BMPs appropriate for and applicable to the CV Link project include the following. Construction-related erosion and sediment controls, including any necessary stabilization practices or structural controls, shall be implemented at and in all potentially affected drainages. General structural practices may include, but are not limited to, silt fences, earth dikes, drainage swales, sediment traps, check dams, reinforced soil retaining systems, temporary or permanent sediment basins and flow diversion. Temporary erosion and sediment control measures shall be installed during or immediately after initial disturbance	Less Than Significant

TABLE M-1: SUMMARY OF IMPACTS AND MITIGATION MEASURES			
Impact	**Level of Impact Before Mitigation**	**Proposed Mitigation Measure(s)**	**Level of Significance after Mitigation**
		of the soil, maintained throughout construction (on a daily basis), and reinstalled until replaced by permanent erosion control structures or restoration of the construction right-of-way is complete. In addition, the following specific actions shall be taken to ensure that impacts are less than significant. a. CV Link construction shall be avoided within the limits of identified waterways as depicted on the Jurisdictional Delineation Report prepared for this EIR, except where authorized by federal, state or local permits. b. Protect inlets and outlets of culverts from construction material intrusions using temporary berms to prevent channel incision, erosion, and sedimentation. c. Erosion control measures appropriate for on-the-ground conditions, including percent slope, length of slope, and soil type and erosive factor, shall be implemented. d. Temporary erosion controls such as straw bales and tubes, geotextiles and other appropriate diversion and impounding materials and facilities shall be properly maintained throughout construction (on a daily basis) and reinstalled (such as after backfilling) until replaced with permanent erosion controls or restoration is complete. e. Where jurisdictional waters are adjacent to the construction right-of-way, the contractor shall install sediment barriers along the edge of the construction right-of-way to contain spoil and sediment within the construction right-of-way. f. Ensure that all employees and contractors are properly informed and trained on how to properly install and maintain erosion control BMPs. Contractors shall require all employees and contractors responsible for supervising the installation and maintenance of BMPs and those responsible for the actual installation and maintenance to receive training in proper installation and maintenance techniques. g. Project scheduling will include efficient staging of CV Link construction that minimizes the extent of disturbed and destabilized work area, and reduces the amount of soil exposed and the duration of its exposure to wind, rain, and vehicle tracking. h. The use of a schedule or flow chart will be incorporated to lay out the construction plan and will allow Link construction to proceed in a manner that keep water quality control measures synchronized with site disturbance, paving and other construction activities. i. The sequencing and time frame for the initiation and completion of tasks, such as site clearing, grading, excavation, path construction, and reclamation, shall be planned in advance to ensure minimization of potential impacts.	

TABLE M-1: SUMMARY OF IMPACTS AND MITIGATION MEASURES			
Impact	**Level of Impact Before Mitigation**	**Proposed Mitigation Measure(s)**	**Level of Significance after Mitigation**
		j. Erosion and sediment control BMPs shall be incorporated into travelway construction plans. HYD-8 To prevent petroleum products from contaminating soils and water bodies, the following BMPs shall be implemented: a. Construction equipment and vehicles shall be properly maintained to prevent leakage of petroleum products. b. Herbicides, fertilizers, vehicle maintenance fluids, petroleum products shall be stored, and/or changed in staging areas established at least 100 feet from delineated streams and other drainages. These products must be discarded at disposal sites in accordance with state and federal laws, rules, and regulations. c. Drip pans and tarps or other containment systems shall be used when changing oil or other vehicle/equipment fluids. d. Areas where discharge material, overburden, fuel, and equipment are stored shall be designed and established at least 100 vegetated (permeable) feet from the edge of delineated streams. e. Any contaminated soils or materials will be disposed of off-site in proper receptacles at an approved disposal facility. f. All erosion control measures shall be inspected and repaired after each rainfall event that results in overland runoff. The project contractor and CVAG shall be prepared year round to deploy and maintain erosion control BMPs associated with CV Link. g. Existing culverts shall be carefully maintained in place in order to ensure that they function properly. Considerations include: maintenance of inlet and outlet elevations, grade, adequate compacted material cover, and inlet/outlet protection. HYD-11 In order to reduce impacts to waters of the State and US in the Whitewater Floodplain in the vicinity of the Four Seasons development, the in-channel alignment shall be reduced to 14 feet in width from be merged with the top of channel alignment in the vicinity of the DWA well site (APN: 669-590-064) to and shall remain atop the levee as far as the San Rafael discharge channel.	

TABLE M-1: SUMMARY OF IMPACTS AND MITIGATION MEASURES			
Impact	**Level of Impact Before Mitigation**	**Proposed Mitigation Measure(s)**	**Level of Significance after Mitigation**
f) The Proposed Project will not otherwise substantially degrade water quality.	Less Than Significant	No mitigation is required.	Less Than Significant
g) The Proposed Project will not place housing within a 100-year flood hazard area as mapped on a federal Flood Hazards Boundary or Flood Insurance Rate Map or other flood hazard delineation map.	No Impact	No mitigation is required.	No Impact
h) The Proposed Project will place within a 100-year flood hazard area structures which would impede or redirect flood flow.	Potentially Significant	HYD-4. As applicable, CV Link construction shall follow the design and development standards and guidelines promulgated by CVWD and RCFCWCD, including but not limited to the *Riverside County Whitewater River Region Stormwater Quality Best Management Practice Design Handbook for Low Impact Development* (RCFCWCD, 2014) and the CVWD *Development Design Manual* (CVWD, 2013).	Less Than Significant
i) The Proposed Project could expose people to a risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam. j) Inundation by seiche, tsunami, or mud flow.	Potentially Significant	HYD-4. As applicable, CV Link construction shall follow the design and development standards and guidelines promulgated by CVWD and RCFCWCD, including but not limited to the *Riverside County Whitewater River Region Stormwater Quality Best Management Practice Design Handbook for Low Impact Development* (RCFCWCD, 2014) and the CVWD *Development Design Manual* (CVWD, 2013). HYD-10 Human access into the channels during periods of storms and potential flooding shall be restricted by barriers and noticed by signage to ensure that there is no significant risk of injury or death.	Less Than Significant
Section 4.10 Land Use and Planning			
a) The Proposed Project would not physically divide and established community.	Less Than Significant	No mitigation is required.	Less Than Significant

TABLE M-1: SUMMARY OF IMPACTS AND MITIGATION MEASURES			
Impact	**Level of Impact Before Mitigation**	**Proposed Mitigation Measure(s)**	**Level of Significance after Mitigation**
b) The Proposed Project could conflict with applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect as they relate to privacy of adjacent property owners.	Potentially Significant	LU-1 Where CV Link alignments abut residential land uses, and has the potential to affect their privacy, structural and landscape screening as provided in the Conceptual Master Plan standards and guidelines shall be applied.	Less Than Significant
c) The Proposed Project will not conflict with any applicable habitat conservation plan or natural community conservation plan.	Less Than Significant	No mitigation is required.	Less Than Significant
Section 4.11 Energy & Mineral Resources			
a) The Proposed Project will not use large or excessive amounts of fuel or energy in an unnecessary, wasteful, or inefficient manner.	Less Than Significant	No mitigation is required.	Less Than Significant
b) The Proposed project will not constrain local or regional energy supplies, require additional capacity, or substantially affect peak and base periods of electrical demand.	Less Than Significant	No mitigation is required.	Less Than Significant

TABLE M-1: SUMMARY OF IMPACTS AND MITIGATION MEASURES			
Impact	**Level of Impact Before Mitigation**	**Proposed Mitigation Measure(s)**	**Level of Significance after Mitigation**
c) The Proposed Project will not require or result in the construction or expansion of new electrical generation and/or transmission facilities, the construction of which could cause significant environmental effects.	Less Than Significant	No mitigation is required.	Less Than Significant
d) The Proposed Project will not conflict with existing energy standards, including standards for energy conservation.	Less Than Significant	No mitigation is required.	Less Than Significant
e) The Proposed Project will not result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state.	Less Than Significant	No mitigation is required.	Less Than Significant
f) The Proposed Project will not result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan.	Less Than Significant	No mitigation is required.	Less Than Significant
Section 4.12 Noise			
a) The Proposed Project will not result in exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.	Less Than Significant	No mitigation is required.	Less Than Significant

TABLE M-1: SUMMARY OF IMPACTS AND MITIGATION MEASURES

Impact	Level of Impact Before Mitigation	Proposed Mitigation Measure(s)	Level of Significance after Mitigation
b) The Proposed Project will result in exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels.	Potentially Significant	N-1 Project construction activities shall only occur between the permitted hours of each local jurisdiction's Municipal Code. The project construction supervisor shall ensure compliance. N-4 The use of large bulldozers within 100 feet of nearby sensitive land uses (e.g. residential, school, etc.) shall be minimized and avoided if possible. N-6 Alternative piling methods shall be used to reduce the potential impacts at nearby sensitive receiver locations as follows: a. No impact pile driving devices and CIDH piling methods shall be used within 76 feet of sensitive receiver locations near the Thunderbird Channel and Deep Canyon Channel Bridge (as indicated on Table 4). Alternative piling methods are required to reduce the vibration levels at these locations. Based on an evaluation by Caltrans an alternative method, such as Tubex piles, which can produce lower vibration levels of 0.05 in/sec PPV at 25 feet during installation shall be used. Other pile driving alternatives capable of producing equal or lower vibration levels are acceptable. b. Cast-In-Drilled-Hole (CIDH) piling methods, or alternatives capable of producing equal or lower vibration levels, shall be used for the following bridge locations as an alternative to impact pile driving activities planned within 400 feet of sensitive receiver locations (as indicated on Table 4.12-13, below): ▪ Highway 111 Overcrossing ▪ West Magnesia Canyon Channel Bridge at Highway 111 ▪ West Magnesia Canyon Channel Bridge at Library ▪ Cook Street Overcrossing ▪ La Quinta Channel Bridge MMN-7 Residences and other sensitive land uses within 400 feet of the planned pile locations shall be notified of the construction in writing. The notification shall describe the activities anticipated, provide dates and hours, and provide contact information with a description of a noise and vibration complaint and response procedure.	Significant and Unavoidable
c) The Proposed Project will result in a substantial temporary or periodic increase in ambient	Potentially Significant	N-1 Project construction activities shall only occur between the permitted hours of each local jurisdiction's Municipal Code. The project construction supervisor shall ensure compliance.	Significant and Unavoidable

TABLE M-1: SUMMARY OF IMPACTS AND MITIGATION MEASURES			
Impact	**Level of Impact Before Mitigation**	**Proposed Mitigation Measure(s)**	**Level of Significance after Mitigation**
noise levels in the project vicinity above levels existing without the project.		N-2 During all project site construction, all construction equipment, fixed or mobile, shall be equipped with properly operating and maintained mufflers, consistent with manufacturers' standards. The construction supervisor shall place all stationary construction equipment so that emitted noise is directed away from the noise-sensitive receivers nearest the Project site. N-3 The construction supervisor shall locate equipment staging in areas that will create the greatest distance between construction-related noise sources and noise-sensitive receivers nearest the project site (i.e., at the planned staging areas or farther from nearby sensitive receiver locations if possible) during all Project construction. 61 staging areas have been determined along the Route, please see Appendix B (Alignments Map Book). The closest distance between a sensitive receptor to a staging area will be 30 feet. N-4 The use of large bulldozers within 100 feet of nearby sensitive land uses (e.g. residential, school, etc.) shall be minimized and avoided if possible. N-5 The construction supervisor shall limit haul truck deliveries to the same hours specified for construction equipment by each local jurisdiction's Municipal Code.	
d) The Proposed Project will not result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project.	Less Than Significant	No mitigation is required.	Less Than Significant
e) The Proposed Project will not result in exposure of people residing or working in the project area to excessive noise levels from airports.	No Impact	No mitigation is required.	No Impact
f) The Proposed Project would not expose people residing or working near an airstrip to excessive noise levels.	No Impact	No mitigation is required.	No Impact

TABLE M-1: SUMMARY OF IMPACTS AND MITIGATION MEASURES			
Impact	**Level of Impact Before Mitigation**	**Proposed Mitigation Measure(s)**	**Level of Significance after Mitigation**
Section 4.13 Population and Housing			
a) The Proposed Project will not induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)	No Impact	No mitigation is required.	No Impact
b) The Proposed Project will not displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere	No Impact	No mitigation is required.	No Impact
c) The Proposed Project will not displace substantial numbers of people, and will not necessitate the construction of replacement housing elsewhere.	No Impact	No mitigation is required.	No Impact
Section 4.14 Public Services			
a) The Proposed project could result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service	Potentially Significant	PS-1 Construction staging and storage areas shall be fenced and locked. All equipment shall be returned to staging and storage areas at the end of each work day.	Less Than Significant

TABLE M-1: SUMMARY OF IMPACTS AND MITIGATION MEASURES			
Impact	**Level of Impact Before Mitigation**	**Proposed Mitigation Measure(s)**	**Level of Significance after Mitigation**
ratios, response times or other performance objectives for any of the public services: • Fire Protection • Police Protection • Schools • Parks • Other Public Facilities			
Section 4.15 Recreation			
a) The Proposed Project could increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated.	Potentially Significant	REC-1 CVAG shall obtain concurrence from the owners of the Tahquitz Creek, Cimarron, Cathedral Canyon, and Indian Wells Golf Resort golf courses of the final design of CV Link facilities located on those respective golf courses prior to the commencement of any CV Link construction activities on those respective golf courses in order to assure that the final design of CV Link facilities adequately buffer fairways, greens, tee boxes and in play areas in proximity to the proposed alignments.	Less Than Significant
b) The Proposed Project includes recreational facilities or require the construction or expansion of recreational facilities which might impact existing golf courses.			
Section 4.16 Traffic and Transportation			
a) The Proposed Project could conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system during construction.	Potentially Significant	TRA-1 The construction activities shall meet or exceed all applicable federal, state and local statutory requirements for public safety. TRA-2 All necessary permits or approvals, including traffic control plans, shall be secured prior to the initiation of site disturbance such as grading, paving and other construction activities where public streets may be affected. Prior to the initiation of site development,	Less Than Significant

TABLE M-1: SUMMARY OF IMPACTS AND MITIGATION MEASURES			
Impact	**Level of Impact Before Mitigation**	**Proposed Mitigation Measure(s)**	**Level of Significance after Mitigation**
		CVAG shall confer with the appropriate City Public Works Department to ensure that construction activities and traffic control are carried out in a manner that causes minimal disruption to traffic on adjoining city streets. TRA-3 The Construction Manager shall be required to identify and repair any project-related damage to existing public roads upon completion of the construction activities within the project site. The contractor shall monitor the condition of these routes throughout the construction process and, in the event of an accidental load spill, to arrange for the immediate cleanup of any spilled material with street sweeping or other procedures, as needed. TRA-4 The final location and design of the Link access points and the internal circulation improvements shall comply with applicable city access and design standards, and be reviewed by the City Engineer. CVAG shall submit CV Link and associated street improvement and striping plans to each respective City Engineer for review and approval, prior to the issuance of grading and/or construction permits. TRA-5 Properly designed and maintained CV Link and any associated street, roadway, and access area lighting shall be provided along the CV Link route, as identified in the final construction plans, to facilitate the safe movement of vehicular, pedestrian and bicycle traffic, and to ensure good visibility under both daylight and nighttime conditions. TRA-6 In order to minimize or avoid accessibility issues for nearby residences, business and schools, CVAG and the CV Link Construction Manager shall develop and implement construction management strategies and traffic control and operations plans that maximize the efficiency of construction and minimize the disruption of traffic flow through CV Link construction areas. Traffic control plans shall be approved by the affected jurisdiction, and shall include requirements that at least one lane remain open in each direction; that signage be installed for road work and/or detours; and that emergency vehicle access is not affected.	
b) The Proposed Project will not conflict with an applicable congestion management	Less Than Significant	No mitigation is required.	Less Than Significant

TABLE M-1: SUMMARY OF IMPACTS AND MITIGATION MEASURES			
Impact	**Level of Impact Before Mitigation**	**Proposed Mitigation Measure(s)**	**Level of Significance after Mitigation**
program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways.			
c) The Proposed Project will not result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks.	No Impact	No mitigation is required.	No Impact
d) The Proposed Project will not substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).	Less Than Significant	No mitigation is required.	Less Than Significant
e) The Proposed Project would not result in inadequate emergency access.	Less Than Significant	No mitigation is required.	Less Than Significant
f) The Proposed Project will not conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.	Less Than Significant	No mitigation is required.	Less Than Significant

TABLE M-1: SUMMARY OF IMPACTS AND MITIGATION MEASURES			
Impact	**Level of Impact Before Mitigation**	**Proposed Mitigation Measure(s)**	**Level of Significance after Mitigation**
Section 4.17 Utilities and Service Systems			
a) The Proposed Project will not exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board.	Less Than Significant	No mitigation is required.	Less Than Significant
b) The Proposed Project will not require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.	Less Than Significant	No mitigation is required.	Less Than Significant
c) The Proposed Project will not require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.	Less Than Significant	No mitigation is required.	Less Than Significant
d) The Proposed Project will have sufficient water supplies available to serve the project from existing entitlements and resources, or require new or expanded entitlements.	Less Than Significant	No mitigation is required.	Less Than Significant
e) The Proposed Project will not result in a determination by the wastewater treatment provider	Less Than Significant	No mitigation is required.	Less Than Significant

TABLE M-1: SUMMARY OF IMPACTS AND MITIGATION MEASURES			
Impact	**Level of Impact Before Mitigation**	**Proposed Mitigation Measure(s)**	**Level of Significance after Mitigation**
which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments.			
f) The Proposed Project will be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs.	Less Than Significant	No mitigation is required.	Less Than Significant
g) The Proposed Project will comply with federal, state, and local statutes and regulations related to solid waste.	No Impact	No mitigation is required.	No Impact

1. INTRODUCTION AND PROJECT SUMMARY

1.1. Introduction and Project Summary

Introduction

The Coachella Valley Association of Governments (CVAG) in Riverside County, California has prepared plans for CV Link (the "project"), a 49±-mile multi-modal transportation pathway that will extend from the City of Palm Springs on the west to the City of Coachella on the east, in the Coachella Valley in Riverside County. This Environmental Impact Report (EIR) describes existing conditions along and in the project vicinity and broader region. It provides a comprehensive assessment of the potential environmental effects of the project, presents measures to avoid, minimize or otherwise mitigate identified adverse impacts, and provides decision-makers with an informational document about the project. The EIR has been developed in accordance with the requirements and guidelines of the California Environmental Quality Act (CEQA) and CVAG's Rules to Implement CEQA.

Project Description

CV Link is proposed as a ±49-mile multi-modal transportation path that passes through some of the most developed and populated portions of the Coachella Valley, providing access and connectivity between residential, commercial, recreational, institutional, and other land uses throughout the region, and providing recreational opportunities for pathway users. It is also anticipated that the project will contribute to local reductions in traffic volumes and associated air pollutants.

The pathway Route largely follows, and is to be built upon, the levees of the region's principal watercourses, including Chino Wash, Tahquitz Creek, and the Whitewater River Stormwater Channel/Coachella Valley Stormwater Channel. In some locations, the pathway shares right-of-way with roads and provides direct access to key commercial districts and recreational and institutional venues.

CV Link is a multi-jurisdictional project. The Route analyzed in this EIR will extend across 12 jurisdictions, including eight incorporated cities, unincorporated county lands and three Native American tribes. For purposes of this EIR, the following terms have been used:

- "**Route**" is the totality of the project, from Palm Springs in the west to Coachella in the east.
- The Route includes "**alignments**" and "**alignment variations.**" Alignments, as discussed in this document, are portions of the overall Route. Alignment variations are multiple options for an alignment possible within the Route, as depicted in the Conceptual Master Plan. For example, alignment variations may be depicted to occur at the top of a levee and on the wash bottom at the same location. These alignment variations are discussed individually where their impacts may differ on any particular environmental issue area.
- Within each alignment, there are "**segments**." Segments are subsections of an alignment called out in the CV Link Conceptual Master Plan.
- "**Terminus**" or "**termini**" are the ends of the Route, and also include locations on the west and east boundaries of Rancho Mirage where the Route would end, because Rancho Mirage is not part of the Proposed Project. Under Alternative 1 (discussed further in Section 2 of this document), termini are also proposed on the west and east boundary of Indian Wells, because it is not included in Alternative 1.

This EIR evaluates potential impacts associated with the near-term construction and operation of CV Link's Route, from Palm Springs to Coachella. CV Link will also incorporate and expand the Tahquitz Creek Trail in Palm Springs between South Palm Canyon Drive and the Whitewater Channel. The western termini are at Highway 111 (North Palm Canyon Drive) in northern Palm Springs (the Palm Springs Visitor Center at Tramway Road – access point for the Aerial Tram) and at South Palm Canyon Drive in central Palm Springs providing access to adjacent commercial services and to Downtown Palm Springs, as well as the Tahquitz Canyon Visitor Center.

The eastern terminus of the CV Link Route is at Airport Boulevard (Ave 56) and the Coachella Valley Stormwater Channel (CVSC) in the City of Coachella and the unincorporated community of Thermal. This terminus provides multi-modal access to the administrative offices of the Coachella Valley Unified School District, John Kelley Elementary School, the La Familia Continuing Education High School, a new Riverside County Sheriff's Station, US Post Office, the Jacqueline Cochran Airport, the Horses in the Sun (HITS) facility, and the Thermal Club Race Track (under construction).

To the extent possible, CV Link will be constructed on top of flood control levees and service roads, and at the top of stormwater channel slopes of Tahquitz Creek, the Whitewater River Stormwater Channel (WWR) and the Coachella Valley Stormwater Channel (CVSC). Grade-separated crossings (bridges or under-crossings) of major roadways are proposed. In areas where these major drainage corridors are inaccessible, on-street routes are proposed. Alignment variations using the street network are considered in challenging areas and will provide options for near and long-term implementation.

The CV Link proposal analyzed in this EIR does not include possible future extensions of the Route to Desert Hot Springs or from Airport Boulevard to the Salton Sea, nor are any extensions into those areas proposed for approval by CVAG. While these potential future extensions are described at a high-level in the CV Link Conceptual Master Plan as part of the long-term feasibility discussion, the extensions' potential future locations (if any) and feasibility are unknown at this time. Furthermore, neither extension has funding that would allow CVAG to pursue approval, much less construction, of these extensions at this time. As a forward-looking planning agency, CVAG remains open to the possibility that future proposals may come forward that would allow for further expansion of, or integration into, CV Link facilities. However, any such proposals are not reasonably foreseeable at this time, such that any analysis of their impacts would be purely speculative. Finally, if and when any such future proposal is brought forward for consideration, it would be subject to all appropriate environmental review and permitting.

CV Link Design Overview

A multi-modal transportation facility along the Coachella Valley's major drainages has been reflected in the planning documents of Coachella Valley cities and the County for decades. The Valley's stormwater channels have been viewed as a natural location for a facility of this type but planning for a CV Link-like facility has been frustrated by the challenges of concurrent channel management and maintenance, existing in-channel development, and property ownership patterns.

The overall CV Link design optimizes channel alignments and provides a variety of on-street and existing facilities to provide continuous routes. CV Link has been designed to accommodate the widest possible range of users, including pedestrians, bicyclists, mobility device users (wheelchairs and electric scooters), and Low Speed Electric Vehicles (LSEVs). Where built along drainage channels, Project design also makes provision for Link maintenance, and for County and CVWD channel maintenance.

To address the challenges associated with crossing major roadways along the CV Link Route, the design provides for carefully conceived at-grade crossings, as well as roadway undercrossings (at channels) and overcrossings (bridges). These components of project design, described in detail in Section 2, maximize travel flow and provide

an enhanced user experience, which also avoids, minimizes and mitigates for potential conflicts between CV Link users and motor vehicle traffic.

As described in Section 2 and as shown in the CV Link Conceptual Master Plan, which is included in Appendix C of this EIR (see CV Link EIR DVD), CV Link has been conceived as an iconic and easily recognizable multi-modal transportation facility. Off-street and on-street Link facilities are designed to adapt to conditions and the availability of rights-of-way on which the CV Link alignments can be constructed. Link facilities will use color schemes, signage, route markers and other elements to facilitate way-finding and maximizing Link user safety on public streets.

A detailed project description is provided in Section 2 of this EIR.

1.2. Regional Project Location

The Proposed Project is located in the Coachella Valley region of central Riverside County, a northwest-southeast trending valley bounded by mountains on the north, west, and south. The Valley is located approximately 100 miles east of Los Angeles and about 75 miles west of the Colorado River. Its low-lying desert terrain slopes gently to the southeast toward the Salton Sea. It includes nine (9) incorporated cities, unincorporated county land, reservations of several Native American tribes, and thousands of acres of local, state, and federal parkland and open space. The CV Link Route will extend 49± miles across eight (8) municipalities, unincorporated county lands, and reservation land of three (3) Native American Tribes. All alignments analyzed in this EIR total 64.34± miles in length. Affected jurisdictions and the approximate route length within each are listed in the table below. Jurisdictions are listed geographically, from west to east, in the order they are traversed by the proposed pathway. Section 2 provides further detail on the CV Route segments and where they occur. General project location is shown on Exhibits 1-1 and 1-2. Detailed Route plans are provided in Appendix B.

1.3. Purpose and Need

In the CV Link planning area there is a pronounced lack of integrated multi-modal transportation facilities that could serve as an alternative means of meeting travel demand. The challenges for multimodal facilities is complicated by planning area geography, including major drainage features, existing land use patterns and the predominance of high-volume arterial roadway network not designed to accommodate other modes of travel. Currently, much of the multi-modal path network in the project area is piece-meal, disjointed and does not provide continuous, uninterrupted travel between communities. The existing multi-modal network also does not provide optimum safety for users and in many cases does not safely remove users from vehicle traffic. Existing off-street paths are generally dirt and are often fragmented by discontinuities, vegetation, curbs, and streets.

CV Link will enhance connectivity between major employment, residential, recreational, and institutional centers throughout the Valley, while facilitating and promoting the use of alternative modes of transportation, including foot traffic, bicycles, low-speed electric vehicles (LSEVs), and mobility assistance devices. LSEVs include golf carts and neighborhood electric vehicles (NEVs). It is anticipated that typical LSEV trips on CV Link would include moving between home and a golf course, visiting friends, running errands and accessing all types of services that are along the CV Link Route.

CV Link will generate hundreds of local and regional jobs associated with its design, construction, and maintenance. CV Link is also expected to have other significant beneficial economic effects by complementing the hospitality and resort destination components of the Coachella Valley economy.

The project is also expected to contribute to reductions in motor vehicle congestion along local roadways, including State Highway 111 - the Valley's principal motorized connector route. The associated reductions in vehicle miles traveled will also reduce pollutant emissions and result in air quality improvements. The project will enhance the Valley transportation network and provide new health and recreational opportunities for pathway

users. CV Link will also serve as a community gathering space and community aesthetic feature that incorporates innovative design and artistic elements.

1.4. CV Link Master Plan Goals

The Project intends to provide Coachella Valley residents and visitors a superior means to travel safely by foot, bicycle, electric mobility device, or LSEV rather than by automobile. The overall goals of the CV Link Project are set forth below:

CV Link Goals[1]

By addressing current deficiencies in the walking and bicycling network, CV Link will help achieve goals relating to people, place, and prosperity.

PEOPLE

1. Public Health and Safety: Engender a healthier community by providing safer infrastructure for people to walk and ride bicycles for transportation and recreation.

2. Mobility for Senior Citizens and Disabled Persons: Improve mobility for the elderly and people with mobility impairments.

3. Low-Cost Transportation: Provide transportation options that are more economical than automobiles, thereby improving the mobility of lower income populations.

PLACE

4. Community Integration: Utilize the geographic opportunity provided by the Whitewater River Channel to link neighborhoods- all communities, destinations, and the natural environment- throughout the Coachella Valley.

5. Environmental Stewardship: Respect and enhance the natural and cultural resources along the Whitewater River Channel and Tahquitz Creek; improve air quality by enabling people to use less-polluting options for transportation.

PROSPERITY

6. Economic Growth: Provide jobs in construction, tourism, CV Link-focused services and retail, and electric vehicle industries; provide enhanced access to commercial destinations.

7. Development: Provide access to currently vacant properties that may be developed for parks, businesses, homes, or mixed use.

8. Energy Independence: Reduce energy consumption by providing alternatives to the car, thereby keeping more income in the Coachella Valley.

[1] CV Link Master Plan Volume 1, January 2016. Prepared by the Coachella Valley Association of Governments and Alta Planning + Design.

1.5. CEQA Project Objectives

As required by CEQA, project objectives have been developed to describe the project. These are set forth below.

A. Create a regional multi-modal transportation facility that interconnects the highest intensity land use corridor in the Coachella Valley with neighborhoods, schools, parks, tourist destinations, retail centers, high density residential development, and employment centers, to enhance community livability and cohesiveness.

B. Help the Coachella Valley comply with the Global Warming Solutions Act (AB 32) and the Sustainable Communities and Climate Protection Act (SB 375) by encouraging zero-emission transportation technologies, transit, and active transportation.

C. Promote healthy lifestyles through the provision of infrastructure where people can safely travel and recreate by means of active transportation, which in turn can help to address public health problems such as childhood obesity and diabetes.

D. Limit conflicts between motor vehicle traffic, pedestrians and bicyclists, reduce injuries and fatalities, and create a pleasant user experience by providing grade-separated crossings (bridges and undercrossings) of major roadways to the greatest extent possible.

E. Support "safe routes to schools" efforts by providing connections to K-12 schools in three school districts and to higher education opportunities.

F. Optimize the use of underutilized flood control rights-of-way, enhance stormwater maintenance infrastructure, and improve emergency response access.

1.6. Lead Agencies

The Proposed Project is subject to environmental analysis at the State level under the California Environmental Quality Act (CEQA), and the Federal level in accordance with the National Environmental Policy Act (NEPA). Each level of analysis has its own lead agency, as described below.

CEQA Lead Agency

CVAG is the regional planning agency for the Coachella Valley region of Riverside County, and the lead agency for the Proposed Project under the CEQA. CVAG has the principal responsibility for the preparation of this EIR, which will serve as the backbone informational source for decision-makers evaluating the project and as the basis for the State to issue permits, including a CWA 401 certification from the California Regional Water Quality Control Board (CRWQCB) and a Section 1602 Streambed Alteration Agreement (SAA) from the California Department of Fish & Wildlife.

The CVAG contact for the CV Link project is LeGrand Velez, Transportation Program Manager, phone: (760) 346-1127, fax (760) 340-5949. CVAG's mailing address is: 73-710 Fred Waring Drive, Suite 200, Palm Desert, California 92260.

NEPA Lead Agency

The California Department of Transportation (Caltrans), as assigned by the FHWA, is the lead agency for the project under the NEPA. A separate Environmental Assessment (EA) document is being prepared to evaluate the project's potential environmental effects in accordance with NEPA. It will serve as the principal informational document for project analysis by Caltrans and federal agencies with an interest in the Proposed Project, including the US Bureau of Indian Affairs (BIA) and the US Army Corps of Engineers (ACOE).

The Caltrans contact for the CV Link project is Julie Lugaro, Environmental Coordinator, Caltrans District 8, phone 909-806-3969, email julie.lugaro@dot.ca.gov. The mailing address is: 464 W. 4th Street, 7th Floor, San Bernardino, CA 92401. The Federal Project Number is: ATPL-6164 (022).

1.7. Responsible and Cooperating Agencies

Under both CEQA and NEPA, provision is made for state and federal agencies to act as "Responsible" or "Cooperating" Agencies, respectively. Per CEQA Section 21069, a "Responsible Agency" is a public agency, other than the lead agency, which has responsibility for carrying out or approving a project. The authority of responsible agencies that may have responsibility for carrying out or approving a project and for complying with CEQA is limited to that part of the project that they will be called upon to carry out or approve (Public Resources Code Sections 21140(c), 21153(c); CEQA Guidelines Sections 15041(b), 15042).

NEPA (40 CFR § 1508.5) provides for a "Cooperating Agency". Cooperating Agencies are any agency other than the Lead Agency, which has jurisdiction by law or special expertise and responsibilities for managing resources potentially affected by the proposed action.

Among others, the Coachella Valley Water District (CVWD) and the Riverside County Flood Control and Water Conservation District (RCFCWCD) are CEQA responsible agencies and will issue approvals for the maintenance of the proposed CV Link alignments within the stormwater channels. The California Department of Fish and Wildlife and the California Regional Water Quality Control Board will also serve as responsible agencies and will issue permits and approvals based on the certified EIR.

1.8. CEQA and NEPA Requirements

In accordance with Sections 15063, 15064 and 15065 of the State CEQA Guidelines, an assessment was conducted to identify potentially significant impacts associated with the proposed CV Link project. It was determined that an Environmental Impact Report (EIR) should be prepared to evaluate the potential environmental effects associated with the implementation of the CV Link project. The Notice of Preparation (NOP) for this project was prepared on November 12, 2013 and was transmitted to the State Clearinghouse, local and regional agencies, and posted at the Riverside County Clerk's office for a 30-day comment period; it is included in Appendix A of this document. Public notice was also published in a newspaper of local circulation. Comments were received.

California Environmental Quality Act (CEQA)

Requirements for environmental review and analysis in California are established by the CEQA, as set forth in Public Resources Code 21000 et seq. and the CEQA Guidelines (14 Cal. Reg. 15000 et seq.). This EIR has been prepared in compliance with CEQA and the State CEQA Guidelines.

National Environmental Policy Act (NEPA)

Requirements for environmental review and analysis on the Federal level are established by NEPA of 1969, which is administered by the Council of Environmental Quality (CEQ). The implementation of the Federal environmental review process is further set forth in the CEQ regulations (40 CFR 1500-1508). As explained in

Section 1.6, a separate Environmental Assessment document is being prepared to evaluate the Project's potential environmental impacts in accordance with NEPA.

1.9. Regulatory Environment

The planning and regulation of land use and development in the Coachella Valley is directed by Riverside County and the nine member cities of CVAG. The county and cities have their own General Plans and Zoning Ordinances that regulate development within their jurisdictional boundaries.

The Agua Caliente Band of Cahuilla Indians and Cabazon Band of Mission Indians are also members of CVAG. Where tribal lands are located within the geographic boundaries of a city, the Tribes have entered into land use agreements with the municipalities to allow them to apply and enforce land use designations and development standards on tribal lands. The proposed CV Link Project Route also crosses lands of the Twenty-Nine Palms Band of Mission Indian, with whom CVAG is coordinating. Tribes and the Bureau of Indian Affairs continue to maintain review, comment, and decision-making authority for development and land transfer proposals. Tribal review of the Proposed Project will occur through the NEPA process and EA document described in Sections 1.4 and 1.6.

CVAG has coordinated numerous regulatory and management programs in the Coachella Valley, including conservation planning and implementation of the Coachella Valley Multiple Species Habitat Conservation Plan (MSHCP) in 2004, Coachella Valley Area Transportation System (CVATS) Plan and its associated Transportation Uniform Mitigation Fee (TUMF) program, and the regional Air Quality Management Plan for PM_{10}.

Regional development is also affected by the management and regulatory authority of various districts that provide water, sewer, and flood control facilities and services, and agencies that manage local, state, and federal environmental resources. In addition, a number of agencies and organizations have awarded the project grant funds which will be used to construct the project. The following permits, approvals, consultations, and/or environmental reviews will be required to implement the CV Link project.

Table 1-1
Required Permits and Approvals

Agency	Permit/Action Required
California Department of Transportation (as assigned by the Federal Highway Administration)	Environmental Assessment (EA) evaluation, pursuant to the National Environmental Policy Act (NEPA)
U.S. Army Corps of Engineers	Section 404 permit for impacts to waters of the United States
U.S. Environmental Protection Agency	401 Certification for impacts to federal/tribal lands, pursuant to the federal Clean Water Act
California Regional Water Quality Control Board	401 Certification for impacts to non-federal lands, pursuant to the federal Clean Water Act Construction Stormwater NPDES permit
California Department of Fish and Wildlife	Section 1600 Streambed Alteration agreement
U.S. Fish and Wildlife Service	Section 10 permit - Casey's June Beetle

Table 1-1
Required Permits and Approvals

Agency	Permit/Action Required
City of Palm Springs City of Cathedral City City of Rancho Mirage (Alternative #2 only) City of Palm Desert City of Indian Wells City of La Quinta City of Indio City of Coachella County of Riverside	General Plan amendments and encroachment permits, as necessary
Agua Caliente Band of Cahuilla Indians Cabazon Band of Mission Indians Twenty-nine Palms Band of Mission Indians US Bureau of Indian Affairs	Plan approval, granting of easements, CWA permit
Coachella Valley Water District	Easements or encroachment permit
Riverside County Flood Control & Water Conservation District	Easements or encroachment permit

1.10. Project's Relationship to Other Plans

CV Link is a multi-jurisdictional project that will provide alternative, multi-modal transportation and recreational opportunities for area residents and visitors. It will largely be located upon the levees of the region's principal flood control facilities and, to a lesser extent, within the rights-of-way of local and regional roadways. As such, it will be affected by and related to numerous land use, transportation, and resource management plans. Relevant plans considered in the preparation of the project are listed below.

Regional Plans

The CV Link project is related to or must accommodate other plans developed in the Coachella Valley. These include the Coachella Valley Multiple Species Habitat Conservation Plan (CVMSHCP), the CVAG Active Transportation Plan (previously the CVAG Non-Motorized Transportation Plan), as well as air quality plans.

- CVAG Active Transportation Plan
- AQMD Air Quality Management Plan
- Coachella Valley PM10 State Implementation Plan

CVAG's Transportation Project Prioritization Study and Active Transportation Plan include analysis within each CVAG jurisdiction to consider and allow CV Link, to increase its regional connectivity.

Local Plans

- City of Palm Springs General Plan
- City of Cathedral City General Plan
- City of Rancho Mirage General Plan
- City of Palm Desert General Plan
- City of Indian Wells General Plan
- City of La Quinta General Plan
- City of Indio General Plan
- City of Coachella General Plan

- Coachella Valley Water District (CVWD) Water Management Plan
- Riverside County Flood Control & Water Conservation District Master Drainage Plans
- Coachella Valley Area Transportation System Plan

Tribal Plans

Agua Caliente Band of Cahuilla Indians

- Habitat Conservation Plan

Cabazon Band of Mission Indians

- The Tribe does not have a habitat conservation plan. Title 6 of the Cabazon Tribal Code does address Land Use, including natural resources.

Twenty-Nine Palms Band of Mission Indians

- The Tribe does not have a habitat conservation plan but has provided guidance and ordinances related to management of cultural and biological resources within the Reservation.

1.11. Public Participation Process

A multi-year public outreach effort was conducted concurrent with the development of the CV Link Master Plan.[2] CVAG staff and consultants, in partnership with non-profits and advocates, have implemented an extensive outreach program in the community with a special focus on environmental justice communities. This outreach was supported by a Caltrans planning grant.

Meetings and Workshops

Outreach activities have been conducted in both the general communities and the Environmental Justice communities throughout the Coachella Valley.[3] CVAG staff presented at meetings of key stakeholders across the region, including chambers of commerce, real estate trade groups, developers, homeowner associations, hospitality and tourism associations, community leaders and city, Riverside County and State of California elected officials and tribal leaders.

The following table lists the outreach activities that CVAG conducted between March 2013 and October 2016 to support development of the CV Link Conceptual Master Plan, design refinements and the environmental review process. In total, CVAG has participated in or conducted 155 community outreach events. These activities include 25 workshop events, information booths at 39 community events, and 91 presentations to interested parties. In addition to the activities below, CVAG has met on multiple occasions with City staffs, Water District staffs, and elected officials to collaborate on project planning. Project update presentations have also been provided regularly to the CVAG Executive Committee and various CVAG subcommittees, which include representatives of all Coachella Valley cities, Riverside County, and the Agua Caliente and Cabazon Tribes. In addition to the formal presentations listed below, CVAG also made numerous fact-finding presentations in 2011 and 2012 at the inception of the project.

CVAG continues to participate in community events on a regular basis, and will continue to do so.

[2] CV Link Master Plan Volume 1, January 2016. Prepared by the Coachella Valley Association of Governments and Alta Planning + Design.

[3] Environmental Justice communities are communities which are home to a disproportionate number of disadvantaged persons and households, as defined by NEPA.

Table 1-2
Summary of Community Outreach Events

Date	Type of Outreach	Organization or Event	Audience	Location
10/2/2016	Info Booth	Y Be Fit Palm Desert Challenge	General Public	Civic Center Park, Palm Desert
9/22/2016	Presentation	Indio Town Hall Series	General Public	Shadow Hills High School Indio
9/19,20/2016	Info Booth	Intelligent Transportation Systems Conference	General Public	Hyatt Regency Indian Wells
9/18/2016	Info Booth	Fiestas Patrias El Grito	General Public	Rancho Las Flores Park, Coachella
8/25/2016	Presentation	Indio Town Hall Series	General Public	Amistad High School
7/21/2016	Presentation	Indio Town Hall Series	General Public	Indio Senior Center
6/30/2016	Presentation	Indio Town Hall Series	General Public	Boys and Girls Club, Indio
6/16/2016	Presentation	La Quinta Chamber of Commerce	General Public	City of La Quinta
6/16/2016	Presentation	Monterey Country Club HOA	Stakeholders	Monterey County Club Palm Desert
6/6/2016	Presentation	South Coast Air Quality Management District	Stakeholders	SCAQMD Diamond Bar
5/26/2016	Presentation	Indio Town Hall Series	General Public	Terra Lago Pavilion, Indio
5/7/2016	Info Booth	City of Palm Desert: "Vision San Pablo"	General Public	San Pablo Avenue, Palm Desert
5/7/2016	Info Booth	Health Fair & 5K Glow Run	General Public	Downtown Cathedral City
5/6/2016	Info Booth	CSUSB PD Environmental & Sustainability Expo	General Public	Palm Desert Campus of CSUSB
5/5/2016	Presentation	Friends of CV Link	General Public	Palm Desert Library
4/28/2016	Presentation	Indio Town Hall Series	General Public	Sun City Shadow Hills
4/2/2016	Info Booth	Coachella Valley Walk Out of the Darkness	General Public	Palm Desert Civic Center Amphitheater
3/31/2016	Presentation	What's Transportation's Future Conference	General Public	Monterey
3/22/2016	Presentation	Palm Springs CV Link Subcommittee	Stakeholders	Palm Springs City Hall
3/19/2016	Info Booth	Palm Springs 9th Annual Picnic & Community Expo.	General Public	Ruth Hardy Park, Palm Springs
3/12/2016	Info Booth	The Day of the "Young Child"	Youth	City of Coachella
3/11/2016	Presentation	Shadow Hills HS Advanced Class	Youth	Shadow Hills High School Indio
3/7/2016	Presentation	Palm Desert Youth Committee	Youth	Palm Desert City Hall

Table 1-2
Summary of Community Outreach Events

Date	Type of Outreach	Organization or Event	Audience	Location
3/6/2016	Info Booth	Hike for Hope 2016	General Public	Indian Canyons of Palm Springs
3/3/2016	Presentation	Indio Town Hall Series	General Public	Heritage Palm Country Club, Indio
2/27/2016	Info Booth	Walk to End Alzheimer's	Stakeholders	Palm Desert Civic Center Amphitheater
2/17/2016	Info Booth	Indio Senior Center Health Fair	Seniors	Indio Senior Center
2/17/2016	Presentation	Escena Palm Springs HOA	Stakeholders	Escena Palm Springs
2/15/2016	Presentation	Board Men's Club	Stakeholders	Classic Club Palm Desert
1/30/2016	Info Booth	4th Annual Disability Festival Coachella Valley	Stakeholders	Palm Desert Civic Center Park
1/26/2016	Presentation	Desert Healthcare Board of Directors	Stakeholders	Desert Health Care District, Palm Springs
1/22,23/2016	Info Booth	Tour of Palm Springs	General Public	Downtown Palm Springs
1/20/2016	Presentation	Indio City Council	Stakeholders	City of Indio
1/12/2016	Presentation	Sky Valley Community Council	Stakeholders	Sky Valley Community Center
1/11/2016	Presentation	New Palm Springs Council - Mayor Moon	Stakeholders	City of Palm Springs
1/9/2016	Info Booth	The Galen New Year's Resolution 5K	General Public	Palm Springs Art Museum, Palm Desert
12/5,6/2015	Info Booth	23rd Annual Tamale Festival	General Public	Old Town Indio
11/17/2015	Presentation	Mission Hills Residents	General Public	509 Desert West Dr., Rancho Mirage
11/16/2015	Presentation	La Quinta HS Public Service Academy - Freshman Class	Youth	La Quinta High School
11/16/2015	Presentation	La Quinta HS Public Service Academy - Sophomore Class	Youth	La Quinta High School
11/16/2015	Presentation	La Quinta HS Public Service Academy - Junior Class	Youth	La Quinta High School
11/16/2015	Presentation	La Quinta HS Public Service Academy - Senior Class	Youth	La Quinta High School
11/13/2015	Presentation	Palm Springs High School Associated Student Body	Youth	Palm Springs High School
11/13/2015	Presentation	Cathedral City DATA/Digital Class	Youth	Cathedral City High School

Table 1-2
Summary of Community Outreach Events

Date	Type of Outreach	Organization or Event	Audience	Location
11/4/2015	Presentation	Palms to Pines Rotary	General Public	Desert Willow Golf Resort, Palm Desert
10/30/2015	Info Booth	2nd Annual Dia De Los Muertos 5K	General Public	City of Coachella
10/27/2015	Info Booth	HARC Air Quality Expo	General Public	UC - Riverside, Palm Desert Campus
10/24/2015	Info Booth	3rd Annual Patriot Ride	General Public	City of Indio
10/22/2015	Presentation	California Desert Association of Realtors Subcommittee	Stakeholders	Desert Falls Country Club, Palm Desert
10/17/2015	Info Booth	Desert Aids Walk	General Public	Ruth Hardy Park, Palm Springs
10/16/2015	Presentation	Leadership Coachella Valley	General Public	City of Palm Desert
10/6/2015	Presentation	Desert Sun Editorial Board	General Public	750 Gene Autry Trail, Palm Springs
10/4/2015	Info Booth	Y Be Fit Palm Desert Challenge	General Public	Civic Center Park, Palm Desert
10/2/2015	Presentation	League of California Cities	General Public	San Jose, California
10/1,2/2015	Info Booth	Energy & Water Summit	General Public	Palm Springs Convention Center
9/26/2015	Presentation	Democrats of the Desert	General Public	Date Palm County Club, Cathedral City
9/17/2015	Presentation	Indian Wells City Council	Stakeholders	Indian Wells City Hall
9/13/2015	Info Booth	Fiestas Patrias El Grito	General Public	Rancho Las Flores Park, Coachella
9/9/2015	Presentation	Coachella City Council	Stakeholders	Coachella City Hall
8/31/2015	Workshop	Operations and Maintenance Workshop 2	Stakeholders	Cal State University Riverside, PD Campus
8/27/2015	Presentation	Palm Desert City Council	Stakeholders	Palm Desert City Hall
8/26/2015	Presentation	Palm Springs Rotary	General Public	Palm Springs Hilton
8/21/2015	Workshop	Operations and Maintenance Workshop 1	Stakeholders	Palm Desert Community Center
8/12/2015	Presentation	Chairman Frazier Tour	Stakeholders	Embassy Suites LQ
8/4/2015	Presentation	La Quinta City Council	Stakeholders	La Quinta City Hall
7/15/2015	Presentation	Indio City Council	Stakeholders	Indio City Hall
7/6/2015	Presentation	Trilogy Speaker Series	General Public	Santa Rosa C, Desert Vista Ballroom
6/25/2015	Presentation	Coachella Valley APA-AEP Meeting	General Public	CVAG - Palm Desert
6/16/2015	Presentation	City of Palm Springs Parks Commission	Stakeholders	Palm Springs City Hall

Table 1-2
Summary of Community Outreach Events

Date	Type of Outreach	Organization or Event	Audience	Location
6/9/2015	Presentation	Cathedral City Rotary	General Public	Sunshine Café, Cathedral City
5/27/2015	Presentation	CA Land Surveyors Association, Desert Chapter	General Public	La Casuelas Restaurant, La Quinta
5/20/2015	Presentation	Optimists Club	General Public	Rancho Mirage Country Club
5/19/2015	Presentation	PS Chamber of Commerce - Business Advocacy Comm.	General Public	Palm Springs Hyatt
5/18/2015	Presentation	Indian Wells Rotary Club	General Public	The Vue Restaurant, Indian Wells
5/14/2015	Presentation	NOVA Academy LUPA Youth Council	Youth	NOVA Academy, Coachella
5/8/2015	Info Booth	CSUSB PD Environmental & Sustainability Expo	General Public	Palm Desert Campus of CSUSB
5/5/2015	Presentation	Cathedral City Rotary	General Public	La Casita Restaurant, Cathedral City
5/2/2015	Info Booth	Health Fair & 5K Glow Run	General Public	Downtown Cathedral City
4/30/2015	Info Booth	Palm Springs Cycledelic	General Public	Downtown Palm Springs
4/30/2015	Presentation	Rancho Mirage Rotary	General Public	Mission Hills County Club, Rancho Mirage
4/28/2015	Presentation	Safe Routes to Schools Coachella Valley	General Public	Indio Boys & Girls Club
4/22/2015	Presentation	Greater Palm Springs Convention and Visitors Bureau	Stakeholders	CVB Offices, Rancho Mirage
4/16/2015	Presentation	American Council of Engineering Companies	General Public	Mission Inn - Riverside
4/15/2015	Presentation	29 Palms BOMI Tribal Council	Stakeholders	46-200 Harrison Place, Coachella
4/14/2015	Presentation	Coachella Valley Water District Board	Stakeholders	Palm Desert
4/14/2015	Presentation	Palm Desert Chamber of Commerce	Stakeholders	Desert Willow Golf Resort, Palm Desert
4/7/2015	Presentation	City of Palm Desert Parks Commission	Stakeholders	Palm Desert City Hall
4/6/2015	Workshop	CV Link Master Plan Workshop	General Public	Rancho Mirage Public Library
4/1/2015	Presentation	Riverside County Active Transportation Network	General Public	Riverside
4/1/2015	Workshop	Central Valley Active Transportation Workshop	General Public	CVAG - Palm Desert

Table 1-2
Summary of Community Outreach Events

Date	Type of Outreach	Organization or Event	Audience	Location
3/31/2015	Workshop	West Valley Active Transportation Workshop	General Public	Palm Springs City Hall
3/30/2015	Workshop	East Valley Active Transportation Workshop	General Public	Indio Senior Center
3/28/2015	Info Booth	8th Annual Picnic Community Expo. (PSNIC)	General Public	Ruth Hardy Park
3/19/2015	Workshop	Health Impact Assessment (HIA) Workshop Palm Desert	General Public	Jocelyn Center
3/19/2015	Workshop	HIA Workshop Coachella	Disadvantaged Communities	Valle del Sol School, Coachella
3/14/2015	Info Booth	Annual Walk to End Alzheimer's & Health Fair	Stakeholders	Palm Desert Civic Center Park
3/5/2015	Presentation	Friends of CV Link	Stakeholders	Palm Desert Library
3/3/2015	Workshop	Desert Hot Springs CV Link Workshop #2	General Public	DHS Community Center
2/26/2015	Workshop	Desert Hot Springs CV Link Workshop #1	General Public	DHS Community Center
2/25/2015	Presentation	Palm Springs Realtors Association	Stakeholders	Saguaro Hotel, Palm Springs
2/24/2015	Presentation	Coachella Valley Hiking Clubs	General Public	Palm Desert Library
2/24/2015	Presentation	Desert HealthCare District Board	Stakeholders	Palm Springs
2/14/2015	Info Booth	Tour of Palm Springs	General Public	Downtown Palm Springs
2/11/2015	Presentation	Sun City Palm Desert Cyclists Club	General Public	Sun City Palm Desert Clubhouse
2/6/2015	Info Booth	Color in Motion 5K	General Public	Empire Polo Club, Indio
2/2/2015	Presentation	APWA	General Public	Mission Hills Country Club, Rancho Mirage
1/24/2015	Info Booth	Coachella Valley Disability Sports Festival	Stakeholders	Palm Desert Civic Center Park
1/22-25/2015	Info Booth	Humana Challenge	General Public	La Quinta
1/17/2015	Info Booth	Palm Springs Mayor's Wellness Festival	General Public	Ruth Hardy Park, Palm Springs
1/15/2015	Presentation	CV Link Bicycle Event	General Public	Palm Desert Cyclery
1/7/2015	Presentation	Rotary Club of Coachella Valley	General Public	Sloan's Restaurant, Indio
12/18/2014	Presentation	California Desert Association of Realtors (CDAR)	Stakeholders	Desert Falls Country Club

Table 1-2
Summary of Community Outreach Events

Date	Type of Outreach	Organization or Event	Audience	Location
12/5/2014	Workshop	Coachella CV Link Master Plan Workshop	Disadvantaged Communities	Coachella City Hall
11/13/2014	Workshop	HIA Workshop Cathedral City	Disadvantaged Communities	Cathedral City Hall
11/12/2014	Workshop	HIA Workshop Coachella	Disadvantaged Communities	Coachella City Hall
11/6/2014	Presentation	Friends of CV Link Presentation	General Public	Palm Desert Library
10/28/2014	Workshop	HIA Workshop Palm Desert	General Public	Jocelyn Center, Palm Desert
10/26/2014	Info Booth	Palm Desert Golf Cart Parade	General Public	El Paseo, Palm Desert
10/17/2014	Presentation	Leadership Coachella Valley	General Public	City of Palm Desert
10/16/2014	Info Booth	Palm Springs Cycledelic	General Public	Downtown Palm Springs
10/10/2014	Info Booth	SoCal Energy Summit	General Public	Palm Springs Convention Center
10/2/2014	Info Booth	Business to Consumer Showcase	Stakeholders	Fantasy Springs Resort Casino, Indio
9/24/2014	Info Booth	Youth Resource Fair / 5K	General Public	County Fair Grounds, Indio
8/27/2014	Presentation	WTS (Advancing Women in Transportation)	General Public	Riverside Convention Center
7/10/2014	Presentation	Goldenvoice	Stakeholders	CVAG - Palm Desert
5/28/2014	Presentation	Coachella Valley Disabilities Collaborative	General Public	Braille Institute, Rancho Mirage
5/15/2014	Presentation	SCAQMD Governing Board	Stakeholders	Marriott Desert Springs, Palm Desert
5/14/2014	Presentation	Palm Springs Planning Commission	Stakeholders	City of Palm Springs
5/6/2014	Info Booth	Salsa and 5K Festival	General Public	Coachella
5/6/2014	Workshop	CV Link Citizens Advisory Group - 7	Stakeholders	CVAG - Palm Desert
4/16/2014	Presentation	Green Lecture Series	General Public	Univ. of California Riverside, Palm Desert
4/9/2014	Presentation	California Trails Conference	General Public	Riviera Hotel, Palm Springs
3/31/2014	Presentation	U.S. EPA, Region 9	Stakeholders	San Francisco
3/25/2014	Presentation	Community Associates Institute -Coachella Valley	General Public	Marriott Desert Springs, Palm Desert
2/19/2014	Workshop	CV Link Citizens Advisory Group - 6	Stakeholders	CVAG - Palm Desert
2/18/2014	Presentation	Desert Sands Unified School District	Stakeholders	La Quinta

Table 1-2
Summary of Community Outreach Events

Date	Type of Outreach	Organization or Event	Audience	Location
2/13/2014	Presentation	Desert Valley Builders Association	General Public	Agua Caliente Resort
1/14/2014	Presentation	Coachella Valley Water District Board	Stakeholders	CVWD Board Room
12/10/2013	Presentation	Palm Desert Rotary Club	General Public	Desert Fall Country Club, Palm Desert
12/10/2013	Workshop	CV Link Citizens Advisory Group - 5	Stakeholders	CVAG - Palm Desert
12/6/2013	Presentation	California Transportation Commission	Stakeholders	Sacramento
12/3/2013	Workshop	CEQA Scoping Meeting NOP	Stakeholders	CVAG - Palm Desert
10/30/2013	Presentation	Southern CA Association of Governments (SCAG)	Stakeholders	SCAG Riverside Office
10/18/2013	Presentation	Leadership Coachella Valley	General Public	City of Palm Desert Council Chambers
10/17/2013	Presentation	Rancho Mirage Rotary Club	General Public	Mission Hills Country Club, Rancho Mirage
10/15/2013	Workshop	Central Valley CV Link Master Plan Workshop	General Public	Rancho Mirage Public Library
9/20/2013	Presentation	Caltrans District	Stakeholders	Caltrans - Sacramento
9/18/2013	Workshop	CV Link Citizens Advisory Group - 4	Stakeholders	CVAG - Palm Desert
7/25/2013	Workshop	East Valley CV Link Master Plan Workshop	General Public	Indio Senior Center
7/18/2013	Presentation	College of the Desert (COD) Board of Trustees	Stakeholders	COD Palm Desert
6/21/2013	Presentation	Greater Palm Springs Convention and Visitors Bureau	Stakeholders	Rancho Mirage
6/12/2013	Workshop	CV Link Citizens Advisory Group - 3	Stakeholders	CVAG - Palm Desert
6/4/2013	Workshop	West Valley CV Link Master Plan Workshop	General Public	CVEP Palm Springs
4/17/2013	Workshop	CV Link Citizens Advisory Group - 2	Stakeholders	CVAG - Palm Desert
3/4/2013	Workshop	CV Link Citizens Advisory Group -1	Stakeholders	CVAG - Palm Desert

Included in the Table above are the meetings of a sixteen-member Citizens Advisory Group (CAG) formed by the consulting team to obtain input at key stages in the development of the Master Plan, which convened seven times to address the following topics:

- 3/4/13 Introduction
- 4/17/13 Opportunities and Constraints

- 6/12/13 Design Concept
- 9/18/13 Design Elements
- 12/10/13 Alignment
- 2/19/14 Alignment and NEV Plan
- 5/6/14 Alignment and Phasing

Media and Events

Television, radio, print and social media have played an important role in facilitating pubic exposure to the CV Link project and getting input. A CV Link web site has been developed and used throughout the assessment and design development phase of the project. Going to *http://www.CoachellaValleyLink.com* allows interactive communication in both English and Spanish between the public and the CV Link team. Updates are posted to Facebook and Twitter social media sites an average of three times per week. The project has over 2,700 Facebook likes as of January 2016. CV Link has been the main topic of media articles since December 2011. CVAG staff and the project team are in continual communication with the local media and have received significant coverage.

The CV Link development team has had a presence at more than seventy-five (75) individual special events and meetings, which have been a significant part of CVAG outreach, particularly in the east Coachella Valley with a larger segment of socio-economically disadvantaged. Informational materials have been developed in both English and Spanish, and an outreach video, which was cut into a public service announcement, was produced and aired on local television stations.

Other outreach efforts included a trade show display, branded tablecloths, and branded giveaways for use at events. Representatives of the project have staffed a booth at such events as the annual Tamale Festival; Humana Healthy Fun Fair; Tour De Palm Springs; Indio Senior Health Fair; Relay for Life Cathedral City; 7th Annual Picnic Community Expo; Salsa and 5K Festival; and City of Palm Springs Mayors Race and Wellness Festival among many others. Many attendees have expressed great support for the project by signing up for our database so that they can receive updates as the project moves forward. A snapshot of the events and meetings attended is presented in the Master Plan's Volume 2: Appendix 2, Section 2 (pg. 14).

Community Input and Responses

Based on the variety of public input provided, several themes of interest and concern have been raised by the community. The following summary of each is accompanied by a reference to where these are addressed in the CV Link Conceptual Master Plan (see Appendix C of this EIR). The primary issues and concerns identified in the public outreach program include the following and in no particular order.

Privacy concerns for residents who live immediately adjacent to the proposed Route: Site specific measures will include plantings—such as small trees, cacti, and foliage—interwoven in fencing, and benching the path partway down the slope. Section 5.15 Privacy presents privacy screening and path design options;

Link Usage will be lower than predicted due to heat and wind: Although conditions during certain time periods on some summer days will reduce usage, there will be time periods of most days which are suitable for the average user. Refer to CV Link Master Plan Section 3.2 Environmental Conditions for more information.

Equitable Distribution of investment and benefits: An analysis of benefits shows that CV Link serves each socio-economic group and that 61% of the Route traverses low-income census tracts. Refer to CV Link Master Plan Sections 1.3 Benefits and Volume 2: Appendix 8, Section 3 (pg. 48) Cost Tables for more information.

Safe Access to CV Link: Improvements to city facilities will be identified and prioritized through the CVAG Active Transportation Plan update, the CVAG NEV Plan, and other planning and policy initiatives currently underway. Refer to CV Link Master Plan Section 1.1 Vision, Section 1.3 Benefits, and Section 6.4 Community Connectors for more information.

User Conflicts may arise between user groups: Refer to Section 4.4 Providing for Shared Use.

Bicycle ride quality will be poor if concrete is used: A life cycle cost analysis indicates that concrete is the most economical material for the bicycle/LSEV path. Special pavement joints will provide a smooth ride in comparison to standard concrete sidewalks. Refer to CV Link Master Plan Section 5.12 Materials and Volume 2: Appendix 12, Section 9 (pg. 113) Path Surface Materials for information on the development of the pavement specification.

Maintenance will be costly and insufficient: A unified approach to maintenance will be sought to maintain a high standard, and funding sources have been identified to avoid additional burdens on residents. Refer to CV Link Master Plan Section 8 Operations and Maintenance for more information.

1.12. Environmental Issues Analyzed in the EIR

This EIR addresses numerous environmental issues, including those set forth in Appendix G of the CEQA Guidelines and those specific to and derivative of the project analysis. Certain areas of concern are only briefly discussed and include population and housing, agriculture and forestry resources, and mineral resources. Greater focus is placed on aesthetics, air quality and GHG, biological and cultural resources, soils and geology, hazards/hazardous materials, hydrology/water quality, land use/planning, noise, public services, recreational resources, transportation/traffic, and utilities/service systems. No effort has been made to unduly limit or abridge the focus on issues that are ripe for decision at this level of environmental review, or to exclude duplicative analysis of environmental effects examined in previous environmental impact reports (CEQA Statute Section 21093).

1.13. Project Summary

As discussed in detail in Section 2 of this EIR, CV Link is an innovative transportation project to construct, operate and maintain a valley-wide, multimodal between Palms Springs and the City of Coachella. CV Link is expected to provide significant environmental, health, wellness and economic benefits to the entire Coachella Valley. It will "link" the communities of the Coachella Valley with an alternative transportation corridor, providing residents and visitors the option to safely travel by foot, bike, mobility device, or low-speed electric vehicle, instead of by automobile.

CV Link is designed to serve as the spine for an alternative transportation network that will ultimately interconnect diverse parts of the Coachella Valley. The Route, which is the subject of this environmental analysis, extends from Palm Springs southeast to Coachella. The CV Link Route will pass through the following jurisdictions. Note that Native American lands quantified in the following table are also included in municipal boundaries; therefore the total exceeds 100%.

Table 1-3
CV Link Mileage within Each Jurisdiction

Jurisdiction	Route Linear Mileage (Approx.)

City of Palm Springs	15.3
Agua Caliente Band of Cahuilla Indians	(2.88)
City of Cathedral City	5.18
City of Rancho Mirage[1]	(5.25)
City of Palm Desert	4.54
City of Indian Wells	3.54
City of La Quinta	2.1
City of Indio	5.9
Cabazon Band of Mission Indians	(1.36)
Twenty-Nine Palms Band of Mission Indians	(0.45)
City of Coachella	5.1
County of Riverside	2.4
Total Mileage:	49.31±

Source: Table 10: List of Segments and Lengths, "CV Link Master Plan," CVAG, February 2016, as amended.
Note: Native American lands included in municipal numbers.
[1] Limited to "Alternative 2: All Cities.





RIVERSIDE COUNTY

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07.25.16

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CV Link Project
Regional Location Map
Coachella Valley
Association of Governments

CV LINK
CONNECTING THE COACHELLA VALLEY
CVAG

Exhibit
1-1



Source: Google Earth, 2016

07.25.16

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CV Link Project
Project Vicinity Map
Coachella Valley Association of Governments

CV LINK
CONNECTING THE COACHELLA VALLEY
CVAG

EXHIBIT
1-2

The CV Link Route follows the course of Chino Wash, the Whitewater River flood plain, Tahquitz Creek, and the Whitewater River Stormwater Channel/Coachella Valley Stormwater Channel as they extend through the Valley. More specifically, the channel route extends from the intersection of Chino Wash and State Highway 111 (also known as North Palm Canyon Drive) in Palm Springs on the west, to the intersection of the Coachella Valley Stormwater Channel and Airport Boulevard in Coachella on the east. It also includes a westerly extension along the existing Tahquitz Creek Trail in Palm Springs, from South Palm Canyon Drive on the west to the Whitewater River Stormwater Channel on the east.

Route Alignment and Access

The Route alignment generally extends along the levees of Chino Wash, Tahquitz Creek, and the Whitewater River Stormwater Channel/Coachella Valley Stormwater Channel. Some segments extend into the channel bottoms, and others share road rights-of-way in close proximity to the channels, to provide direct access to recreational, institutional, and commercial venues.

Preliminary plans provide for a total of forty-seven (47) designated access points along the length of the pathway, including: 20 regional access points at central gathering places; 12 local access points at parks and community facilities; 5 commercial access points serving high-volume commercial corridors; and 10 neighborhood access points (some of which will be gated) providing access to/from neighborhoods adjacent to the pathway. An additional twenty-six (26) at-grade roadway crossings are planned to provide more access. Grade-separated crossings (bridges and undercrossings) of major roadways will be provided where necessary.

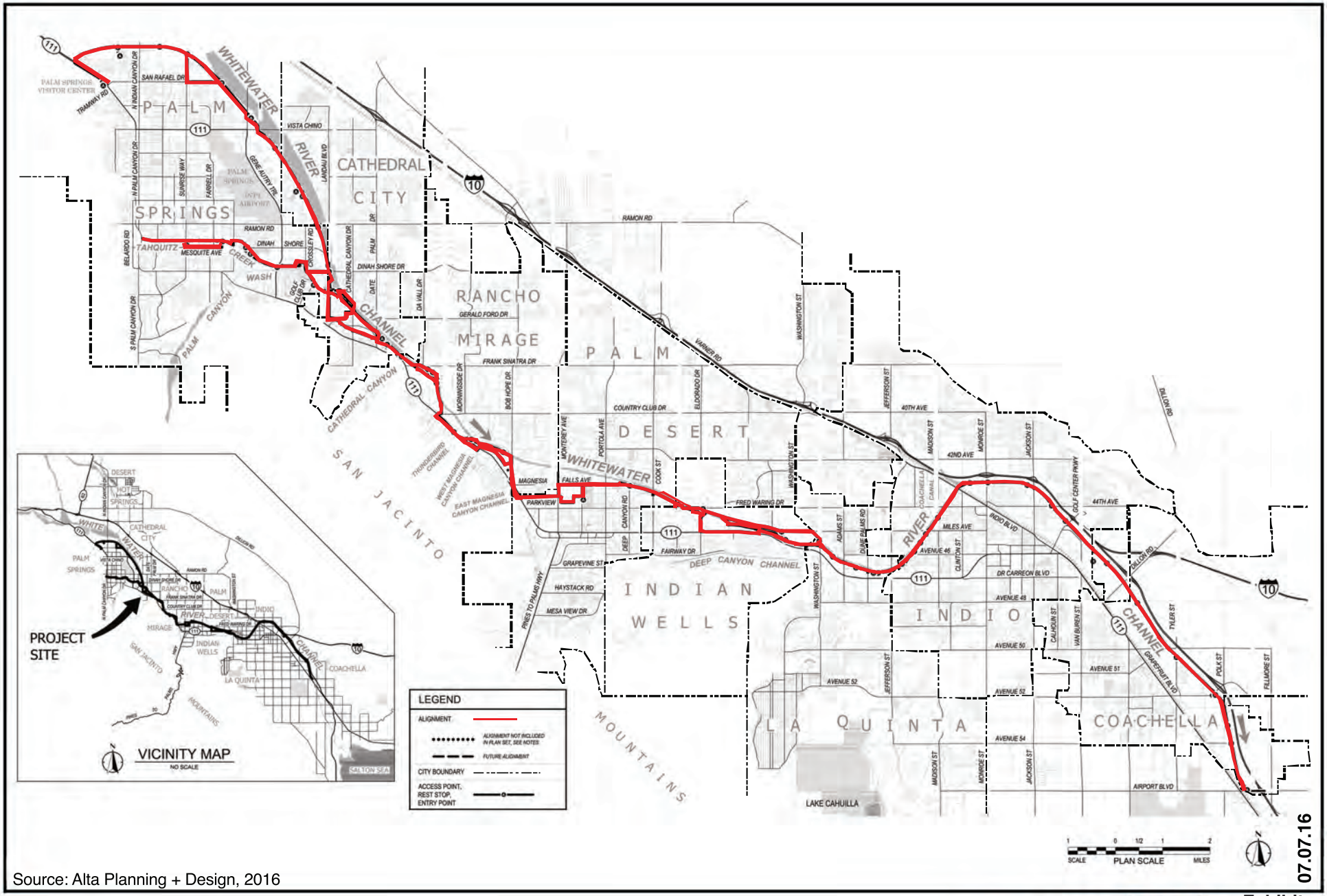
Permitted Uses

CV Link will accommodate a variety of alternative modes of transportation, including pedestrians, bicycles, wheelchairs, electric mobility devices, and LSEVs. Portions will also be constructed to accommodate levee maintenance vehicles and emergency response vehicles.

Pathway Design

Wherever possible, CV Link will be a dual path system that includes a path for faster modes of travel, such as bicycles and LSEVs, and a separate path for slower modes, including pedestrians. Path widths will vary depending upon right-of-way availability and terrain. A range of surface materials have been evaluated for their durability, cost, aesthetics, and functionality, and materials may vary with location and purpose. Pathway cross-sections are illustrated in Exhibits 2-13 through 2-15 in Section 2 of this EIR.

Shade structures, restrooms, drinking fountains, signage, street furniture, electric vehicle charging stations, and other accessory features will be built to support the needs of travelers. Landscaping and security measures, including fencing, barriers, lighting, and emergency access, will be integrated into project design. The pathway will also incorporate informational kiosks and public art at appropriate locations, particularly at important access and intersection points to assist users with way-finding. Drainage improvements will be installed, and access for emergency, utility, and channel maintenance vehicles will be provided, where necessary.



Source: Alta Planning + Design, 2016

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CV Link Project
CV Link Overview Map
Coachella Valley Association of Governments

CV LINK
CONNECTING THE COACHELLA VALLEY
CVAG

Exhibit
1-3

2. PROPOSED PROJECT AND ALTERNATIVES

2.1. Introduction

Section 2 of this EIR provides a more detailed description of the overall CV Link project, including all alignment variations considered for the project along its entire length. As set forth in Section 1, a variety of possible Route alignments have been developed and tested for their feasibility and the contribution they make to the overall goals and objectives of the project.

The Proposed Project includes all CV Link alignment variations excepting those originally planned through the City of Rancho Mirage. Alternative 1 provides for all CV Link alignment variations excepting those in Rancho Mirage and Indian Wells. Alternative 2 evaluates the CV Link project with all alignment variations, including those in Rancho Mirage and Indian Wells. Finally, Alternative 3, the "No Project" alternative, is described.

As required by CEQA Guidelines 15124(d), the required permits and approvals for the Proposed Project and Alternatives, as well as the agencies responsible for those approvals, are provided in Section 1, Table 1-1.

2.2. CV Link Project Overview

2.2.1. Introduction and Project Objectives

This Section describes the Proposed Project and the Alternatives selected for analysis in this document. Section 4 of this EIR addresses the impacts and mitigation measures associated with the Proposed Project. Section 5 addresses the impacts and mitigation measures of the Alternatives.

The CV Link project is planned as a multi-modal facility that will allow off-street access for pedestrian, bicycle and LSEV travel. The project is estimated to cost approximately $100 million to construct, and will require 743 worker-years, or 186 construction jobs per year over the four year construction period. As a Valley-wide pathway, the CV Link Route will provide an attraction for the region's major tourism industry, and will also allow residents to access employment, shopping, school and recreation venues located along the Route.

Both the Proposed Project and the Alternatives are considered as they relate to the Project Objectives, which as provided in Section 1 are:

A. Create a regional multi-modal transportation facility that interconnects the highest intensity land use corridor in the Coachella Valley with neighborhoods, schools, parks, tourist destinations, retail centers, high density residential development, and employment centers, to enhance community livability and cohesiveness.

B. Help the Coachella Valley comply with the Global Warming Solutions Act (AB 32) and the Sustainable Communities and Climate Protection Act (SB 375) by encouraging zero-emission transportation technologies, transit, and active transportation.

C. Promote healthy lifestyles through the provision of infrastructure where people can safely travel and recreate by means of active transportation, which in turn can help to address public health problems such as childhood obesity and diabetes.

D. Limit conflicts between motor vehicle traffic, pedestrians and bicyclists, reduce injuries and fatalities, and create a pleasant user experience by providing grade-separated crossings (bridges and undercrossings) of major roadways to the greatest extent possible.

E. Support "safe routes to schools" efforts by providing connections to K-12 schools in three school districts and to higher education opportunities.

F. Optimize the use of underutilized flood control rights-of-way, enhance stormwater maintenance infrastructure, and improve emergency response access.

2.2.2. Summary of the CV Link Project and Alternatives

CV Link was conceived as a continuous multi-modal transportation facility that would enhance local and regional mobility and accessibility, provide opportunities for non-motorized access to work, school, commercial services, as well as to parks and open space areas, offset motor vehicle trips and improve air quality. Since the project's inception, the City of Rancho Mirage has withdrawn from the Proposed Project and does not want to be included in it. More recently, the City of Indian Wells has also indicated that this city is also considering withdrawing from participating in CV Link. Therefore, to address an appropriate range of project alternatives, Alternative 1 provides for all of the CV Link alignments *excepting those in Rancho Mirage and Indian Wells*. Alternative 2 evaluates the CV Link project *with all alignments, including those in Rancho Mirage and Indian Wells*. Alternative 3 is the "No Project" alternative. Each is summarized below, beginning with a description of all possible CV Link alignments, including those that would be located in Rancho Mirage and Indian Wells under one or more project alternative analyzed.

CV Link: The Route

CV Link is an innovative transportation facility designed to provide a valley-wide, multimodal backbone that would connect the cities, county and Native American lands from Palms Springs to Coachella. CV Link will provide significant environmental, health, wellness and economic benefits to these communities. It will "link" communities of the Coachella Valley with an alternative transportation corridor, providing residents and visitors the option to safely travel by foot, bike, mobility device or low-speed electric vehicle, instead of by automobile.

The CV Link Conceptual Master Plan provides details on the design and engineering, construction and management of the CV Link Project. Master Plan development design has been an iterative process informed by extensive public input and project-level environmental analysis. The CV Link Conceptual Master Plan development began in January 2013. A Draft Master Plan became available for public review in March 2015, and the Final Draft Master Plan was made available on the CVAG web site for public review in January 2016. Volumes 1 and 2 of the CV Link Conceptual Master Plan can be found in Appendix C.

The CVAG Executive Committee on February 29, 2016, unanimously received the CV Link Conceptual Master Plan, which is the Project analyzed in this EIR and the associated NEPA EA. The CV Link Conceptual Master Plan describes the fully conceived path routing and alignments and provided the basis for describing the "Proposed Project" and Alternatives, and describes amenities that will enhance the functionality and enjoyment of this transportation facility.

To be clear, the Master Plan and the iterative process involved in its preparation evaluated the *potential* feasibility of a number of alignment options throughout the Coachella Valley. Not all of those options are being proposed for approval. To the contrary, the more limited CV Link Route (Proposed Project) and alignment variations proposed for approval are described in detail below and in Table 2-1. The Route would proceed from two termini in Palm Spring that join at the Palm Spring/Cathedral City corporate boundaries. The Route proceeds southeast through the cities of Cathedral City, Rancho Mirage (Alternative 2 only), Palm Desert, Indian Wells (not a part of Alternative 1), La Quinta, Indio and Coachella, and portions of the unincorporated Riverside County. The Route also crosses Tribal and allotted lands of the Agua Caliente Band of Cahuilla Indians (ACBCI), the Twenty-nine Palm Band of Mission Indian and the Cabazon Band of Mission Indians. The Proposed Project does not include CV Link facilities in the City of Rancho Mirage, although Link users may proceed through Rancho Mirage on existing streets, sidewalks and paths. The length of the Route without Rancho Mirage totals approximately 44 miles.

Generally, the CV Link Route follows, borders and in some locations occurs within Tahquitz Creek, and the Whitewater River Stormwater Channel and its easterly extension, the Coachella Valley Stormwater Channel. Portions of the Route also occur on and adjacent to public roadways, primarily in locations where access to stormwater channel alignments are not available.

CV Link will be constructed along the aforementioned drainages to the greatest extent practicable, and will provide grade-separated crossings (bridges or undercrossings) at major roadways. In several locations, the Link Route will also rely upon at-grade crossings, primarily at intersections, that will include control devices (signals) to manage the safe movement of vehicular and CV Link traffic at these locations. Alignment variations have been developed for locations where constraints have been identified and are also analyzed in this EIR.

Table 2-1
CV Link Route
Proposed Project – All Segments Summary[1] [2.]

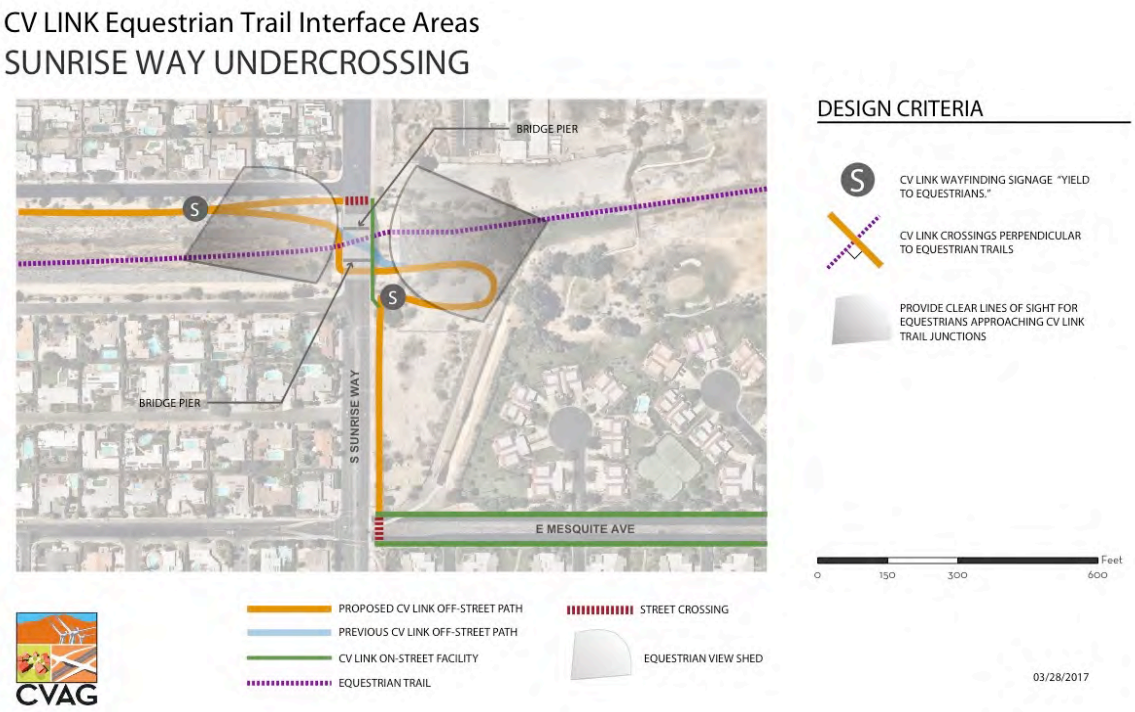
Segment Number & Name	Starting Point	End Point	Link Segment	Distance (Miles)	Trail Type
1. North Palm Springs	**Hwy 111 Visitor**	**E. Vista Chino**	**1.6-9.6a**	**5.2**	**Mixed**
Highway (Hwy) 111	*Visitor Center*	*Chino Wash*	*1.6-2.2*	*0.8*	*Adjacent to Road*
Chino Wash Levee	*Hwy 111/Chino*	*Vista Chino*	*2.3-8.3a*	*4.4*	*Top and sides of Levee*
2. Palm Springs/Cathedral City	**N. Gene Autry Trail**	**Tahquitz Creek (TC)**	**8.4-23.3**	**4.8**	**Top of Levee**
Gene Autry Trail	N. Gene Autry Trail	Vista Chino	8.4-9.4a	0.5	Top of Levee
Cathedral City Whitewater Bike Path	Vista Chino	Ramon Road	9.4-13.6	2.8	Top of Levee
Ramon Road to Tahquitz Creek	Ramon Road	Tahquitz Creek	13.7-14.1 & 23.1-23.4	1.5	Top of Levee
2A. Tahquitz Creek (Existing TC Trail)	**South Palm Canyon Drive**	**Whitewater River**	**15.5-23.3**	**5.5**	**Mixed**
Tahquitz Creek	*South Palm Canyon Drive*	*Sunrise Way*	*15.5-23.3*	*0.9*	*Top of Levee and Channel Bottom*
Mesquite Golf Course (GC)	*Sunrise Way*	*Compadre Road*	*17.3-18.5*	*0.9*	*Sidewalk Path, Shared Roadway*
Compadre/Sunny Dunes)/ El Cielo/Mesquite Roads	*Compadre Road*	*Demuth Park*	*18.6-19.6*	*0.9*	*Golf Course Path, Tahquitz Creek South Bank, Sidewalk Path*
Tahquitz Creek GC	*Mesquite Ave*	*Water Park*	*20.1-21.4*	*1*	*Shared Roadway, DeMuth Park Path, Golf Course Path*
Desert Water Agency Right-of-Way (RW)	*Water Park*	*Golf Club Drive (GCD)*	*21.1-21.4*	*.7*	*Class I Path*
34Avenue	*Golf Club Drive*	*Whitewater Channel*	*21.2a-22.2a*	*0.5*	*Sidewalk Path*
Tahquitz Creek	*GCD/South Trail*	*Whitewater Channel*	*21.4-23.3*	*0.6*	*Top of Levee*
3. Cathedral City (Existing Whitewater Trail)	**Whitewater River/Tahquitz Ck Confluence**	**Frank Sinatra Drive**	**23.4-28.2**	**3.3**	**Top of Levee**
Commercial District	Cathedral Canyon Drive	Date Palm Drive	25.1-26.14	0.7	Top Levee
Date Palm Drive / Cathedral Canyon Channel	Date Palm Drive	Cathedral Canyon Channel	26.1-27.4	0.7	Mixed
Whitewater River Channel	Cathedral Canyon Channel	Frank Sinatra Drive	27.5-28.2	0.9	Top of Levee
4. Rancho Mirage[1] **Alternative 2 only**	**Frank Sinatra Drive**	**Parkview Drive**	**27.5-28.2**	**7.7**	**Mixed**
Wolfson Park / Bulter-Abrams Trail	*Frank Sinatra Drive*	*Country Club Drive*	*28.3a-30.2*	*1.6*	*Mixed*
Highway 111	*Country Club Drive*	*Hwy 111 at Paxton Drive*	*30.3-31.3*	*3.8*	*Adjacent to Road*
Highway 111	*Hwy 111 at Paxton Drive*	*Mirage Road*	*31.3-34.1*	*0.7*	*Sidewalk*
Whitewater River Channel	*Paxton Drive*	*Bob Hope Drive*	*31.3-34.1*	*0.7*	*Top of Levee*

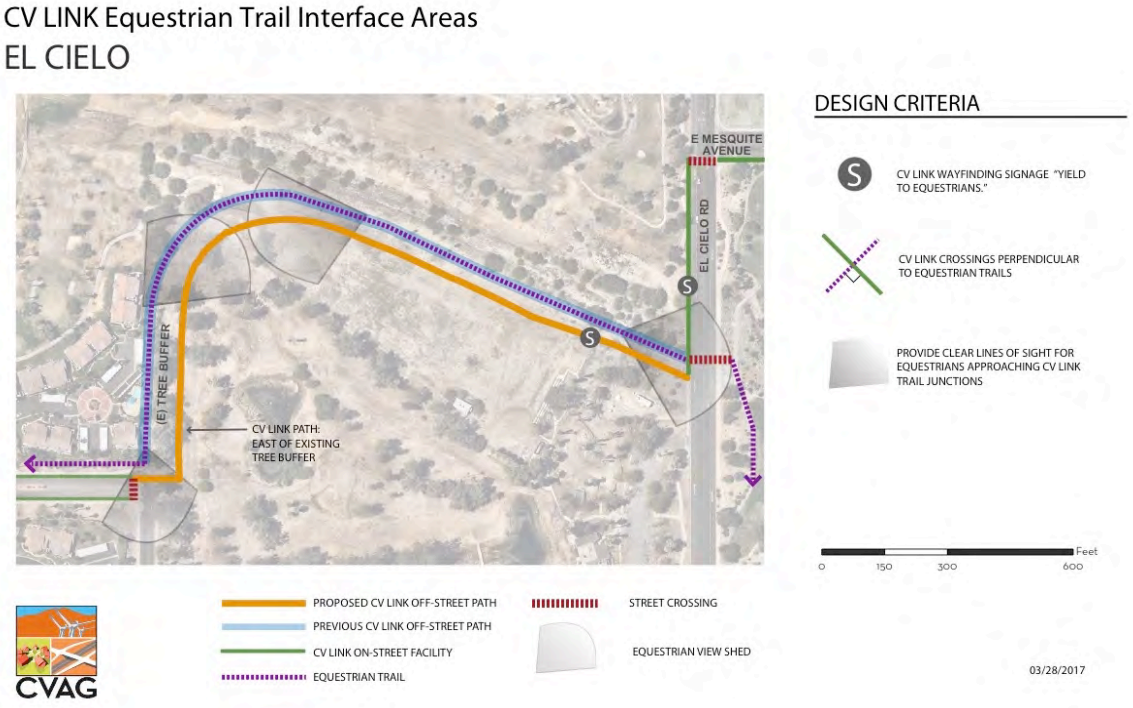
Table 2-1
CV Link Route
Proposed Project – All Segments Summary[1] [2.]

Segment Number & Name	Starting Point	End Point	Link Segment	Distance (Miles)	Trail Type
Bob Hope Drive & Hwy 111	*Bob Hope Drive*	*Parkview/Hwy 111*	*34.7-34.5a*	*0.9*	*Adjacent to Road*
5. Palm Desert	**Parkview Drive**	**Fred Waring Drive**	**34.6-42.1**	**4.7**	**Mixed**
Parkview Drive	Parkview Drive	Monterey Avenue	*34.6-36.8*	*0.8*	Sidewalk
College of the Desert (COD)/ Civic Center Park Loop	*Monterey Avenue*	*Magnesia Falls*	*36.9-39.1a*	*2.2*	*Shared Roadway*
Magnesia Falls	*Magnesia Falls*	*Unnamed Drainage*	*39.2a-40.3*	*0.8*	*Adjacent to Road*
Whitewater River Channel	*Unnamed Drainage*	*Cook Street*	*40.4-41.2*	*0.8*	*Top of Levee*
Cook Street	*Cook Street*	*Fred Waring Drive*	*41.3-42.1*	*0.9*	*Top of Levee*
6. Indian Wells[2] (left and right bank from El Dorado and Washington), Miles Ave and Hwy 111 **Not included in Alternative 1**	**Fred Waring Drive**	**Washington Street**	**42.7-47.9**	**4.1**	**Top of Levee** *Right bank only and on Miles Ave paved section between Miles Ave bridge and Washington St.*
Whitewater River Channel (Left bank from Eldorado @ Fred Waring)	Fred Waring Drive	Eldorado Drive	42.7	0.6	Top of Levee
Fred Waring Drive (on sidewalk)	Fred Waring Drive	Eldorado Drive	42.8-43.4	0.5	Sidewalk
Indian Wells Resorts Connections	Eldorado Drive	Miles Avenue via Hwy 111	43.4-45.9	1.5	Mixed
Miles Avenue (Indian Wells Tennis Gardens Connection)	Miles Avenue	Washington Street (shared sidewalk/roadway down to Washington St. Undercrossing)	45.6a-47.9	1.5	Sidewalk or Within Right-of-way
Whitewater River Channel (Right Bank)	Miles Avenue	Washington Street	45.3-47.5a	1.5	Mixed
7. La Quinta (right bank from Washington St. to Ave 56)	**Washington Street**	**La Quinta Evacuation Channel**	**47.7a-50.2**	**2**	**Top of Levee**
8. Indio	**La Quinta Evacuation Channel**	**Van Buren Street**	**50.3-58.1**	**5**	**Top of Levee**
9. Riverside County and Coachella	**Van Buren Street**	**Tyler Street**	**58.2-63.2**	**3**	**Top of Levee**
10. Coachella	**Tyler Street**	**Airport Boulevard**	**63.3-69.3**	**4**	**Top of Levee**
TOTAL	**SR 111 Visitor Ctr**	**Airport Boulevard**	**1.5-69.3**	**49.3±**	**Mixed**

1. The Proposed Project does not include the City of Rancho Mirage or its alignments. Two west-end and one east-end termini have been developed where Rancho Mirage interfaces with Cathedral City and Palm Desert. See Exhibits 2-1, below.
2. Alternative 1 does not include Indian Wells or Rancho Mirage alignments.

Along the Bud Furer Trail, which is currently designated by the City of Palm Springs for equestrian use, the equestrian trail interfaces with CV Link facilities at two locations: one at Sunrise Way, and one at El Cielo Road. In order to assure that CV Link does not conflict with equestrian use of the trail, designs for these locations have been refined, as pictured below.





CV Link Alignment Variations

Different, multiple alignment variations have been considered for several sections of the Route and these should not be viewed as mutually exclusive. Rather, each alignment variation is evaluated and impacts assessed (please see Appendix B for a comprehensive depiction of all alignments). The estimated Project footprint of permanent impact for all alignments set forth above in Table 2-1 (inclusive of the Cities of Rancho Mirage and Indian Wells) is 312± acres. Nearly all permanent CV Link improvements will occur on previously graded drainage channel maintenance roads or paved public roadways and improved parkways.

Multiple alignment variations have been developed where there is an opportunity to provide the traveler with a different return route and where potential land use or other conflicts exist that the alignment variations serve to address. One such example is the CV Link Route in the north portion of Palm Springs (Four Seasons community) where three Whitewater Channel alignments and one on-street alignment (Sunrise Way/San Rafael) are considered and analyzed. As a result of ongoing consultation with residents of the Four Seasons community, and in order to address impacts to waters of the State and waters of the US in this area, a modified alignment has been proposed. This recommended alignment will follow the channel bottom from the northwest corner of the Four Seasons community, and extend in the channel to the DWA well site, located across from Sunbeam Way, where it will be reduced to 14 feet in width.


CV/LINK
FOUR SEASONS - PATH ALIGNMENT DETAIL - WEST
CONTEXT MAP
CV LINK TRANSITIONS FROM 85'TO 170' WIDE WITHIN USACE NON-WETLAND AREA
TOP OF LEVEE
170'
SECTION - B
MATCH LINE B: SEE DETAIL EAST
CVAG
0 30 60 120 180 240 Feet
Date: 4/20/2017
CV LINK IN CHANNEL
USACE WETLANDS
USACE NON-WETLANDS


CV/LINK
FOUR SEASONS - PATH ALIGNMENT DETAIL - EAST
CONTEXT MAP
MATCH LINE B: SEE DETAIL EAST
TOP OF LEVEE
CVAG
0 30 60 120 180 240 Feet
Date: 4/20/2017
CV LINK IN CHANNEL
USACE WETLANDS
USACE NON-WETLANDS

Alignment variations analyzed in this document are consistent with the alignments provided in the CV Link Conceptual Master Plan, provided in Appendix C.

Variable Cross Section

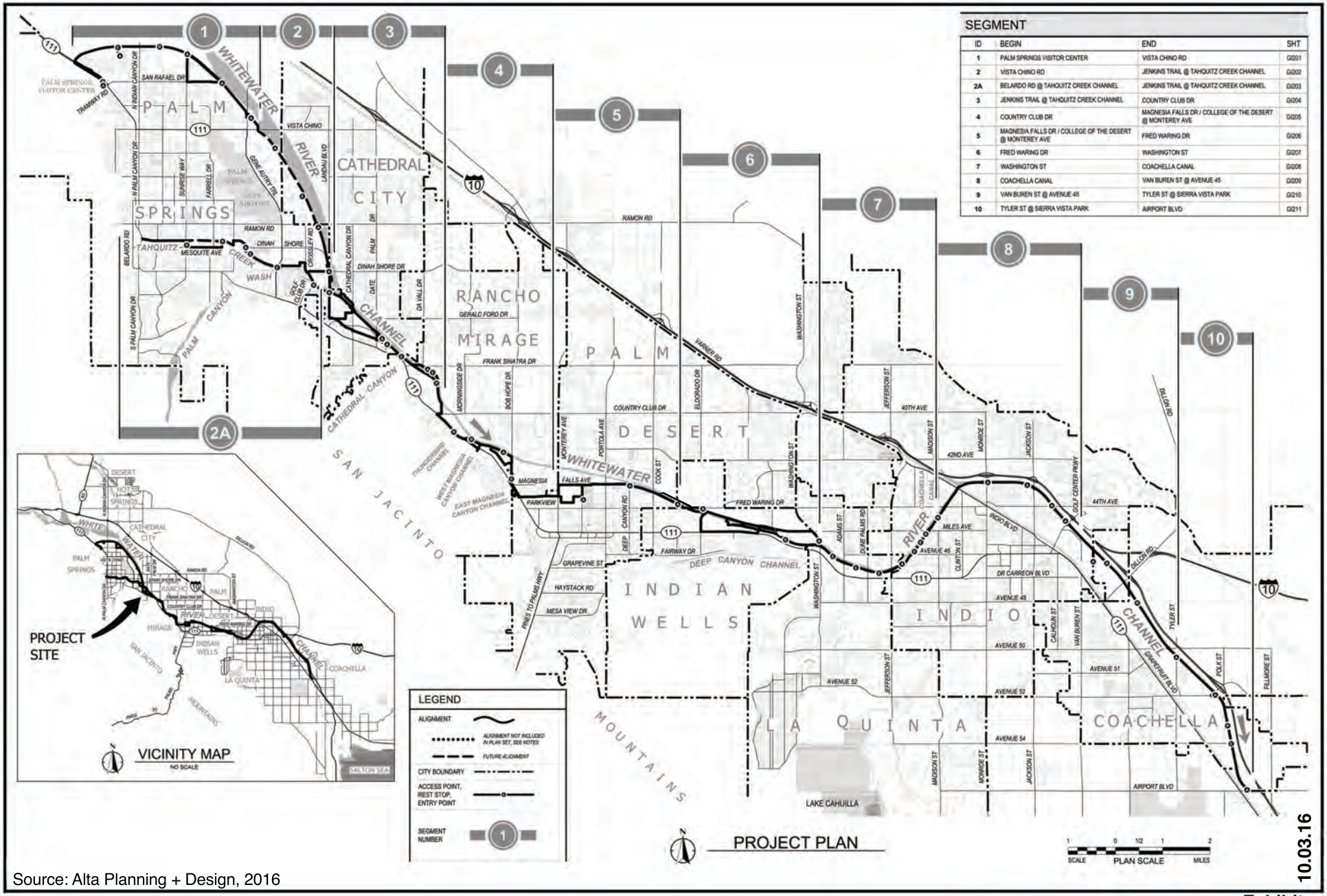
The design of CV Link will vary based on the width of available street right-of-way, variations in the available width of channel service roads, street configuration, and local conditions. Cross-sections for several likely scenarios are presented in Exhibits 2-13 and 14 below. Generally, the Link path will be a dual path system comprised of a broad paved concrete path for bicycles, LSEVs and other faster users, and a decomposed granite soft-surface narrower path for pedestrians and other lower speed users.

CV Link Nomenclature

As defined in Section 1, the CV Link Conceptual Master Plan has been delineated in terms of its overall Route from Palm Springs to Coachella, and "Route" is used in this sense throughout this EIR. The CV Link network is further elaborated into a variety of "alignments" and "segments", which are delineated in Appendix B: CV Link Map Book in this EIR. The following table summarizes the length of the Route and cumulative length of all alignment variations for each of the build alternatives.

Table 2-2
CV Link Project Alternatives Summary

CV Link Route Length	
Proposed Project (w/o Rancho Mirage)	44± miles
Alternative 1 (w/o Rancho Mirage or Indian Wells)	40± miles
Alternative 2 (All Jurisdiction)	49± miles
CV Link Route Length (including alignment variations)	
Proposed Project (w/o Rancho Mirage)	57.62± miles
Alternative 1 (w/o Rancho Mirage or Indian Wells)	48.2± miles
Alternative 2 (All Jurisdiction)	64.34± miles



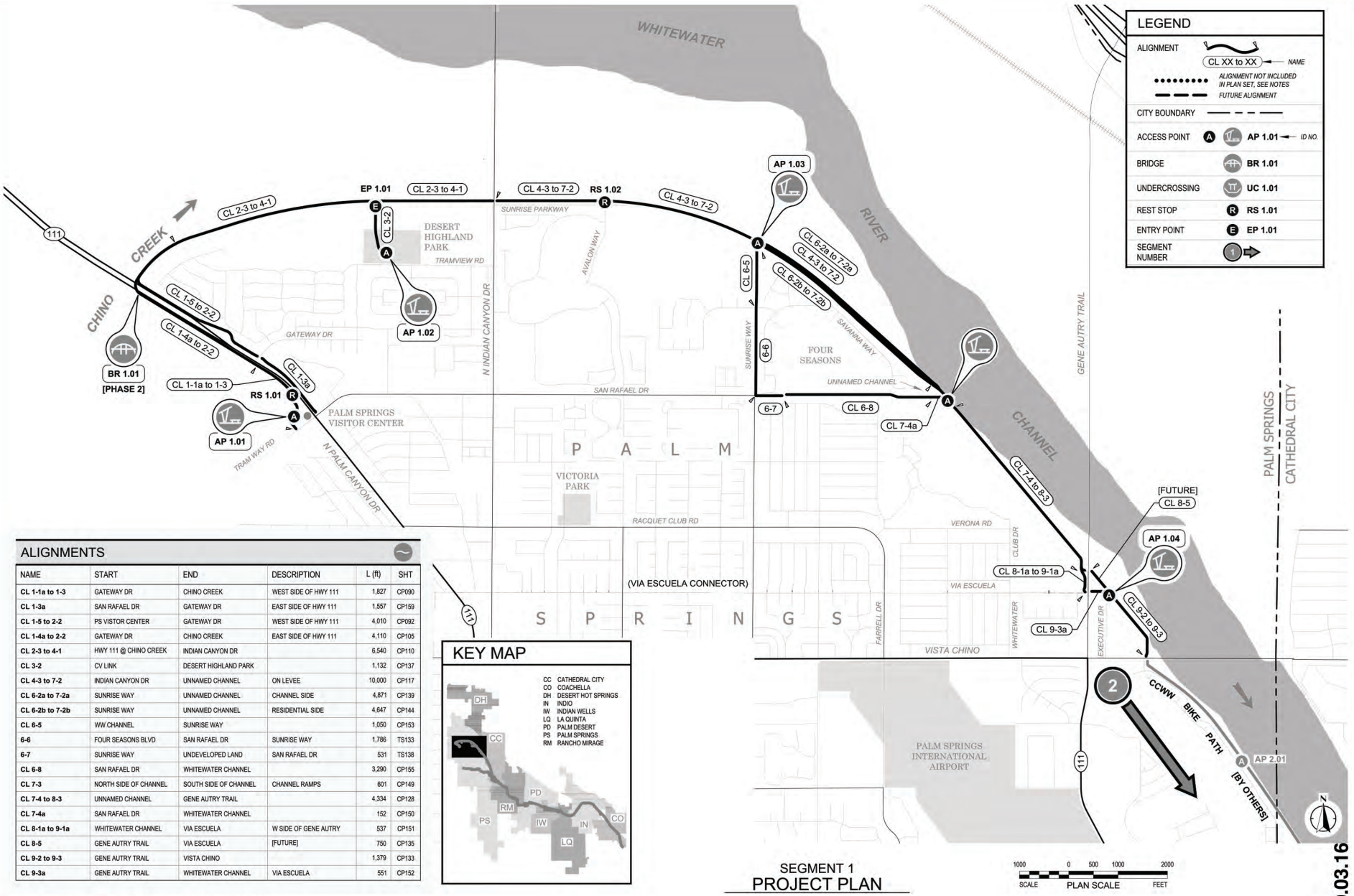
Source: Alta Planning + Design, 2016

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CV Link Project
Project Alignment Index
Coachella Valley Association of Governments

CV LINK
CONNECTING THE COACHELLA VALLEY
CVAG

Exhibit
2-1



ALIGNMENTS

NAME	START	END	DESCRIPTION	L (ft)	SHT
CL 1-1a to 1-3	GATEWAY DR	CHINO CREEK	WEST SIDE OF HWY 111	1,827	CP090
CL 1-3a	SAN RAFAEL DR	GATEWAY DR	EAST SIDE OF HWY 111	1,557	CP159
CL 1-5 to 2-2	PS VISTOR CENTER	GATEWAY DR	WEST SIDE OF HWY 111	4,010	CP092
CL 1-4a to 2-2	GATEWAY DR	CHINO CREEK	EAST SIDE OF HWY 111	4,110	CP105
CL 2-3 to 4-1	HWY 111 @ CHINO CREEK	INDIAN CANYON DR		6,540	CP110
CL 3-2	CV LINK	DESERT HIGHLAND PARK		1,132	CP137
CL 4-3 to 7-2	INDIAN CANYON DR	UNNAMED CHANNEL	ON LEVEE	10,000	CP117
CL 6-2a to 7-2a	SUNRISE WAY	UNNAMED CHANNEL	CHANNEL SIDE	4,871	CP139
CL 6-2b to 7-2b	SUNRISE WAY	UNNAMED CHANNEL	RESIDENTIAL SIDE	4,647	CP144
CL 6-5	WW CHANNEL	SUNRISE WAY		1,050	CP153
6-6	FOUR SEASONS BLVD	SAN RAFAEL DR	SUNRISE WAY	1,786	TS133
6-7	SUNRISE WAY	UNDEVELOPED LAND	SAN RAFAEL DR	531	TS138
CL 6-8	SAN RAFAEL DR	WHITEWATER CHANNEL		3,290	CP155
CL 7-3	NORTH SIDE OF CHANNEL	SOUTH SIDE OF CHANNEL	CHANNEL RAMPS	601	CP149
CL 7-4 to 8-3	UNNAMED CHANNEL	GENE AUTRY TRAIL		4,334	CP128
CL 7-4a	SAN RAFAEL DR	WHITEWATER CHANNEL		152	CP150
CL 8-1a to 9-1a	WHITEWATER CHANNEL	VIA ESCUELA	W SIDE OF GENE AUTRY	537	CP151
CL 8-5	GENE AUTRY TRAIL	VIA ESCUELA	[FUTURE]	750	CP135
CL 9-2 to 9-3	GENE AUTRY TRAIL	VISTA CHINO		1,379	CP133
CL 9-3a	GENE AUTRY TRAIL	WHITEWATER CHANNEL	VIA ESCUELA	551	CP152

Source: Alta Planning + Design, 2016

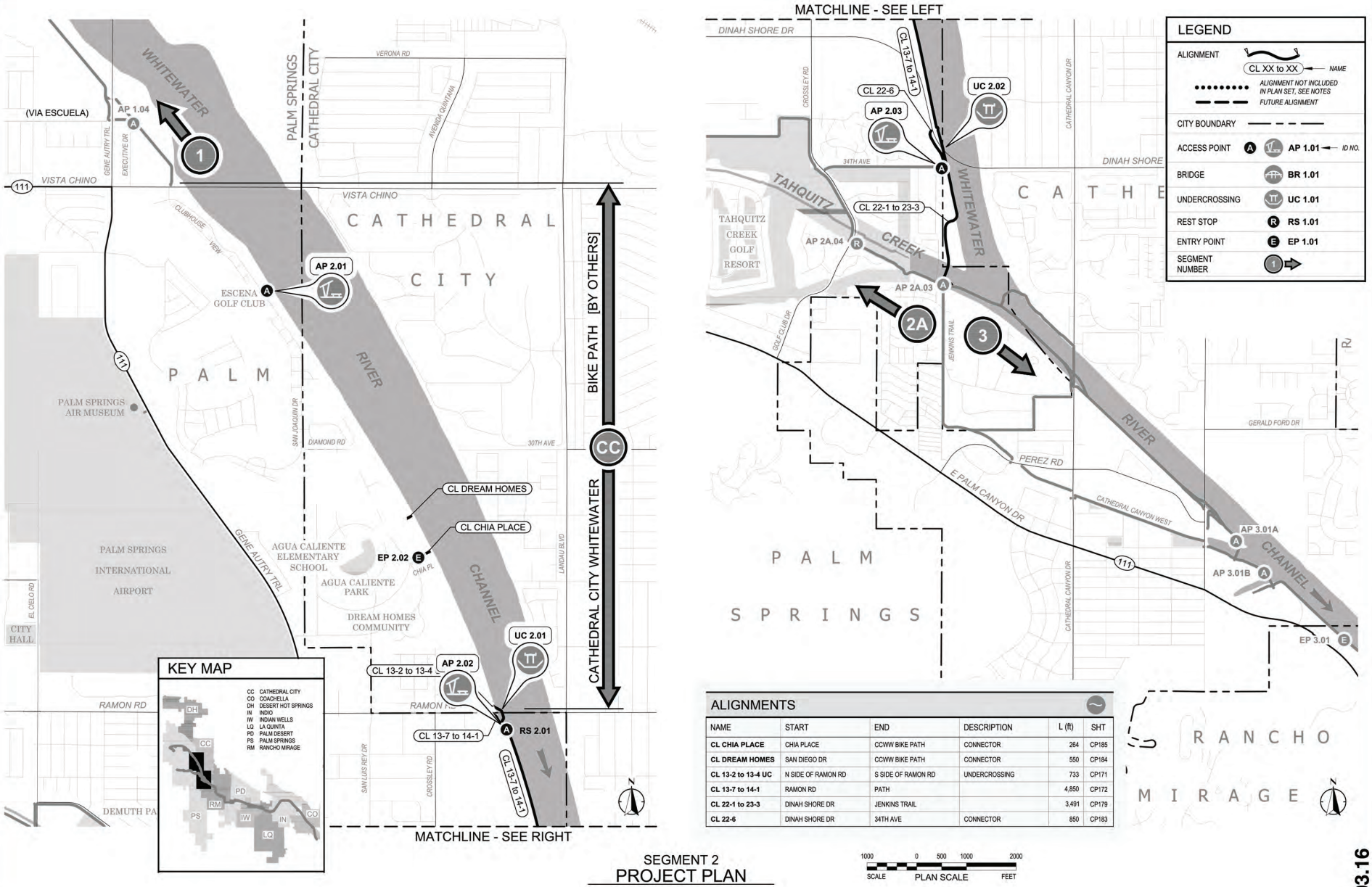
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Exhibit
2-2



ALIGNMENTS

NAME	START	END	DESCRIPTION	L (ft)	SHT
CL CHIA PLACE	CHIA PLACE	CCWW BIKE PATH	CONNECTOR	264	CP185
CL DREAM HOMES	SAN DIEGO DR	CCWW BIKE PATH	CONNECTOR	550	CP184
CL 13-2 to 13-4 UC	N SIDE OF RAMON RD	S SIDE OF RAMON RD	UNDERCROSSING	733	CP171
CL 13-7 to 14-1	RAMON RD	PATH		4,850	CP172
CL 22-1 to 23-3	DINAH SHORE DR	JENKINS TRAIL		3,491	CP179
CL 22-6	DINAH SHORE DR	34TH AVE	CONNECTOR	850	CP183

SEGMENT 2
PROJECT PLAN

1000 0 500 1000 2000
SCALE PLAN SCALE FEET

10.03.16

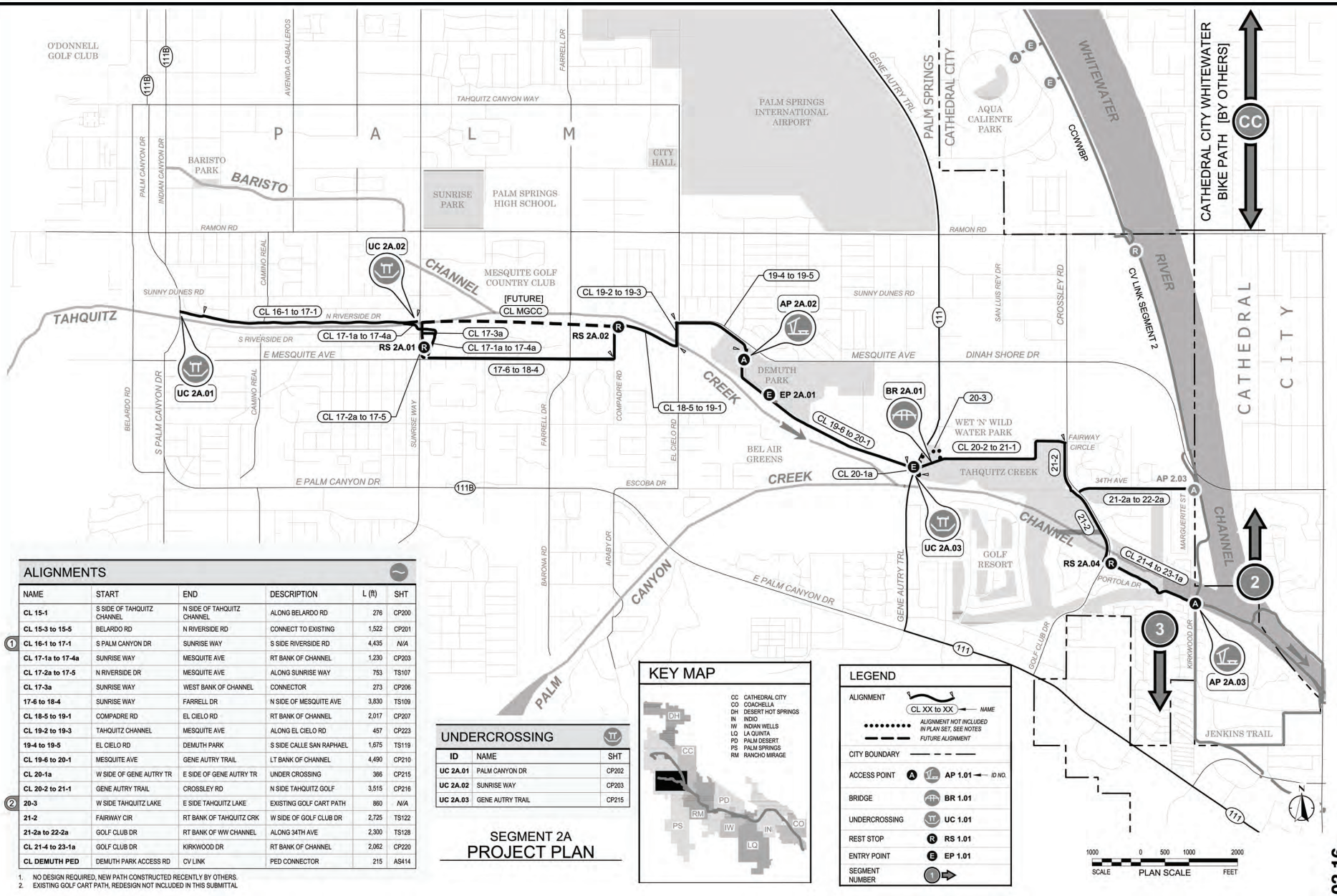
Source: Alta Planning + Design, 2016

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Exhibit
2-3



ALIGNMENTS

	NAME	START	END	DESCRIPTION	L (ft)	SHT
	CL 15-1	S SIDE OF TAHQUITZ CHANNEL	N SIDE OF TAHQUITZ CHANNEL	ALONG BELARDO RD	276	CP200
	CL 15-3 to 15-5	BELARDO RD	N RIVERSIDE RD	CONNECT TO EXISTING	1,522	CP201
1	CL 16-1 to 17-1	S PALM CANYON DR	SUNRISE WAY	S SIDE RIVERSIDE RD	4,435	N/A
	CL 17-1a to 17-4a	SUNRISE WAY	MESQUITE AVE	RT BANK OF CHANNEL	1,230	CP203
	CL 17-2a to 17-5	N RIVERSIDE DR	MESQUITE AVE	ALONG SUNRISE WAY	753	TS107
	CL 17-3a	SUNRISE WAY	WEST BANK OF CHANNEL	CONNECTOR	273	CP206
	17-6 to 18-4	SUNRISE WAY	FARRELL DR	N SIDE OF MESQUITE AVE	3,830	TS109
	CL 18-5 to 19-1	COMPADRE RD	EL CIELO RD	RT BANK OF CHANNEL	2,017	CP207
	CL 19-2 to 19-3	TAHQUITZ CHANNEL	MESQUITE AVE	ALONG EL CIELO RD	457	CP223
	19-4 to 19-5	EL CIELO RD	DEMUTH PARK	S SIDE CALLE SAN RAPHAEL	1,675	TS119
	CL 19-6 to 20-1	MESQUITE AVE	GENE AUTRY TRAIL	LT BANK OF CHANNEL	4,490	CP210
	CL 20-1a	W SIDE OF GENE AUTRY TR	E SIDE OF GENE AUTRY TR	UNDER CROSSING	366	CP215
	CL 20-2 to 21-1	GENE AUTRY TRAIL	CROSSLEY RD	N SIDE TAHQUITZ GOLF	3,515	CP216
2	20-3	W SIDE TAHQUITZ LAKE	E SIDE TAHQUITZ LAKE	EXISTING GOLF CART PATH	860	N/A
	21-2	FAIRWAY CIR	RT BANK OF TAHQUITZ CRK	W SIDE OF GOLF CLUB DR	2,725	TS122
	21-2a to 22-2a	GOLF CLUB DR	RT BANK OF WW CHANNEL	ALONG 34TH AVE	2,300	TS128
	CL 21-4 to 23-1a	GOLF CLUB DR	KIRKWOOD DR	RT BANK OF CHANNEL	2,062	CP220
	CL DEMUTH PED	DEMUTH PARK ACCESS RD	CV LINK	PED CONNECTOR	215	AS414

1. NO DESIGN REQUIRED, NEW PATH CONSTRUCTED RECENTLY BY OTHERS.
2. EXISTING GOLF CART PATH, REDESIGN NOT INCLUDED IN THIS SUBMITTAL

UNDERCROSSING

ID	NAME	SHT
UC 2A.01	PALM CANYON DR	CP202
UC 2A.02	SUNRISE WAY	CP203
UC 2A.03	GENE AUTRY TRAIL	CP215

SEGMENT 2A PROJECT PLAN

KEY MAP

LEGEND

ALIGNMENT — CL XX to XX (NAME); ALIGNMENT NOT INCLUDED IN PLAN SET, SEE NOTES; FUTURE ALIGNMENT

CITY BOUNDARY

ACCESS POINT — A — AP 1.01 (ID NO.)

BRIDGE — BR 1.01

UNDERCROSSING — UC 1.01

REST STOP — R — RS 1.01

ENTRY POINT — E — EP 1.01

SEGMENT NUMBER — 1

SCALE 1000 0 500 1000 2000 PLAN SCALE FEET

10.03.16

Source: Alta Planning + Design, 2016

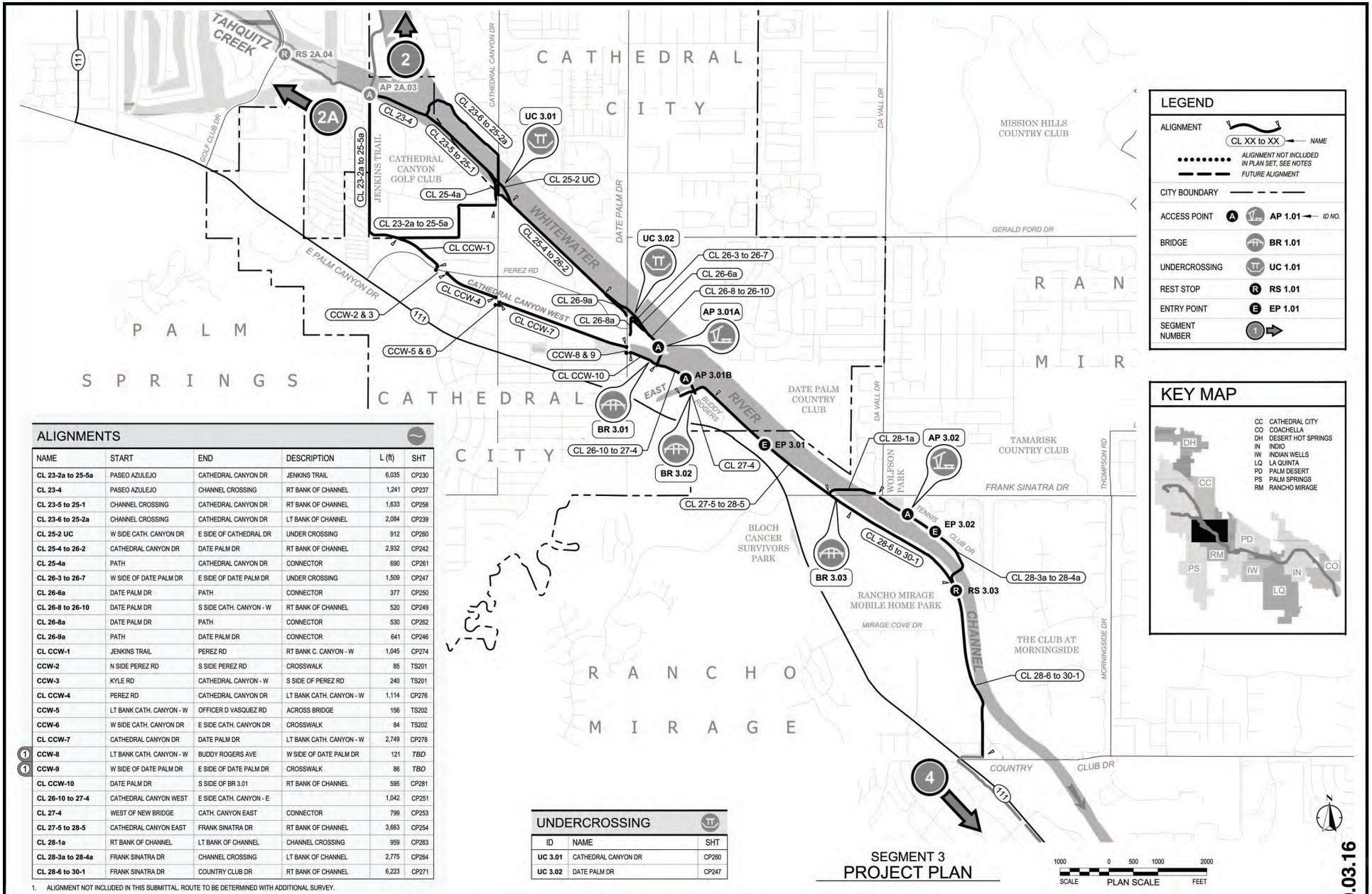
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CV Link Project
Project Segment 2A
Coachella Valley Association of Governments

CV LINK
CONNECTING THE COACHELLA VALLEY

CVAG

Exhibit
2-4



ALIGNMENTS

NAME	START	END	DESCRIPTION	L (ft)	SHT
CL 23-2a to 25-5a	PASEO AZULEJO	CATHEDRAL CANYON DR	JENKINS TRAIL	6,035	CP230
CL 23-4	PASEO AZULEJO	CHANNEL CROSSING	RT BANK OF CHANNEL	1,241	CP237
CL 23-5 to 25-1	CHANNEL CROSSING	CATHEDRAL CANYON DR	RT BANK OF CHANNEL	1,633	CP258
CL 23-6 to 25-2a	CHANNEL CROSSING	CATHEDRAL CANYON DR	LT BANK OF CHANNEL	2,084	CP239
CL 25-2 UC	W SIDE CATH. CANYON DR	E SIDE OF CATHEDRAL DR	UNDER CROSSING	912	CP260
CL 25-4 to 26-2	CATHEDRAL CANYON DR	DATE PALM DR	RT BANK OF CHANNEL	2,932	CP242
CL 25-4a	PATH	CATHEDRAL CANYON DR	CONNECTOR	690	CP261
CL 26-3 to 26-7	W SIDE OF DATE PALM DR	E SIDE OF DATE PALM DR	UNDER CROSSING	1,509	CP247
CL 26-6a	DATE PALM DR	PATH	CONNECTOR	377	CP250
CL 26-8 to 26-10	DATE PALM DR	S SIDE CATH. CANYON - W	RT BANK OF CHANNEL	520	CP249
CL 26-8a	DATE PALM DR	PATH	CONNECTOR	530	CP262
CL 26-9a	PATH	DATE PALM DR	CONNECTOR	641	CP246
CL CCW-1	JENKINS TRAIL	PEREZ RD	RT BANK C. CANYON - W	1,045	CP274
CCW-2	N SIDE PEREZ RD	S SIDE PEREZ RD	CROSSWALK	85	TS201
CCW-3	KYLE RD	CATHEDRAL CANYON - W	S SIDE OF PEREZ RD	240	TS201
CL CCW-4	PEREZ RD	CATHEDRAL CANYON DR	LT BANK CATH. CANYON - W	1,114	CP276
CCW-5	LT BANK CATH. CANYON - W	OFFICER D VASQUEZ RD	ACROSS BRIDGE	156	TS202
CCW-6	W SIDE CATH. CANYON DR	E SIDE CATH. CANYON DR	CROSSWALK	84	TS202
CL CCW-7	CATHEDRAL CANYON DR	DATE PALM DR	LT BANK CATH. CANYON - W	2,749	CP278
(1) CCW-8	LT BANK CATH. CANYON - W	BUDDY ROGERS AVE	W SIDE OF DATE PALM DR	121	*TBD*
(1) CCW-9	W SIDE OF DATE PALM DR	E SIDE OF DATE PALM DR	CROSSWALK	86	*TBD*
CL CCW-10	DATE PALM DR	S SIDE OF BR 3.01	RT BANK OF CHANNEL	595	CP281
CL 26-10 to 27-4	CATHEDRAL CANYON WEST	E SIDE CATH. CANYON - E		1,042	CP251
CL 27-4	WEST OF NEW BRIDGE	CATH. CANYON EAST	CONNECTOR	799	CP253
CL 27-5 to 28-5	CATHEDRAL CANYON EAST	FRANK SINATRA DR	RT BANK OF CHANNEL	3,663	CP254
CL 28-1a	RT BANK OF CHANNEL	LT BANK OF CHANNEL	CHANNEL CROSSING	959	CP263
CL 28-3a to 28-4a	FRANK SINATRA DR	CHANNEL CROSSING	LT BANK OF CHANNEL	2,775	CP264
CL 28-6 to 30-1	FRANK SINATRA DR	COUNTRY CLUB DR	RT BANK OF CHANNEL	6,223	CP271

1. ALIGNMENT NOT INCLUDED IN THIS SUBMITTAL. ROUTE TO BE DETERMINED WITH ADDITIONAL SURVEY.

UNDERCROSSING

ID	NAME	SHT
UC 3.01	CATHEDRAL CANYON DR	CP260
UC 3.02	DATE PALM DR	CP247

Source: Alta Planning + Design, 2016

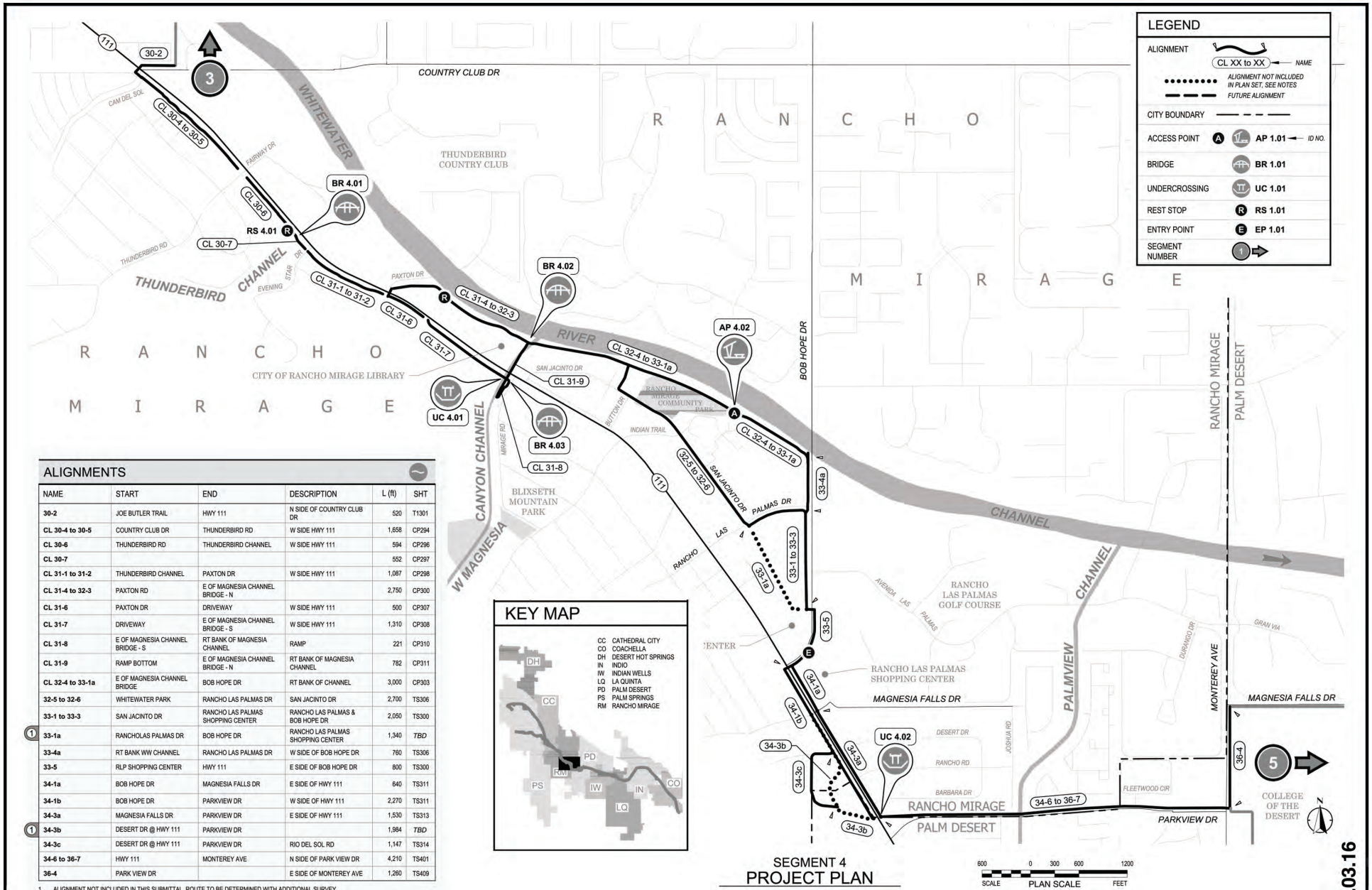
*** Rancho Mirage Alignments in Alternative 2 Only**

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CV Link Project
Project Segment 3
Coachella Valley Association of Governments

CV LINK
CONNECTING THE COACHELLA VALLEY
CVAG

Exhibit
2-5



ALIGNMENTS

	NAME	START	END	DESCRIPTION	L (ft)	SHT
	30-2	JOE BUTLER TRAIL	HWY 111	N SIDE OF COUNTRY CLUB DR	520	T1301
	CL 30-4 to 30-5	COUNTRY CLUB DR	THUNDERBIRD RD	W SIDE HWY 111	1,658	CP294
	CL 30-6	THUNDERBIRD RD	THUNDERBIRD CHANNEL	W SIDE HWY 111	594	CP296
	CL 30-7				552	CP297
	CL 31-1 to 31-2	THUNDERBIRD CHANNEL	PAXTON DR	W SIDE HWY 111	1,087	CP298
	CL 31-4 to 32-3	PAXTON RD	E OF MAGNESIA CHANNEL BRIDGE - N		2,750	CP300
	CL 31-6	PAXTON DR	DRIVEWAY	W SIDE HWY 111	500	CP307
	CL 31-7	DRIVEWAY	E OF MAGNESIA CHANNEL BRIDGE - S	W SIDE HWY 111	1,310	CP308
	CL 31-8	E OF MAGNESIA CHANNEL BRIDGE - S	RT BANK OF MAGNESIA CHANNEL	RAMP	221	CP310
	CL 31-9	RAMP BOTTOM	E OF MAGNESIA CHANNEL BRIDGE - N	RT BANK OF MAGNESIA CHANNEL	782	CP311
	CL 32-4 to 33-1a	E OF MAGNESIA CHANNEL BRIDGE	BOB HOPE DR	RT BANK OF CHANNEL	3,000	CP303
	32-5 to 32-6	WHITEWATER PARK	RANCHO LAS PALMAS DR	SAN JACINTO DR	2,700	TS306
	33-1 to 33-3	SAN JACINTO DR	RANCHO LAS PALMAS SHOPPING CENTER	RANCHO LAS PALMAS & BOB HOPE DR	2,050	TS300
1	**33-1a**	RANCHOLAS PALMAS DR	BOB HOPE DR	RANCHO LAS PALMAS SHOPPING CENTER	1,340	*TBD*
	33-4a	RT BANK WW CHANNEL	RANCHO LAS PALMAS DR	W SIDE OF BOB HOPE DR	760	TS306
	33-5	RLP SHOPPING CENTER	HWY 111	E SIDE OF BOB HOPE DR	800	TS300
	34-1a	BOB HOPE DR	MAGNESIA FALLS DR	E SIDE OF HWY 111	640	TS311
	34-1b	BOB HOPE DR	PARKVIEW DR	W SIDE OF HWY 111	2,270	TS311
	34-3a	MAGNESIA FALLS DR	PARKVIEW DR	E SIDE OF HWY 111	1,530	TS313
1	**34-3b**	DESERT DR @ HWY 111	PARKVIEW DR		1,984	*TBD*
	34-3c	DESERT DR @ HWY 111	PARKVIEW DR	RIO DEL SOL RD	1,147	TS314
	34-6 to 36-7	HWY 111	MONTEREY AVE	N SIDE OF PARK VIEW DR	4,210	TS401
	36-4	PARK VIEW DR		E SIDE OF MONTEREY AVE	1,260	TS409

1. ALIGNMENT NOT INCLUDED IN THIS SUBMITTAL. ROUTE TO BE DETERMINED WITH ADDITIONAL SURVEY.

Source: Alta Planning + Design, 2016

*** Rancho Mirage Alignments in Alternative 2 Only**

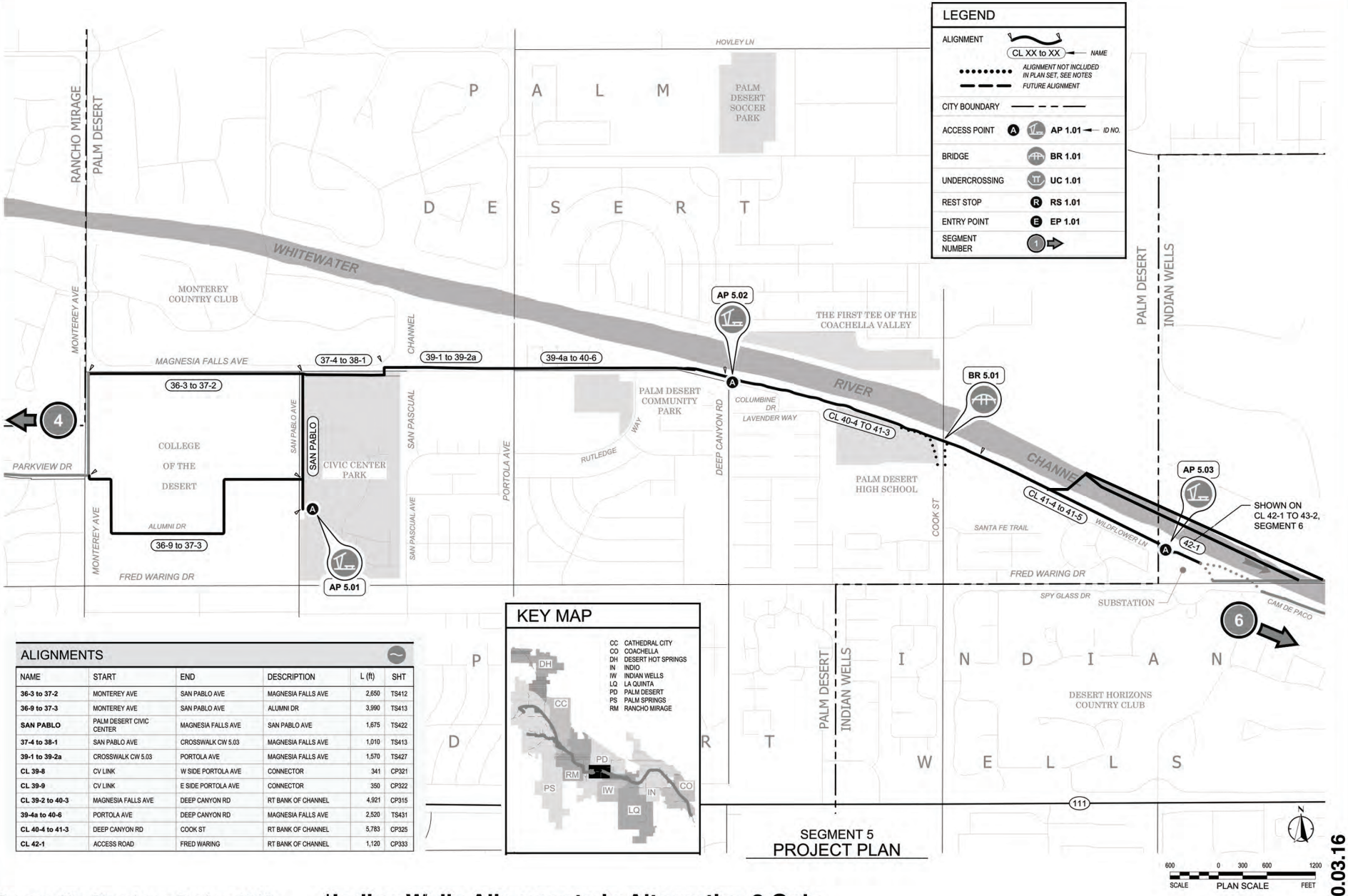
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CV Link Project
Project Segment 4
Coachella Valley Association of Governments

CV LINK
CONNECTING THE COACHELLA VALLEY

CVAG

Exhibit
2-6



ALIGNMENTS

NAME	START	END	DESCRIPTION	L (ft)	SHT
36-3 to 37-2	MONTEREY AVE	SAN PABLO AVE	MAGNESIA FALLS AVE	2,650	TS412
36-9 to 37-3	MONTEREY AVE	SAN PABLO AVE	ALUMNI DR	3,990	TS413
SAN PABLO	PALM DESERT CIVIC CENTER	MAGNESIA FALLS AVE	SAN PABLO AVE	1,675	TS422
37-4 to 38-1	SAN PABLO AVE	CROSSWALK CW 5.03	MAGNESIA FALLS AVE	1,010	TS413
39-1 to 39-2a	CROSSWALK CW 5.03	PORTOLA AVE	MAGNESIA FALLS AVE	1,570	TS427
CL 39-8	CV LINK	W SIDE PORTOLA AVE	CONNECTOR	341	CP321
CL 39-9	CV LINK	E SIDE PORTOLA AVE	CONNECTOR	350	CP322
CL 39-2 to 40-3	MAGNESIA FALLS AVE	DEEP CANYON RD	RT BANK OF CHANNEL	4,921	CP315
39-4a to 40-6	PORTOLA AVE	DEEP CANYON RD	MAGNESIA FALLS AVE	2,520	TS431
CL 40-4 to 41-3	DEEP CANYON RD	COOK ST	RT BANK OF CHANNEL	5,783	CP325
CL 42-1	ACCESS ROAD	FRED WARING	RT BANK OF CHANNEL	1,120	CP333

Source: Alta Planning + Design, 2016

***Indian Wells Alignments in Alternative 2 Only**

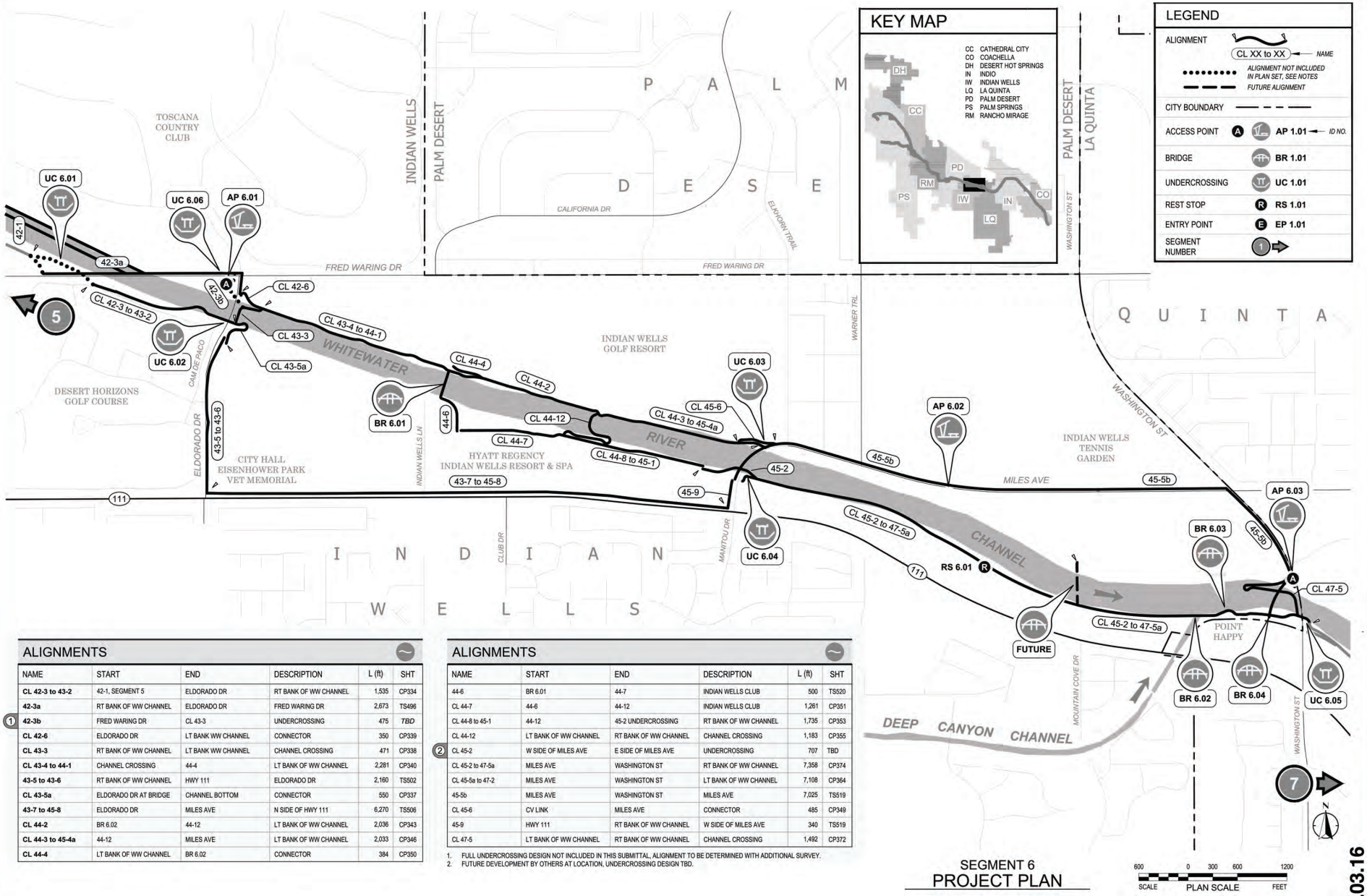
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CV Link Project
Project Segment 5
Coachella Valley Association of Governments

CV LINK
CONNECTING THE COACHELLA VALLEY

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Exhibit
2-7



ALIGNMENTS

NAME	START	END	DESCRIPTION	L (ft)	SHT
CL 42-3 to 43-2	42-1, SEGMENT 5	ELDORADO DR	RT BANK OF WW CHANNEL	1,535	CP334
42-3a	RT BANK OF WW CHANNEL	ELDORADO DR	FRED WARING DR	2,673	TS496
(1) 42-3b	FRED WARING DR	CL 43-3	UNDERCROSSING	475	*TBD*
CL 42-6	ELDORADO DR	LT BANK WW CHANNEL	CONNECTOR	350	CP339
CL 43-3	RT BANK OF WW CHANNEL	LT BANK WW CHANNEL	CHANNEL CROSSING	471	CP338
CL 43-4 to 44-1	CHANNEL CROSSING	44-4	LT BANK OF WW CHANNEL	2,281	CP340
43-5 to 43-6	RT BANK OF WW CHANNEL	HWY 111	ELDORADO DR	2,160	TS502
CL 43-5a	ELDORADO DR AT BRIDGE	CHANNEL BOTTOM	CONNECTOR	550	CP337
43-7 to 45-8	ELDORADO DR	MILES AVE	N SIDE OF HWY 111	6,270	TS506
CL 44-2	BR 6.02	44-12	LT BANK OF WW CHANNEL	2,036	CP343
CL 44-3 to 45-4a	44-12	MILES AVE	LT BANK OF WW CHANNEL	2,033	CP346
CL 44-4	LT BANK OF WW CHANNEL	BR 6.02	CONNECTOR	384	CP350

ALIGNMENTS

NAME	START	END	DESCRIPTION	L (ft)	SHT
44-6	BR 6.01	44-7	INDIAN WELLS CLUB	500	TS520
CL 44-7	44-6	44-12	INDIAN WELLS CLUB	1,261	CP351
CL 44-8 to 45-1	44-12	45-2 UNDERCROSSING	RT BANK OF WW CHANNEL	1,735	CP353
CL 44-12	LT BANK OF WW CHANNEL	RT BANK OF WW CHANNEL	CHANNEL CROSSING	1,183	CP355
(2) CL 45-2	W SIDE OF MILES AVE	E SIDE OF MILES AVE	UNDERCROSSING	707	TBD
CL 45-2 to 47-5a	MILES AVE	WASHINGTON ST	RT BANK OF WW CHANNEL	7,358	CP374
CL 45-5a to 47-2	MILES AVE	WASHINGTON ST	LT BANK OF WW CHANNEL	7,108	CP364
45-5b	MILES AVE	WASHINGTON ST	MILES AVE	7,025	TS519
CL 45-6	CV LINK	MILES AVE	CONNECTOR	485	CP349
45-9	HWY 111	RT BANK OF WW CHANNEL	W SIDE OF MILES AVE	340	TS519
CL 47-5	LT BANK OF WW CHANNEL	RT BANK OF WW CHANNEL	CHANNEL CROSSING	1,492	CP372

1. FULL UNDERCROSSING DESIGN NOT INCLUDED IN THIS SUBMITTAL, ALIGNMENT TO BE DETERMINED WITH ADDITIONAL SURVEY.
2. FUTURE DEVELOPMENT BY OTHERS AT LOCATION, UNDERCROSSING DESIGN TBD.

Source: Alta Planning + Design, 2016

*** Indian Wells Alignments in Alternative 2 Only**

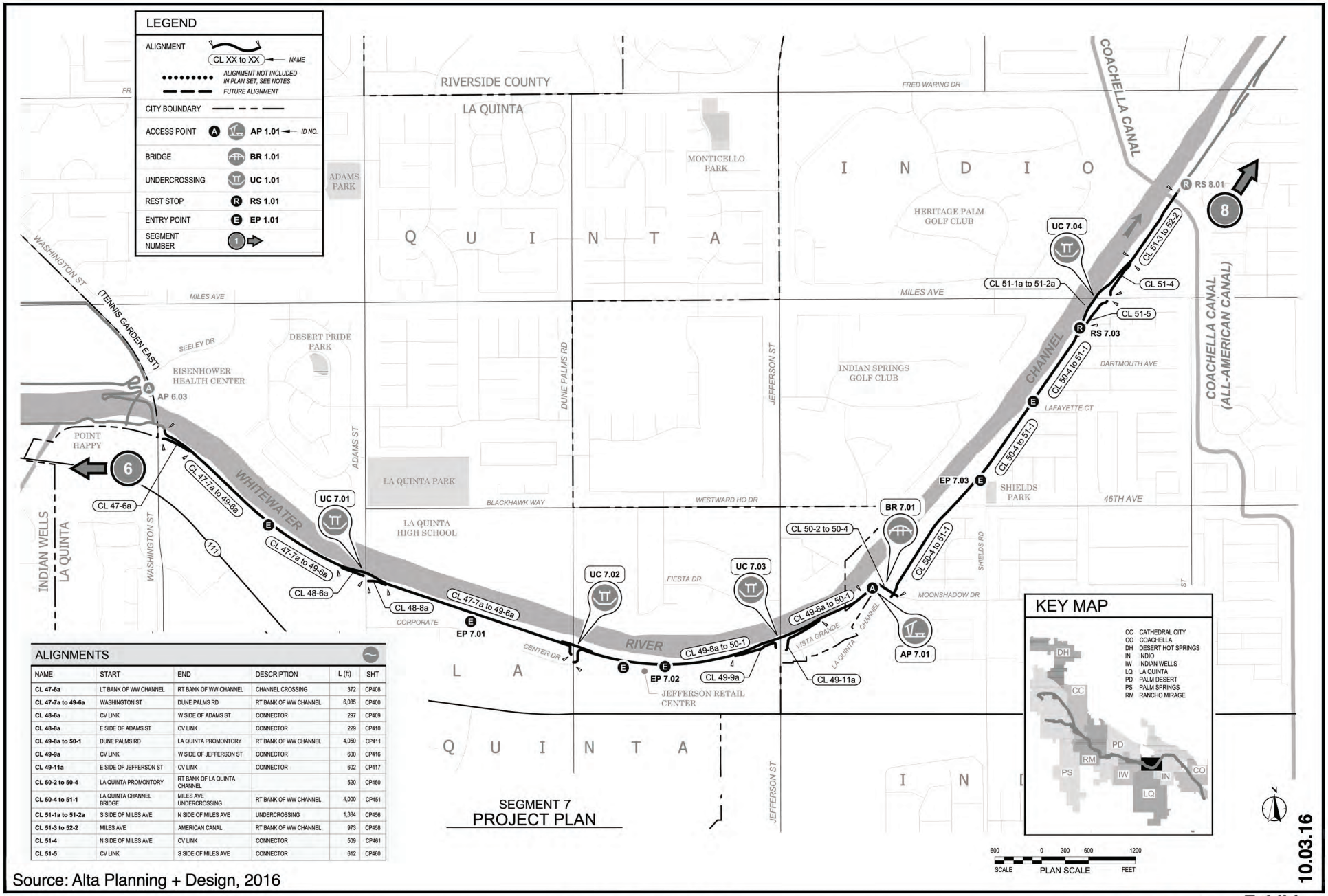
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CV LINK
CONNECTING THE COACHELLA VALLEY

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Exhibit
2-8



ALIGNMENTS

NAME	START	END	DESCRIPTION	L (ft)	SHT
CL 47-6a	LT BANK OF WW CHANNEL	RT BANK OF WW CHANNEL	CHANNEL CROSSING	372	CP408
CL 47-7a to 49-6a	WASHINGTON ST	DUNE PALMS RD	RT BANK OF WW CHANNEL	6,085	CP400
CL 48-6a	CV LINK	W SIDE OF ADAMS ST	CONNECTOR	297	CP409
CL 48-8a	E SIDE OF ADAMS ST	CV LINK	CONNECTOR	229	CP410
CL 49-8a to 50-1	DUNE PALMS RD	LA QUINTA PROMONTORY	RT BANK OF WW CHANNEL	4,050	CP411
CL 49-9a	CV LINK	W SIDE OF JEFFERSON ST	CONNECTOR	600	CP416
CL 49-11a	E SIDE OF JEFFERSON ST	CV LINK	CONNECTOR	602	CP417
CL 50-2 to 50-4	LA QUINTA PROMONTORY	RT BANK OF LA QUINTA CHANNEL		520	CP450
CL 50-4 to 51-1	LA QUINTA CHANNEL BRIDGE	MILES AVE UNDERCROSSING	RT BANK OF WW CHANNEL	4,000	CP451
CL 51-1a to 51-2a	S SIDE OF MILES AVE	N SIDE OF MILES AVE	UNDERCROSSING	1,384	CP456
CL 51-3 to 52-2	MILES AVE	AMERICAN CANAL	RT BANK OF WW CHANNEL	973	CP458
CL 51-4	N SIDE OF MILES AVE	CV LINK	CONNECTOR	509	CP461
CL 51-5	CV LINK	S SIDE OF MILES AVE	CONNECTOR	612	CP460

Source: Alta Planning + Design, 2016

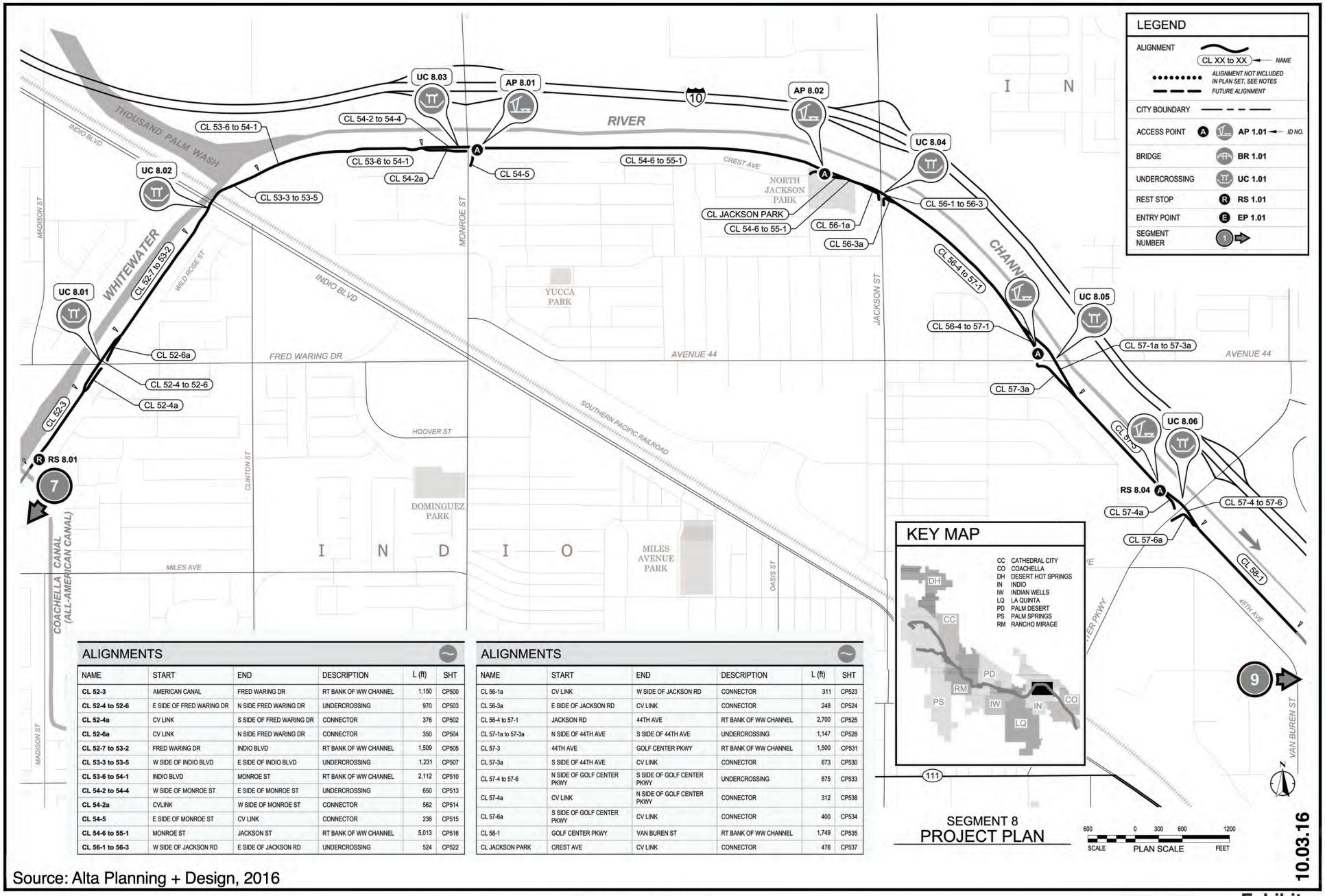
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CV Link Project
Project Segment 7
Coachella Valley Association of Governments

CV LINK
CONNECTING THE COACHELLA VALLEY

CVAG

Exhibit
2-9



ALIGNMENTS

NAME	START	END	DESCRIPTION	L (ft)	SHT
CL 52-3	AMERICAN CANAL	FRED WARING DR	RT BANK OF WW CHANNEL	1,150	CP500
CL 52-4 to 52-6	E SIDE OF FRED WARING DR	N SIDE FRED WARING DR	UNDERCROSSING	970	CP503
CL 52-4a	CV LINK	S SIDE OF FRED WARING DR	CONNECTOR	376	CP502
CL 52-6a	CV LINK	N SIDE FRED WARING DR	CONNECTOR	350	CP504
CL 52-7 to 53-2	FRED WARING DR	INDIO BLVD	RT BANK OF WW CHANNEL	1,509	CP505
CL 53-3 to 53-5	W SIDE OF INDIO BLVD	E SIDE OF INDIO BLVD	UNDERCROSSING	1,231	CP507
CL 53-6 to 54-1	INDIO BLVD	MONROE ST	RT BANK OF WW CHANNEL	2,112	CP510
CL 54-2 to 54-4	W SIDE OF MONROE ST	E SIDE OF MONROE ST	UNDERCROSSING	650	CP513
CL 54-2a	CVLINK	W SIDE OF MONROE ST	CONNECTOR	562	CP514
CL 54-5	E SIDE OF MONROE ST	CV LINK	CONNECTOR	238	CP515
CL 54-6 to 55-1	MONROE ST	JACKSON ST	RT BANK OF WW CHANNEL	5,013	CP516
CL 56-1 to 56-3	W SIDE OF JACKSON RD	E SIDE OF JACKSON RD	UNDERCROSSING	524	CP522

ALIGNMENTS

NAME	START	END	DESCRIPTION	L (ft)	SHT
CL 56-1a	CV LINK	W SIDE OF JACKSON RD	CONNECTOR	311	CP523
CL 56-3a	E SIDE OF JACKSON RD	CV LINK	CONNECTOR	248	CP524
CL 56-4 to 57-1	JACKSON RD	44TH AVE	RT BANK OF WW CHANNEL	2,700	CP525
CL 57-1a to 57-3a	N SIDE OF 44TH AVE	S SIDE OF 44TH AVE	UNDERCROSSING	1,147	CP528
CL 57-3	44TH AVE	GOLF CENTER PKWY	RT BANK OF WW CHANNEL	1,500	CP531
CL 57-3a	S SIDE OF 44TH AVE	CV LINK	CONNECTOR	673	CP530
CL 57-4 to 57-6	N SIDE OF GOLF CENTER PKWY	S SIDE OF GOLF CENTER PKWY	UNDERCROSSING	875	CP533
CL 57-4a	CV LINK	N SIDE OF GOLF CENTER PKWY	CONNECTOR	312	CP538
CL 57-6a	S SIDE OF GOLF CENTER PKWY	CV LINK	CONNECTOR	400	CP534
CL 58-1	GOLF CENTER PKWY	VAN BUREN ST	RT BANK OF WW CHANNEL	1,749	CP535
CL JACKSON PARK	CREST AVE	CV LINK	CONNECTOR	476	CP537

Source: Alta Planning + Design, 2016

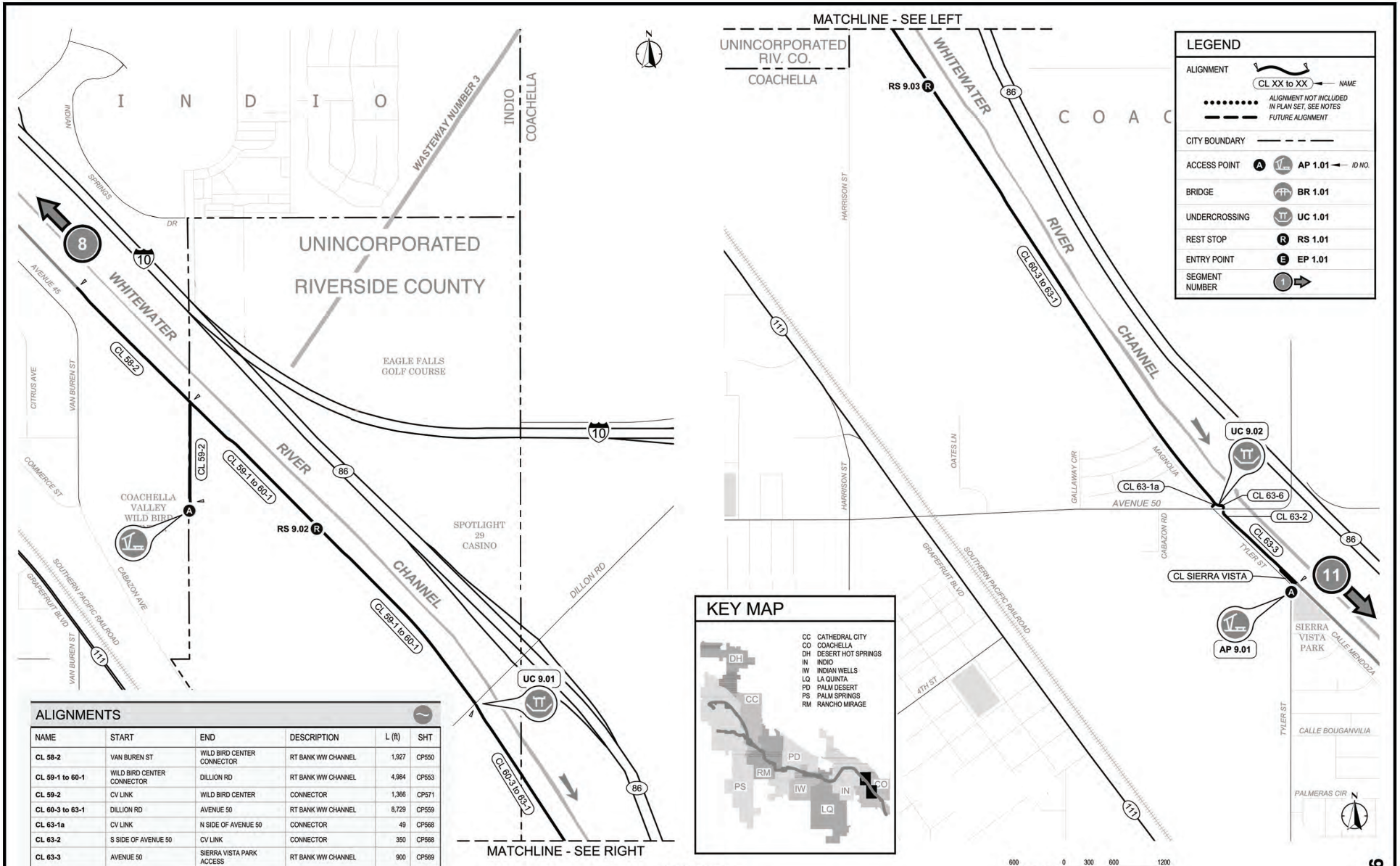
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CV LINK
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Exhibit
2-10



ALIGNMENTS

NAME	START	END	DESCRIPTION	L (ft)	SHT
CL 58-2	VAN BUREN ST	WILD BIRD CENTER CONNECTOR	RT BANK WW CHANNEL	1,927	CP550
CL 59-1 to 60-1	WILD BIRD CENTER CONNECTOR	DILLION RD	RT BANK WW CHANNEL	4,984	CP553
CL 59-2	CV LINK	WILD BIRD CENTER	CONNECTOR	1,366	CP571
CL 60-3 to 63-1	DILLION RD	AVENUE 50	RT BANK WW CHANNEL	8,729	CP559
CL 63-1a	CV LINK	N SIDE OF AVENUE 50	CONNECTOR	49	CP568
CL 63-2	S SIDE OF AVENUE 50	CV LINK	CONNECTOR	350	CP568
CL 63-3	AVENUE 50	SIERRA VISTA PARK ACCESS	RT BANK WW CHANNEL	900	CP569
CL 63-6	CV LINK	AVENUE 50	CONNECTOR	241	CP568
CL SIERRA VISTA	CV LINK	SIERRA VISTA PARK	CONNECTOR	282	CP570

SEGMENT 9
PROJECT PLAN

Source: Alta Planning + Design, 2016

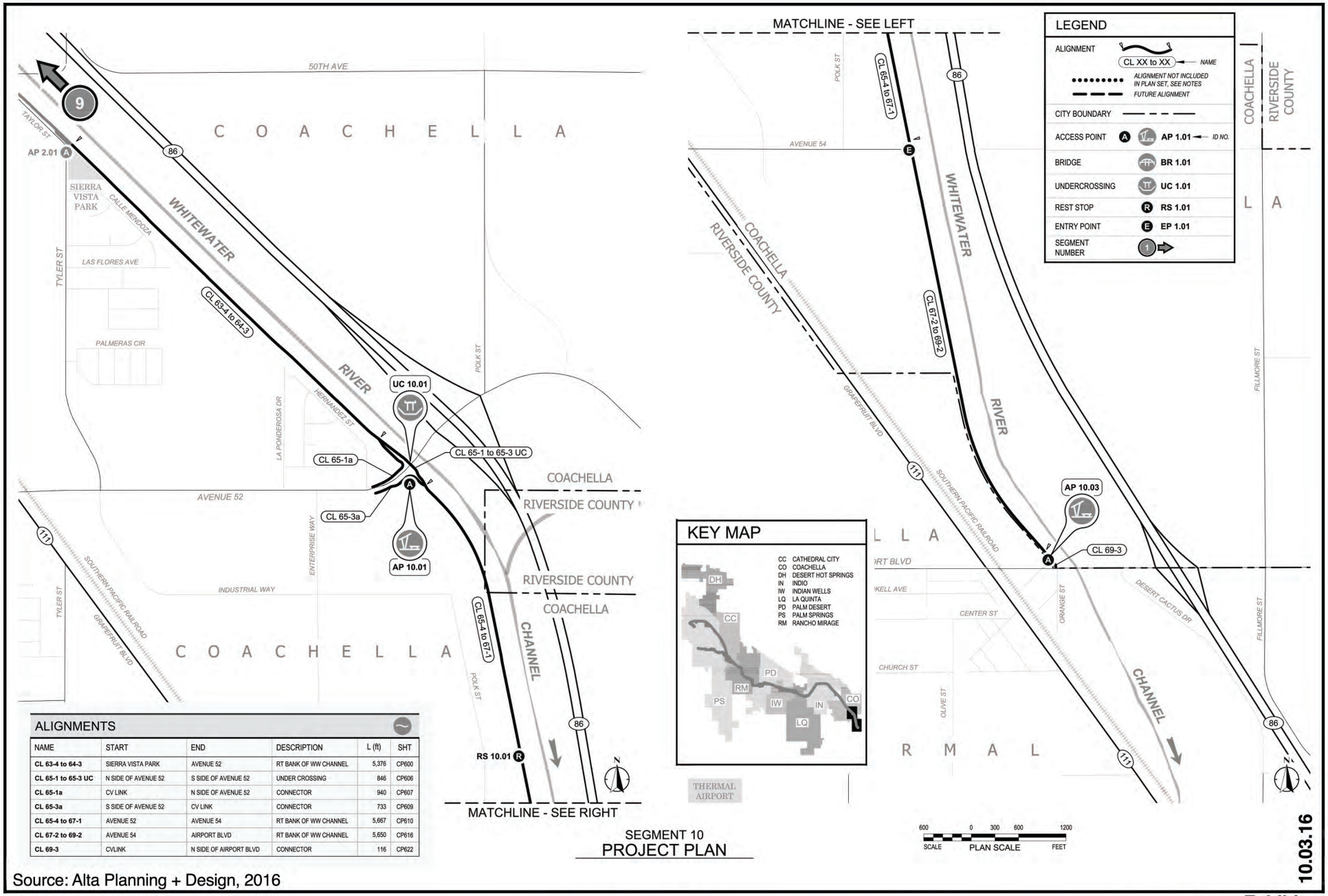
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CV Link Project
Project Segment 9
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CV/LINK
CONNECTING THE COACHELLA VALLEY

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Exhibit
2-11



LEGEND

ALIGNMENT	CL XX to XX — NAME
	ALIGNMENT NOT INCLUDED IN PLAN SET, SEE NOTES
	FUTURE ALIGNMENT
CITY BOUNDARY	
ACCESS POINT	AP 1.01 — ID NO.
BRIDGE	BR 1.01
UNDERCROSSING	UC 1.01
REST STOP	RS 1.01
ENTRY POINT	EP 1.01
SEGMENT NUMBER	1

KEY MAP

CC	CATHEDRAL CITY
CO	COACHELLA
DH	DESERT HOT SPRINGS
IN	INDIO
IW	INDIAN WELLS
LQ	LA QUINTA
PD	PALM DESERT
PS	PALM SPRINGS
RM	RANCHO MIRAGE

ALIGNMENTS

NAME	START	END	DESCRIPTION	L (ft)	SHT
CL 63-4 to 64-3	SIERRA VISTA PARK	AVENUE 52	RT BANK OF WW CHANNEL	5,376	CP600
CL 65-1 to 65-3 UC	N SIDE OF AVENUE 52	S SIDE OF AVENUE 52	UNDER CROSSING	846	CP606
CL 65-1a	CV LINK	N SIDE OF AVENUE 52	CONNECTOR	940	CP607
CL 65-3a	S SIDE OF AVENUE 52	CV LINK	CONNECTOR	733	CP609
CL 65-4 to 67-1	AVENUE 52	AVENUE 54	RT BANK OF WW CHANNEL	5,667	CP610
CL 67-2 to 69-2	AVENUE 54	AIRPORT BLVD	RT BANK OF WW CHANNEL	5,650	CP616
CL 69-3	CVLINK	N SIDE OF AIRPORT BLVD	CONNECTOR	116	CP622

SEGMENT 10
PROJECT PLAN

600 0 300 600 1200
SCALE PLAN SCALE FEET

10.03.16

Source: Alta Planning + Design, 2016

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CV Link Project
Project Segment 10
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CV LINK
CONNECTING THE COACHELLA VALLEY
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Exhibit
2-12

2.3. CV Link Design Elements

The proposed CV Link multi-modal transportation facility is comprised of a variety of components ranging from Route alignments and access points, paved facility design options, shade structures, wayfinding/signage, and other components of the project. These design elements, which are common to all of the CV Link alternatives, are described in detail in the CV Link Conceptual Master Plan document that can be found in Appendix C of this EIR (see CV Link EIR DVD). Each of the major project components is described below.

CV Link Facility Cross-Sections

CV Link will add connectivity between major employment, residential, recreational, and institutional centers throughout the Valley, while facilitating and promoting the use of alternative modes of transportation, including foot traffic, bicycles, mobility assistance devices, and low-speed electric vehicles (LSEVs). Low-speed electric vehicles include golf carts and neighborhood electric vehicles. . It is anticipated that the typical LSEV trips on CV Link would include moving between home and a golf course, visiting friends, running errands and accessing services and businesses along the CV Link Route. The CV Link Master Plan provides design parameters and guidelines for both on-street and off-street facilities, illustrations of which are provided below.

On-Street Facilities

On-street or within road right-of-way facilities are designed to provide a safe and comfortable facility that maintains consistency in the experience of CV Link. Where traffic volumes and speeds are high and space is available, protected or buffered LSEV/bike facilities have been designed. Depending on roadway width available, this could be as elaborate as a planted strip between concrete curbs, to elements as simple as a two-foot wide painted buffer area.

Each potential within road right-of-way alignment needs to be closely assessed for the optimum cross section configuration. On roadways with higher vehicle volumes and/or higher posted vehicle speeds, a greater level of protection has been designed into the alignment. On roadways with drainage issues or where numerous driveway or roadway intersections occur, separation techniques may be limited to the use of painted buffers.

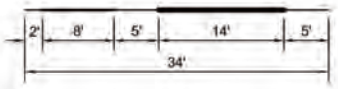
Where physical space is constrained, LSEV/bicycle lanes or boulevard type treatments may be used to achieve the pathway system. LSEV/bike facilities are a portion of the right-of-way that has been designated by either vertically separated concrete path/cycletrack (preferred) or striping, signing, and pavement markings for the use of LSEVs and bicyclists. LSEV/Bicycle facilities will be located on both sides of the road, except on one-way streets, and carry users in the same direction as adjacent motor vehicle traffic.

Off-Street Facilities

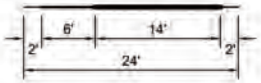
As noted in elsewhere, CV Link is designed to accommodate a wide range of users including pedestrians, persons in wheelchairs, motorized mobility devices, bicyclists of varied abilities including family cycling, and LSEVs. Due to the speed differential between pathway users, CV Link will be a dual path system whenever possible incorporating a shared use path for faster modes of travel including bicycles and electric mobility devices and LSEVs (up to 25 mph) and a separate pedestrian path for slower modes.

Shared Use Path Design: Shared use paths are completely separated from motorized vehicular traffic and are constructed in their own corridor, or within an open-space area.

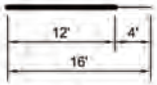
The design speed for the shared use path should be 25 miles per hour. Speed bumps or other surface irregularities or obstacles should not be used to slow bicycles. Slower speeds may be posted for areas that have at least one of the following: higher typical user volumes, constrained or substandard pathway conditions.



B-1 INDEPENDENT R/W

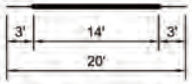


B-2 INDEPENDENT R/W - CONSTRAINED



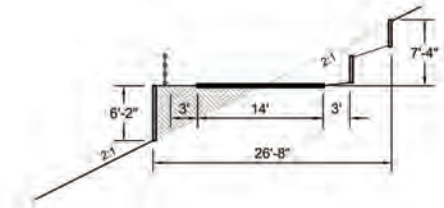
- AT PINCH POINTS OVER SHORT DISTANCES ONLY
- ALL USERS ON SINGLE TREAD
- ZONES DIFFERENTIATED BY PAVING MATERIALS

B-3 CONSTRAINED MINIMUM

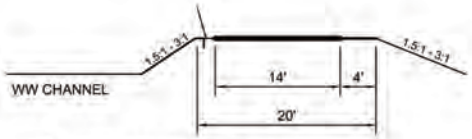


- FOR PATHWAY CONNECTORS, CHANNEL BOTTOM SEGMENTS AND OTHER CONSTRAINED LOCATIONS

B-4 CONSOLIDATED PATH

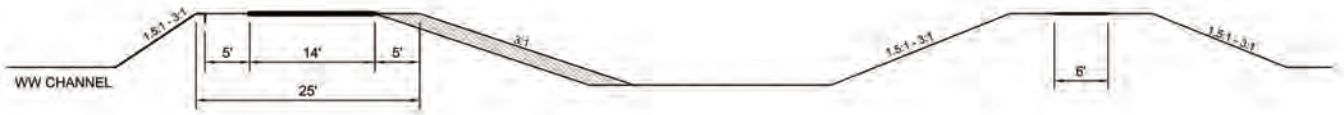


B-5 SHARED ACCESS PATH/ARTERIAL CONNECTOR
HALF BENCH

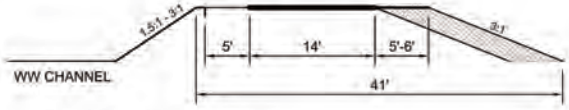


- 3' MIN PEDESTRIAN PATH

C-1 FREE STANDING LEVEE - SINGLE PATH



C-2 DOUBLE LEVEE - DUAL PATHS

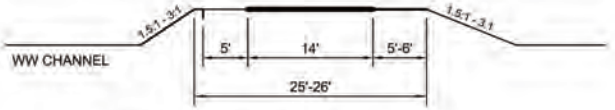


- 5'-6' MIN. PEDESTRIAN PATH

C-3 FREE STANDING LEVEE - SINGLE PATH
BENCH LESS THAN 24'



C-4 FREE STANDING LEVEE - DUAL PATHWAYS
BENCH LESS THAN 24'



- 5'-6' PEDESTRIAN PATH
- BUFFER TO BE ADDED BETWEEN PATHS WHEN LEVEE TOP MORE THAN 25' WIDE

C-5 FREE STANDING LEVEE - SINGLE PATH
BENCH 25' OR MORE

X-2 OVER CROSSING

X-3 UNDER CROSSING

08.10.16

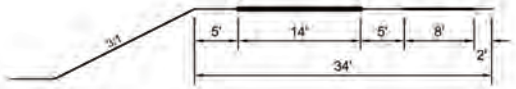
Source: Alta Planning + Design, 2016

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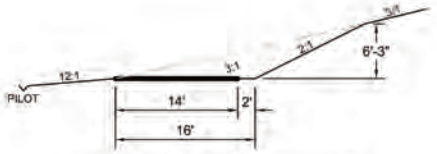
CV Link Project
Cross Sections - Off Street - A
Coachella Valley Association of Governments

CV LINK
CONNECTING THE COACHELLA VALLEY
CVAG

Exhibit
2-13

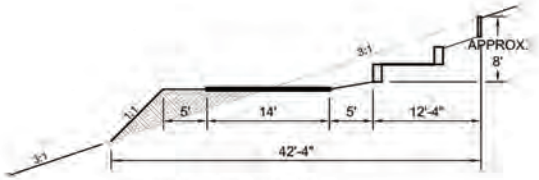


D-1 ADJACENT LEVEE - EXISTING BENCH
UNCONSTRAINED

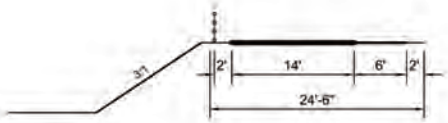


- 2:1 SLOPE ABOVE PATH TO BE LANDSCAPED.

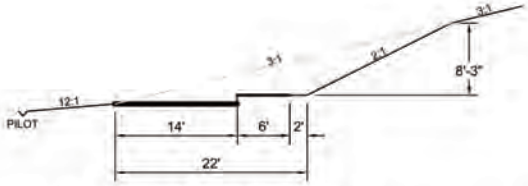
D-5 ADJACENT LEVEE - NEAR BOTTOM OF SLOPE - CONSOLIDATED PATH
FULL BENCH CONSTRAINED VARIABLE SLOPE



D-8 ADJACENT LEVEE - MIDSLOPE
HALF BENCH UNCONSTRAINED 3:1 SLOPE

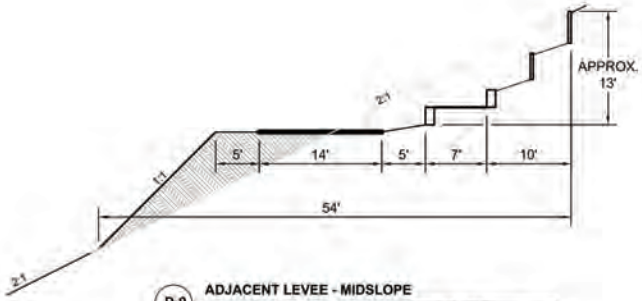


D-2 ADJACENT LEVEE - EXISTING BENCH
CONSTRAINED



- 2:1 SLOPE ABOVE PATH TO BE LANDSCAPED.

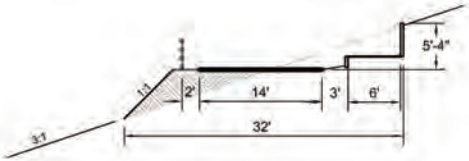
D-6 ADJACENT LEVEE - NEAR BOTTOM OF SLOPE - DUAL ADJACENT PATHS
FULL BENCH CONSTRAINED VARIABLE SLOPE



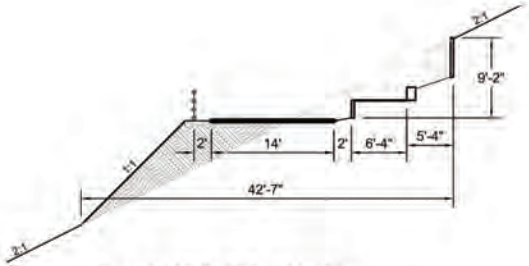
D-9 ADJACENT LEVEE - MIDSLOPE
HALF BENCH UNCONSTRAINED 2:1 SLOPE



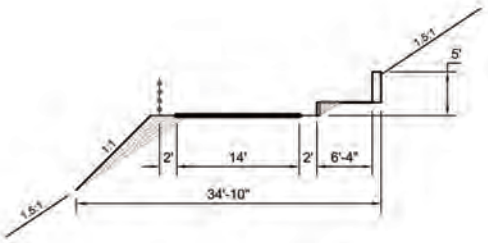
D-3 ADJACENT LEVEE - EXISTING BENCH
MODERATELY CONSTRAINED



D-4 ADJACENT LEVEE - MIDSLOPE
HALF BENCH CONSTRAINED 3:1 SLOPE



D-7 ADJACENT LEVEE - MIDSLOPE
HALF BENCH CONSTRAINED 2:1 SLOPE



D-10 ADJACENT LEVEE - MIDSLOPE
PARTIAL EXISTING BENCH, CONSTRAINED 1.5:1 SLOPE

Source: Alta Planning + Design, 2016

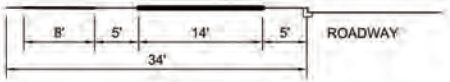
08.10.16

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CV Link Project
Cross Sections - Off Street - B
Coachella Valley Association of Governments

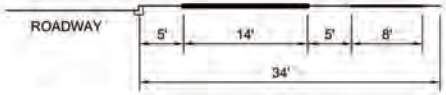
CVLINK
CONNECTING THE COACHELLA VALLEY
CVAG

Exhibit
2-14



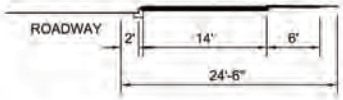
- 5' BUFFERS

A-1 ROAD R/W - LEFT



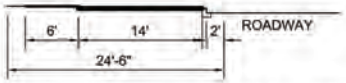
- 5' BUFFERS

A-2 ROAD R/W - RIGHT



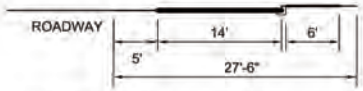
- 2-4" VERTICAL SEPARATION BETWEEN PATHS
- 2' STRIPED BUFFER

A-3 ROAD R/W CONSTRAINED - RIGHT



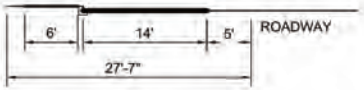
- 2-4" VERTICAL SEPARATION BETWEEN PATHS
- 2' STRIPED BUFFER

A-4 ROAD R/W CONSTRAINED - LEFT



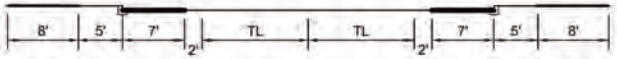
- 5' THERMOPLASTIC HATCHED BUFFER (2' MIN)
- LSEV/CYCLETRACK AT ROADWAY GRADE

A-5 BUFFERED LSEV/BIKE LANE
TWO-WAY ONE SIDE - RIGHT



- 5' THERMOPLASTIC HATCHED BUFFER (2' MIN)
- LSEV/CYCLETRACK AT ROADWAY GRADE

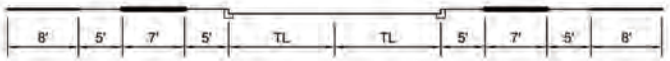
A-6 BUFFERED LSEV/BIKE LANE
TWO-WAY ONE SIDE - LEFT



- 2' THERMOPLASTIC HATCHED BUFFER

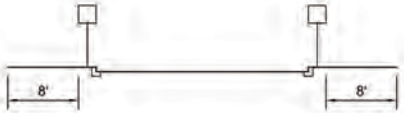
A-7 BUFFERED LSEV/BIKE LANES
ONE-WAY EACH SIDE

A-7B AS ABOVE - LIMITED TO RESTRIPE ONLY



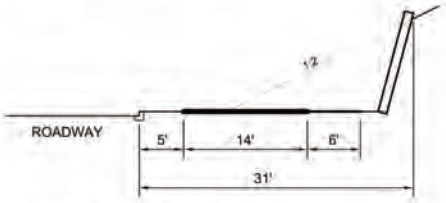
- 5' BUFFERS

A-8 LSEV/CYCLE TRACKS, ONE-WAY EACH SIDE



- LOW VOLUME ROADWAYS 25 MPH OR LESS
- PROVIDE WAYFINDING FOR LSEV/BIKES

A-9 LSEV/BIKE BOULEVARD



- WALL HEIGHT TBD BASED ON EXISTING CONDITION

A-10 ROAD R/W
CONSTRAINED BY TOPOGRAPHY

AT GRADE CROSSING TYPE	LOCATIONS	CURB RAMPS	CROSSWALK	LOOP DETECTOR	ADD PHASE / HARDWARE	PHB / RRFB	NEW SIGNALS
X-1	STOP / YIELD CONTROLLED	Y	Y				
X-1 ES	EXISTING SIGNALS	Y	Y	Y			
X-1 P	EXISTING SIGNALS - ADD PHASE	Y	Y	Y	Y		
X-1 PHB	MID BLOCK PEDESTRIAN HYBRID BEACON OR RRFB	Y	Y	Y		Y	
X-1 NS	NEW SIGNAL	Y	Y	Y			Y

X-1 AT-GRADE CROSSING IMPROVEMENT

08.10.16

Source: Alta Planning + Design, 2016

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CV Link Project
Cross Sections - On Street
Coachella Valley Association of Governments

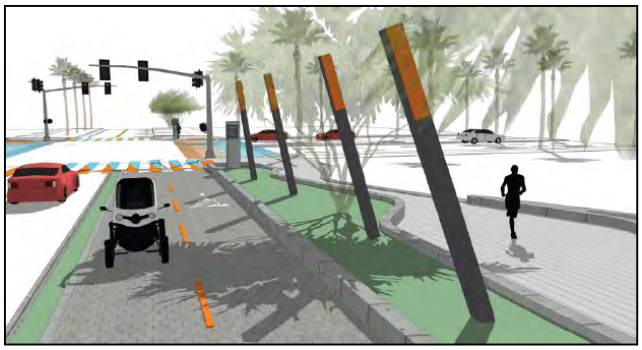
CV LINK
CONNECTING THE COACHELLA VALLEY
CVAG

Exhibit
2-15

Pedestrian Path Design: Pedestrian paths are also separated from motorized vehicular traffic but are usually narrower than shared use paths. Stabilized decomposed granite is the recommended surface treatment. The typical cross section is 4-8' wide.

Bridges: Several bridges over arterial roadways and around constrained areas along the Route an important part of the CV Link project. Bridges range from simple post and beam-type of construction to pylon-anchored, cable-stay structures.

CV Link Design Process



The design of the CV Link cross-section will vary based on the width of available right-of-way, variations in levee or channel structure, street configurations, and local conditions. Generally, it will feature a broad paved path for Low Speed Electric Vehicles (LSEVs) and bicycles, and softer-surface narrower paths for pedestrians. Shade structures, drinking fountains, wayfinding, EV chargers and safety features will enhance the user experience. CV Link is a planned within and along existing flood control and transportation infrastructure, and nearly all permanent impacts will occur on previously graded levees or paved roadways.

CV Link diverges from channel alignments and is planned within road right-of-way in some areas for several reasons: severe channel constraints, land access issues, or because an on-street alignment provides better connectivity to area destinations. See Section II for a detailed description of CV Link.



The CV Link on-street experience is intended to remain as safe, comfortable and rewarding an experience as the Link's off-street segments. On-street segments are designed to provide a higher level of protection than conventional LSEV/bike lanes. Routes are to be separated from roadways via curbs and planted buffers, similar to cycle track designs. Although on-street alignments have numerous challenges, the CV Link engineering team continues to work with each city involved to identify the best possible outcomes. In some instances, a range of options have been developed and analyzed that will give CVAG and the other implementing agencies flexibility in implementing the plan.

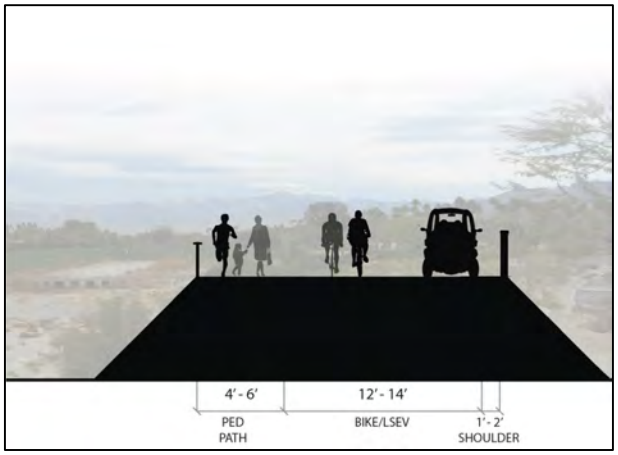


The design is intended to be distinctly recognizable as CV Link. Materials, forms, and color palette have been selected to be consistent with off-street segments. Patterns and colors in the pathway surface are also designed to be consistent as well as distinct from adjacent sidewalks, resulting in an intuitive navigational experience. Wayfinding signs are planned to further clarify the Route and directional changes.

CV Link users traveling on-street lanes will utilize existing signal displays via dedicated through-lanes, two-stage turn boxes, and other innovations. CV Link users traveling on a pathway alongside the road may utilize independent phases in an adaptation of the Federal Highway Administration MUTCD Interim Approval for Optional Use of a Bicycle Signal Face (IA-16), subject to engineering feasibility study and relevant agency approvals (See CV Link Master Plan Volume 1).

Blue and orange colored, high visibility "ladder style" crosswalks are proposed to unify the overall design along the entire Route and help with wayfinding. The use of non-standard crosswalk colors is subject to approval by the California Traffic Control Devices Committee. Should approval not be granted, standard transverse white lines will be used with a more muted pattern between the white lines.



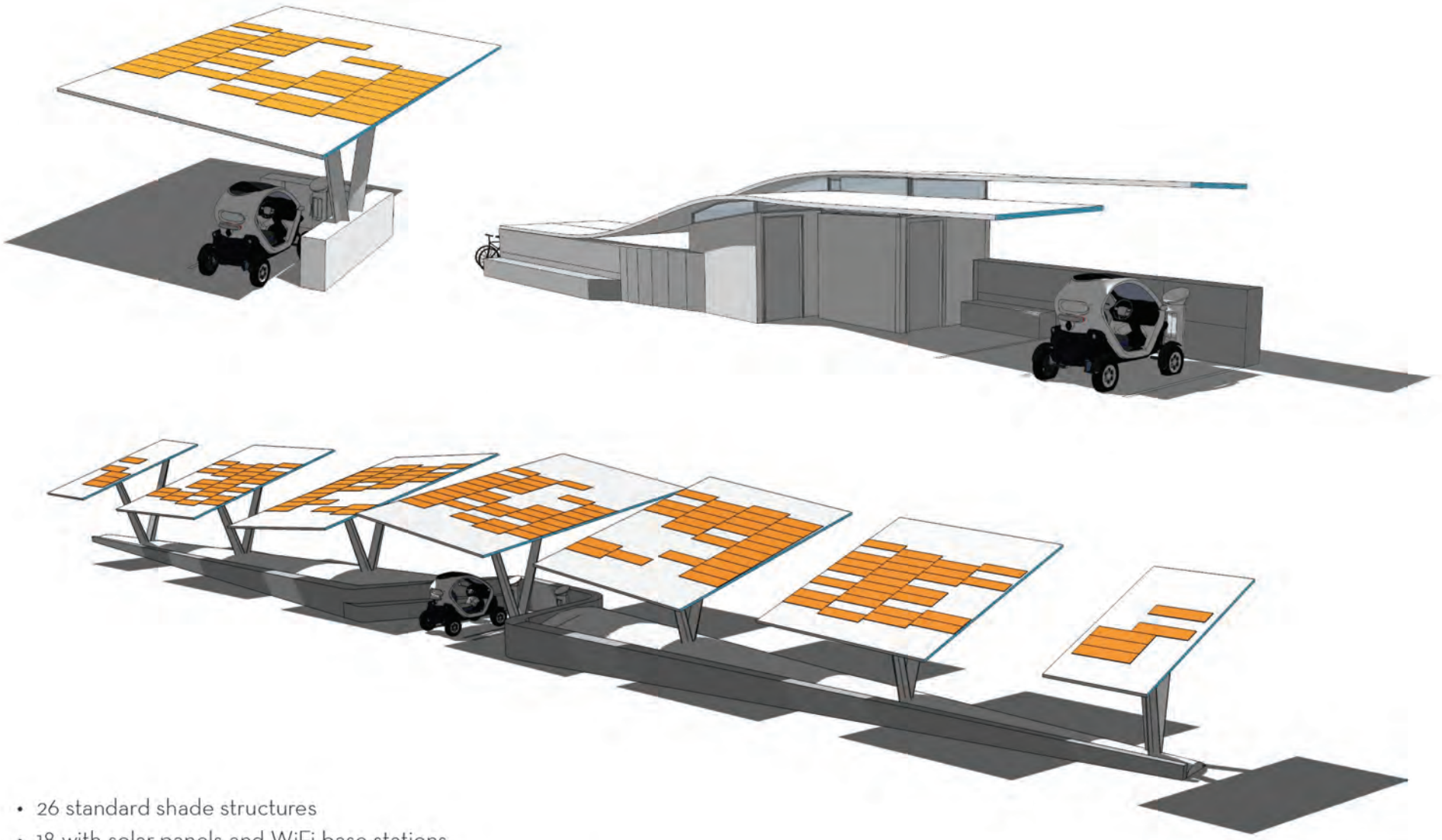








Rectangular Rapid Flashing Beacons (RRFB) or Pedestrian Hybrid Beacons (a regulatory signal also known as a HAWK) are Caltrans- and FHWA-approved devices that are planned at locations where no traffic signal currently exists and where traffic volumes warrant. The purpose of a HAWK beacon is to allow protected pedestrian crossings, stopping road traffic only as needed. Where standard traffic signal 'warrants' prevent the installation of standard three-color traffic signals, the HAWK beacon provides an alternative. A HAWK beacon is used only for marked crosswalks. CVAG is working with each city and the county to determine where signals and other traffic control and warning devices may be appropriate. Pedestrian beacons will greatly enhance safety for all roadway users and allow greater flexibility in affecting road crossings.



- 26 standard shade structures
- 18 with solar panels and WiFi base stations
- 24 with solar, WiFi, and dual voltage electric vehicle charging facilities.

Source: CV Link Master Plan, January 2016

07.11.16

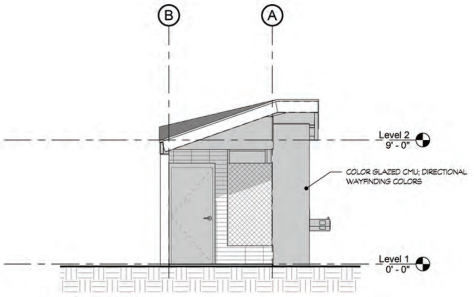
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CV Link Project
Conceptual Shade Structure Design
Coachella Valley Association of Governments

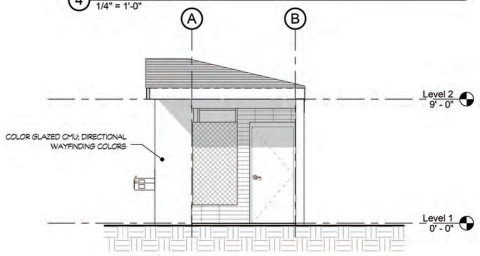
CV LINK CONNECTING THE COACHELLA VALLEY

CVAG

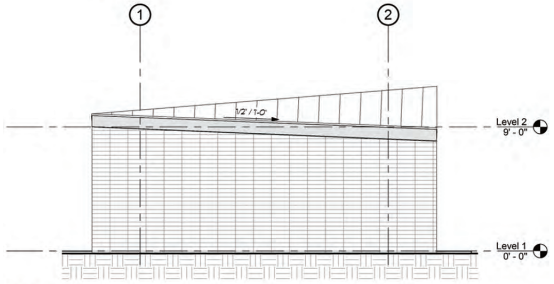
Exhibit **2-16**



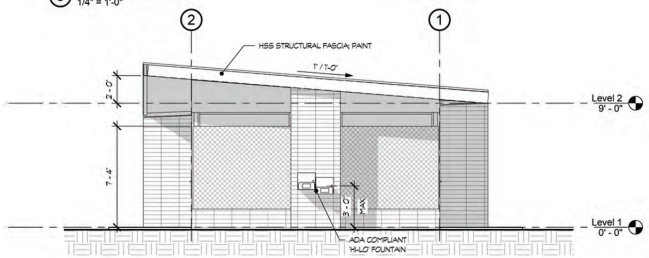
4 **ELEV 02**
1/4" = 1'-0"



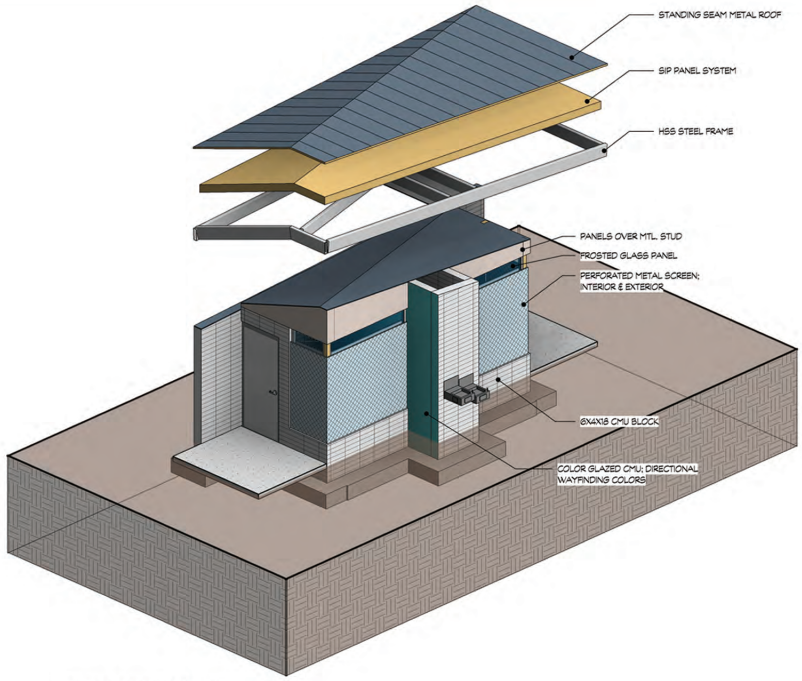
6 **ELEV 04**
1/4" = 1'-0"



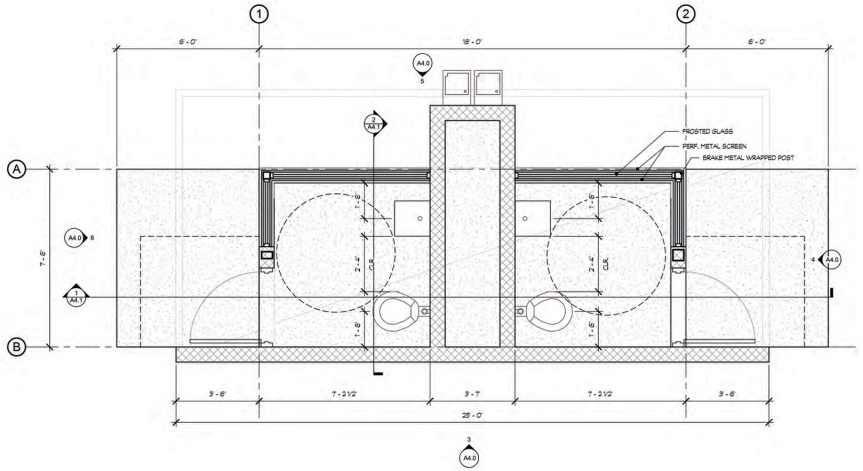
3 **ELEV 01**
1/4" = 1'-0"



5 **ELEV 03**
1/4" = 1'-0"



3 **EXPLODED VIEW**



1 **RESTROOM FLOOR PLAN**
1/2" = 1'-0"

Source: Alta Planning + Design, 2016

12.06.16

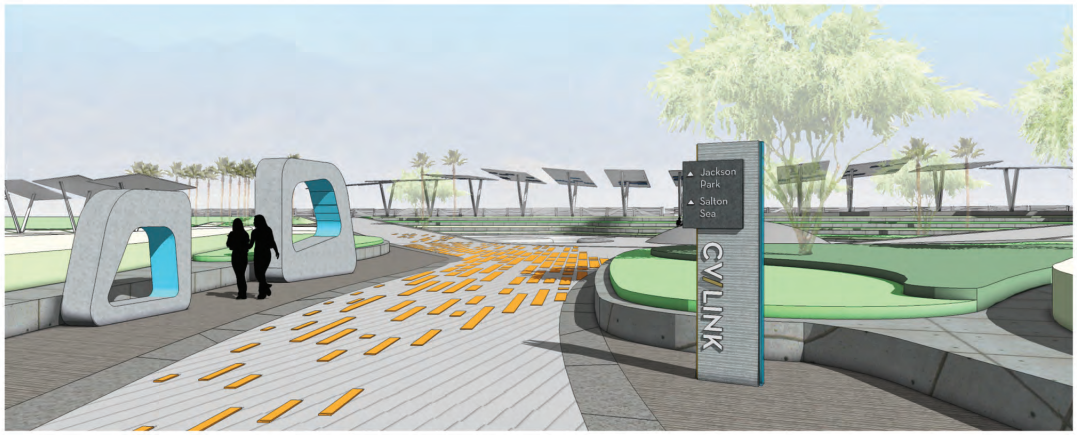
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CV Link Project
Conceptual Restroom Design
Coachella Valley Association of Governments

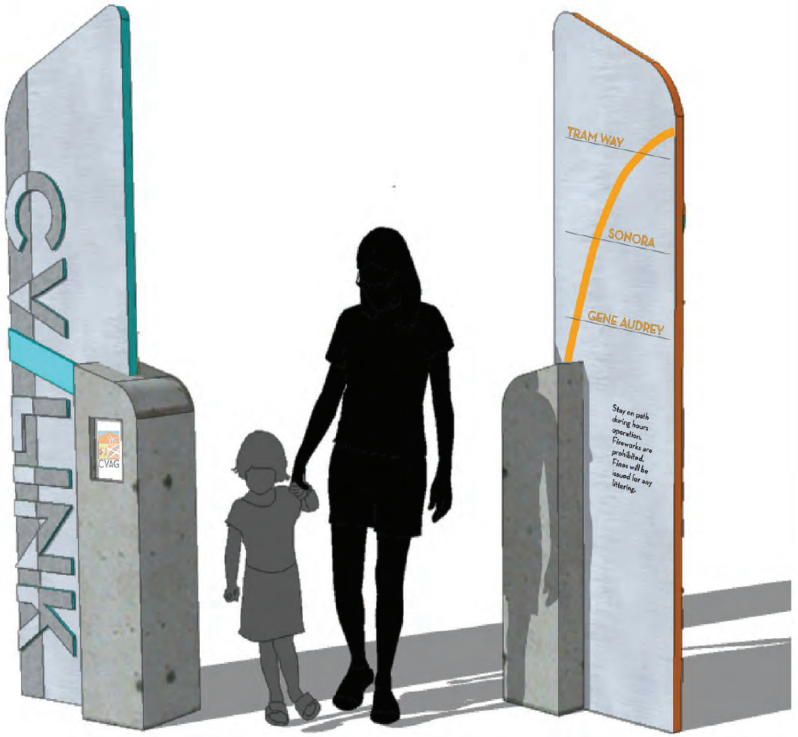
CV LINK
CONNECTING THE COACHELLA VALLEY

CVAG

Exhibit
2-17







Source: CV Link Master Plan, January 2016

07.13.16

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CV Link Project
Conceptual Wayfinding Kiosk Design
Coachella Valley Association of Governments

CV/LINK
CONNECTING THE COACHELLA VALLEY

CVAG

Exhibit
2-18

2.4. Proposed CV Link Project (Proposed Project)

As described in Section 1, the CV Link Conceptual Master Plan envisions a ±49-mile multi-modal transportation facility that passes through some of the most developed and populated portions of the Coachella Valley, providing access and connectivity between residential, commercial, recreational, institutional, and other land uses throughout the region, and providing recreational opportunities for pathway users. It is also anticipated that the project will contribute to local reductions in traffic volumes and associated air pollutants.

As a part of CV Link, the project will also incorporate and expand the Tahquitz Creek Trail in Palm Springs between South Palm Canyon Drive and the Whitewater Channel. The western termini are at Highway 111 (North Palm Canyon Drive) in northern Palm Springs (the Palm Springs Visitor Center at Tramway Road – access point for the Aerial Tram) and at the northeast corner of South Palm Canyon Drive and Tahquitz Creek in central Palm Springs (providing access to Downtown Palm Springs and the Tahquitz Canyon Visitor Center).

The eastern terminus of the CV Link Route is at Airport Boulevard (Ave 56) and the Coachella Valley Stormwater Channel (CVSC) in the City of Coachella and the unincorporated community of Thermal. This terminus provides multi-modal access to the administrative offices of the Coachella Valley Unified School District, John Kelley Elementary School, the La Familia Continuing Education High School, a new Riverside County Sheriff's Station, US Post Office, the Jacqueline Cochran Airport, the Horses in the Sun (HITS) facility, and the Thermal Club Race Track (under construction). The total length of the Proposed Project, including all alignment variations, is 57.62± miles.

Proposed Project – Without Rancho Mirage

An important element of the Proposed Project is the deletion of Rancho Mirage alignments and the provision of CV Link termini. Under the Proposed Project, the CV Link segments generally extending southeasterly from Frank Sinatra Drive and extending along the stormwater channel and public streets are not included at the request of Rancho Mirage. With the deletion of CV Link segments through Rancho Mirage, the Proposed Project requires the selection of logical termini at and in the vicinity of the Rancho Mirage city limits. The east and west Rancho Mirage termini are described below and shown on Exhibit 2-19. For the Proposed Project, the Route length is 44.05± miles, and the total length of all Proposed Project alignments is 57.62± miles. The following Rancho Mirage segments are excluded from the Proposed Project.

Table 2-3
CV Link Rancho Mirage Segments
(Not a Part of Proposed Project)

Rancho Mirage	**From Frank Sinatra Drive**	**To Parkview Drive**	**Segments** **27.5-28.2**	**Length** **7.7**	**Land Uses** **Mixed**
Wolfson Park / Bulter-Abrams Trail	*Frank Sinatra Drive*	*Country Club Drive*	*28.3a-30.2*	*1.6*	*Mixed*
Highway 111	*Country Club Drive*	*Hwy 111 at Paxton Drive*	*30.3-31.3*	*3.8*	*Adjacent to Road*
Highway 111 Section	*Hwy 111 at Paxton Drive*	*Mirage Road*	*31.3-34.1*	*0.7*	*Sidewalk*
Whitewater River Channel	*Paxton Drive*	*Bob Hope Drive*	*31.3-34.1*	*0.7*	*Top of Levee*
Bob Hope Drive & Hwy 111	*Bob Hope Drive*	*Parkview/Hwy 111*	*34.7-34.5a*	*0.9*	*Adjacent to Road*

East Rancho Mirage Terminus

The east terminus developed for the Proposed Project has been designed to bring CV Link users to a diverse activity area with an array of dining and commercial services, and access to hiking and mountain biking trails. It also optimizes the ability of CV Link users to continue westward on existing and future facilities, and Rancho Mirage residents and visitors to continue eastward along CV Link improvements in Palm Desert.

Therefore, the east Rancho Mirage terminus has been placed at the city limits with Palm Desert on Highway 111 at Parkview Drive. The terminus will be reached by CV Link improvements within and along the north and south alignment of Parkview Drive west of Monterey Avenue and College of the Desert. The north Parkview Drive alignment ends at the city limits but travelers can continue west on existing bike lanes in Rancho Mirage and extending west to Highway 111. The very west end of Parkview Drive turns southwest and back into the City of Palm Desert, where Link improvements will also be provided to Highway 111. The south Parkview Drive alignment also continues west along existing bike path and sidewalk improvements to the intersection with Highway 111, where CV Link intersection improvements are planned.

West Rancho Mirage Termini

The deletion of the above-described Rancho Mirage CV Link alignments will also affect how the Link is terminated on the west side of the city. To this end, two possible termini were considered that depend upon different end points. Each of the two termini being considered is briefly described below and is also shown on Exhibit 2-19.

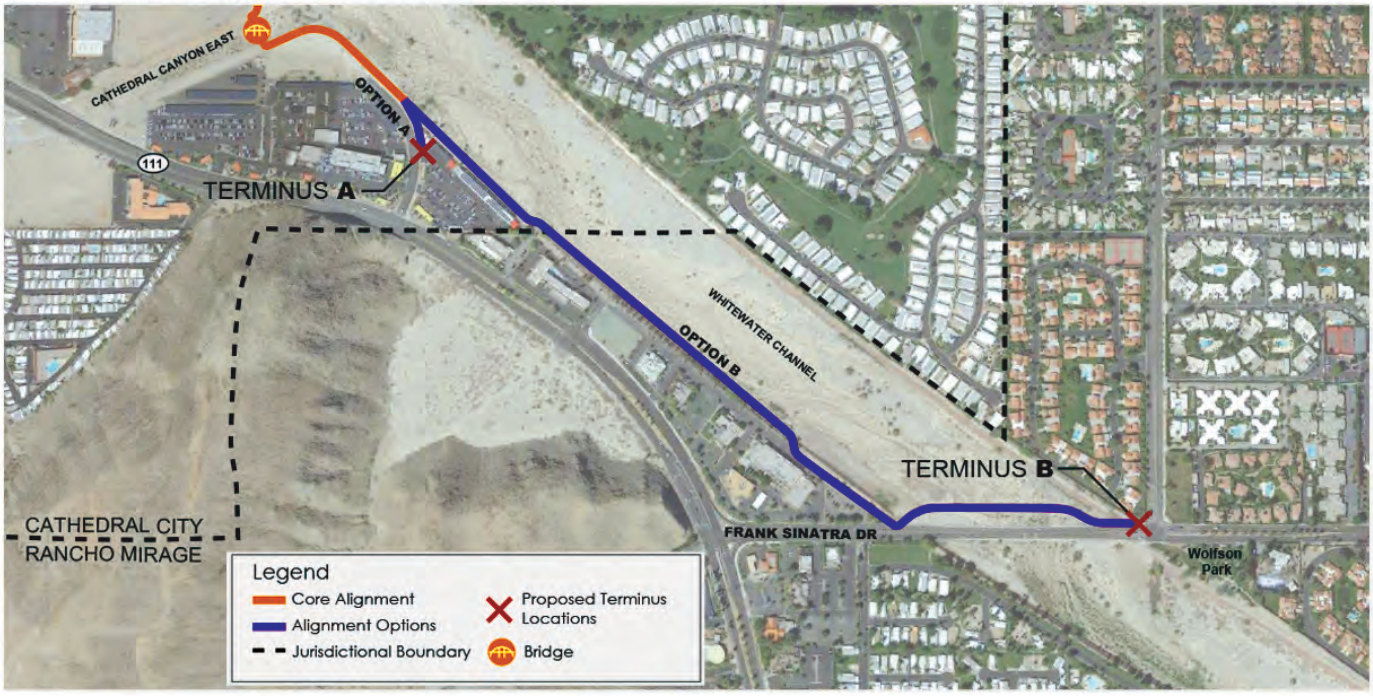
Terminus A: This terminus would be located within the Cathedral City limits and just off of the south (right) bank of the channel at Buddy Rogers Avenue, which returns to Highway 111 a short distance to the south. From this location, CV Link travelers can choose to continue on existing Rancho Mirage on-street and channel paths, or return to the nearby Cathedral City downtown, which provides a variety of dining and commercial services, theaters, public open space and gathering space.

Terminus B: This terminus would be located at the northwest corner of Frank Sinatra Drive and DaVall Drive (adjacent to the wash) within the Rancho Mirage city limits. It would be accessed from the northwest by an extension of the CV Link right bank channel alignment, would cross the Whitewater River channel at approximately the same location as an existing pedestrian/bicycle channel crossing, and end at the aforementioned intersection. From this location, CV Link travelers can choose to continue on existing Rancho Mirage on-street bike paths and sidewalks, and channel paths adjacent to Wolfson Park.

Rancho Mirage East Terminus



Rancho Mirage West Terminus



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08.09.16

Source: CVAG, 2016

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Exhibit
2-19

2.5. Project Alternatives Analyzed

Introduction
This section of the EIR describes the project alternatives that, in addition to the Proposed Project, are analyzed in this EIR,

2.5.1. Alternative 1: Project Without Rancho Mirage and Indian Wells

This alternative was developed to analyze the environmental consequences of CV Link buildout but without the participation of the cities of Rancho Mirage and Indian Wells. The primary difference between the Proposed Project and Alternative 1 is the deletion of CV Link improvements in both cities and the provision of logical termini at and in the vicinity of respective city limits. A categorical evaluation of potential impacts associated with this alternative are set forth in Section 5 of the EIR. This alternative is suggested by the uncertainty of approval by ambivalence of the Indian Wells City Council regarding the development of CV Link in its community, and the need to understand the consequences if Indian Wells does not participate.

Under Alternative 1, the CV Link segments generally extending from Frank Sinatra Drive and along the stormwater channel and public streets are not included. Neither are those street and channel alignments planned in Indian Wells and generally extending from Fred Waring Drive on the west to Washington Street on the east. With the deletion of CV Link segments through Rancho Mirage and Indian Wells, Alternative 1 requires the selection of logical termini at Indian Wells, as have been selected for Rancho Mirage under the Proposed Project. The east and west Indian Wells termini are described below and shown on Exhibits 2-19. For Alternative 1, the Route length is 40.53± miles, and the total length of all Alternative 1 alignments is 48.2± miles.

In addition to the depiction of logical termini in Rancho Mirage described in the Proposed Project, Alternative 1 also assumes that CV Link users in Palm Desert and La Quinta will be able to continue to pass through Rancho Mirage and Indian Wells on their existing sidewalks, bike paths, and streets in accordance with applicable state and federal requirements that local jurisdictions ensure multi-modal access (see California's Complete Streets Act (Government Code (65302(b)(2)(A), etc.). Therefore and where appropriate, multiple termini have been developed for analysis to provide options for final terminus selection.

Indian Wells Segments Deleted
In addition to the Rancho Mirage segments that have been removed to result in the Proposed Project, Alternative 1 would also result in the deletion of the following alignments currently planned for this portion of the CV Link Route. These include:

- Right Bank of Wash Channel: extending from the intersection of the channel at Eldorado Drive southeast to Eldorado

- Left Bank of Wash Channel: extending from the intersection of Fred Waring Drive and Eldorado Drive south to the channel then and southeast along the north (left) bank of the channel, to an existing channel crossing and then east along the south (right) bank and through the resort hotel complex to the Miles Avenue bridge.

- Eldorado Drive and Highway 111: extends south from the intersection of Eldorado Drive and Fred Waring Drive along the east side of Eldorado to Highway111; then east on the north side of Highway 111 to the Miles Avenue bridge.

- Miles Avenue: an on-street facility extending from the Miles Avenue bridge over the Whitewater River to Washington Street and then south on the wash.

- Miles Avenue Right Bank: extends from the Miles Avenue bridge on proceeds east on the right bank of the wash to Washington Street.

Table 2-4
CV Link Indian Wells Segments
(Not a Part of Alternative 1)

6. Indian Wells[2] (left and right bank from El Dorado and Washington), Miles Ave and Hwy 111 **Not included in Alternative 1**	**From:** **Fred Waring Drive**	**To:** **Washington Street**	**42.7-47.9**	**4.1**	**Top of Levee** ***Right bank only and on Miles Ave paved section between Miles Ave bridge and Washington St.***
Whitewater River Channel (Left bank from Eldorado @ Fred Waring)	Fred Waring Drive	Eldorado Drive	42.7	0.6	Top of Levee
Fred Waring Drive (on sidewalk)	Fred Waring	Eldorado Drive	42.8-43.4	0.5	Sidewalk
Indian Wells Resorts Connections	Eldorado Drive	Miles Avenue via Highway 111	43.4-45.9	1.5	Mixed
Miles Avenue (Indian Wells Tennis Gardens Connection)	Miles Avenue	Washington Street (shared sidewalk/roadway down to Washington St. Undercrossing)	45.6a-47.9	1.5	Sidewalk or Within Right-of-way
Whitewater River Channel (Right Bank)	Miles Avenue	Washington Street	45.3-47.5a	1.5*	Mixed

Indian Wells Termini
With the deletion of the above-described CV Link segments, Alternative 1 requires the selection of logical termini at and in the vicinity of the Indian Wells city limits. The east and west termini proposed for this alternative are described below and shown on Exhibits 2-20, below.

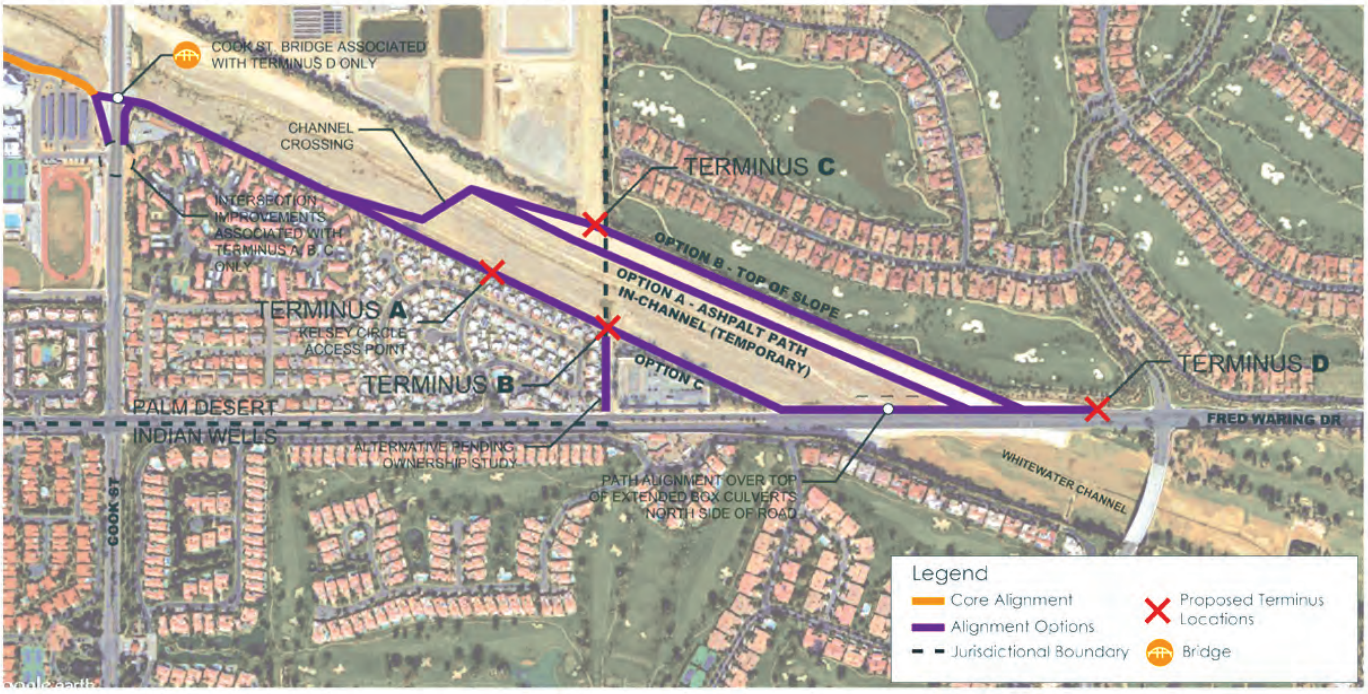
East Indian Wells Terminus
The east terminus developed for this alternative has been designed to bring CV Link users to a diverse activity center with an array of commercial services and access to recreation and sports venues. It also optimizes the ability of CV Link users to continue westward on existing and future facilities, and Indian Wells residents and visitors to continue eastward along city streets, sidewalks and bike paths to CV Link improvements in La Quinta.

Therefore, the east Indian Wells terminus has been placed at the city limits with La Quinta on the south side of Highway 111. The terminus will be reached by a spur path coming south from the WWR Channel path alignment and along the west end of the Point Happy commercial development to the signalized intersection of Plaza La Quinta and Highway 111. From this point, the path will cross Highway 111 and continue west along the south side of the highway to the city limits. At this location, Indian Wells provides a dedicated pedestrian bridge over the Deep Canyon Channel, generous parkway with sidewalks continuing west, and east and west on-street bike paths (unsigned). These facilities will be able to accommodate those CV Link users and others that wish to proceed west via alternative modes of travel.

Indian Wells Eastern Terminus



Indian Wells Western Terminus



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08.09.16

Source: CVAG, 2016

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Exhibit 2-20

West Indian Wells Termini

The deletion of the above described Indian Wells CV Link alignments will also affect how the Link is terminated on the west side of the city. To this end, a variety of possible termini were considered that depend upon different Route alignments and end points. Each of the four west end termini being considered is briefly described below and is also shown on Exhibit 2-20.

Terminus A: This terminus would be located on the south (right) bank of the channel at the planned Kelsey Circle access point located within the Desert Rose development in Palm Desert.

Terminus B: This terminus would be located approximately 700-800 feet southeast of Terminus A at the intersection of the old (now abandoned) and partially paved Eldorado Drive alignment, which currently provides CVWD access to the channel and SCE access to an adjoining substation. This terminus would extend south on the existing right of way to Fred Waring Drive, where CV Link users could proceed west on existing parkway improvements.

Terminus C: This terminus would be located on the north (left) bank of the channel and essentially due north of Terminus B on the south side of the channel. This terminus would be reached by an in-channel path that would cross the wash and ramp back up onto the north (left) bank channel service road.

Terminus D: Terminus D is the easterly most of the four considered. It would continue along the north (left) bank of the channel and would continue southeast along the channel to the north side of Fred Waring Drive where it would proceed east to the intersection of Fred Waring Drive and Eldorado Drive where the terminus would be sited. Terminus D and the left bank Route to same would be located within the Indian Wells city limits.

2.5.2. Alternative 2: Project With All Eight Cities

This project alternative evaluates the environmental impacts associated with a complete and full buildout of the CV Link Route through all of the incorporated cities, unincorporated county and Native American lands from Pam Springs to Coachella. It evaluates all of the prospective Route alignments, including those that pass through the cities of Indian Wells and Rancho Mirage. This alternative, therefore, evaluates all of the alignment variations for the complete 49± mile long Route and its associated 64.34 miles of alignments. Please see Appendix B for a depiction of all Route alignments under this Alternative.

2.5.3. Alternative 3: No Build/No Project

Under the No Project alternative, the existing but limited multi-modal network in the vicinity of the CV Link Route will continue to provide current levels and types of service and facilities. Future facilities planned for and set forth in jurisdiction general plans or their equivalent will continue to expand both intra-city and inter-city multi-modal networks. In the absence of unifying, “multi-modal arterial” like CV Link the level of interconnectivity and the provision of meaningful user experiences are expected to be limited.

It should be noted that the No Build/No Project Alternative would not meet most of the project’s objectives listed in Section 2.2.1 Neither would this alternative provide opportunities for other important partnerships to be created to further the Valley’s multi-modal network. The desired local economic effects also would not be met nor would long-term economic effects of CV Link be realized.

2.6. Route Alignments and Other Alternatives Considered But Not Further Analyzed

As discussed in Section 1 of this EIR and in the CV Link Conceptual Master Plan, a wide range of alignment variations were considered, in consultation with local jurisdictions, user groups and other parties of interest. The identification of prospective CV Link routes was guided by the projects goals and objectives set forth in Section 1.3 of the EIR and in the CV Link Conceptual Master Plan. These include fostering community and functional connections, optimizing pathway permeability (accessibility) and continuity, and as an iconic statement of the Coachella Valley's embrace of multi-modal transportation.

The project master planning, preliminary engineering, and environmental documentation started on Jan. 2, 2013 with a kick-off meeting between CVAG staff and consulting team. Detailed field surveys and reviews (including over 2,000 geocoded photos and walking or cycling the entire length of the proposed Route) informed the selection process. Route selection was also guided by more than 75 community meetings and events, and the preparation of design guidelines and elements reports. Consultations with local service providers and the flood control agencies, including the mapping of known utilities and right-of-way, also made certain routes infeasible. High definition video data was collected for the majority of the Route. Based on this collected data, extensive stakeholder outreach, and the Preliminary Study Report, proposals have been refined for CV Link Master Plan.

Palm Springs

A short portion of an earlier iteration of the CV Link Route selection process include an in-channel alignment that extended from east of the Tahquitz Creek bridge at South Palm Canyon Drive to Belardo Road. A variety of constraints prompted the deletion of this segment from the Route selection, including known sensitive cultural resources in the area, and access constraints into and out of the Creek.

Rancho Mirage

Over the course of project design and development, a wide variety of concerns and recommendation made by the City of Rancho Mirage were considered and accommodated by project designers and engineers. These include the location of alignments and access points, as well as pointing to potential CV Link destinations serving resident and visitor needs. The City of Rancho Mirage raised a series of concerns about the CV Link corridor passing through and near its downtown area east and west of Bob Hope Drive. As a result, the City asked CVAG to consider alternative northerly alignment variations, which are briefly described below and which are not analyzed in this EIR.

The City of Rancho Mirage recommended alignments that essentially shunted CV Link traffic north on Date Palm Drive in Cathedral City to Gerald Ford Drive and east to DaVall Drive. From this point, the City recommended that the Route continue north to Ramon Road and the Union Pacific Railroad corridor, thence southeasterly into Palm Desert, where it would be approximately 5.25 miles north of the rest of the CV Link Route. In addition to eliminating a portion of the Link accessible to most Rancho Mirage residents and guests, the City-offered alternative did not link to logical destinations, traveled past closed landfills and along a major railroad and interstate highway corridor, which would have resulted in associated air quality impacts for users, and back south along major arterial roadways lacking adequate right of way to accommodate CV Link facilities.

Indian Wells

In Indian Wells, the CV Link Conceptual Master Plan calls for alignments within and along the Whitewater River Channel, as well as channel crossings. East of the Miles Avenue bridge and to Washington Street, earlier iterations of the plan called for an alignment along the north (left) bank of the stormwater channel. This area is highly constrained by an unstable slope above the future channel service road and an area of sensitive cultural resources. In consultation with CVWD and local Native American Tribes regarding future channel improvements and a possible CV Link alignment in this area, this alignment was determined to be infeasible.

Alternative Transportation Modes to CV Link

In addition to the variations in alignments and locations described above, other modes of transportation were considered in the development of project alternatives. This potential alternative focused on the potential for a Valley-wide bussing system. In considering this alternative, several factors were evaluated. First, the Valley currently has a transit system, in the form of the SunLine Transit Agency, which provides public transit to all Valley cities and unincorporated County lands. The SunLine system is not at capacity, and has the ability, when demand warrants, to expand. The service is now available to residents and visitors, and its ridership is growing. However, the expansion of SunLine, or the creation of a separate bus service specifically tailored to tourist travel, would not meet either the health benefit objectives of the project, or the tourism attraction objective. Furthermore, any traditional highway/roadway modes of transportation will be constrained by increased traffic congestion and/or roadway blockages resulting from accidents or intentional closures. Accordingly, even a bussing system alternative will not achieve CV Link's objective of contributing towards reduced traffic congestion. CV Link represents a unique facility for the desert which would create a positive environment in which to enjoy the health and relaxation of walking, bicycling or hiking. A bussing alternative would provide none of these benefits, and would not meet primary objectives of the project. As a result, this alternative was rejected.

3. ENVIRONMENTAL SETTING

3.1. Introduction

The purpose of this section is to provide an overview of the regional environmental setting in which the proposed CV Link project is located, with particular emphasis on the environmental constraints and resources most likely to be affected by implementation of the Proposed Project. Areas to be addressed include aesthetic resources, agricultural lands, air quality, biological and cultural resources, hazards and hazardous materials, hydrology and water quality, land use and planning, mineral resources, noise, population and housing, socio-economic resources, public services, recreation, transportation and traffic, and utilities and service systems.

3.1.1. Summary of Analysis

The environmental settings discussion provides important context for subsequent project analysis. The following provides a categorical description of the environmental hazards and resources, as well as general physical conditions that occur within the CV Link planning area and vicinity. The relationship of the hazards, resources and general conditions to CV Link are briefly described, and those categories not requiring further analysis are identified.

3.2. Aesthetics

The CV Link planning area is distinguished by its unique geography of low-lying desert valley floor surrounded by the high terrain of the San Jacinto, San Bernardino, Little San Bernardino, and Santa Rosa Mountains. These contrasting viewsheds result in an exceptional display of open space and mountain scenery that enhances and is a major component of the aesthetic quality of the area. The mountainous areas that ring the Valley are comprised of highly differential rock formations of darkly varnished rock contrasted with large expanses of light gray granite, and a diversity of vegetation. Views of the mountain ranges and the expansive desert floor that are visible within the project planning area are highly valued.

The two highest peaks associated with the region are San Jacinto Peak in the San Jacinto Mountains, which rises to an elevation of 10,804 feet, and San Gorgonio Peak in the San Bernardino Mountains, with an elevation of 11,502 feet. The rise of Mt. San Jacinto, from the desert floor to the peak, is the steepest gradient in North America. The Santa Rosa Mountains extend through and forms the southwest boundary of the Valley. The highest peaks in the Santa Rosa Mountains include Toro Peak at 8,717 and Santa Rosa Peak at about 8,000 feet. To the north and northeast of the subject property are the Indio Hills, with elevations rising to about 1,600 feet, with the Little San Bernardino Mountains bounding the Valley on the northeast.

The lower elevations of the Coachella Valley include numerous alluvial fans and cone, which form at the mouth of the many canyons draining the area mountains. These expansive deposition areas form an important and visually interesting transition between the foothills and mountains, and the Valley floor. The alluvial fans also are comprised of washes and braided streams that support important habitat and diverse visual character.

The Valley floor is comprised of a mix of sand dunes, sand fields and more limited areas of desert pavement swept clear of sand. Dunes and sand fields are archetypal desert visual resources with high visual resource value. In many areas, they are enhanced by the presence of mesquite hummocks that provide a vivid contrast of green against the light color of expanses of sand. In the spring, the dunes and sand fields are also frequently covered with a profusion of annual plants, including sand verbena and mallow.

In the central portion of the Valley, the Indio and Mecca Hills have been uplifted by compressive forces associated with the San Andreas Fault Zone, which parallels the long northwest–southeast axis of the Coachella Valley. Along the fault zone, fault dikes have blocked and impounded the movement of groundwater. This has resulted in the emergence of numerous groves of native desert fan palms (*Washingtonia filifera*) and associated mesquite and other vegetation, which also provide a unique and high value visual resource.

The lowest portions of the project area are also a result of tectonic forces associated with the San Andreas Fault Zone. The Coachella Valley is the northwestern extension of a fault-controlled spreading zone, which extends from the Gulf of California. The spreading and subsidence has created a terminal lake, the Salton Sea, which has no outlet and currently stands at a surface elevation of 228± feet below mean sea level.

Along the proposed CV Link route, natural visual resources of importance range from the steep west face of the San Jacinto Mountains to the expansive mountain and desert views along the rest of the CV Link route. Most of the proposed CV Link route largely follows major drainages, including the Whitewater River, Tahquitz Creek and the Coachella Valley Stormwater Channel. Along the route, natural vistas include the surrounding mountains and the expanse of the Valley floor, including sand fields and sand dunes, and cultivated fields in the eastern portion of the Route. The aesthetic experience along the southern portions of the CV Link route is also enhanced with perennial vegetation in the channel and numerous opportunities for bird watching and observing other wildlife.

3.3. Agriculture and Forestry Resources

There are no forestry resources located in proximity of the proposed CV Link project, these being limited to upper elevation areas within the San Jacinto Mountains. Agricultural lands do occur along and in proximity to the proposed Link Route. Agriculture was the first large scale land use to occur in the Coachella Valley. With a large and accessible aquifer of high quality ground water particularly in the eastern portions of the Valley, extensive land conversion and crop production was underway well before outside sources of water were imported into the Valley. Early crops favored by farmers included dates, citrus and even cotton were cultivated, and Valley growers have since expanded to make the Coachella Valley a major producer of table grapes and truck crops. While agriculture constituted the largest conversion of wild lands in the Valley, over time land values have increased with continuing development pressure.

From 1948 to 1999, the number of irrigated acres increased from about 23,000 to 72,800 acres.[1] The growth in agriculture was, at least in part, facilitated by the completion of the Coachella Branch of the All-American Canal by the U.S. Bureau of Reclamation in 1949. The canal delivered imported Colorado River water to the eastern Coachella Valley for irrigation purposes, and this supplemental water source made additional agricultural activity possible and relieved pressure on the lower Valley aquifer. In 1999, agriculture in the Coachella Valley used 333,300 acre-feet of water for crop irrigation and other agricultural purposes.

More than 2/3 of local farmland is irrigated in part with Colorado River water delivered via the Coachella Canal, a branch of the All-American Canal. CVWD delivered 280,000 acre-feet to 66,431 acres in 2014, with a gross production value of $730,487 with irrigable lands in the Coachella Valley totaling 76,354 acres.[2] Agriculture

[1] "Coachella Valley Water Management Plan," Coachella Valley Water District, November 2002.
[2] Coachella Valley Water District 2014 Crop Report.

remains the third largest employment sector in the region and represents a mainstay of the broader Riverside County economy, ranking in the top ten among California counties in total value of agricultural production.

Riverside County's leading agricultural products are fruit and nut crops, livestock products, and vegetable products[3]. Major Coachella Valley products include dates, grapes, citrus, and a variety of other fruits and vegetables. Regional agricultural lands are designated as "prime farmland," "statewide important farmland," "unique farmland," and "local important farmland," based on their soil characteristics, climatic conditions, water supplies, and suitability for production. Large packinghouses and transportation/distribution centers are major employers in proximity to the eastern CV Link route.

Relationship of CV Link to Agricultural and Forestry Resources

As noted above, there are no forestry resources in proximity to the project planning area, the nearest such resources being in the San Jacinto Mountains. Agricultural resources in proximity to the proposed CV Link Route begin east of the Valley Sanitary District wastewater treatment plan in Indio and extend southeast adjacent to the CVSC and proposed CV Link Route. Not all of these agricultural lands are in cultivation and are also interspersed with residential subdivisions, and ag-related industrial lands (packing sheds, irrigation services, etc.).

None of the various CV Link alignments will interfere with agricultural lands or agricultural operations and there will be no impacts to these resources. Therefore, the project's potential impacts on forestry and agricultural resources are not further analyzed in this EIR.

3.4. Air Quality

Air pollution is any chemical, physical or biological process that modifies the chemistry and other characteristics of the atmosphere. The primary contributor to air pollution is the production of byproducts from the combustion of fossil fuels containing a number air polluting substances. These emissions are responsible for the poor air quality that is evident in industrial centers and elsewhere worldwide.

Topographic or geomorphic conditions in the Coachella Valley have had a profound effect on and are an integral part of climate and the diverse environments encompassed in the Coachella Valley. The mountains create a "rain shadow", effectively isolating the Valley from the prevailing cooler and wetter marine conditions along the coast, and creating a dry, subtropical desert environment. The area is subject to daily temperature extremes ranging from approximately 30°F to 80°F in winter and summer daytime temperatures that range between 75°F and 120°F. In the surrounding mountains, temperatures are generally cooler than those on the valley floor, with an approximate 5°F decrease per 1,000 feet of elevation increase. In general, the Valley floor is characterized by low humidity and rainfall, and a high percentage of days of sunshine.

Winter brings the majority of rainfall, although occasional intense storms occur in late summer or early fall that can make substantial contributions to annual rainfall. These are sometimes intense storms that result in rainfall on surrounding mountain slopes rather than on the Valley floor. Mean annual rainfall averages between 2 to 4 inches on the upper desert floor and about fifteen (15) inches in the nearby mountains.

When the desert floor heats up and the Valley air mass rises, the resulting thermal low pressure draws in cooler, denser marine air from the west that is funneled through the narrow San Gorgonio Pass. This effect produces strong and sustained winds, which constitute a major influence on the Valley's climate. As they pass through the Valley, these winds often lift and transport large quantities of sand and dust through the Valley, impacting visibility and air quality.

[3] Summary of County Agricultural Commissioners' Reports, Gross Values by Commodity Groups, California 1995-2000, as compiled and tabulated by the Southern California Association of Governments (SCAG). Does not include all crops/products produced.

Air inversions, where a layer of stagnant air is trapped near the ground and is loaded with pollutants from motor vehicles and other sources, occasionally occur in the Coachella Valley due to local geological and climatic conditions. Inversions create conditions of haziness caused by suspended water vapor, dust, and a variety of chemical aerosols. Due to local climactic conditions, inversion layers generally form 6,000 to 8,000 feet above the desert floor.

The Coachella Valley, including the CV Link Route, is located within the Salton Sea Air Basin (SSAB), which is monitored and regulated by the South Coast Air Quality Management District (SCAQMD). Monitoring stations within the SSAB are located in Indio and Palm Springs and have provided a record of air quality conditions for the region since 1985 and 1987, respectively. Historically, air quality in the SSAB has not exceeded state or federal standards for carbon monoxide (CO_2), nitrogen dioxides (NO_2), sulfur dioxide (SO_2), reactive organic gases (ROG) or lead (Pb).

Pollutants of primary concern in the Coachella Valley are ozone (O_3) and particulate matter (PM_{10}). The SSAB is in non-attainment for ozone (O_3) and PM_{10}, and is unclassifiable for $PM_{2.5}$. For national area designations, the Coachella Valley is in non-attainment (Severe-15) for the federal 8-hour ozone standard, and serious non-attainment for the federal 24-hour PM_{10} standard. State standards for the Coachella Valley similarly designate a non-attainment status for ozone and PM_{10}. These pollutants pose the most significant threat to public health and may result in diminished breathing capacity, increased sensitivity to lung infections, inflammation of the lung tissue, and other respiratory distress. These and other regulated pollutants are further described in Section 4.3 of this EIR.

3.5. Biological Resources

The CV Link facility is proposed in one of the most biologically diverse regions of the country. The regional setting and physical and environmental conditions of the Coachella Valley have a direct affect on the types of habitat and biological resources that have adapted to these unique and sometimes extreme conditions. In particular, geographic location, soils, climate, and topography are the most influential factors shaping the regional environment.

The Coachella Valley is located in the Colorado subunit of the Sonoran Desert. The rocky slopes and mountain ranges bordering the Valley isolate it from marine moisture to the west. These circumstances contribute to the region's excessively hot and dry climate, and create a unique geomorphic and geographic setting that has shaped the evolution of a variety of plant and wildlife species. The resulting conditions provide an ecological environment that supports diverse and sometimes highly specialized species and natural communities. Plants and wildlife that live in the region have evolved adaptations to the extreme desert environment.

A wide range of common plant species such as mesquite, smoke tree, desert holly, creosote bush, brittlebush, and palo verde, are supported by the conditions present in the Valley, as are a wide range of wildlife species. Bird species include golden eagle, western burrowing owl and a variety of others. There are also a range of sensitive plant and animal species present in the Coachella Valley, some of which have been listed as threatened or endangered by federal and state governments. The following discussion provides a brief description of conditions in the Coachella Valley, and how they provide habitat for biological resources in the CV Link planning area.

Desert Biome

Regions with common climatic, topographic and soil conditions form roughly comparable biological communities called biomes. Desert biomes are characterized by low moisture levels and precipitation that is both infrequent and unpredictable from year to year. With little moisture to absorb and store heat, daily and seasonal temperatures generally fluctuate widely. Most deserts around the world are gravelly or rocky scrubland, where 5 to 10 cm (2-4

inches) of annual precipitation supports a sparse, but species-rich community dominated by shrubs or small trees. However, in years when rains are adequate, a wide variety of annual or ephemeral plants can blanket the desert floor.

For plants and animals to survive in this climate they must develop a variety of structural and behavioral adaptations to conserve water and endure the heat. Plants have adapted mechanisms in their leaf structure, such as tissues that can store water and thick epidermal layers, which help reduce water loss from evaporation. Many desert plants also produce leaves seasonally, and have spines and thorns to discourage predators while also providing shade. Animals escape high daytime heat by hiding in burrows or shelters, and emerging only at night to hunt for food and water. Some animals can obtain most of the moisture they need from the other animals, insects, grains and seeds they eat, and they have adaptations that allow them to eliminate body wastes without losing moisture.

While vegetation on the desert floor is sparse and limited by heat and aridity, the climate becomes milder away from the desert floor, as elevation increases. These alluvial fans, hillsides and mountainous areas support more vegetation, including as many as nine species of cacti, a variety of woody plants such as palo verde and smoke tree and many herbaceous plants. In addition, they also include numerous canyons and ravines, which collect snowmelt and runoff from the surrounding mountains. These niches in the mountainside support native riparian communities, fan palm oases and a wide variety of other plants and animals.

The Valley Floor: Sand Fields and Alluvial Plains

The Coachella Valley is comprised of a wide variety of habitats, ranging from shifting sand dunes on the valley floor to alpine conditions along mountain ridgelines and peaks. In the vicinity of the CV Link alignments, habitats range from alluvial plains and sand fields on the valley floor to highly urbanized areas with little or no native vegetation. The major habitat types most closely associated with the CV Link route are briefly described below.

The valley floor habitat refers to open and gently sloping land within the central portion of the project planning area. It is characterized by relatively flat and low-lying terrain, with regions of shifting and blowing sands generally supporting only sparse vegetation. Within the planning area this habitat is largely limited to stabilized and partially stabilized desert sand fields. These habitats are characterized by low perennial plant diversity, but very high annual or ephemeral plant diversity and also support a very diverse array of invertebrates.

Stabilized and Partially Stabilized Sand Fields

Portions of the CV Link planning area are located in proximity or adjacent to stabilized or partially stabilized sand fields, which occur especially within the Whitewater River floodplain. Stabilized and partially stabilized sand fields are areas on the valley floor with an accumulation of sand that is not in dune formation, where important physical processes are interrupted by barriers such as roads, buildings, and landscaping. In these areas vegetation grows more readily and consists primarily of scattered herbs and shrubs. The dominant natural community is the creosote bush scrub. However, during periods of high precipitation, the valley floor comes alive with ephemeral wildflowers, which lies dormant through the majority of the year.

Alluvial Plain

Alluvial plain habitat is comprised of flood-formed fans that extend out toward the valley floor from the mouth of canyons emerging from the surrounding mountains. The uneven terrain of deposited rocks, gravels and sand are the accumulated sediments of large floods that have been shaping these elevated flood plains for thousands of years. Smaller, more recent floods continue to shape and alter the landscape, but their effect is generally limited to sandy washes passing through the plain. Farther down the fan, the plain becomes smoother with a sandier substrate.

These alluvial habitats are formed by a variety of mountain drainages from large and small canyons including Chino Canyon and Tahquitz Canyon draining the San Jacinto Mountains, Eagle Canyon, Cathedral Canyon, Magnesia Falls Canyon and Deep Canyon draining the Santa Rosas Mountains. The habitat and natural

communities found on these plains transition and change with increasing distance from canyon mouths, as the substrate is slowly altered from rocky deposits to sand.

Sonoran mixed woody and succulent scrub is the dominant plant community of the alluvial plain habitat. This community occurs along the lower slopes and is widespread, forming the north and south edges of the Coachella Valley. Sonoran mixed woody and succulent scrub is a variant of the creosote scrub community, and is very typical of the Colorado Desert. It includes creosote bush and a variety of woody and herbaceous plants, including indigo bush, catclaw acacia, desert lavender, rock daisy, and palo verde. The approximate 93 annuals found on the alluvial plains and fans make up more than half of the alluvial slopes flora. Several species of cacti are also present, and include beavertail, barrel cactus, fishhook cactus, hedgehog cactus, and four species of cholla.

Sensitive, Rare, and Endangered Species

The Coachella Valley is home to a wide range of significant biological resources, many of which are species of plants and animals that are highly specialized and endemic to the Coachella Valley. The ongoing conversion of natural habitats within the Coachella Valley to other land uses and the consequent reduction in acreage and alteration of the structure and processes of those habitats has placed many species at risk of extinction. Due to the loss of viable habitat some of these species have been listed as threatened or endangered by the Federal and State governments. "Endangered" species are those with such limited numbers that they are considered in imminent danger of extinction, while "threatened" species are those that are likely to become endangered, particularly on a local scale, within the foreseeable future.

"Sensitive" species are those that are naturally rare or that have been locally depleted and put at risk by human activities. While sensitive species may not appear to be significantly threatened, they are considered vulnerable and are often candidates for future listing. A table of listed or sensitive species that have the potential to occur in the CV Link planning area can be found in Section 4.4 of this EIR.

Coachella Valley Multiple Species Habitat Conservation Plan[4], [5]

The Coachella Valley Multiple Species Habitat Conservation Plan (CV MSHCP) is a comprehensive regional plan encompassing a planning area of approximately 1.1 million acres and conserving approximately 240,000 acres of open space. The Plan addresses the conservation needs of a variety of plant and animal species and plant communities that occur in the Coachella Valley region.

The Plan was finalized in October 2008 and establishes a system of preserves outside of urbanized areas in the Valley in order to protect lands with high conservation value. It streamlines development permit processing by providing the Plan's "Permittees" "incidental take permits" under state and federal endangered species acts. The CV Link project is located within the CV MSHCP planning area, and in a few locations is located near or adjacent to CV MSHPC-designated Conservation Areas (CAs). The potential impacts of the proposed CV Link project on CVMSHCP Conservation Areas and sensitive plant and wildlife species are discussed in detail in Section 4.4 of this EIR.

3.6. Cultural Resources

The Coachella Valley has been home to Native Americans for millennia. Pre-European occupation in the Valley has been pieced together from a wide variety of studies and assessments prepared for large scale planning efforts and for individual projects. Knowledge and information on native culture, technology, ethnobotany, and other cultural attributes continue to emerge as additional research adds to current data, interpretation, and

[4] "Biological Resources Assessment, BLM Land Sale," prepared by AMEC Earth and Environmental, Inc., May 2009.
[5] "Coachella Valley Multiple Species Habitat Conservation Plan Fact Sheet," http://www.cvmshcp.org, accessed May 27, 2010.

understanding. The following discussion provides an overview current state of knowledge about the Native American groups that occupied the region. A more detailed discussion can be found in Cultural Resources Report in Appendix H of this EIR.

Pre-Historic Culture in the Planning Area

Based upon the current regional knowledge of artifacts and habitation sites dating back approximately 12,000 years, archaeologists have divided the pre-European epoch into five periods: Early Man Period, Paleo-Indian Period, Early Archaic Period, Late Archaic Period, and the Late Prehistoric Period.

The earliest periods were distinguished by the use of large stone points to hunt and process large late ice-age mammals, and by the lack of milling stones and other food grinding implements. As climate conditions and available food changed, local inhabitants started using smaller projectile points on the smaller game; there was also substantial migration going on during this period. From about 4000 years ago, seeds and grains and their processing became more important, and stone-tools became more sophisticated; there was also a corresponding increase in cultural complexity and variation.

By about 1500 years ago, at the end of the archaic period, burial practices had changed to cremations and a wider food base was exploited. Milling of foodstuffs also continued extensively. This new period, the Late Prehistoric, involved important cultural changes including the introduction of pottery and the bow and arrow. The Late Prehistoric pre-ceramic transitional phase from 1200 to 1500 years ago; ceramics were locally introduced about 1200 years ago. Pottery was an innovation of peoples of the Colorado River, and its presence in the Coachella Valley indicates that contact occurred between inhabitants of the Coachella Valley and Colorado River settlements. From about 800 years ago to just before contact with Europeans, there is evidence of extensive contact and trade with tribes of the Colorado River. This included the distribution of pottery across the upper Colorado and Mojave Deserts. It is from this period that ethnic or tribal affiliations are best known.

The Coachella Valley encompasses a wide range of environments, which have been exploited by different indigenous groups over thousands of years. These included the low desert fresh water lakes of the various stands of Ancient Lake Cahuilla, the palm oases and mesquite vegetation associated with fault zones and other areas of high groundwater, alluvial fan areas, mountain canyons, and the mountains themselves.

In the CV Link planning area, the oldest cultural remains date back about 2,700 years and were discovered near the intersection of Jefferson Street and Fred Waring Drive along the ancient shoreline of Lake Cahuilla (Love 1996). Numerous types of habitation and village sites developed throughout the Valley. These included villages occupied for extended periods of time, milling sites used seasonally as particular foods became available, lithic workshops and quarries for making stone tools and weapons, and rock art sites that were used for artistic/religious expression.

The Cahuilla Indians

The Cahuilla Indians are the most recently identifiable native culture to evolve in the Coachella Valley. The Cahuilla were a Takic-speaking, hunting and gathering people from the Great Basin region of Nevada, Utah and eastern California whose migration into southern California occurred sometime between 1000 BC and AD 500. The Cahuilla are generally divided into three groups by anthropologists: the Pass Cahuilla of the Banning-Beaumont area, the Mountain Cahuilla from the Santa Rosa and San Jacinto Mountains, and the Desert Cahuilla from the western Coachella Valley east to the Salton Sea.

The Cahuilla did not have a single name that referred to an all-inclusive tribal affiliation; rather, membership was in terms of lineages or clans, and each belonged to one or two main divisions of the people, known as moieties. Members of clans in one moiety had to marry into clans from the other moiety. Individual clans had villages, or central places, and territories they called their own. Each clan, or lineage, had its own food harvesting areas, ceremonial house, and lineage chief. However, a number of lineages are known to have cooperated with one another for political, social and economic purposes.

Surveys performed by the U.S. Government Land Office (GLO) in the mid-1850s noted a large number of Native American villages, or rancherias, in the Valley. All or most of these settlements are believed to have been settlements of the Desert or Pass Cahuilla people. Prominent settlements were located adjacent to major resource areas, including the shorelines of Lake Cahuilla, along the “cove communities” areas supported by shallow wells, mesquite and wildlife resources, and in the Indian Canyons areas of Palm Canyon. Seasonal occupation sites were also associated with palm oases, which were an important source of water, food and fiber. A number of other features believed to have been made by the Cahuilla included an extensive network of trails and irrigation systems.

It was not until the 1770s that the Cahuilla first encountered Europeans, when Spaniards crossed through Cahuilla territory in search of new land routes between Mexico and northern California. As time passed, relations between European settlers and the Cahuilla became strained due to conflicts over land ownership and exploitation, and religious and cultural practices. European disease, to which the Cahuilla had no immunity, furthered the gap between Indian and non-Indian relations. A smallpox epidemic in the early 1860s decimated the Cahuilla population, which declined from an estimated 6,000 to 10,000 people to only 2,500 individuals.

By the time the Valley was re-surveyed by the U.S. government in the early twentieth century, most of the villages and rancherias noted from earlier surveys had vanished, and signs of Euroamerican influence, such as fences and irrigation ditches, were observed. The Cahuilla continue to inhabit parts of the Coachella Valley today, and are mostly affiliated with one or more of the Indian reservations in the Coachella Valley. Among these are the Torres Martinez, Augustine, Agua Caliente, Cabazon, and Morongo Reservations. The proposed CV Link project crosses Reservation Lands of the Aqua Caliente Band of Cahuilla Indians, and the Twenty-Nine Palms and Cabazon Bands of Mission Indians.

Known Local Native American Resource Areas

A large number of cultural resource surveys have been conducted in in proximity to the CV Link planning area and numerous archaeological sites have been identified. Recorded archaeological resources are generally assigned a unique numerical identifier, referred to as a "tri-nomial" by the Eastern Information Center (EIC) at the Archaeological Research Unit at the University of California at Riverside. Site records on file at the EIC provide information about the type, contents, cultural affiliation, and period of occupation of archaeological resources.

Archaeological resources in the planning area include numerous village sites associated with the shoreline of ancient Lake Cahuilla, which was created and maintained by inflows of the Colorado River. Approximately 500 years ago, the Colorado changed course and once again found its way to the Sea of Cortez. As the lake level fell, the Cahuilla moved their villages into or near the mouth of mountain canyons where about 80% of the necessary food and other resources were to be found within a five-mile radius (Bean 1972). Occupation sites, beyond seasonal hunting and gathering camps, were rare above 5,000 feet.

Areas with dependable water supplies were essential, especially after the retreat of ancient Lake Cahuilla. Mountain canyons and springs located along faults and elsewhere in the Valley provided important habitation areas during Lake Cahuilla’s last stand. Many canyons of the Santa Rosa and San Jacinto Mountains were also an important source of food, fiber and building materials. As stated by Bean, et al., “It can be assumed that spring sites were places known to the Cahuilla and used by them, and that there were villages or significant use sites near all major springs.”[6]

[6] "The Cahuilla and the Santa Rosa Mountain Region: Places and Their Native American Association", Lowell J. Bean, Sylvia Brakke Vane and Jackson Young. Edited by Russell L. Kaldenberg. Cultural Systems Research, Inc. for the US Bureau of Land Management. October, 1981.

The Indian Canyons south of Palm Springs have included many important heritage sites of the Cahuilla from pre-historic time to the present. Villages, rock art, irrigation ditches, ceremonial trails, and food processing areas are found throughout the area. Important trails were also associated with the canyons and associated springs. Important resources have also been identified across a large portion of Tahquitz Canyon in the vicinity of the proposed Link Route.

Compilations of records of Cahuilla cultural heritage sites by Lowell John Bean, Sylvia Brakke Vane, and Jackson Young[7] have been essential in recording places in the planning area that are important to the Cahuilla. Hundreds of such sites have been identified throughout the Valley. The following lists a few of these sites and their Cahuilla place names.

Hidden Spring (Ataki)
Tahquitz Mountain (Ta co witz)
Murray Canyon (Sewitckul or Wa wash ca)
Whitewater Canyon Village (Wanup)
Cathedral Canyon "mescal gathering place" (Taupakic)
Bradley Canyon (Tanki)
Bradley Canyon Trail
Edom Hill/Indio Hills (Pa hal ke on a)
Near Palm Canyon (Tev ing el we wy wen it)
South Palm Canyon (Tatmilmi)
Whitewater Canyon (Con kish wi qual)
Snow Creek (Na hal log)
Deep Canyon (To-ho)
Mission Creek Area (Yamisevul)
Magnesia Spring (Pah-wah'-te)

Also important is the significant and obvious pattern emerging from the archaeological record of a dense clustering of Native American archaeological sites on alluvial cones and at the mouth of springs and on the alluvial fan. Site surveys in these areas have revealed many recently identified and recorded sites, including those with pottery scatters, grinding rocks, trail segments, and rock cairn features. The sites indicate extensive use of these canyon and "cove" areas prior to European settlement.

Archaeological resources associated with Native American occupation are less numerous in the eastern portion of the CV Link planning area. This is generally due to drier conditions and less vegetation and wildlife in these areas. Areas supporting the highest density of Native American resources include the Whitewater Canyon in the San Gorgonio Pass, Mission Creek northwest of Desert Hot Springs, Big Morongo Canyon, the shoreline of Ancient Lake Cahuilla, and the numerous vegetation scarps with desert fan palms and mesquite associated with the diked and perched groundwater along the San Andreas Fault Zone and on the lower Valley floor (Arkush 1989, Drover 1989). Most sites associated with these areas were typically small gathering and processing sites characterized by grinding stones, milling features and occasional large rock-lined roasting pits (Bean and Saubel, 1972; Bean 1972; Barrows, 1900).

The Historic Period

Historically significant sites are generally more than forty-five to fifty years of age, but range from the period of the earliest European contacts, around the end of the 1700's to about the end of World War II. Types of potentially significant sites range from permanent trails and highways to living areas and small-scale remains of single activities. The following discusses the historic period and identifies significant historical resource areas.

The Coachella Valley region was first explored by Spaniards making forays northward from Mexico along the coast and the Colorado River. The earliest documented period of Spanish influence began in 1769 when explorers moved into what was then referred to as Upper California to establish a military, political and religious foothold. The development of land routes to supply inland missions brought the Spanish into the region in the 1770's.

In 1821, although there is no historical evidence of settlements in the Coachella Valley, the region fell under the influence of Mexico, as it secured its independence from Spain under the Treaty of Cordova. The issuance of land grants and the establishment of agricultural enterprises, under the organization of rancheros, dominated the region

[7] Ibid.

for the next thirty years. The defeat of Mexico in the Mexican-American War and the signing of the Treaty of Guadalupe Hidalgo in 1848 ushered in a new era. With the region under American control and the discovery of gold in California, the stage was set for admittance of California into the union in 1850, and led to the influx of peoples from many countries. The first U.S. Government Surveys were made in the Coachella Valley in 1855-56, by surveyors Henry Washington, John La Croze and James G. McDonald, who observed a number of trails and roads crossing the area.

The Bradshaw Trail and Other Routes

The most prominent of these trails identified in the government surveys was one labeled as a "road" on their survey maps and ran along the course of the Whitewater River. It was joined by a trail that skirted the base of the Santa Rosa Mountains in a more southerly course. The surveyors also noted an "Indian Trail" apparently passing through the northeastern portion of the study area on Edom Hill. By the 1880s, the trail along the base of the Santa Rosa Mountains had become the main route for travelers passing through the study area. And by 1885 it had been identified as part of the road from San Bernardino to the Colorado River and was to become known as the Bradshaw Trail, one of the most important desert trails in Southern California during the 1860s and 70s.

An historic route between Los Angeles and the Palo Verde Valley, the Bradshaw Trail was in fact an ancient Indian trade route variously named the Cocomaricopa Trail or the Halchidoma Trail. In 1857, a small party led by Dr. Isaac W. Smith surveyed portions of the trail, including that segment running through today's cove communities, but the lack of water limited its use. By 1862, however, the William David Bradshaw exploration party had "rediscovered" the route, which for the next few years served as the primary access to the gold fields along the Colorado River.

By the late 1870s, stagecoach services gradually discontinued with the depletion of the gold mines and the expansion of the railroads into the region, which eventually connected the coast directly to Yuma and completed the second transcontinental railroad authorized by Congress in 1866 and later known as the Sunset Route. It was not until after the turn of the century that the Cocomaricopa Trail was revived as the Bradshaw Highway and ultimately became State Highway 111. The CV Link Route is proposed at several locations in proximity to this historic stagecoach trail and highway.

20th Century Settlement and Development

Most of the Coachella Valley remained unsettled and devoid of any evidence of land development until around the turn of the twentieth century. The only features recorded during that time were the Southern Pacific Railroad, Bradshaw Trail, and another trail along the base of the Little San Bernardino Mountains at the mouth of West Wide Canyon. Several railroad construction workers' camps were present by the early 1900s.

In 1926, the Federal government established the National Highway System, which included the Ocean-to-Ocean Highway that ran through the Valley along its central axis and with portions "along the Southern Pacific Railroad". Exact dates of construction are unclear, with archival sources tracing it to the late 1930s. Right-of-way for this highway was granted by the Federal government in November of 1938, which was delineated as U.S 60/70/99. Apparently, proof of construction was never filed on this segment of the highway. A segment of Varner Road running through the center of the Valley was part of the original Ocean-to-Ocean Highway

During the 1910s, the County of Riverside improved the Bradshaw Trail into a county trail (the forerunner of today's Highway 111), which further paved the way for settlement and growth in the "cove communities" region of the Coachella Valley. By 1914, a railroad station just south of the community of Thousand Palms named Edom, which contained a post office, was established in the Valley. In 1939, the post office was moved to Thousand Palms and renamed after that community, which by that time had a population of about 20 permanent residents and 15 to 20 winter residents.

Non-Indian settlement in the Coachella Valley began in earnest in the 1870s, with the establishment of railroad stations along the Southern Pacific line. The rate of settlement increased significantly in the 1880s, after public lands were opened for claims under the Homestead Act, Desert Land Act, and other Federal land laws. With the availability of underground water resources, farming became the dominant economic activity in the Coachella Valley.

The date palm was introduced to the area in 1904 and by the late 1910s the date industry was firmly established, extending from present-day Cathedral City south beyond Indio, which became the central agri-business district. The date palm became the area's main agricultural staple and the Coachella Valley became known as the "Arabia of America". However, as the easily accessible groundwater resource was tapped, its limitations were quickly realized and further growth of agriculture was limited until the completion of the Coachella Branch of the All-American Canal in 1949, which brought Colorado River water to the Valley for irrigation and other uses.

The European settlement of the Coachella Valley was also given significant impetus by the early development efforts of John Guthrie McCallum and others in the Palm Springs area, starting about 1872. Surveys and land divisions began in about 1884, the settlement was initially called "Palm City" and was changed to Palm Springs in 1887. Surface water from the Whitewater River and Snow Creek provided a dependable supply and supported rapid development. By 1890, the population had grown sufficiently to support the establishment of a U.S. Post Office. And by the 1920s and 30s, Palm Springs became a favorite retreat for those in entertainment and show business, spawning a development trend that continues to this day.

By the 1920s, the resort industry had begun to spread throughout the Coachella Valley. The construction of the La Quinta Hotel in 1926 by Walter H. Morgan and his Desert Development Company provided the impetus for more "winter resort" development in the La Quinta area. In the early 1930s, E.S. "Harry" Keiner began subdividing the Cove area and marketing the sale of furnished weekend homes. Although the rest of the La Quinta area remained predominantly rural during this period, with scattered ranch-style houses, the Valley experienced rapid growth during the post World War II era. The City of La Quinta was incorporated on May 1, 1982 and in recent years has been recognized as the fastest growing city in California.

The construction of the Colorado River Aqueduct by the MWD, between 1933 and 1939, brought a number of permanent and temporary features to the northernmost portion of the Plan Area. Among these were roads, power transmission lines, waterlines, and construction camps. The remains of one of eight construction camps, Camp Thousand Palms, have been discovered at the mouth of an un-named canyon in the foothills of the Little San Bernardino Mountains.

By 1941, several rural settlements had been established in the area between the Southern Pacific Railroad (now Union Pacific) and the Indio Hills. Among these were Thousand Palms, Edom, Myoma, the Ferguson Ranch, the Thousand Palms Oasis, the Bar Bell Ranch, the Chuckwalla Ranch, and the Hunter Palms Ranch. The small community of Palm Village was established south of the railroad, on the north side of Highway 111 in present day Palm Desert. General George S. Patton selected Palm Village as the site for his motor pool during World War II, as it was in close proximity to the Desert Training Center used for military training during the war.

Documentation of Cultural Resources and Tribal Cultural Resources

Archaeological studies and surveys are prepared to satisfy the requirements of county, State (CEQA), and Federal (NEPA) laws and guidelines pertaining to the identification and preservation of prehistoric and historic sites on property proposed for development. As discussed in Section 4 of this EIR, the lead agency is obligated to determine what project-related activities, if any, have the potential to adversely impact known or suspected sites of archaeological, historical and/or cultural significance within the project's area of potential effect (APE). Projects involving a Federal agency, Federal funding or other Federal assistance must conform to Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended. Standards and thresholds of significance are also described in Section 4.5 of this EIR.

Paleontological Resources

The remains of prehistoric life (fossils) such as shells, bones and teeth of fish, reptiles, and mammals, leaf assemblages and petrified wood, as well as fossil traces such as internal and external molds, impressions, and casts are known as paleontological resources. In general, paleontological resources only occur in sedimentary rock such as sandstone, siltstone, mudstone, claystone, and shale. As such, the specific rock and soil types of a locale are useful indicators in determining the likelihood for the presence of paleontological resources.

Soils on the Valley floor are generally post-Pleistocene age alluvium from the surrounding mountains. Such soils are generally considered recent by paleontological standards and therefore have little potential to yield fossilized remains. The southeastern portions of the CV Link Route are located within the boundary of the ancient Lake Cahuilla, an area where most paleontological resources in the Valley have occurred.

Because of the infrequency of fossil preservation, fossils, particularly vertebrate fossils, are considered to be nonrenewable paleontological resources. Occasionally fossils may be exposed at the surface through the process of natural erosion or as a result of human disturbances; however, they generally lay buried beneath the surficial soils. Thus, the absence of surface fossils does not preclude the possibility of their being present within subsurface deposits, while the presence of fossils at the surface is often a good indication that more remains may be found in the subsurface.

CV Link would be constructed upon a variety of previously disturbed or constructed upon alluvial fans and aeolian (windblown) deposits. The proposed route is also well removed from intact bedrock or sedimentary rock that most typically harbors paleontological resources. The Proposed Project would be constructed on the low-lying valley floor and on lands that have been previously disturbed and developed. Soils along the route are from the Holocene epoch, of relatively recent age, and are therefore not expected to contain paleontological resources. Therefore, the planning area has a low potential to contain or to impact paleontological resources. Section 4.5 further discusses these issues and provides for mitigation should any paleontological resources be discovered during excavation, grading and construction associated with the CV Link project.

3.7. Geology and Soils

The Coachella Valley is a northwestern extension of a broad, tectonic depression known as the Salton Trough. The trough is approximately 130 miles long and 70 miles wide and extends from the Gulf of California to the San Gorgonio Pass. The Valley is the northern portion of the Gulf of California, a rift basin formed by oblique strike-slip motion between the North American and Pacific plates, which are sliding past one another at a rate of about 50 millimeters per year.[8] The Valley is a deep fault graben formed by tectonic movement along the San Andreas Fault[9], a continental transform fault that extends roughly 808 miles through California. It forms the tectonic boundary between the Pacific and North American tectonic plates. It is a complex strike-slip fault that represents a continuous zone of faulting from the San Francisco area to the Salton Sea. Motion accommodated by the fault zone is distributed along a complex system of interrelated faults.[10]

Approximately 70% of the movement between these plates is accommodated by the San Andreas fault, which crosses the easterly portion of the Coachella Valley.[11] Given its proximity to this and other active and potentially active faults, the composition of underlying soils, the presence of strong sustained winds, and steep and rugged

8 "Technical Background Report to the Safety Element of the General Plan for Cathedral City," Earth Consultants International, Inc., June 1999.

9 Alles, D. L. (2012). Geology of the Salton Trough.

10 Hill, M. L., & Dibblee, T. W. (1953). San Andreas, Garlock, and Big Pine faults, California a study of the character, history, and tectonic significance of their displacements. Geological Society of America Bulletin, 64(4), 443-458.

11 Ibid.

mountains, the region is highly susceptible to seismic and other geologic forces. These issues are further addressed below and in the CV Link Geotechnical Report, Appendix I.

Regional Soils and Surficial Rocks

The Valley consists of a diverse range of rocks and sediments, which were formed or deposited over millions of years and provide important details about the geologic history of the region. Geologic units are typically described in terms of their age, and in the Coachella Valley, they range from recently deposited gravels and sands, to granitic and metamorphic rocks formed hundreds of millions of years ago.

Basement Rocks

The oldest rock formations in the Coachella Valley are basement rocks, which compose the mountain ranges bordering the Valley. Mountains of the Peninsular Range geologic province, including the San Jacinto and Santa Rosa Mountains, are composed of fairly old (Mesozoic) granitic rock, which has intruded into even older metasedimentary rock of Mesozoic and Paleozoic age.[12]

Basement rock forming the mountains of the Transverse Range province, including the San Bernardino, Little San Bernardino and Orocopia Mountains, consist of a pre-Cenozoic crystalline basement complex, which is primarily composed of batholithic granite that has intruded numerous pendants of metamorphic rock.[13] Relatively homogenous basement rock units, such as those of the Santa Rosa Mountains, are strong, thick, and highly resistant to erosion and seismic deformation.

Sedimentary Rocks

Over millions of years, the Salton Trough has been filled with sedimentary deposits up to 20,000 feet thick. Various sedimentary layers, or formations, are exposed throughout the Coachella Valley, particularly in the low-lying Indio and Mecca Hills, which occur along the length of the San Andreas fault. The oldest sedimentary formation in the Plan Area is known as Coachella Fanglomerate and is composed of debris-flow and stream-laid deposits of gneiss, granite, and volcanic rock.[14] This unit is exposed on the east side of Whitewater Canyon and may be up to 4,900 feet thick. A thin layer of basalt flow near the top has been dated to about 10 million years ago. The Mecca Hills Formation, which may correlate to the Coachella Fanglomerate, is exposed in Painted Canyon and is about 400 feet thick.[15]

The Imperial Formation, which is probably of early Pleistocene age, was deposited when the Gulf of California extended into the northern reaches of the Coachella Valley and contains marine fossils in its sandstone layer. It is exposed in Whitewater Canyon, near the north end of Indio Hills, and at Thousand Palms Spring.

The Palm Springs Formation is extensively exposed in the Indio and Mecca Hills and, to a lesser degree, in the vicinity of Whitewater Canyon. Its thickness ranges from about 2,000 feet in the northwestern Indio Hills, to about 4,800 feet in the Mecca Hills.[16] The Ocotillo Formation is also extensively exposed in the Indio and Mecca Hills, and is largely composed of cobble, gravel and sand containing granite and metamorphic units.

The most recently laid sediments in the CV Link planning area are alluvial (stream-deposited) and aeolian (wind-deposited) sediments. Alluvial sediments typically consist of gravel, sand, and clay. They are deposited by mountain streams and found within alluvial fans and the lower reaches of mountains canyons. In the vicinity of

12 "Emerging Perspectives of the Salton Trough Region With an Emphasis on Extensional Faulting and its Implications for Later San Andreas Deformation," Eric G. Frost, Steve C. Suitt, Mitra Fattahipour. 1996.
13 "Geology of the Southeastern San Andreas Fault Zone in the Coachella Valley Area, Southern California," Thomas W. Dibblee, Jr.
14 Ibid.
15 Ibid.
16 Ibid.

the Salton Sea, they consist of fine clay that is probably lacustrine (lake) in origin. Aeolian deposits are silty sand and fine and medium-grained sand fractions that are transported by strong, sustained winds.

Sand Transport

Winds predominantly enter the Coachella Valley from the northwest and are funneled through the narrow San Gorgonio Pass. They generally blow in a southeasterly direction along the central axis of the Valley and across the most erosive zones of the Valley floor, resulting in the transport and re-deposition of sand along the length of the Valley. The continual transport of sand in this vicinity has resulted in the formation and migration of extensive sand dunes, fields and sheets across the Valley. One prominent feature of this process is the stabilized Palm Springs Sand Ridge, a thick accumulation of windblown sand that covers a significant portion of the Valley floor south of Interstate 10 and rises as much as 100 to 120 feet above the Valley floor.[17]

Geologic Hazards

Each of the geologic units that occur at or near the surface of the project planning area has played a role in shaping the characteristics and diversity of plants and wildlife that have adapted to these equally diverse conditions. With regard for their potential for development, these geologic units also pose unique geotechnical and engineering constraints and opportunities that render many of these areas susceptible to numerous geologic hazards.

Slope Instability

The potential for landslides, rock falls, debris falls, and slumps to occur within and/or adjacent to the natural and manufactured channels, and on slopes of the mountains and hillsides is moderate to high. In the Coachella Valley, slope stability areas are typically associated with the slopes and foothills of the surrounding mountains, as well as poorly consolidated areas of the Indio and Mecca Hills. Although the slopes of the mountains are composed of relatively well-cemented rock outcrops, they contain many joints, fractures and intrusive dikes, which can act as planes of weakness fragmenting the exposed bedrock and accelerating erosion. Manufactured cut slopes, which are incorporated into drainage channels and other urban development projects, may also contain potentially hazardous fractures or other slope weakness that could be susceptible to slope instability.

Collapsible Soils

Hydroconsolidation, or soil collapse, is another potential geologic hazard in the Coachella Valley and especially in the eastern portions of the CV Link Route. This phenomenon typically affects areas with recently deposited soils. When saturated, these soils experience a loss of cementation and a rearrangement of their grains, a process that results in the collapse of minute pores and voids between the soil grains. When combined with the weight of a structure or heavily loaded vehicle, this occurrence can result in rapid ground settlement and cause the cracking of walls and foundations, and the tilting or sagging of floors. Soil collapse is typically initiated by the infiltration of water from irrigation or a rising groundwater table. This hazard is most prevalent in alluvial and aeolian sediments, including a significant portion of the Coachella Valley floor and alluvial fans, washes, and unlined drainage channels.

Expansive Soils

Expansive soils are those that contain significant amounts of clay particles and, therefore, have the ability to give up (shrink) or take on (swell) water. When swelling occurs, the soils can exert significant pressure on buildings, channel linings and other structures built upon them. Within the project planning area, expansive soils typically occur within older alluvial fan deposits that emanate from mountainous areas and within claystone layers of the Imperial Formation. The clay is usually concentrated in the upper ten feet of the ground surface.[18]

[17] "Technical Background Report to the Safety Element of the General Plan for the City of Cathedral City," Earth Consultants International, Inc., June 1999.

[18] "Technical Background Report, General Plan Update, City of Desert Hot Springs," Earth Consultants International, Inc., May 28, 1997.

Subsidence

Ground subsidence is the gradual settling or sinking of the ground surface with little or no horizontal movement. During this process, water contained in subsurface clay layers is squeezed out, and the clay is compacted by the weight of overlying sediments. Subsidence can result in structural damage to structures that are sensitive to slight changes in elevation, such as larger buildings, canals and channel lining, and wells. Subsidence can also result in changes to surface drainage, reductions in aquifer storage capacity, and the formation of earth fissures.

In the Coachella Valley, subsidence is primarily associated with long-term groundwater extraction, although it may also be induced by strong seismic groundshaking. Regional subsidence is most likely to occur in the central and southeasterly portions of the Valley, which are underlain by numerous clay layers that separate water-producing zones.[19] Land at or near the Valley margins is also particularly susceptible to subsidence. Land fissures occurred in 1948 just east of the City of La Quinta, after a significant decline in groundwater levels over a 30-year period and are believed to have been the result of subsidence, although their true origin is unknown.[20]

A study conducted by the U.S. Geological Survey (USGS) and the Coachella Valley Water District (CVWD) in 1996 monitored land subsidence in the lower Coachella Valley (La Quinta and land to the east and southeast), and found that from 0.2 to 0.5 feet of subsidence occurred in this region from the 1930s to 1996.[21] Another study performed by CVWD indicated that as much as 7 centimeters of subsidence occurred between 1996 and 1998 in the City of Palm Desert.[22] These data have since been updated through 2010 and indicate that the maximum subsidence was about 1.97 ft in the Palm Desert area between June 27, 1995, and September 19, 2010. The average subsidence rate increased from about 0.13 ft/yr during 1995–2000 to about 45 mm/year 0.15 ft/yr during the 2003–10 period.[23]

Wind Erosion and Sand Transport

Much of the central floor of the Coachella Valley is highly susceptible to wind erosion and the transport of sand. Wind erosion is initiated by wind forces exerted against the ground, and results in the transport and re-deposition of dry, sandy, finely granulated soils exposed to the wind regime. The movement of abrasive, sandy soils can also pose a serious public health hazard, reduce visibility, damage buildings and vehicles, and contribute to nutrient losses in plants. Blowing sand that collects on streets, driveways, parking lots and yards is removed at considerable expense.

Seismic Hazards

Due to the complex tectonic settings, the Coachella Valley is highly susceptible to seismic activity and associated geologic hazards. Seismicity in this region is mainly associated with the San Andreas fault system and San Jacinto fault system.[24] Therefore, in this section, only those two main fault system will be discussed. Other seismically active faults will be discussed later with respect to proximity to the CV Link route. Faults that could generate strong ground shaking in Coachella Valley are shown on Exhibit 3-1, Earthquake Fault Zones Map, and are described below:

19 "Coachella Valley Water Management Plan," Coachella Valley Water District, January 2012.

20 Ibid.

21 Ibid.

22 Ibid.

23 "Land Subsidence, Groundwater Levels, and Geology in the Coachella Valley, California, 199302010. US Geological Survey, Scientific Investigations Report 2014-5075.

24 Nicholson, C. (1996). Seismic Behavior of the Southern San Andreas fault Zone in the Northern Coachella Valley, California: Comparison of the 1948 and 1986 Earthquake Sequences. Bulletin of the Seismological Society of America, 86(5), 1331-1349.

San Andreas Fault

The San Andreas fault is the principal boundary between the Pacific and North American plates. This fault is considered the master fault in Southern California because it has frequent, large earthquakes and controls the seismic hazards of the area. However, at least two other faults closer to Coachella Valley have the potential to cause stronger ground shaking, and therefore more damage, than the San Andreas fault.

The Coachella segment of the San Andreas fault extends 71 miles from approximately the Salton Sea to the San Gorgonio Pass. This segment has not produced any large surface-rupturing earthquakes in historic times. The last surface-rupturing earthquake on the Coachella segment for which there is geologic evidence occurred around A.D. 1680. Rupture of the Coachella fault segment in a magnitude 7.2 earthquake is estimated capable of generating peak ground accelerations in Coachella Valley greater than 0.05g.

The San Andreas Fault Zone, which accommodates the majority of movement between the Pacific and North American plates, crosses through and along the central axis of the Coachella Valley. The remaining tectonic movement is distributed among other faults and fault zones, many of which are in proximity to the Coachella Valley, including the San Jacinto, Whittier-Elsinore, Newport-Inglewood, and Palos Verdes faults to the west, and the Mojave Shear Zone to the north. Slip rates along the San Andreas Fault System vary from one location to the next, and from one period of time to another. The Coachella Valley segment of the San Andreas Fault is creeping at a rate of about 2 to 4 mm/year, with a long-term slip rate of about 25 mm/year ± 5 mm/year.[25]

San Jacinto Fault Zone

The San Jacinto Fault Zone consists of a series of closely spaced faults that form the western margin of the San Jacinto Mountains. The zone is about 175 miles long and extends from its junction with the San Andreas fault in San Bernardino southeast toward the Brawley area, where it continues south of the international border as the Imperial fault. The slip rate along San Jacinto fault zone is 10-15 mm/yr since Pleistocene.[26] This fault has generated more large earthquakes than any other fault in southern California, although none of these earthquakes has been as large as the 1857 and 1906 earthquakes on the San Andreas fault.[27]

The San Jacinto Fault Zone has been divided into seven segments. From north to south these include the San Bernardino Valley, San Jacinto Valley, Anza, Coyote Creek, Borrego Mountain, Superstition Hills, and Superstition Mountain segments. Each segment, in turn, consists of a series of roughly parallel faults. The San Jacinto Fault is estimated to have a 31 percent probability of rupturing between 1994 and 2024. At least 16 past earthquakes on the Anza segment have been recognized in faulted rock layers.[28]

Seismically induced geologic hazards include severe ground shaking, surface fault rupture, liquefaction, and slope instability. The potential of these geotechnical conditions to impact CV Link facilities or structures, or otherwise put Link users or others at risk, are discussed in detail in Section 4.6 of this EIR.

[25] Sieh, K. E., & Jahns, R. H. (1984). Holocene activity of the San Andreas fault at Wallace creek, California. Geological Society of America Bulletin, 95(8), 883-896.

[26] Morton, D. M., & Matti, J. C. (1993). Extension and contraction within an evolving divergent strike-slip fault complex: The San Andreas and San Jacinto fault zones at their convergence in southern California. Geological Society of America Memoirs, 178, 217-230.

[27] "Technical Background Report to the Safety Element" for the City of Coachella General Plan. Prepared by Earth Consultants Internation. 2014.

[28] Thatcher, W., Hileman, J. A., & Hanks, T. C. (1975). Seismic slip distribution along the San Jacinto fault zone, southern California, and its implications. Geological Society of America Bulletin, 86(8), 1140-1146.

3.8. Greenhouse Gas Emissions

As discussed above in Section 3.4, air pollution is a chemical, physical or biological process that modifies the chemistry and other characteristics of the atmosphere. The primary contributor to air pollution is the burning of fossil fuels used in transportation, power and heat generation, and industrial processes. The byproducts from the combustion of fossil fuels can contain a number air polluting substances. These emissions are responsible for the poor air quality that is evident in industrial centers worldwide.

The CV Link project area is located in the Coachella Valley portion of the Salton Sea Air Basin (SAAB or Air Basin). Some air polluting agents are also greenhouse gases such as carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), and fluorinated gases (hydrofluorocarbons, perfluorocarbons and sulfur hexafluoride), which are released into the atmosphere through natural processes and human activities. These gases are termed greenhouse gases (GHG) due to their shared characteristic of trapping heat, and are at least partially responsible for the global average increase in surface temperatures of 0.7-1.5°F that were observed during the 20th century. More recently, the concentration of CO_2 in the atmosphere increased by 42%, methane by 15%, and NOx by 9% from 1990 to 2010.

Carbon dioxide is the primary greenhouse gas that has raised the most concern of atmospheric scientists due to current atmospheric levels, current and projected emission levels, and the highly correlated temperature regression curve that has been observed, predicting a future path of rising carbon dioxide levels. In 2013, global CO_2 levels reached 400 parts per million (ppm) and have continued to rise to more than 407 ppm in 2016.[29] Comparatively, prior to the Industrial Revolution about 250 years ago, CO_2 levels were 278 ppm, and over the past 650,000 years carbon dioxide levels have fluctuated between 180 and 300 ppm, making present day atmospheric CO_2 levels substantially greater than at any point in the past 650,000 years.

In 2004, the State of California generated 492 million metric tons (MT) of carbon dioxide equivalent (CO_{2e}). In 2013 the State of California generated 459.3 million MT of CO_{2e}, representing an overall decrease of 7% since 2004 (CARB 2015). During the 2000 to 2013 period, per capita GHG emissions in California have continued to drop from a peak in 2001 of 14.0 MT per person to 12.0 MT per person in 2013; representing a 14% decrease. GHG emission reductions are attributed to energy conservation measures such as use of more fuel-efficient vehicles, wider use of alternative modes of transportation, and energy efficient appliances and building materials that are prescribed under Title 24 of the California Building Code.

State Regulation

California was the first state to establish regulations that require the reduction of emissions of GHGs from motor vehicles. On September 24, 2004, the California Air Resources Board (CARB) adopted a bill that requires all motor vehicles of 2009 vintage or later to reduce their greenhouse gas emissions by about 30% by the year 2016. On June 1, 2005 Governor Arnold Schwarzenegger issued Executive Order S-3-05, which calls for reduction in GHG emission to 1990 levels by 2020 and for an 80% reduction below 1990 levels by 2050.

The California Global Warming Solutions Act (AB 32) was adopted by the State legislature in 2006. It sets forth a program to achieve 1990 emission levels by 2020 and requires CARB to proclaim 1990 GHG emissions and develop a Scoping Plan, which sets forth GHG reduction methods. CARB has reported that 1990 GHG emissions totaled 427 million metric tons (MMT) for the state of California; CARB adopted a GHG scoping plan on December 11, 2008. The Scoping Plan includes a cap and trade program, green building strategies, recycling and waste reduction, and Voluntary Early Actions and Reductions. More recently, Executive Order B-30-15 was issued by Governor Brown on April 29, 2015 establishing a new California goal to reduce greenhouse gas emissions to 40% below 1990 levels by 2030 ensuring the state would continue its efforts to reduce carbon pollution.

[29] "Trends in Atmospheric Carbon Dioxide", Global Greenhouse Gas Reference Network, NOAA. June, 2016.

California SB 375 was signed by the Governor in September 2008 and is intended to at least in part implement greenhouse gas reduction targets set forth in AB 32. The bill encourages regional land use planning to reduce vehicle miles traveled and requires jurisdictions to adopt a sustainable communities strategy.

County Regulation

In December 2015, the County of Riverside Board of Supervisors adopted a Climate Action Plan (CAP). The CAP established goals and policies that incorporate environmental responsibility into daily management of residential, commercial and industrial development, education, energy and water use, air quality, transportation, waste reduction, economic development and open space and natural habitats to further their commitment towards reducing GHG emissions.

Riverside County has set a goal in accordance with AB 32 to reduce GHG emissions to 1990 levels by the year 2020. This target was calculated as a 15% decrease in GHG emissions from 2008 levels, as recommended in the AB 32 Scoping Plan. The estimated community-wide emissions for the year 2020, based on population and housing growth projections associated with the assumptions used in the County's 2015 General Plan Update, are 12,129,497 MT CO2e. In order to reach the reduction target, Riverside County must offset this growth in emissions and reduce community-wide emissions to 5,960,998 MT CO2e by the year 2020.

In order to reach the reduction target, the County of Riverside would need to implement various state policies and the additional local reduction measures described in the County's CAP. These measures encourage energy efficiency and renewable energy in buildings, transit-oriented and multi-modal transportation planning, water conservation, and increased waste diversion. Riverside County does not have project- or region-specific thresholds for GHG emissions at this time. The CAP was legally challenged in January 2016 and the case is pending. It is unclear how this litigation will impact the implementation of the CAP. However, at this time, the CAP is in full force and effect.

Local Regulation

Substantial regional progress has been made energy management, conservation and alternative sourcing. As a part of this effort, the CVAG *Green for Life* program was created to assist Coachella Valley Cities and Tribes to meet and exceed their 2009 Sustainability Pledges and California mandates to reduce greenhouse gas emissions. The Green for Life program provides jurisdictions with free tools and staff training to identify energy waste and further advance the energy efficiency and cost savings of new and existing municipal, commercial and residential properties.

Nine (9) of the jurisdictions actively participating in the CV Link project have adopted a Climate Action Plan (CAP) as part of the Green for Life program. They include the Aqua Caliente Band of Cahuilla Indians and the cities of Palm Springs, Cathedral City, Palm Desert, Indian Wells, La Quinta, Indio, Coachella and Riverside County. Rancho Mirage has withdrawn from CV Link and that city's alignments are not included in the Proposed Project. The goal of these CAPs is to reduce GHG emissions from governmental and private operations throughout these communities. CAP GHG inventories were prepared using the Clean Air and Climate Protection (CACP) Software, which is the industry standard for climate action planning developed by Local Governments for Sustainability (also known as ICLEI, International Council for Local Environmental Initiatives.) Various utility and service companies provided city-specific data for the years 1990, 2005, and 2010, which were used to populate the CACP software. This data includes electricity usage, natural gas usage, waste treatment, solid waste disposal, public transit data, and estimated citywide vehicle miles traveled.

3.9. Hazards and Hazardous Materials

Modern industrialization has introduced a wide array of chemical compounds and materials, and land uses and activities that pose threats to human health and safety, and to the environment. Issues associated with hazards and hazardous materials include exposure through transport or disposal, and from potentially hazardous land uses such as airports.

Hazardous and Toxic Materials

The manufacture, transport, and disposal of hazardous and toxic wastes have become a progressively important issue. Regulation of toxic and hazardous materials lies with a variety of Federal, State, and local agencies, including the U.S. Environmental Protection Agency, the California Office of Health Planning and Development, and county health departments. Applicable Federal regulations include the Resources Conservation and Recovery Act (RCRA), the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA), the Safe Drinking Water Act (SDWA), the Federal Clean Air Act, and the Toxic Substances Control Act.

Counties are authorized by State law to prepare Hazardous Waste Management Plans (HWMP) in response to the need for safe management of hazardous materials and waste products. In the CV Link planning area, the California Regional Water Quality Control Board (CRWQCB) and area water districts maintain information concerning contaminated water wells and groundwater. The State and Federal EPA and the State Department of Health provide information concerning specific hazardous waste sites.

There are no large industrial or commercial users of hazardous materials in the vicinity of the proposed CV Link route or its area of influence. The Phase I environmental site assessment prepared for the CV Link project[30] identified hazardous/toxic materials, small-quantity generators associated with commercial, industrial and medical operations. These have the potential to be associated with accidental spills, purposeful illegal dumping, air emissions, and other uncontrolled discharges into the environment. Improper use and management of these materials pose a significant potential threat to the environment. Products, chemical and purified chemical compounds, and elements that are considered hazardous or toxic exist in wide variety and are used in households, commercial businesses and industrial operations and processes. They range through home and pool related chlorine products, water treatment chemicals, chemical fertilizers, herbicides and pesticides, stored fuels and waste oil, chemical solvents and lubricants, and a variety of medical materials, including biological and radioactive wastes. The potential for the proposed CV Link project to encounter or be impacted by hazardous materials is analyzed in Section 4.8 of this EIR.

Hazardous Waste Management Plans

Jurisdictions responsible for land management coordinate with appropriate county, State and Federal agencies in the identification of hazardous material sites, and their timely cleanup. In order to manage these issues, the jurisdiction may establish and maintain information on these sites, and periodically monitor facilities and operations that produce, utilize or store hazardous materials. By staying involved in multi-agency monitoring of illegal dumping in the Conservation Areas, and regulating the transport of hazardous materials through the CV Link planning area, the Link managers can better protect against potential hazards associated with hazardous materials and wastes.

The CVAG member jurisdictions, the CVWD, and other agencies with land management responsibility coordinate and cooperate in addressing illegal use and/or dumping of hazardous and toxic materials on public lands. The Riverside County HWMP was adopted by the Board of Supervisors and approved by the California Department of Health Services in 1990. The County HWMP identifies the types and amounts of wastes generated

[30] "Initial Site Assessment for the CV Link Project", prepared by Terra Nova Planning & Research, Inc. August 2016.

in the County and established programs for managing these wastes. The Riverside County HWMP also assures that adequate treatment and disposal capacity is available to manage hazardous wastes generated within its jurisdiction, and addresses issues related to manufacture and use.

The State and Federal Environmental Protection Agencies (EPA) and the State Department of Health also supply information concerning specific hazardous waste sites and their locations. The California Department of Industrial Relations, Cal-OSHA Division, regulates the proper use of hazardous materials in industrial settings. Private database screening and documentation services are also available, which would search, extract, and summarize reports on contaminated site recorded in various State and Federal databases.

Household Hazardous Waste

Residential use of household chemicals, automobile batteries, used oil, paint and similar materials result in hazardous waste. "ABOP" (Antifreeze, Batteries, Oil and Latex Paint) disposal sites are available for Coachella Valley residents to dispose of these materials. These facilities will take up to 5 gallons or 50 pounds of materials per trip, and all materials must be clearly marked and sealed. Local residents may also properly dispose of used motor oil through a variety of local programs, including curbside pick up. Riverside County also organizes Household Hazardous Waste collection days throughout the year at fire stations and city corporation yards across the Valley.

Hazardous Materials Response

Hazardous and toxic materials are determined critical by county health departments, which can require owners of storage facilities to test, temporarily close and/or remove all hazardous liquids, solids or sludge located on the site. Leaking underground storage tanks must be removed by contractors having Hazardous Waste Certification and a General Engineering license. Between cessation of storage and actual closure, monitoring is generally required by the site's operating permit.

When soils contamination is detected, the clean up procedure to be followed, the degree or level of cleanliness required by the regulator, and the method of treatment (if permitted) will be directed by the county hazardous materials division and/or the Regional Water Quality Control Board. Regulatory functions are not expected to change with the proposed construction of CV Link.

3.10. Hydrology and Water Quality

3.10.1. Hydrology

Climatic conditions in the Coachella Valley are characterized as "subtropical desert". Mean annual rainfall is very low on the desert floor and into the foothills, ranging from 4 to 6 inches per year and averaging about 5 to 6 inches along the foothills. Generally, temperature decrease and precipitation increases with increasing elevation. In some years no measurable rainfall has been reported along portions of the CV Link route. Most of the rainfall occurs during the cooler months of November through March, but occasional high-intensity thunderstorms and tropical storms occur in late summer and early fall. Although the ground may be generally dry at the beginning of a storm, sufficient amounts and intensities of rainfall can saturate the surface, substantially reducing percolation and increasing runoff.

Floods that impact the project planning area can be attributed to three different types of storm events: general winter storms, combining high-intensity rainfall and rapid melting of the mountain snowpack; tropical storms out of the southern Pacific Ocean; and summer thunderstorms. Summer storms pose a greater threat of flooding than winter storms because of their high intensity and short duration of rainfall.

Major historic storm events are used to gauge the potential for future flooding. Benchmark storms used by the U.S. Army Corps of Engineers (ACOE) to calculate the most intense credible storm include the storm of September 24, 1939. It was centered over Indio and consisted of a thunderstorm that preceded a major storm off the west coast of Mexico. This intense storm generated 6.45 inches of rain in a period of 6 hours. Tropical storm Kathleen is another example of the storm runoff potential in the area. During September 9–11, 1976, very heavy general rainfall was generated over a three-county area, with Palm Desert receiving 6.81 inches of rain. In the past few years, highly localized late summer thunderstorms have generate rainfall intensities of almost three inches per hour, the equivalent of 200-year and 500-year storm events. The surrounding hills and mountains received as much as 14 inches, with rainfalls generally increasing with elevation.

Local and Regional Flood Control

The generation and management of stormwater runoff are typically divided into two separate categories, local and regional drainage, which are ultimately interrelated. Local drainage is either defined by the limited size of the drainage or the volume generated. Local facilities capture and convey local runoff to regional drainage facilities including the Whitewater River, Tahquitz Creek and the Coachella Valley Stormwater Channel.

Regional Flood Control: CVWD & RCFCWCD

The CVWD and the Riverside County Flood Control and Water Conservation District (RCFCWCD) are responsible for the management of regional drainage within the CV Link planning area, including rivers, major streams and their tributaries, and areas of significant sheet flooding. Both Districts are empowered with broad management functions, including development review and conditioning, flood control planning, construction, operation and maintenance of regional drainage improvements, as well as watershed and watercourse protection related to those facilities. To carry out their mandates, the Districts also have powers of taxation, bonded indebtedness, land and water rights acquisition, and cooperative partnerships with local, State, and Federal agencies. An elected Board acts as the official decision-making body of CVWD, while the RCFCWCD is governed by the Riverside County Board of Supervisors serving as the District's Board.

FEMA and the Federal Flood Insurance Rate Maps

Many of the areas of the United States subject to flooding from 100-year storms have been mapped by the Federal Emergency Management Agency (FEMA). The resulting documents are the FEMA Flood Insurance Rate Maps (FIRMs), which serve as the basis for determining the need for and availability of Federal flood insurance. The FEMA maps for the CV Link planning area designate lands within the 100-year flood plain (Zone A). These areas include washes, channels and areas subject to sheet flow flooding.

Major Drainages Within CV Link Planning Area

As noted is the Project Description in Sections 2 and 3, there are three major drainages associated with the CV Link project. These include the Whitewater River Stormwater Channel (Whitewater River or WWR), the Tahquitz Creek Stormwater Channel (Tahquitz Creek), and the Coachella Valley Stormwater Channel (CVSC), which is the engineered extension of the Whitewater River east of Washington Street and Point Happy in La Quinta. Conditions within and along these major drainages vary widely but are largely affected by urban disturbances and development. Most of the drainages associated with the project Route are a combination of soft bottom channels contained within river banks or FEMA-certified training levees, with most of the channel side slopes protected by concrete lining. There are also existing and planned drop structures within drainages that accommodate changes in channel bottom elevations, as well as inlets, bridge abutments and other structures within and adjacent to these drainages.

Table 3-1
Important Major Drainages[1]
CV Link Planning Area

Drainage	Drainage Area (Sq. Miles)	100-Year/SPF Storm Discharge (cfs)
CV Stormwater Channel	1,500	39,000 / 82,000
Whitewater River[2]	1,500	39,000 / 88,000
Tahquitz Creek	16.9	8,800 / 20,000

1. Source: RCFCWCD, CVWD, US Geological Survey.
2 Includes San Gorgonio River, which is tributary to the Whitewater River at Windy Point. Data reflects combined flows and should not be interpreted as projected 100-year discharge below confluence of these drainages.

Drainage Facility Improvements
In the wake of superstorm Hurricane Katrina that struck the US Gulf Coast in 2005, the ACOE and the Federal Emergency Management Agency have been reassessing the flood-worthiness of flood control channels and levees across the country. As a result, major facilities, including those associated with the CV Link project, have been reassessed for their ability to effectively contain the 100-year (and in some cases the 500-year or Standard Project Flood) storm. Portions of the Whitewater River and Coachella Valley Stormwater Channels have been determined to be inadequate to contain the 100-year storm. As a result, CVWD, under who's jurisdiction these facilities fall, is actively planning and engineering improvements that will ensure that these drainage facilities are able to convey at least the 100-year storm with prescribed freeboard. These planned improvement areas and their relationship to the CV Link project are further discussed in Section 4.19.

3.10.2. Water Resources/Quality

Water is among the most essential needs of any community and is a particularly valuable resource in the Coachella Valley. A reliable supply of high quality water is critical to the health and welfare of Valley residents, as well as the regional economy. Issues of water availability, quality, and management have been at the forefront of regional environmental dialogues in recent years, as the demand for groundwater continues to exceed natural supplies. Continued overdraft of this limited resource could have serious and irreversible social, environmental, and economic impacts on the region.

Groundwater Resources
The use of water by Native Americans in the Coachella Valley over the past 500 years was centered around the direct diversion of streams in mountain canyons, the digging of wells to intercept the aquifer in Indian Wells, and the exploitation of artesian wells associated with the San Andreas Fault system. It was not until the twentieth century that the substantial extent of the region's groundwater basins was recognized.

The Coachella Valley groundwater basin is a northwest-southeast trending sub-surface aquifer, which generally extends from Whitewater on the northwest to the Salton Sea on the southeast. It is bounded by the non-waterbearing rocks of the San Bernardino and Little San Bernardino Mountains on the north and northeast, and the San Jacinto and Santa Rosa Mountains on the south and southwest. The Valley's subsurface aquifer system largely consists of relatively young alluvial deposits underlain by older basement rocks. Although the sediment fill is estimated to be approximately 20,000 feet thick, the water-yielding section extends only to depths of a few thousand feet.[31]

31 "Ground Water Atlas of the United States, Segment 1: California/Nevada," United States Geological Survey.

Although interflow of groundwater occurs throughout the aquifer, it is limited by fault barriers, constrictions in the basin profile, and areas of low permeability. Based on these observations, the U.S. Geological Survey and the California Department of Water Resources have divided the groundwater basin into four distinct subbasins. Subbasin boundaries are generally based upon faults that restrict the lateral movement of groundwater, including the Mission Creek and Banning strands of the San Andreas Fault Zone, and have been determined regardless of water quantity or quality. The subbasins include: Mission Creek, Garnet Hill, Whitewater River, and Desert Hot Springs. The CV Link planning area is located in the Whitewater River subbasin and is described in Section 4.9. The Whitewater Subbasin extends from the San Gorgonio Pass southeast to the Salton Sea and is divided into two large subareas, the Upper and Lower Thermal Subareas. The Whitewater Subbasin in the Coachella Valley is in a state of overdraft, a condition where groundwater extraction exceeds inflow or recharge.[32]

DWA and the Coachella Valley Water District (CVWD) are State Water Project contractors and coordinate to acquire these and other sources of supply; these two agencies manage groundwater resources in the upper Coachella Valley. Replenishment of groundwater supplies occurs by means of natural recharge from rain and snowmelt from the surrounding mountains, as well as inflow from other basins. Colorado River water is also imported via the Metropolitan Water District's Colorado River Aqueduct, which passes through the northwestern portion of the Valley. Imported water is diverted at the Whitewater River north of US Interstate-10 and again diverted into the Whitewater River groundwater recharge basins located in the northwestern portions of Palm Springs. Both DWA and CWVD actively promote water conservation in all use sectors even as they continue to seek new supply sources.[33]

The DWA, in cooperation with CVWD, monitors groundwater and surface water in order to assure that contaminants in the water are within an acceptable safety range for human consumption as determined by the US Environmental Protection Agency (EPA) and the California Department of Health and Services. The Water Quality Control Plan for the Colorado River Basin Region 7 is tasked with protecting surface and groundwater quality throughout the Colorado River Basin, including the Whitewater River watershed. Maximum containment levels (MCL) set by the EPA establish the maximum allowable concentration of contaminant for drinking water. As seen in the 2013 Water Quality Report, contaminants are below established MCL thresholds and there were no violations reported.[34]

A Water Supply Assessment (WSA) will not be required for the proposed CV Link project. Requirements for the preparation of a WSA are set forth in Senate Bill 610 (SB 610), which was enacted in 2001 and became effective January 1, 2002. SB 610 amended Section 21151.9 of the Public Resources Code requiring cities and counties to request specific information on water supplies from the Public Water Supplier (PWS) that would serve any project that is subject to CEQA and is defined as a "Project" in Water Code Section 10912. The most relevant criteria under State Water Code Section 10912 defining a "Project", is a proposed development that would generate a water demand equivalent to 500 dwelling units.

According to State Water Code Section 10912, the proposed CV Link is not considered a "Project", not meeting threshold criteria in terms of size or type of use, or the intensity of water demand, and therefore does not require a WSA be prepared. DWA and CVWD have determined that sufficient water supplies are available to meet the forthcoming modest demands of the CV Link project. Water supplies and availability, as well as water demand and potential impacts to water resources and water quality from implementation of the CV Link project are presented in Section 4.9 of this EIR.

32 "Coachella Valley Water Management Plan-Final Report," prepared by MWH, September 2012.

33 "Final Coachella Valley Integrated Regional Water Management plan," prepared by the Coachella Valley Regional Water Management Group in collaboration with the Planning Partners, December 2010.

34 "2013 Water Quality Report," prepared by Desert Water Agency, 2013.

3.11. Land Use and Planning

Introduction

The following describes the existing land uses at, surrounding and potentially served by the CV Link route. Existing land uses were identified and characterized based on field visits, aerial photographs, computer-aided street view tours, and review of planning documents. Existing land use designations are from each jurisdiction's respective General Plan and Tribal land use plans.

Background

The Coachella Valley is located in the central portion of Riverside County at the westernmost limits of the Sonoran Desert. The San Jacinto Mountains and San Bernardino Mountains form the western portions of the Valley, while the Little San Bernardino and Santa Rosa Mountains form the northern and southern boundaries, respectively. Much of the urbanization in the Coachella Valley has initially taken place along the toe of the slopes of the Santa Rosa and San Jacinto Mountains, and has spread progressively onto the Valley floor and southeastward from the Palm Springs area through Coachella to the communities of Thermal and Mecca.

The region is noted for prime agricultural lands in the eastern Valley areas, and for exclusive resort residential and world-class tourist developments primarily in the western and central portions of the Valley, although this trend is continuing to move east. In the western portions, agriculture developed (primarily dates and citrus) early in the 20th Century gave way to resort, residential and commercial development. The area's natural assets, including mountain views, varied wildlife and sunny weather, and a dependable water supply, have become progressively important to the local economy and environment, and have contributed to the region's character and desirability.

The region is served by major transportation arteries, including US Interstate-10, State Highways 111, 74, 62 and 86, and the Union Pacific Railroad, which (as Southern Pacific Railroad) was primarily responsible for opening up the area in the mid-1800s. The Palms Springs International Airport and secondary general aviation facilities also serve the area.

Land Use Designations

Existing and future land uses within the project area are assigned and governed by each jurisdiction's General Plan and/or Tribal Land Use Ordinance. California Government Code Section 65300 requires every city and county to prepare and adopt a "comprehensive, long-term general plan for the physical development" of the community. The General Plan is further required to provide a land use element that describes and designates land uses by type, location, intensity and/or extent of use. Each jurisdiction in the Coachella Valley has adopted its own General Plan Land Use Element, or Tribal Land Use Ordinance, which assigns future, permitted land uses for lands within its jurisdictional boundaries.

Existing and Surrounding Land Use

The CV Link route largely follows the levees of the region's principal watercourses, including Tahquitz Creek, the Whitewater River Stormwater Channel and the Coachella Valley Stormwater Channel. In some locations, CV Link shares rights-of-way with public roads and provides direct access to key commercial districts, employment centers and recreational and institutional venues.

Land uses surrounding the CV Link Route generally consist of single and multi-family residential, restaurants and retail commercial, professional offices, light and service industrial uses, golf courses and other open space lands, K-12 schools and College of the Desert, public streets, and vacant lands. Surrounding land uses along the western and central route are predominately residential and public streets, while the majority of surrounding land uses in the eastern Valley are residential, light industrial, wastewater treatment facilities and agricultural lands. The table below provides a brief summary of surrounding land uses along the proposed CV Link route largely but not exclusively by jurisdiction, and references applicable land use plans. Potential impacts to land use and planning, including specific location details, are further discussed in Section 4.10.

Table 3-2
Existing Land Uses Surrounding Proposed CV Link Route

Jurisdiction	Summary of Surrounding Land Uses	Applicable Land Use Plan
Palm Springs, Cathedral City and Agua Caliente Band of Cahuilla Indians	<u>North Palm Springs</u> Northwest terminus at the Palm Springs Visitor Center is generally bound by vacant lands/open space lands and residential development. CV Link follows the levee service road and the south/right bank of the Whitewater River Stormwater Channel east and southeast. Conservation lands (CVMSHCP) are located north of the levee and in the wash. Other land uses in this area include a city park, single-family subdivisions, a defunct golf course, and drainage facilities. Alternative routes in this area also connect the levee route following San Rafael (extended) and Sunrise Way. East of Gene Autry Trail, the route passes near light industrial lands and flood control facilities. South of Vista Chino and along the channel the route passes the Escena golf club community, the Dream Homes community, and the Cimarron golf course. South of Ramon Road to the confluence with Tahquitz Creek, the Link passes through and along vacant ACBCI lands, single-family development and the northern portions of the Cathedral Canyon golf course in the wash. (See Map Book Segments 1-1 to 23-1 in Appendix B of this EIR) <u>Tahquitz Creek Alignment</u> In Palm Springs, the west end of the south segment ends at South Palm Canyon Drive and is generally surrounded by retail commercial, service industrial, residential development and the Tahquitz Creek. East of Sunrise Way, the Link generally follows or passes near the Tahquitz Creek Channel, Mesquite Country Club and Tahquitz Creek golf club, recharge basins, a water park, condominiums, and the Tahquitz Creek stormwater channel. This south segment terminates at the Whitewater River. (See Map Book Segments 16-1 to 23-3 in Appendix B of this EIR) At the confluence of Tahquitz Creek and the Whitewater River the Link offers two separate routes east and southeast. These routes border or pass through the Cathedral Canyon golf course north and south of the wash. Adjoining land uses include the golf course, wash, multi-family residential and resort. The two golf course/wash continue through the Cathedral City's urban core, characterized by commercial and office/professional land uses. These routes also rejoin just east of Date Palm Drive and continue east along the south/right bank of the Whitewater River proceeding the city limits. (See Map Book Segments 23-4 to 27-5 in Appendix B of this EIR)	Palm Springs General Plan; Cathedral City General Plan; Agua Caliente Band of Cahuilla Indian Land Use Ordinance; Coachella Valley MSHCP

Table 3-2
Existing Land Uses Surrounding Proposed CV Link Route

Jurisdiction	Summary of Surrounding Land Uses	Applicable Land Use Plan
Rancho Mirage	An alternative to the Proposed Project, the Link extends east from the west city limits along the Whitewater River bordering a mix of commercial and residential land uses, including restaurants, hotels/motels, city park lands on the west, channel, condominiums, the wash and Morning Side Country Club golf course, and the Butler-Abrams Trail and adjoining low density residential and open space lands. The Link then follows Country Club Drive west to Highway 111and continues east along the south side of Highway 111 where it borders a mix of gated single-family residential communities, including Thunderbird Country Club and Thunderbird Terrace. East of Paxton Drive the Link splits with one route continuing east on the south side of Highway 111 past a vet office and vacant lands, to West Magnesia Falls Channel bridge and returns to the Whitewater River via the channel. The second route cross Highway 111 and follows the Whitewater River past the Rancho Mirage Library and planned observatory, east of which it splits into two route alternatives. The northerly alternative continues along the wash past gated senior-only multi-family developments, and the Rancho Mirage Community Park to Bob Hope Drive and south to Highway 111 past resort hotels and commercial development. The southern route follows San Jacinto Drive through a mix of residential, professional office and commercial land uses, connecting to and passing through The River commercial center. Optional Link routes proceed east both north and south of Highway 111 until Park View Drive. Land uses along Highway 111 are generally characterized as retail commercial with some service commercial. (See Map Book Segments 27-5a to 34-6in Appendix B of this EIR)	Rancho Mirage General Plan
Palm Desert	The Park View Drive alignment is generally surrounded by residential general commercial and professional land uses. The Link extends east to the College of the Desert campus. It continues through the campus and also extends a route north along Monterey Ave. to Magnesia Falls Dr. and thence east along gated golf course residential on the north and college and public open space lands to the south. Magnesia Falls land uses include mobile home parks, and schools and multi- and single-family neighborhoods. Magnesia Falls eventually connects to the Whitewater River where the Link will continue along the southern bank towards Palm Desert High School. The Link continues along the southern bank of the Whitewater River to the city limits, passing residential development and the wash. (See Map Book Segments 34-6 to 40-6 in Appendix B of this EIR)	Palm Desert General Plan

Table 3-2
Existing Land Uses Surrounding Proposed CV Link Route

Jurisdiction	Summary of Surrounding Land Uses	Applicable Land Use Plan
Indian Wells	In Indian Wells, the Link continues along the south bank of the Whitewater River, crosses the wash north of Fred Waring Drive to Eldorado Dr., passing residential lands and a Southern California Edison (SCE) substation. The route splits south of Eldorado Dr. to continue east along the north bank of the wash, and also south to Highway 111 and east along the highway and past resort hotels to Miles Ave., where it jogs north to the wash. Two routes continue east along the south side of Miles Ave and homes, Tennis Garden and vacant lands. The second route continues along the south bank of the WWR wash, passing nearby residential and commercial uses to Washington Street. Miles Avenue intersects with Washington Street.	Indian Wells General Plan
La Quinta	The majority of the La Quinta Link is located along the south bank of the Coachella Valley Stormwater Channel and is bordered by a mix of predominantly commercial uses on the west and residential land uses on the eastern portion of the route.	La Quinta Genera Plan
Indio	All of the Indio Link is located along the south (right) bank of the Coachella Valley Stormwater Channel and is bordered by a mix of single-family residential with limited service commercial and light industrial along the western portion of the route. Land uses along and near the eastern portion of the Indio route include single-family, parklands, ag-industrial, high school, service industrial and water treatment facilities, and vacant agricultural lands.	Indio General Plan
Coachella, Riverside County, Cabazon Band of Mission Indians, and Twenty-nine Palms Band of Mission Indians	The majority of the Link is located along the Coachella Valley Stormwater Channel straddling the Indio and Coachella city limits, and in this area bordered by a mix of service industrial and fallow agricultural lands. South of Dillon Road to Avenue 56, the route passes agricultural lands, an auto wrecking yard, scattered single-family ag-industrial, water treatment facilities and vacant and active agricultural lands. The subject alignment terminates at Airport Boulevard.	Coachella and County General Plans; Applicable Cabazon Band of Mission Indians, and Twenty-nine Palms Band of Mission Indians Land Use Ordinances

3.12. Energy and Mineral Resources

The following discussion outlines the status of energy and mineral resources in the CV Link planning area. The region is important in terms of both construction-related mineral resources and in the production of energy from renewable resources. Mineral resources are largely associated with fluvial deposits in the Indio Hills, Mecca Hills and foothills of the Little San Bernardino Mountains. Energy resources are becoming more distributed in the Valley, with wind turbine development focused in the San Gorgonio Pass area and geothermal at the south end of the Salton Sea. Solar photovoltaic systems are being developed throughout the Valley.

Mineral Resources

In the Coachella Valley, mineral resources are largely limited to aggregates such as sand, gravel, and crushed stone. These are major components of concrete, plaster, stucco, road base and fill, which are essential to the construction industry. There are important deposits of these materials that occur within the region that are being actively developed.

Other mineral deposits in the region are generally limited to rocky outcroppings within the Little San Bernardino and Santa Rosa Mountains and have not been mined. These resources include copper, limestone, specialty sands, and tungsten. There are decorative stone deposits that are being mined on public land in the Painted Hills area west of Desert Hot Springs, as well as clay deposits at the base of the Mecca Hills east of Thermal on public and private land. These may be used as an impermeable layer for lining landfills, ponds, and similar construction applications, and some of these deposits have been permitted for mining.

The California Department of Conservation Division of Mines and Geology (DMG) has prepared a report identifying aggregate materials in the 629± square mile Palm Springs Production-Consumption Region.[35,36,37] The report was part of a state-wide program to geologically delineate/classify aggregate resources in rapidly urbanizing areas. The report was prepared to determine quantities of available aggregate resources, and to evaluate the adequacy of permitted aggregate reserves for meeting the future needs of each region. The Palm Springs region contains 3.2± billion tons of aggregate resources.

The report assigned Mineral Resource Zone (MRZ) classifications to all lands within the region. MRZ classifications describe the location of significant PCC-grade aggregate deposits. MRZ classifications are as follows.

MRZ-1: Areas where adequate information indicates that no significant mineral deposits are present, or where it is judged that little likelihood exists for their presence. Includes Quaternary alluvial deposits of the central upper Coachella Valley, the Imperial Formation of the Indio Hills, Garnet Hill, the hills west of Whitewater River Canyon, and the Borrego Formation of the southeastern Coachella Valley.

MRZ-2: Areas where adequate information indicates that significant mineral deposits are present, or where it is judged that a high likelihood for their presence exists. Includes the following areas: 1) Whitewater River floodplain extending from the Whitewater River Trout Farm to the City of Palm Springs, 2) San Gorgonio River floodplain from Cabazon to its confluence with the Whitewater River, 3) the river channel in the lower part of Little Morongo Canyon, 4) a small alluvial wash north of Thousand Palms, 5) the confluent alluvial fans of Berdoo and West Berdoo Canyons, 6) the alluvial fan of Fargo Canyon, 7) an alluvial fan north of Indio, and 8) an alluvial wash and fan east of Thermal.

MRZ-3: Areas containing mineral deposits, the significance of which cannot be evaluated from available data. Includes lands composed of Cabazon Fanglomerate, Ocotillo Conglomerate, Painted Hills Formation, Palm Springs Formation, Mecca Formation, and metamorphic rocks of the San Jacinto Mountains and the San Gorgonio Complex.

35 "Draft Environmental Impact Statement for the California Desert Conservation Area Plan Amendment for the Coachella Valley," prepared by the U.S. Department of the Interior Bureau of Land Management, June 2002. Figure 2-7 Windparks and Sand and Gravel Mining.

36 "Mineral Land Classification: Aggregate Materials in the Palm Springs Production-Consumption Region," prepared by the California Department of Conservation Division of Mines and Geology, 1988.

37 The Palm Springs Production-Consumption Region generally extends from Cabazon on the west to Mecca on the east.

Lands within the CV Link planning area are classified as MRZ-1, 2 and 3.[38] These include limited MRZ-2 lands in the Whitewater River floodplain, the balance of the planning area having resources designated MRZ-1 or 3. The Coachella Valley has nearly a dozen permitted aggregate operations, which contain approximately 272 million tons of mineable aggregate.[39] These reserves are expected to meet the demand and provide adequate supply at current rates of consumption for approximately 130 years.

The construction of all alignments of the CV Link project is estimated to require approximately 112,231 cubic yards (cy) of aggregate base, a material that is in good supply in the Coachella Valley and which is locally mined at several locations. The construction of the Proposed Project would require approximately 98,763 cy of aggregate. CV Link will also require approximately 410,960 cy of concrete, of which approximately 60 to 75% (246,576 to 308,200 cy) is comprised of aggregate. Therefore, total aggregate demand for the overall CV Link project is approximately 358,807 to 420,451 cy or 0.15% of permitted aggregate.

The CV Link route and much of the surrounding land is developed or otherwise unavailable for mining. Mining operations are not practical along the CV Link Route. Issues related to mineral resources are further considered in Section III-M: Energy and Mineral Resources.

Energy Resources

The following discussion considers production and transmission facilities for each of the major energy sectors associated with and having facilities in the region. Energy sectors in the region include those associated with the movement of petroleum products, natural gas and electricity from their points of production to those of use.

Electrical Power: In the Coachella Valley, Southern California Edison (SCE) and the Imperial Irrigation District (IID) provide electric power services. SCE provides electric power services to lands in the western portion of the planning area, while IID serves those portions of the Valley generally east of Washington Street. Both SCE and IID utilize a combination of coal, natural gas, wind, hydroelectric, and geothermal power sources, most of which are located outside the Valley. There are high-voltage transmission lines of up to 500 kilovolts crossing the Valley on an east-west trending utility corridor generally located north of Interstate-10. Locally, there are underground and aerial electrical distribution lines in the planning area. These facilities are further discussed in Utilities and Service Systems Section 3.18 and 4.17.

Natural Gas: Natural gas is found in association with petroleum deposits. It is generally considered a clean and efficient fuel. The region contains no retrievable sources of natural gas. The Southern California Gas Company (Sempra Energy) provides natural gas service to much of the Coachella Valley, including the CV Link planning area. Natural gas supplies are transported from Texas to the Coachella Valley through three east-west trending gas lines, which cross the Valley near and parallel to Interstate-10, and continue west to Los Angeles. The pipelines include one 30-inch line and two 24-inch lines, with pressures of 2,000 pounds per square inch (psi). High-pressure lines associated with the aforementioned utility corridor are not located in the planning area. There are natural gas distribution lines ranging in size from one to six inches in the planning area. These facilities are further discussed in Utilities and Service Systems Section 3.18 and 4.17.

[38] Mineral Land Classification: Aggregate Materials in the Palm Springs Production-Consumption Region", California Department of Conservation-Division of Mines and Geology. 1988.

[39] Ibid.

Solar, Wind and Geothermal Energy Resource Areas/Facilities

Solar Energy: The Coachella Valley region is well suited for solar energy production. Rates of solar insolation are high throughout the year. During summer months, solar energy production complements demand with peak solar generation potential and peak load demand occurring at the same time of day. In the Coachella Valley, solar thermal systems are modestly applied for heating domestic water and swimming pools.

Solar electric systems such as photovoltaic (PV) systems are generally more expensive than conventional sources of electricity and the payback on investment has heretofore been longer. However, these applications have been steadily growing in the Coachella Valley, including and especially at schools and other public institutions, as well as commercial and residential applications. Given steadily rising conventional energy costs, more stringent air quality and GHG emission standards, renewable energy rebates and system reliability, applications of solar power systems are rapidly expanding.

Wind Energy: The western Coachella Valley, east as far as Edom Hill, is a proven viable wind resource area, where strong and sustained winds are channeled through the San Gorgonio Pass and cross the Valley in a southeasterly direction. There are large areas within and immediately east of the San Gorgonio Pass under the jurisdiction of the BLM, Riverside County, Desert Hot Springs, and Palm Springs that are already developed with Wind Energy Conversion Systems (WECS) wind farms or designated for future energy-related industrial development.

Wind turbines currently being installed in the Coachella Valley are typically rated at between 750 kilowatts and 1.25 megawatts, and wind turbines of up to 2.5 megawatts have been approved and/or constructed. Most turbines are three-blade, horizontal axis machines with galvanized steel or painted towers; larger turbines exceed 300 feet in overall height.

Geothermal Energy: The northwestern portion of the Coachella Valley contains limited geothermal resources, including hot springs in Palm Springs and Desert Hot Springs. These hot water areas result from faults, are primarily focused along the Mission Creek fault but also along the Palm Canyon fault. The geothermal energy produced in Palm Springs and Desert Hot Springs is generally used for commercial spas and therapeutic pools. These resources are limited, are located on private lands and are not used for energy production. Geothermal energy on a utility scale has been found and developed at the south end of the Salton Sea in Imperial County, where more than 500 megawatts of geothermal electric power have been developed.

3.13. Noise

Noise has long been a consequence of industrialization and urbanization, but only recently has it received adequate attention as a potential environmental and health hazard. Excessive and/or sustained noise, including ground-bourn noise and vibration, can contribute to both temporary and permanent physical impairments, such as hearing loss and increased fatigue, as well as stress, annoyance, anxiety, and other psychological reactions in humans. The evaluation and mitigation of noise in a community is essential to protecting the health and welfare of the general public, and preserving the inherent value of recreation, open space and conservation lands. Furthermore, it can help define the need for additional remedial measures, which mitigate noise problems.

Noise Rating Scales

The most common unit used to measure noise levels is the A-weighted decibel (dBA), which is a measurement of the noise energy emitted from a monitored noise source. The A-weighted frequency scale has been adjusted to correlate noise or sound to the hearing range of the human ear, and ranges from 1.0 dBA at the threshold of hearing, to 140 dBA at the threshold of pain. The quiet rustling of leaves typically measures approximately 10 dBA, a normal conversation at 5 feet measures 55 dBA, and a jet taking off at 200 feet measures 125 dBA.

Other noise rating scales utilize measurements that are weighted and averaged over time. The Single Event Noise Exposure Level (SENEL) measures a single noise event in decibels. The equivalent sound level (Leq) converts sound which varies over time, to a constant level that emits the same amount of acoustic energy. The day-night average sound level (Ldn) measures the cumulative noise exposure of a community, and accounts for the subjective annoyance of noises that occur during normal sleeping hours. Ldn measurements combine hourly noise measurements over a 24-hour period, and apply a weighting penalty factor to those measurements occurring between 10:00 p.m. and 7:00 a.m. Community Noise Equivalent Levels (CNEL) include weighting penalty factors for noises that occur during nighttime hours (10:00 p.m. to 7:00 a.m.) and evening hours (7:00 p.m. to 10:00 p.m.).

Land Use Compatibility

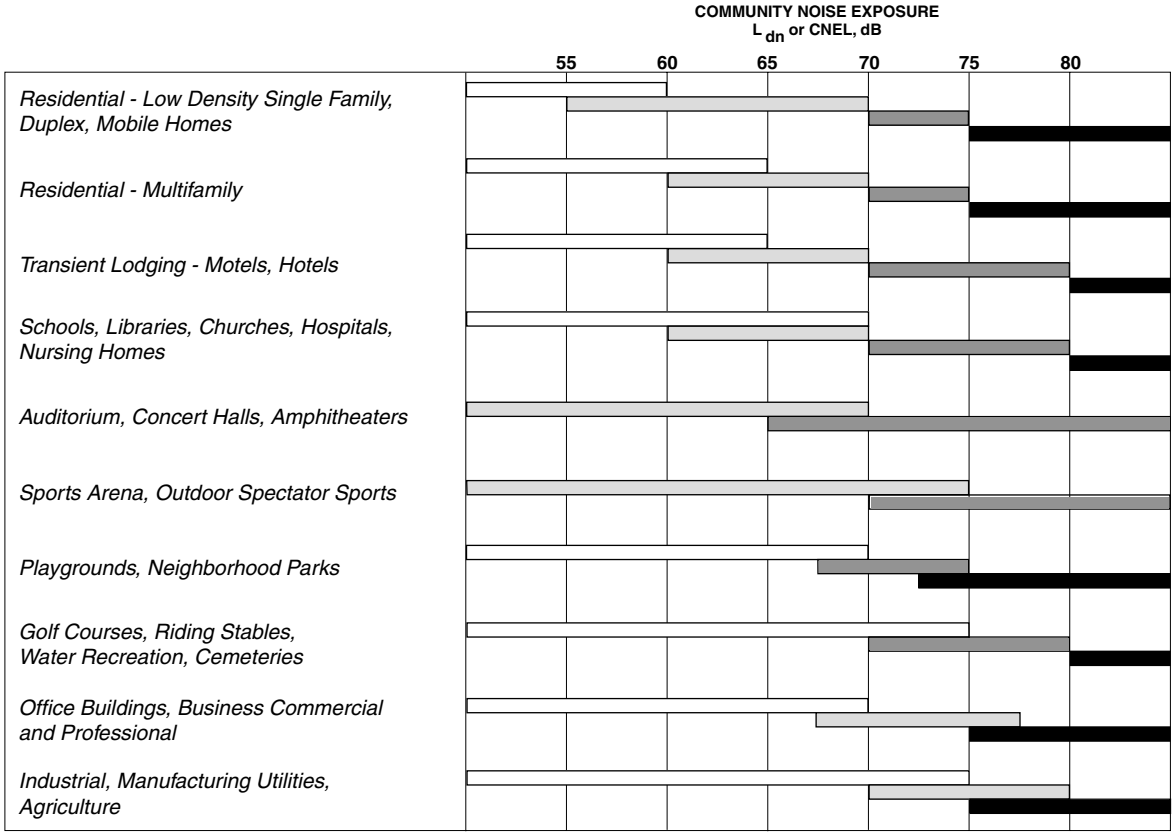
Ambient noise levels can have a direct impact on the desirability of parks and open space, urban development or community, and can enhance or weaken its long-term economic health. For this reason, land use compatibility with the surrounding noise environment is one of the most important aspects of urban planning. Thoughtful land use planning and noise control programs must consider the location and extent of local noise sources and maintain compatibility between adjacent land uses, to the greatest extent practical.

Part of this effort requires the identification of sensitive receptors. Sensitive receptors are those land uses that are particularly sensitive to noise intrusion, such as residences, schools, libraries, churches, hospitals and other health care facilities, and nursing homes. Day care centers, parks, and other outdoor recreation and conservation areas may also be considered sensitive receptors. Moderately sensitive land uses include cemeteries, golf courses, country clubs, hotels and motels, and dormitories. The least sensitive uses include commercial and industrial developments, heavy manufacturing facilities, agricultural lands, parking lots, warehousing operations, and transit terminals.

Noise standards have been developed by a variety of agencies to help reduce noise impacts to sensitive receptors and to enhance the overall noise environment of urban areas. California Administrative Code Section 1092 of Title 25 includes noise insulation standards for new multi-family structures within the 60 CNEL contour adjacent to roads, railroads, rapid transit lines, airports, and industrial areas.[40] Title 21 of the California Administrative Code also requires that interior noise levels in all inhabitable rooms of a multi-family detached unit must not exceed 45 CNEL. Most local jurisdictions have adopted noise ordinances, which specify acceptable interior noise standards for various land uses. The California Office of Noise Control has established noise control guidelines to be used in developing Noise Elements of municipal General Plans, as shown in Chart 3.1, below.

[40] Ibid.

Chart 3-1
Noise and Land Use Guidelines



LEGEND:

NORMALLY ACCEPTABLE
Specified land use is satisfactory, based
upon the assumption that any building involved are of normal conventional construction, without any special noise insulation requirements.

CONDITIONALLY ACCEPTABLE
New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made.

Conventional construction, but with closed windows and
fresh air supply systems or air conditioning will normally suffice.

NORMALLY UNACCEPTABLE
New construction or development should
generally be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design.

CLEARLY UNACCEPTABLE
New construction or development should generally not be undertaken.

Existing Noise Environment in the Plan Area

The existing noise environment in the CV Link planning area varies substantially depending upon location along the route, but is relatively quiet overall, ranging as low as 45 dBA away from major roads and other noise sources and as high as 75 dBA adjacent to heavily traveled roads. The noise environment in the urban core through which the route passes is consistent with that of a low to medium-density, suburban community. The proposed CV Link route passes through residential neighborhoods and other sensitive land uses, including parks and schools. How and to what extent these adjoining neighborhoods may be impacts by the Proposed Project are discussed in Section 4.12.

Meant to serve and interconnect urban lands, users of the CV Link route may be exposed to occasionally intrusive noise levels from a variety of sources, including local streets and Highways, operations at the Palm Springs International Airport, and nearby industrial noise. The existing and long-term noise environment is further characterized in Section 4.12, as are potential adverse impacts of local noise sources on CV Link users.

3.14. Population, Housing and Socio-Economic Resources

3.14.1. Introduction

This section and Section 4.13 discuss the community context within which CV Link would be developed. The Coachella Valley hosts a significant agricultural sector and is also internationally known as a world-class resort destination with major PGA-sanctioned golf courses and tournaments, a large collection of major hotels and other tourist and resort-serving businesses, film and music festivals, and second homes for the rich and famous. In the past three decades the Valley has also become home to a major segment of the renewable energy industry with substantial wind, solar and geothermal resources being actively developed. The Coachella Valley is also home to a large population who are economically and socially disadvantaged. This population provides labor to both the local agricultural and hospitality industries. A substantial portion of this under-served population lives within the service area of the CV Link route.

The following briefly describes and characterizes the CV Link planning area, its socio-economic conditions, business and industry, and the manner in which the community can be served by the CV Link project. To provide greater context, comparative data is shown for broader geographic regions, including Riverside County, the Inland Empire (metropolitan area consisting of Riverside and neighboring San Bernardino Counties), and the State of California.

3.14.2. Socio-Economic Conditions and Trends

The following data and information is provided as background for the population and housing analysis provided in Section 4.13.

Regional Setting

The Valley includes unincorporated land and nine incorporated cities: Desert Hot Springs, Palm Springs, Cathedral City, Rancho Mirage, Palm Desert, Indian Wells, La Quinta, Indio, and Coachella. Between 2000 and 2013, population of the Coachella Valley increased by approximately 42%, from 309,530 to 439,363 residents.[41]. Table 3-3 Shows population, median age and average household size for jurisdictions potentially affected by the CV Link project.

[41] 2000 US Census; 2010 US Census; 2013 California Department of Finance.

Table 3-3
Regional Demographic Profile, 2010

Jurisdiction	Population	Median Age (years)	Average Household Size (persons/household)
Palm Springs	44,552	51.6	1.93
Cathedral City	51,200	36.0	2.99
Rancho Mirage	17,218	62.3	1.94
Palm Desert	48,445	54.6	2.08
Indian Wells	4,958	66.7	1.80
La Quinta	37,467	45.6	2.52
Indio	76,036	32.2	3.21
Coachella	40,704	24.5	4.52
Total:	320,580		
Riverside County	2,189,641	33.7	3.14

Source: 2010 U.S. Census.

More recent population estimates reported by the California Department of Finance are shown in the following table. The data indicate that the 2016 population in the project area is approximately 347,174, which represents an increase of 8.3% (26,594 persons) over 2010 U.S. Census estimates.

Table 3-4
2016 Population Estimates

Jurisdiction	Population
Palm Springs	46,654
Cathedral City	54,261
Rancho Mirage	18,070
Palm Desert	49,335
Indian Wells	5,412
La Quinta	39,977
Indio	88,058
Coachella	45,407
TOTAL:	347,174
Riverside County	2,347,828

Source: Table E-1, City/County Population Estimates with Annual Percent Change, January 1, 2015 & 2016, California Dept of Finance.

Regional Economy Profile

The Coachella Valley is known for its economic strength and rapid growth. In the past, the Valley's economy was largely reliant on agriculture, particularly in the eastern Valley, and this industry remains a regional mainstay. Riverside County ranked thirteenth among California counties for total value of agricultural production in 2013, with agricultural production valued at nearly $1.3 billion.[42] The Coachella Valley's share of the agricultural crop value in 2013 was $615 million, approximately 48% of the County's total.[43]

42 "Riverside County Agricultural Production Report, 2013," Riverside County Agricultural Commission.
43 Ibid.

The resort and tourism industry began to emerge throughout the Valley in the 1920s. For many decades, the region has been considered a world-class resort destination, and tourism is a fundamental component of the regional economy, providing local jobs and investment dollars in hotels, golf courses, dining and shopping establishments, and timeshare and seasonal home developments.

Despite the Coachella Valley's historically strong economy, it was adversely impacted by the economic recession beginning in 2008. Hotel and timeshare occupancy slowed, and housing starts and values declined. The regional economy has begun to rebound in recent years, and economic indicators like job gains, assessed valuation and home prices have shown some growth.[44]

Between 2011 and 2014, average existing home prices in the Valley increased from $232,463 to $371,715.[45] Despite this recovery, existing and new home sales volumes continue to lag. Between the third quarter of 2013 and the third quarter of 2014, deed recordings of new homes in the Coachella Valley decreased by 30.9%, and those for existing homes dropped 7.0%. [46]

Employment

The following table shows employment data, by industry, for the Coachella Valley in 2013. The data indicate that the predominant regional employment sectors are: 1) Retail, 2) Hotel and Amusement, and 3) Health.

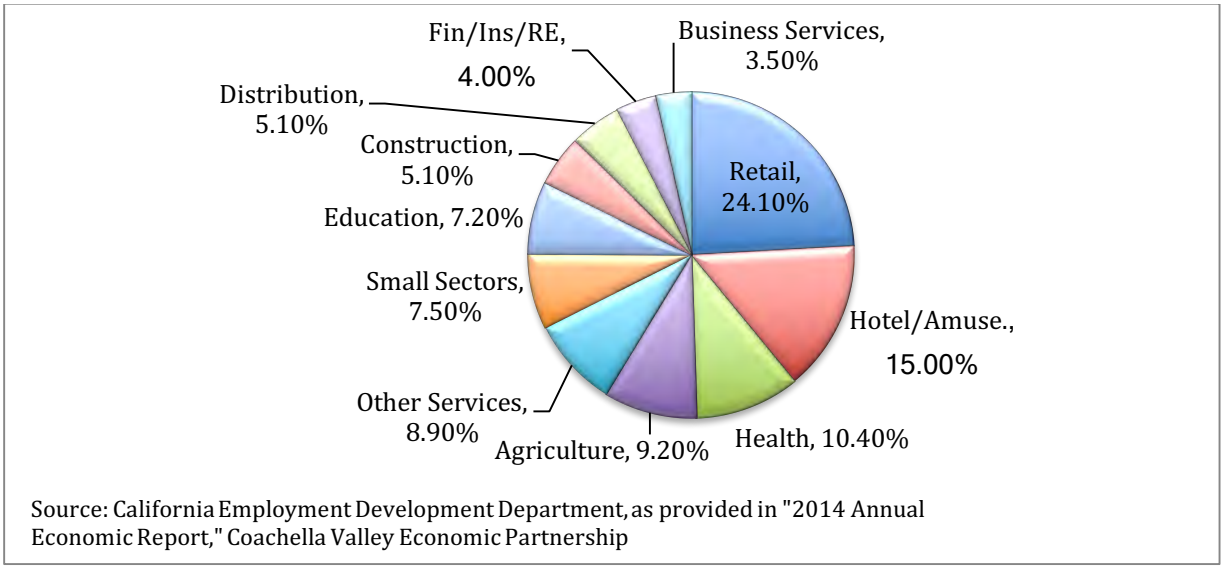
Table 3-5
Employment Distribution by Sector
Coachella Valley, 2013

Industry	No. of Residents	% of Total
Retail	31,670	24.1
Hotel/Amusement	19,712	15.0
Health	13,667	10.4
Agriculture	12,090	9.2
Other Services	11,696	8.9
Small Sectors	9,856	7.5
Education	9,462	7.2
Construction	6,702	5.1
Distribution	6,702	5.1
Finance/Insurance/Real Estate	5,257	4.0
Business Services	4,599	3.5
Total:	131,413	100%

Source: California Employment Development Department. 2014

44 "Inland Empire Quarterly Economic Report," John Husing, Ph.D., October 2013, April 2014, October 2014
45 Coachella Valley Economic Partnership, www.cvep.com/why-coachella.html, accessed January 2015.
46 "Inland Empire Quarterly Economic Report," Inland Empire Economic Partnership, October 2014.

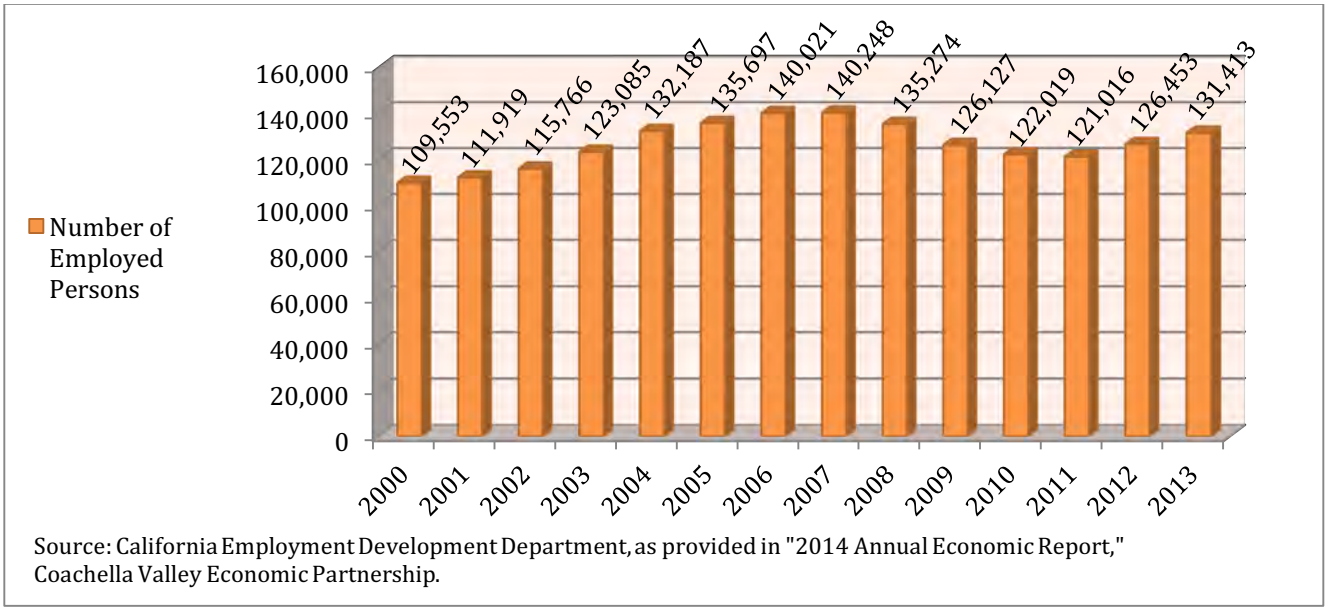
Chart 3-2
Employment Distribution by Sector,
Coachella Valley 2013



Source: California Employment Development Department, as provided in "2014 Annual Economic Report," Coachella Valley Economic Partnership

Regional employment trends are shown in the graph below. Between 2000 and 2013, the number of jobs in the Coachella Valley increased 20%, from 109,553 to 131,413.[47]

Chart 3-3
Coachella Valley Employment Trends
2000-2013



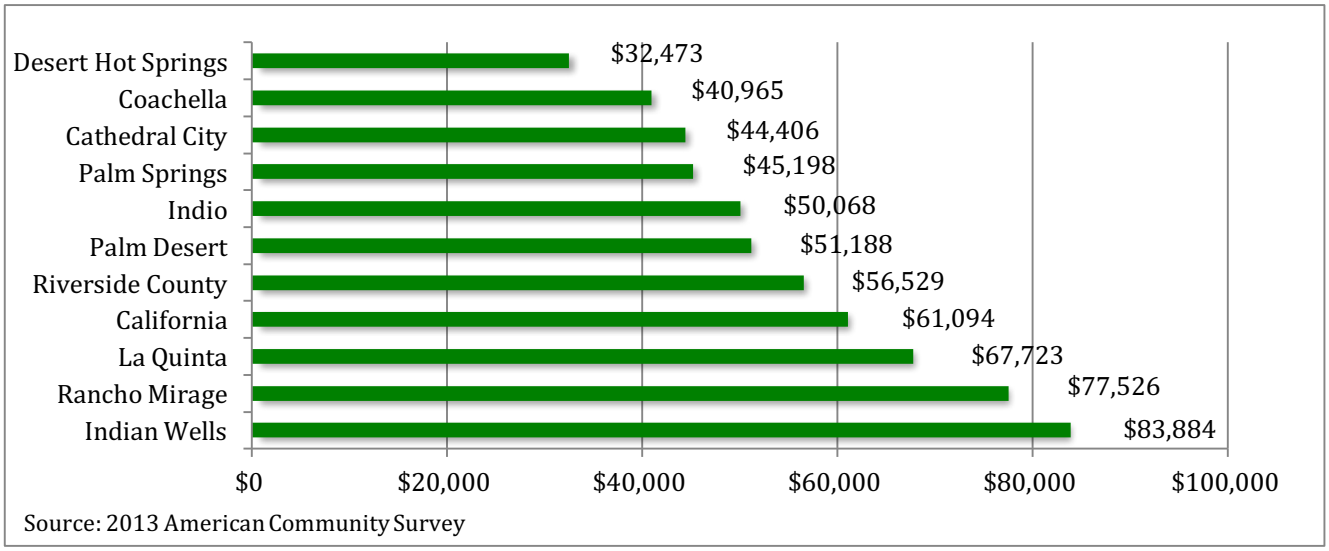
Source: California Employment Development Department, as provided in "2014 Annual Economic Report," Coachella Valley Economic Partnership.

47 "2014 Annual Coachella Valley Economic Report," Coachella Valley Economic Partnership.

Median Household Income
Median household income estimates for 2009-2013 for Coachella Valley cities are shown in the following table. Riverside County and State data are provided for comparison. Median household incomes in the west Valley area rank among the lowest in the region and below the County and State median household incomes.

Desert Hot Springs has the lowest median household income in the region ($32,473), which is 20% lower than the next highest city, Coachella, and just over half (53%) of the State's median household income. Incomes in Cathedral City and Palm Springs rank third- and fourth lowest in the Valley, respectively.

Chart 3-4
Median Household Income
(2013 Estimate)



3.15. Public Services

The provision of public services, such as schools, libraries, medical facilities, and fire and police protection, is essential to the day-to-day functioning of residents, visitors, businesses and institutions in the CV Link planning area, and to its long-term growth and economic viability. Public services and facilities in the Coachella Valley are provided by a number of public and quasi-public agencies, which together ensure a coordinated system of services for Valley residents and businesses.

Public Schools
Public education services and facilities in the Coachella Valley are provided by several school districts, including the following: Palm Springs Unified School District, Desert Sands Unified School District, and Coachella Valley Unified School District. Additional educational opportunities are offered at numerous private schools throughout the Valley. Several schools are located near the proposed CV Link Route and are further discussed in Section 4.14.

K-121 Schools
The Palm Springs Unified School District (PSUSD) coverage area includes Desert Hot Springs, Palm Springs, Cathedral City, Thousand Palms, and much of Rancho Mirage. It operates a total of 28 schools, including 16 elementary, 4 middle, 4 high, and 4 alternative schools. Other educational services include head start preschools, childcare, adult education, and independent study programs.

Desert Sands Unified School District (DSUSD) provides public education services to Palm Desert, Indian Wells, La Quinta, Indio, Bermuda Dunes, and the southeast portion of Rancho Mirage. DSUSD operates 36 schools, including 21 elementary including one charter school, 8 middle, and 7 high schools that include two continuation and one alternative education school. The DSUSD also provides pre-school, after school programs and early childhood education.

The *Coachella Valley Unified School District (CVUSD)* coverage area encompasses approximately 1,200 square miles, including the easternmost portion of the Coachella Valley and a limited portion of Imperial County. In Riverside County, the district's coverage area includes Coachella, Thermal, Mecca, Oasis, North Shore, and parts of Indio and La Quinta. In Imperial County, it includes Desert Shores and Salton City. CVUSD operates a total of 22 schools, with grades ranging from kindergarten through twelfth grades, and including 14 elementary, 3 middle and 4 high schools, as well as one adult continuation school.

Colleges and Universities

Three colleges and universities, which offer a wide range of vocational and advanced education opportunities, are located within the Coachella Valley. The *College of the Desert (COD)* is a California State Community College on Monterey Avenue in the City of Palm Desert, with satellite campuses at the Indio Educational Center in Indio, the Thermal/Mecca campus and the forthcoming West Valley Campus in Palm Springs approved in 2016. Established in 1958, COD offers associates degrees, transferable degrees and certificate programs in more than 70 disciplines. During its fall 2013 semester, COD enrolled 10,381 students.

The *Coachella Valley Campus (CVC) of California State University-San Bernardino (CSUSB)* opened in fall in 1986 at the northeast corner of Frank Sinatra Drive and Cook Street. The new campus offers a variety of undergraduate and graduate degree programs across six disciplines and is expected to support a peak population of approximately 25,000 students., the CVC campus offers undergraduate and graduate degrees, as well as a doctor in education degree, including 12 undergraduate programs, 13 graduate programs, one doctorial program, 6 credential programs and 4 certificate programs.

The *University of California-Riverside (UCR) Palm Desert Center* was established in 2005 and is located at the southeast corner of Frank Sinatra Drive and Cook Street in Palm Desert, adjacent to the Cal State San Bernardino Palm Desert campus. The campus offers graduate programs in the fine arts, medicine The Richard J. Heckman International Center for Entrepreneurial Management, which is part of the Gary Anderson Graduation Business School of UCR. The center will offer upper level courses in business management, finance, and related studies.

Libraries

Libraries are important community assets and provide adults and children with enhanced educational opportunities. The principal provider of library services in the Coachella Valley is the Riverside County Library System, a network of public libraries serving Riverside County residents. Coachella Valley branches of the County Library System include libraries in the following locations: Desert Hot Springs, Cathedral City, Thousand Palms, Palm Desert, La Quinta, Indio, Coachella, and Mecca. These facilities are operated by the County of Riverside, under contract with the cities where they are located. Among the services offered are a County-wide literacy program, volunteer programs, adult computer courses, youth programs, guest speaker lectures and presentations, musical events, and access to all volumes and state-of-the-art research facilities.

Two Coachella Valley cities operate their own municipal libraries, independent of the County Library System. The Palm Springs Public Library is located on Sunrise Way. The Rancho Mirage Public Library was constructed on State Highway 111 west of Bob Hope Drive. Other regional libraries include the College of the Desert (COD) Library, a joint-agency facility funded by the College of the Desert, City of Palm Desert, and Riverside County. The COD Library is located on Fred Waring Drive in Palm Desert and is available to COD students and the general public.

Fire Protection
The threat of fire poses hazards to life and property. Given the region's generally sparsely vegetated terrain, developed areas are the primary source of fire service calls in the Coachella Valley. The location of fire stations, availability of fire water flows, adequacy of fire equipment and personnel, and emergency preparedness planning are crucial factors in preventing and suppressing urban fires.

The Riverside County Fire Department is the largest provider of fire protection and suppression services in the Coachella Valley. Not only does it serve unincorporated County lands, but it is also contracted to protect the following cities: Desert Hot Springs, Rancho Mirage, Palm Desert, Indian Wells, La Quinta, Indio, and Coachella. The Riverside County Fire Department operates approximately 22 fire stations in the Coachella Valley and provides fire suppression and prevention, emergency medical response, hazardous materials response, fire investigations, and other related services.

The cities of Palm Springs and Cathedral City operate their own municipal fire departments. The Palm Springs Fire Department is headquartered on North El Cielo Road and includes 5 fire stations. The Cathedral City Fire Department operates three fire stations and also provides paramedic, code enforcement, and disaster preparedness services. Both fire departments maintain mutual aid agreements with neighboring communities.

Police Protection
Police protection is a critical community service that not only influences the crime rate, but also indirectly affects the community's growth and prosperity. Most communities strive to maintain a high ratio of officers to population, as this allows for more effective crime identification and prevention. The distribution of land uses, anticipated development patterns, traffic circulation patterns, and the integration of "defensible" spaces in building designs also impact the crime rate and the effectiveness of police personnel.

The following Coachella Valley cities contract with the Riverside County Sheriff's Department for police protection services: Rancho Mirage, Palm Desert, Indian Wells, La Quinta, and Coachella. The Sheriff's Department also provides protection to unincorporated County lands throughout the Valley. The cities of Desert Hot Springs, Palm Springs, Cathedral City, and Indio maintain their own municipal police departments. The Cathedral City Police Department was created in 1984 and includes three satellite community service offices. Indio's Police Department is headquartered on South Jackson Street.

3.16. Recreation

The proposed CV Link project is designed to complement and enhance the Coachella Valley's most valued and valuable assets, including its unique and impressive scenic, open space and recreational resources, which attract thousands of visitors each year. Much of the Valley's recreational appeal is due to a combination of distinctive topography, temperate climate, desert wildlife and vegetation, and proximity to large public parks, monuments and recreation lands. Other "recreation" resources in the Coachella Valley include museums and natural resource centers, and performance and institutional venues.

Regional Parks and Conservation Areas
With its extensive open space and scenic resources, the Coachella Valley contains a wide range of regional parks, recreation, and open space areas. Regional parks are generally defined as large natural areas, which serve entire regions with populations of 50,000 or more. In some cases, they may be state or national park sites. Within the Coachella Valley, regional parks are managed by numerous public and quasi-public agencies, including the U.S. Bureau of Land Management (BLM), National Park Service, U.S. Forest Service (USFS), California Department of Fish and Wildlife (CDFW), California State Parks Department, and Riverside County Parks and Recreation District.

Joshua Tree National Park

Joshua Tree National Park is managed by the National Park Service and encompasses 794,000 acres in the Little San Bernardino Mountains, along the northeastern boundary of the Coachella Valley. Approximately 170,650 park acres are located in the Valley. The Park is accessible via the Cottonwood Springs entrance along Interstate-10 near Chiriaco Summit, and two entrances along State Highway 62 in the High Desert. The park attracts an average of 1.25 million visitors a year, with two peak seasons extending from February through May, and October through November.[48]

The park includes the transition zone between the Mojave and Sonoran deserts and contains diverse natural communities that support numerous common and special-status wildlife species. It also contains some of the most interesting geologic formations in Southern California, Native American rock paintings and pottery, and abandoned mines and ranches from the nineteenth and twentieth centuries. More than 80% of the park is designated as wilderness. It offers excellent opportunities for hiking, camping, rock climbing, horseback riding, mountain biking, road cycling, interpretive walks, and wildlife photography.

Santa Rosa and San Jacinto Mountains National Monument

In October 2000, the President of the United States signed legislation creating the Santa Rosa and San Jacinto Mountains National Monument. The Monument encompasses approximately 280,000 acres within the Santa Rosa and San Jacinto Mountains, including lands in proximity to the west terminus of CV Link. The Monument is managed by a number of public and quasi-public agencies, including BLM, USFS, CDFW, the California Department of Parks and Recreation, Agua Caliente Band of Cahuilla Indians, and Coachella Valley Mountains Conservancy, in cooperation with Riverside County, adjacent cities and private landowners.

The area was previously designated in 1990 as the nation's fourth National Scenic Area, in recognition of its valuable scenic, cultural, recreational and wildlife resources. The designation as a National Monument further demonstrates the area's value as recognized by Congress and provides for further protection of nationally significant biological, cultural, recreational, geological, wilderness, and educational resources. Visitor use includes hiking, backpacking, camping, wildlife viewing, and horseback riding.

Mount San Jacinto State Park

The Mount San Jacinto State Park is located in the San Jacinto Mountains and includes Mt. San Jacinto (10,804 feet above sea level), the highest point in the San Jacinto Range and the second highest in Southern California. Much of the park is designated as wilderness and it offers a number of hiking, backpacking, bicycling, and camping opportunities, with 54 miles of hiking trails and 11 primitive campsites. It is accessible from the Palm Springs Aerial Tramway and the town of Idyllwild. About 30,000 visitors access the park annually from Idyllwild, while more than 373,000 visitors access it via the Tramway.[49]

Indian Canyons

The Indian Canyons are located in the City of Palm Springs but are part of the Agua Caliente Band of Cahuilla Indians reservation lands and are managed by the Agua Caliente Tribe. The Canyons are listed in the National Register of Historic Places and are home to the largest stand of fan palms in the world. The park includes four canyons, which are made accessible to the public: Murray, Andreas, Tahquitz, and Palm Canyon. Recreational opportunities include hiking, horseback riding, bicycling, wildlife viewing, and photography. Interpretive programs are offered at the visitor center.

[48] "Recreation and Cultural Access Study," prepared by Terra Nova Planning & Research, Inc. for the Coachella Valley Association of Governments, 2000 and 2015.

[49] Ibid.

Wilderness and Other Conservation Areas

The Coachella Valley contains numerous other public conservation areas for which the primary management objective is species' habitat protection or the preservation of land in its natural state. Although human access to several of these preserves may be prohibited, light recreational uses, such as day hiking, backpacking, and even hunting, are permitted on others. Such activities are controlled through adopted management programs. Among the sites allowing limited recreational opportunities are the Mecca Hills Wilderness, Orocopia Mountains Wilderness, San Gorgonio Wilderness, San Jacinto Wilderness, Santa Rosa Wilderness, Willow Hole/Edom Hill Area of Critical Environmental Concern (ACEC), Whitewater Canyon ACEC, and Carrizo Canyon Ecological Reserve. More intensive land uses, such as grazing, mining, and energy production, are permitted on some lands, in accordance with applicable management plans.

Local Parks

Local parks are generally smaller in size than regional parks and serve the recreational needs of local residents. They range from "mini" or "pocket," parks to "neighborhood" and "community" parks, based on their size, permitted activities and the facilities they provide. These facilities are typically owned and managed by local municipalities, Tribes, or special districts, such as the Riverside County Regional Parks and Open Space District or the Desert Recreation District.

Riverside County Regional Parks and Open Space District

The Riverside County Regional Parks and Open Space District is an independent district governed by the Riverside County Board of Directors, which acquires, manages and protects regional parks and trails, recreation areas, and archaeological and historic sites in Riverside County. The District manages two facilities in the Coachella Valley: Fish Traps Archaeological Site and Lake Cahuilla County Park. The Fish Traps Archaeological Site is a 208-acre, undeveloped site approximately 10 miles south of Indio. Although it is rich in historical and educational value, it is not widely publicized or utilized by the public for recreational purposes, and harbors sensitive cultural resources.

Lake Cahuilla County Park encompasses 845± acres at the base of the Santa Rosa Mountains, in the southern portion of the City of La Quinta. It includes 710 acres of parkland and the 135-acre Lake Cahuilla owned and managed by CVWD, which was constructed in the 1960s as the terminal reservoir of the Coachella Branch of the All-American Canal. The park offers a wide range of recreational opportunities, including camping, fishing, horseback riding, hiking, swimming, picnicking, and non-motorized boating. Approximately 3,000 visitors use the park each month.

Desert Recreation District[50]

The Desert Recreation District owns, manages and/or maintains public park and recreation facilities within a 1,830-square mile area in the eastern Coachella Valley. Its service area extends from Thousand Palms on the west, to east of Chiriaco Summit, north to the Riverside/San Bernardino County boundary, and south to the Riverside/Imperial County boundary. Facilities include 100± acres of mini, neighborhood, and community parks, as well as numerous ball fields, tennis courts, basketball courts, picnic facilities, playgrounds, swimming pools, boxing clubs, community centers, roller hockey rinks, and adult and youth education and fitness programs. Facilities are located within the cities of Palm Desert, La Quinta, Indio, and Coachella, and the unincorporated communities of Thousand Palms, Thermal, Mecca, Salton Sea, and others. Several facilities are shared with or operated in conjunction with school district facilities.

[50] "Desert Recreation District Parks and Recreation Master Plan," prepared by Desert Recreation District District, 2013.

Parklands Within Municipalities

Each incorporated city in the Coachella Valley also owns and maintains parks and recreation facilities. The table below summarizes the number and approximate acreage of municipal parks in the Valley. Some are cooperative-use facilities that are shared with school districts. The data indicate that there are approximately 53 municipal parks, encompassing 509± acres, throughout the Valley.

Table 3-6
Municipal Parks in the Coachella Valley

City	No. of Municipal Parks	Approximate Park Acreage
Cathedral City	5	27
Coachella	6	26
Desert Hot Springs	7	47
Indian Wells	2	2
Indio	8	50
La Quinta	9	67
Palm Desert	8	150
Palm Springs	5	130
Rancho Mirage	3	10
Total:	**56**	**524**

Source: Parks and Recreation Element of City General Plans.

Trails in the CV Link Planning Area

The Coachella Valley encompasses and is in proximity to county, State and Federal parks and protected lands, which are home to an extensive system of pedestrian, equestrian and mountain bike trails providing a variety of recreational opportunities and experiences for the area's residents, visitors and tourists. More than one hundred trails occur in and near the Coachella Valley, giving visitors access to desert and mountain wilderness. Many people utilize this trail system for recreational activities like hiking, mountain biking, backpacking, wildlife viewing, and horseback riding. Interpretive signs and brochures have been developed for some of the trails to enhance understanding and increase appreciation for the surrounding natural environments.

San Jacinto State Park and Wilderness

The Pacific Crest National Scenic Trail connects to a number of trails located within the San Jacinto State Park and Wilderness at the top of the Palm Springs Aerial Tramway. A number of campgrounds within the area are connected by the Deer Springs Trail, Seven Pines Trail, Marion Mountain Trail, Devil's Slide Trail, South Ridge Trail, and others.

The Deer Springs Trail connects the State Park and Wilderness to the town of Idyllwild. The trails are accessible to hikers and equestrians. Parking is available at the base station for the Tram, and these trails are most easily accessed from the Tramway's Mountain Station. A ranger station in Long Valley provides hiking permits and directional brochures. The park and wilderness are accessible to CV Link users from the northwest terminus of the Link at the Palm Springs Visitor's Center.

Mecca Hills and Box Canyon

The Mecca Hills are located on the northeastern edge of the Coachella Valley, east of the Coachella Branch of the All American Canal. A series of trails take hikers to Painted Canyon, Ladder Canyon, and Rainbow Rocks. These trails offer less elevation gain than those in the Santa Rosa Mountains, ranging from 400 to 1,000 feet. They provide a broad range of difficulty from easy to strenuous. Trailheads and trails are inconsistently marked. Parking is available at the end of Painted Canyon Road, a dirt thoroughfare, as well as along the paved Box Canyon Road.

Urban Trails and Pathways

Urban trails connect residential, shopping, employment, and recreational centers and provide convenient alternatives to motor vehicle use. Most are designed as multi-use trails that can facilitate pedestrian and bicycle traffic, golf carts and NEVs, and even equestrian traffic, where appropriate. Urban trails are generally categorized by I, II, or III classifications. Class I trails are completely separated from any street or highway and are dedicated exclusively for shared bicycle and pedestrian use. With their inherent design to avoid pedestrian/bicycle/NEV conflicts, Class I trails serve a functional transportation and recreational purpose for all users. Class II trails are striped on-road bicycle lanes within the paved section of the street. Class III trails are bike routes located on the street within and sharing vehicular traffic lanes.

Existing non-motorized transportation facilities in the Coachella Valley are identified in the CVAG's *Active Transportation Plan*.[51] Most of these urban trails accommodate pedestrian and bicycle traffic, while a few are available for golf carts/NEVs and equestrian use. In recent years, several municipalities have also planned and developed their own golf cart/NEV pathway systems to encourage and accommodate the day-to-day use of low-speed electric vehicles and to recognize their importance in golf and other resort communities. A contiguous Valley-wide network of bicycle lanes and multi-use trails has been planned by CVAG and its member cities, and CV Link would facilitate such a network being fully implemented.

Recreational Sites and Attractions

In addition to the outdoor recreational opportunities provided by parks, and open space and conservation lands and trails, the Coachella Valley has a broad range of urban and cultural recreational opportunities and facilities. Among these are golf courses, museums and special attractions, performing arts venues, festivals, shopping, casinos, and guided tours.

Golf Courses

The Coachella Valley is nationally recognized for its world-class golf courses and professional golf tournaments. According to the Palm Springs Desert Resorts Convention and Visitors Bureau and Golf Digest, in 2014, there were 124 golf courses in the Valley, including 46 public and semi-private, 44 private, and 10 reciprocal courses.[52] Approximately 39.8% of visitors to the Coachella Valley play golf, which indicates the popularity of this sport in the Valley and its importance to the regional economy.[53] Overnight visitors to the Valley represent 16% of all golf-stays but 40% of golf-related spending due to a higher average spending per stay.[54]

Museums and Special Attractions

The Coachella Valley has seen the growth of a variety of cultural, artistic, nature and other attractions that have become an important part of the destination resort experience in the Valley. A few of these attractions are briefly described below.

The Living Desert Wildlife and Botanical Park

The Living Desert Wildlife and Botanical Park is one of the Coachella Valley's top tourist attractions, attracting more than 405,000 visitors in 2014.[55] Located in Palm Desert and Indian Wells, at the base of the Santa Rosa Mountains, the 1,200-acre park includes a 200-acre zoo and botanical garden and 1,000-acre wildlife preserve. The facility is dedicated to the conservation of deserts and desert wildlife of the world. It offers numerous interpretive programs and operates wildlife rehabilitation and captive breeding programs.

51 "CVAG Active Transpoortation Plan," Coachella Valley Association of Governments, 2016.
52 "General Information Handout," Palm Springs Deserts Resorts Convention and Visitors Bureau, December 1999.
53 "Palm Springs Desert Resorts Fact Sheet," Palm Springs Desert Resorts Convention and Visitors Bureau, Spring 2000.
54 "Economic Impact of the Coachella Valley Golf Industry", prepared by Tourism Economics. 2015.
55 The Desert Sun, August 5, 2015.

Palm Springs Aerial Tramway

The Palm Springs Aerial Tramway is the largest vertical cable rise in the United States and the second largest in the world. It transports visitors from the Valley Station at 2,643 feet above sea level in western Palm Springs, to the Mountain Station at 8,516 feet in the Mt. San Jacinto Wilderness State Park. The mountaintop facility offers a 360-degree view of the Coachella Valley and the San Jacinto Wilderness. The tram has been in operation since 1963, and in 2000, state-of-the-art rotating cable cars were installed. The tramway transported 570,717 riders in the 2015-16 fiscal year.

Wet 'n' Wild Waterpark

The Wet 'n' Wild Waterpark, located in Palm Springs, is a seasonal attraction which includes thirteen waterslides, a wave-action pool, 600-foot lazy river ride, health spa, café, and villa hotel. The park attracts more than 200,000 visitors annually during its peak season, which extends from June through August.

Palm Springs Art Museum and Palm Desert Annex

Founded in 1938, the Palm Springs Desert Museum is a non-profit cultural, scientific, and educational institution. It offers a wide range of performing and fine arts programs, as well as workshops, lecture series, and gallery talks. Accredited by the American Association of Museums, Palm Springs Art Museum has 28 galleries, two sculpture gardens, four classrooms/resource centers, an artists' center, five storage vaults, a 85-seat lecture hall, a 433-seat theater, a 1,000 square-foot store, and a locally popular café. In 2012, the museum opened the Palm Desert Annex with 8,400 square feet of exhibition space and outdoor sculpture gardens in a park-like atmosphere.

Palm Springs Air Museum

Located at the Palm Springs International Airport, the Palm Springs Air Museum houses one of the world's largest collections of World War II warplanes. It is dedicated to the preservation, presentation, and interpretation of WWII airpower and its impact on world history and contemporary life. With more than 100,000 visitors annually, the 65,000 square foot non-profit houses over 40 vintage aircraft, the Berger Foundation Youth Exploration Center, the Berger Foundation Classroom Annex, the General Ken Miles Science Center, an upstairs Library and Education Center with over 9,200 volumes (many primary source materials), a Community Room, Theater and tons of wall exhibits. Between October and May Saturday Commemorative Programs are included with museum admission. Temporary traveling exhibitions and visiting aircraft enhance one's visit to the museum.

Agua Caliente Cultural Museum and Visitor Center

The Agua Caliente Cultural Museum is a non-profit tribal museum committed to the collection, preservation, and study of the cultural and historic resources of the Agua Caliente Band of Cahuilla Indians. It offers interpretive tours, demonstrations, video presentations, teachers' workshops, and classes in pottery, basketry, cooking, and the Cahuilla language. It attracts an average of 9,000 visitors per year, most of which visit during late winter and early spring. The Agua Caliente Tahquitz Canyon Visitor's Center is located just south of the west terminus of CV Link at the mouth of Tahquitz Canyon and provides Cahuilla history and docent-lead access to Tahquitz Canyon.

Children's Discovery Museum

The Children's Discovery Museum in Rancho Mirage is located on Gerald Ford Drive and a short distance west of Bob Hope Drive and is a popular destination for young families with children. Exhibits provide hands-on learning and entertainment experiences for children. The museum attracts an average of 65,000 visitors per year and accommodates large field trip groups. The museum provides a host of programs, including a dinner-hour daycare. The goal of the museum is to provide an environment where children's intellectual curiosity and self-expression could be freely expressed through play.

Sunnylands Center and Gardens
The Sunnylands Center and Gardens includes a corporate retreat and meeting center in the Annenberg Estate; Sunnylands Center, which provides educational information on the Annenberg family's philanthropic efforts, art exhibits and a theater; and the Gardens, which feature native and desert-adapted plantings and 1.25 miles of walking paths.

Tolerance Education Center
The Tolerance Education Center, founded in 2006 and opened in 2009, provides educational exhibits and programs for school children and the public to promote tolerance and eliminate hatred and bigotry. Programs include lectures, presentation and film screenings with a tolerance inspired theme.

Performing Arts

McCallum Theatre
Opened in 1998, the McCallum Theatre in Palm Desert features Broadway productions, concerts, ballet and dance performances, and community outreach and educational programs. Its audience capacity is 1,127 persons, and it typically offers 60 to 70 productions per year. An average of 200,000 people visit the theatre per season.[56] The McCallum is located less than a quarter mile south of the proposed CV Link Route.

Rancho Mirage Amphitheater
This 1,000 seat capacity open air concert venue is located within Rancho Mirage (Whitewater) Community Park along the Whitewater River in Rancho Mirage. This new venue has hosted a wide range of classical, jazz and global beat music performance, which are held between fall and spring.

The Annenberg Theatre
The Annenberg Theatre, located in the Palm Springs Art Museum in downtown Palm Springs, is a 437-seat facility which offers performances in dance, theater, music, and film. The museum theater is located approximately one-half mile north of the west CV Link terminus at Tahquitz Canyon.

Festivals
Coachella Valley communities host numerous festivals and street fairs each year, including the Palm Springs VillageFest, Rancho Mirage Art Affair, College of the Desert Street Fair, La Quinta Main Street Marketplace, and La Quinta Arts Festival. Nicknamed the "City of Festivals," the City of Indio hosts the Southwest Arts Festival, International Tamale Festival, Indio Desert Circuit Horse Show, and seasonal Indian Pow Wows. The Riverside County Fair and National Date Festival is a popular event that celebrates the region's agricultural heritage.

Guided Tours
Guided sightseeing tours offer a unique way to see some of the Coachella Valley's natural and man-made features. Several eco-tourism companies offer jeep and hiking tours of the Indian Canyons, Joshua Tree National Park, Santa Rosa Mountains, wind turbine farms, San Andreas Fault, and historic gold mines. Another tour company specializes in covered wagon tours of the Coachella Valley Preserve.

[56] Ibid.

3.17. Transportation and Traffic

Transportation networks are shaped by geography and this is true for the Coachella Valley, where the unique geography and linear distribution of communities have been the primary influences and constraints, which have shaped the regional roadway network. The Valley is a northwest-southeast trending basin bounded by mountains and also hosts Edom Hill and the Indio Hills in the center of the Valley. These hills and mountains have limited roadway planning and construction opportunities in the Valley, and have contributed to the convergence of high traffic volumes onto a limited number of roadways.

As noted above, one of the earliest "roads" passing through the Coachella Valley was an Indian trade route known as the Cocomaricopa Trail, later renamed the Bradshaw Trail, which was one of the most important desert trails in southern California during the 1860s and 1870s. The Bradshaw Trail was eventually replaced by State Highway 111, which provides limited connectivity between the cove communities. Today, the communities of the Coachella Valley, with the exception of Desert Hot Springs, are largely distributed in a continuous and linear pattern across the southerly portion of the Valley. They are connected by state and interstate highways, most notably Interstate10, and State Highways 111 and 86, and a web of arterial roadways built on a north-south/east-west grid pattern. In many locations, the region's north-south/east-west trending land use patterns and roadway grid conflict with its northwest-southeast trending topography and the combination of these has created an intra-regional transportation challenge.

East-West Roadway Linkages

Given the conflict between regional topography and existing development patterns, east-west conveyance through the Coachella Valley can be problematic. The Santa Rosa Mountains are comprised of mountainous slopes and spurs, which extend into the Valley floor, disrupting the path of east-west trending roadways. The spurs then recede, forming isolated canyons and coves, most of which have been developed. Palm Canyon Drive and State Highway 111 provide the greatest connectivity between the communities at the base of the San Jacinto and Santa Rosa Mountains. Continuous alternate routes are extremely limited due to disruptions by mountainous topography. As a result, Highway 111 has absorbed tremendous traffic volumes and is frequently congested; constraints encountered are further discussed below.

Highway 111

Highway 111 (Palm Canyon Drive in Palm Springs and Cathedral City) is essentially an intra-valley roadway, which connects the Valley with communities of the Imperial Valley to the southeast. From its westerly terminus at I-10 in the San Gorgonio Pass, Highway 111 extends southeast through the City of Palm Springs, east along the toe of the Santa Rosa Mountains, and parallel to the Whitewater River. Passing through the cities of Indio and Coachella, it proceeds southeast along the easterly edge of the Salton Sea. Many of the cities bisected by Highway 111 have now taken responsibility for its maintenance and operation from the State."

Highway 111 provides a high level of connectivity between the cove communities and passes through the Valley's primary commercial corridor. It consists of four-lane and six-lane highway in most locations. Highway 111 has served as the central intra-city connector for many years, and carries a high volume of local and regional traffic. Traffic flows are controlled by traffic signals, but are subject to conflicting turning movements, frequent congestion, and increased travel times.

Public Transportation

Sunline Transit Agency provides public transit service within the Coachella Valley, and currently operates a fleet of 70 fixed-route buses, which can accommodate 60 passengers each. The fleet includes four fuel cell buses and 33 paratransit vans. Approximately 38 buses are on the road each day. Sunline has more than 619 active bus stops and approximately 100 inactive stops, which may be reactivated in the future. Sun-Dial service, which is offered to approved disabled riders, consists of a fleet of 25 buses, each with a capacity of 12 passengers. Sunline currently operates 14 bus routes throughout the Coachella Valley and serves most cities and major communities in the region.

Sunline has made a concentrated effort to reduce local and regional air pollutant emissions and to encourage alternative modes of transportation. Its fleet of buses is powered by compressed natural gas (CNG), and each fixed route bus has been outfitted with two bicycle racks. The Shopper Hopper Trolley system (owned by the City of Palm Desert and operated by Sunline) consists of electric trolleys, which provide free shuttle service to shoppers along the Highway 111 commercial corridor in the City of Palm Desert.

Airports

Air travel represents an important component of the transportation network in the Coachella Valley. The primary regional air link is the Palm Springs International Airport, which accommodates commercial air traffic and most tourists visiting the Valley. The Desert Resorts Airport and Bermuda Dunes Airport serve the general aviation needs of the eastern Valley and accommodate private and chartered flights.

Palm Springs International Airport

Air travel is another important component of the regional transportation system. The Palm Springs International Airport is the primary air transportation link for the Coachella Valley. The airport is classified in the National Plan of Integrated Airport Systems (NPIAS) as a long-haul commercial service airport. It is capable of supporting non-stop commercial service to destinations over 1,500 miles distant, and is classified as a small hub air passenger airport based upon the percentage of national airline enplanements it supports.

Since 1972, the airport has increased service from 143,809 passenger enplanements to 486,644 in 1994, with an average annual growth of about 5.5 percent. Major destination cities include San Francisco, Chicago, Seattle and New York. Commercial traffic is clearly seasonal, with the peak season being the January-February-March period and the slowest period occurring during the summer months. Commercial operations reached a total of 772,206 passenger enplanements in 2008 and slipped with the recession to 739,749 passenger enplanements in 2009, a year-to-year decrease of 4.24 percent.[57] By 2013, enplanements had rebounded strongly to 860,124[58]. Airport enplanements were projected to have reached approximately 809,256 by the year 2015.[59]

Jacqueline Cochran Regional Airport[60]

Located in the unincorporated community of Thermal, the Jacqueline Cochran Regional Airport serves the aviation needs of the eastern Coachella Valley. The airport accommodates general aviation and charter planes traveling to/from Las Vegas and other short and mid-range destinations. During all of2006, 76,000 operations (takeoffs and landings) were estimated to have occurred at the airport, although it can accommodate a maximum of 220,000 operations annually. The airport is used most heavily from mid-October through May. During special events, such as golf tournaments and festivals, an average of 20 planes either arrive or depart per day. Airport activity is growing, and operations are expected to increase to 110,000 operations annually by 2022.

Bermuda Dunes Airport[61]

The Bermuda Dunes Airport is located in the central portion of the Coachella Valley, immediately south of Interstate 10, in the unincorporated community of Bermuda Dunes. This general aviation airport accommodates approximately 120 planes per day during the winter season, and about 20 planes per day during the off-peak (summer) months. Annual operations number approximately 25,500, with a total capacity of 26,852 operations. The future growth of the airport is significantly constrained by surrounding urban development.

57 ACAIS CY09: Preliminary CY09 Enplanements at Commercial Service Airports. June 29, 2010.
58 Federal Aviation Administration “List of Commercial Service Airports based on CY2013 Enplanements”. June 2014.
59 "Palm Springs Regional Airport Master Plan and Part 150 Noise Compatibility Study", prepared by Coffman Associates. 1994.
60 East County Airport Background Data, Riverside County Airport Land Use Commission, 2004.
61 Ibid.

Rail Service

Freight and passenger rail services are offered along the Union Pacific Railroad, which was built in the Coachella Valley in the second half of the nineteenth century. The railroad originally was part of the transcontinental railroad connecting the Pacific coast with Yuma, Arizona. The rail corridor enters the Coachella Valley from the west through the San Gorgonio Pass and proceeds east, parallel to Interstate 10. In the City of Indio, it turns southeast and parallels the Highway 111 into Imperial County along the east shore of the Salton Sea.

Freight rail service is provided by Union Pacific Railroad, with freight transfer facilities in the cities of Indio and Coachella. Amtrak provides passenger rail services, with stations in Palm Springs and Indio. Although facilities associated with local train stations are limited, Amtrak passengers can travel to and from destinations nationwide. Passenger service is also available through Metrolink, a rail service, which transports passengers between the Palm Springs station and the Los Angeles metropolitan area. As described above, passenger rail service is limited to destinations outside the Coachella Valley. Local residents do not utilize rail service for intra-valley travel. The development of a valley-wide light rail system has been suggested in recent years, but its implementation is significantly constrained by existing development patterns and the difficulty of acquiring necessary right-of-way within each jurisdiction.

3.18. Utilities and Service Systems

The following discussion summarizes the current state of providers of utilities and services within the CV Link planning area. In addition to providers of electric power and natural gas, telecommunications, cable services, and domestic water and wastewater treatment, these services also include stormwater facilities and solid waste management services. Each is described in general terms below and in greater detail, as appropriate, in Section 4.

Domestic Water

Groundwater is the principal source of the Coachella Valley's municipal water supply, although limited domestic supplies also come from surface sources. Domestic water services are provided to the Valley by a number of agencies, which extract groundwater from deep wells and convey it to homes and businesses through extensive systems of reservoirs and distribution pipelines. Storage reservoirs are at elevated locations above pressure zones they serve, and assure gravity system pressure throughout the Valley. Colorado River water is imported via the Colorado River Aqueduct and the Coachella Branch of the All-American Canal for crop and golf course irrigation, and to recharge the regional groundwater basins (also see Section 4.9: Hydrology and Water Quality for more information about supply and demand of groundwater resources).

The Coachella Valley Water District and Desert Water Agency are the principal domestic water providers and groundwater managers in the Coachella Valley. The CVWD service area encompasses approximately 637,000 acres, mostly within Riverside County, but also within northern Imperial and San Diego Counties.[62] In 1999, CVWD served nearly 192,000 Coachella Valley residents.[63] Its coverage area includes: development east of the Whitewater River Stormwater Channel in Cathedral City; the cities of Rancho Mirage, Palm Desert, Indian Wells, and La Quinta; and most unincorporated communities, including Sky Valley, Thousand Palms, Thermal, Mecca, Oasis, and portions of Desert Hot Springs.

DWA serves the City of Palm Springs and the portion of Cathedral City west of the Whitewater River Stormwater Channel, and has a service area of approximately 325 square miles. Other water purveyors also serve the remainder of the Coachella Valley. The Mission Springs Water District provides domestic water to the City of Desert Hot Springs and unincorporated outlying areas including North Palm Springs, Garnet, and Painted Hills. The unincorporated community of Bermuda Dunes is served by the Myoma Dunes Mutual Water Company, and the cities of Indio and Coachella own and operate their own municipal water delivery systems.

62 Coachella Valley Water Management Plan-Final Report," prepared by MWH, September 2012.
63 Ibid.

Irrigation Water

Beginning in the early twentieth century, agriculture evolved as the dominant economy of the eastern Coachella Valley. Since the late 1940s, the CVWD has provided imported Colorado River water for irrigation purposes to agricultural lands in the eastern Valley via the Coachella Branch of the All-American Canal. In 2015, CVWD delivered Coachella Canal water to approximately 70,470 irrigable acres in the eastern Valley.[64] [65]

Construction of the All-American Canal by the U.S. Bureau of Reclamation began in 1934 and was completed in 1949. The Coachella Branch, which is under the jurisdiction of CVWD, is about 122 miles long. It diverges from the main All-American Canal about 37 miles downstream from the Imperial Dam (north of Yuma, Arizona), and terminates at Lake Cahuilla in the City of La Quinta. The Coachella Branch has a capacity of about 941,200 acre-feet per year, and much of the canal is concrete-lined to prevent water loss from seepage.

Wastewater Collection and Treatment

Sewage collection and treatment services are provided throughout the Coachella Valley by several agencies. CVWD serves the cities of Rancho Mirage, Palm Desert, Indian Wells, La Quinta, and a portion of Cathedral City, as well as some unincorporated communities, including Thousand Palms, Thermal, and North Shore. CVWD operates six wastewater reclamation plants in the Coachella Valley. The City of Indio and surrounding lands are served by the Valley Sanitary District with treatment facilities located on the south side of the Coachella Valley Stormwater Channel.

Other major treatment plants include the CVWD Palm Desert Regional Wastewater Reclamation Plant on Cook Street in Palm Desert and the Madison Street/Avenue 38 Wastewater Reclamation Plant northeast of Indio. Several plants include tertiary treatment facilities, which subject wastewater to a third stage of treatment and make it suitable for the irrigation of golf courses, parks, greenbelts, and other landscaped areas. DWA provides tertiary wastewater treatment for the City of Palm Springs, but provides only collection services to the southerly portion of Cathedral City, conveying effluent from Cathedral City to CVWD's Cook Street treatment facility in Palm Desert. Two cities in the Coachella Valley operate their own municipal wastewater treatment plants. The City of Palm Springs' plant is located on Mesquite Avenue, west of Gene Autry Trail. The City of Coachella also operates a municipally owned wastewater treatment plant, located on Avenue 54.

Electric Service

SCE is the primary electric service provider for Southern California, including the western Coachella Valley. Within the Valley, the SCE service area generally includes the cities of Desert Hot Springs, Palm Springs, Cathedral City, Rancho Mirage, Indian Wells, and Palm Desert, and intervening unincorporated lands. SCE derives its power from a number of sources, including cogeneration, geothermal, hydroelectric, solar, and wind sources. Its most important generating facilities are located outside the Coachella Valley and include the Big Creek hydroelectric system on the western slope of the Central Sierra Nevada Mountains.

SCE's facilities include high-voltage transmission lines rated between 55 and 500 kilovolts (kv), lower-voltage distribution lines rated below 55 kv, and substations which "step down" voltage so that it can be distributed to individual homes and businesses. SCE's largest transmission lines pass through the Coachella Valley along an east-west trending utility corridor, which is roughly parallel to Interstate-10. SCE also has numerous distribution lines and substations throughout its service area.

64 Ibid.

65 "Annual Review 2015-16", Prepared by the Coachella Valley Water District. 2016.

Imperial Irrigation District (IID) is a community-owned utility district serving customers in Imperial County and parts of Riverside and San Diego counties. In the CV Link plan area, IID's service area includes a limited portion of the City of Palm Desert; the cities of La Quinta, Indio, and Coachella; the unincorporated communities of Sky Valley, Thousand Palms, Bermuda Dunes, Thermal, Oasis, Mecca, and North Shore; and other unincorporated lands in the eastern Coachella Valley.

IID obtains its power from a combination of hydroelectric, thermal, diesel and natural gas, and geothermal generation sources. Since 1936, IID has constructed a number of its own power generating plants, including the El Centro Generating Station, a diesel-fired plant near Brawley, a series of hydroelectric plants along the All-American Canal near the U.S.-Mexico border, the Pilot Knob Power Plant, and the East Highline hydroelectric plant. IID also purchases power from outside sources, including the Western Area Power Administration and the El Paso Electric Company, and has purchased ownership interests in the Palo Verde Nuclear Generating Plant and the San Juan Generating Station. The Coachella Valley Substation, located east of State Highway 111 in the City of Coachella, serves as a key link between IID and SCE, and has enabled IID to strengthen its access to the rest of the California power grid.

Natural Gas

Natural gas is used for space heating, domestic and commercial hot water, cooking, and air conditioning, and other industrial applications. The Gas Company (Semper Energy) provides natural gas services and facilities much of the Coachella Valley. The natural gas originates in Texas and is transported to the Valley through three east-west trending gas lines, which cross the Valley just north of Interstate 10 and continue west to Los Angeles. These pipelines include one 30-inch and two 24-inch lines, with pressures of 2,000 pounds per square inch (psi).

A system of high- and medium-pressure pipelines is connected to these major pipelines and distributes natural gas to individual homes and businesses. High-pressure gas lines are typically steel pipes, with pressures greater that 60 psi, and are usually located within the rights-of-way of major streets throughout the Coachella Valley.[66] Medium-pressure distribution lines consist of plastic pipelines (although older pipes may be constructed of steel) with pressures less than 60 psi.[67] Pressures are reduced at numerous limiting stations and regulator stations throughout the Valley. Most residences and businesses are fed through pipelines rated at 25 to 40 psi.

Most development in the central, urbanized core of the Coachella Valley is connected to the natural gas distribution system. Rural, outlying areas are generally not connected, given the prohibitive costs associated with extending the necessary infrastructure. In addition, small pockets of development remain unconnected, including Cahuilla Hills in Palm Desert and the southerly portion of the La Quinta Cove, among others. These residents typically use propane as an alternative fuel source.

Telephone Service

Frontier Communications (previously Verizon) provides a wide range of residential and business telephone services to the Coachella Valley. Services include local and long distance connections, wireless cellular service, calling cards, business 800 numbers, and voice mail. Frontier also provides state-of-the-art data services such as internet and high-speed DSL data connections. The backbone of Frontier’s communications network consists of central switching offices, which facilitate the connection of telephone and data transmissions. Numerous central switching offices are located throughout the urbanized areas of the Coachella Valley.

66 Ibid.
67 Ibid.

Cable Television

The Coachella Valley's largest cable television service provider is Time Warner, whose coverage area includes the following: the cities of Palm Springs, Desert Hot Springs, Cathedral City, Rancho Mirage, Palm Desert, Indian Wells, La Quinta, Indio, and Coachella; and the unincorporated communities of Windy Point, North Palm Springs, Thousand Palms, Bermuda Dunes, and the east Valley. Digital cable service, which includes approximately 200 video channels, is offered throughout the Time Warner service area. Time Warner's high-speed cable-modem data services are also available throughout its service area. Time Warner's public access channels available for informational and educational purposes.

Solid Waste Management

Solid waste management has become an increasingly important issue in the Coachella Valley in recent years. With the closure of the Edom Hill Landfill, municipalities have been faced with an urgent need for alternative landfill sites and effective solid waste reduction methods. The largest provider of solid waste management services in the Coachella Valley is Burrtec Waste Industries, which serves the following communities: Cathedral City, Rancho Mirage, Palm Desert, Indian Wells, La Quinta, Indio, Coachella, Thousand Palms, Bermuda Dunes, Sky Valley, Thermal, Oasis, Mecca, and North Shore. Burrtec also operates the County Transfer Stations at the Edom Hill and Coachella Landfill sites.

The cities of Palm Springs and Desert Hot Springs contract with Palm Springs/Desert Valley Disposal for solid waste management and disposal services. A variety of residential and commercial services are available from each of these companies, including special pick-up services for large waste generators, such as restaurants, hotels, and resorts.

Most cities in the Valley have implemented a comprehensive recycling program, which has proven beneficial in the preservation of landfill space, and energy and other finite resources used in materials production. Recyclable materials, including glass, plastic, newspaper, aluminum, concrete and other construction debris, and green (landscaping) waste are collected by residential, commercial, and industrial consumers. Most green waste collected in the Valley is recycled at facilities in Thermal and Thousand Palms, while other recyclables are transported to Los Angeles processors. Several privately operated recycling facilities are located within the Coachella Valley. In the near to mid-term, solid waste generated in the Coachella Valley will be transported to the Badlands Landfill near City of Moreno Valley, the Lamb Canyon Landfill, between the cities of Beaumont and San Jacinto, and the El Sobrante Landfill, south of the City of Corona.

4. ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

4.1. Introduction

This Section of the EIR provides detailed analysis of the effects the Proposed Project will have on the environment. As prescribed by CEQA, the analysis is conducted on a categorical basis. Each discussion includes a description of the thresholds of significance considered in the analysis, the regulatory framework, a description of the impacts the Proposed Project could have on the environment, and identifies the level of impact expected. If the impacts are expected to be significant, mitigation measures are provided. Finally, the level of impact after the imposition of these mitigation measures is determined, and cumulative impacts are addressed.

4.1.1. Summary of Analysis

As described in Section 3, the CV Link project is not expected to have any impacts on Agricultural Resources or Mineral Resources. As a result, these issue areas are not further discussed below. This Section does address:

- Aesthetics in Section 4.2
- Air Quality in Section 4.3
- Biological Resources in Section 4.4
- Cultural Resources in Section 4.5
- Geology and Soils in Section 4.6
- Greenhouse Gas Emissions in Section 4.7
- Hazards and Hazardous Materials in Section 4.8
- Hydrology and Water Resources in Section 4.9
- Land Use and Planning in Section 4.10
- Energy Resources in Section 4.11
- Noise in Section 4.12
- Population and Housing in Section 4.13
- Public Services in Section 4.14
- Recreation in Section 4.15
- Traffic and Circulation in Section 4.16
- Utilities and Service Systems in Section 4.17

Existing Environmental Setting

This subsection presents a description of the existing physical environmental conditions in the vicinity of the project sites with respect to each resource area at an appropriate level of detail to understand the impact analysis.

Regulatory Framework

This subsection provides a brief discussion of federal, State, and local regulations and policies that are applicable to the resource topic and the project.

Impacts and Mitigation Measures

This subsection evaluates the potential for the project to affect the physical environment. Significance criteria for evaluation of environmental impacts are defined in the beginning of the impact analysis section, including an explanation of how the significance criteria are used in the evaluation of impacts for the Proposed Project. This subsection includes a discussion of the approach to the analysis, including identification of the significance criteria that are not applicable to the Proposed Project. Potential impacts are identified and characterized. Where feasible, mitigation measures are identified to avoid or reduce identified significant impacts to a less-than-significant level.

The Impacts and Mitigation Measures subsection in each resource chapter includes an impact statement followed by the evaluation of the impact for the relevant facility components, and a conclusion regarding the impact for the project as a whole. When applicable, mitigation is included in the evaluation and applied to the relevant components as indicated in the text of the mitigation. Because of the multiple components and facility sites associated with the Proposed Project, overlapping environmental impacts may occur due to, or may be exacerbated by, concurrent construction periods of more than one component (for example, where more than one of the project facility sites are located in the same geographic area and have concurrent construction periods). Where this would be the case, it is identified in the Approach to Analysis section in the resource chapter.

No Impact: This determination is made if a resource is absent or if a resource exists within the project area or area of potential effect, but there is no potential that the project could affect the resource.

Less than Significant: This determination applies if there is a potential for some limited impact on a resource, but the impact is not significant under the significance criterion.

Less than Significant with Mitigation: This determination applies if it is certain that the project would result in an adverse effect that meets the significance criteria, but mitigation is available to reduce the impact to a less than significant level.

Significant and Unavoidable: This determination applies if the Proposed Project would result in a significant adverse effect in accordance with the significance criterion and there is some mitigation available to lessen the impact, but the residual effect after implementation of the mitigation would remain significant.

Significance after Mitigation

This subsection identifies the level of significance of impacts after mitigation measures are imposed.

Cumulative Impacts

Cumulative impacts are discussed in each environmental resource section following the description of project-specific impacts and mitigation measures. CEQA requires that an EIR contain an assessment of the cumulative impacts of a project when the project's incremental effect is cumulatively considerable. As defined in State CEQA Guidelines §15065(a)(3), "cumulatively considerable" means that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects. The Valley-wide nature of the Proposed Project lends itself to a cumulative impact analysis based on the regional plan approach. Guidance for cumulative impact analysis is provided in State CEQA Guidelines §15130:

- An EIR shall discuss cumulative impacts of a project when the project's incremental effect is "cumulatively considerable" (i.e., the incremental effects of an individual project are considerable when viewed in connection with the effects of past, current, and probable future projects, including those outside the control of the agency, if necessary).

- An EIR should not discuss impacts that do not result in part from the project evaluated in the EIR.
- A project's contribution is less than cumulatively considerable, and thus not significant, if the project is required to implement or fund its fair share of a mitigation measure or measures designed to alleviate the cumulative impact.
- The discussion of impact severity and likelihood of occurrence need not be as detailed as for effects attributable to the project alone.
- The focus of analysis should be on the cumulative impact to which the identified other projects contribute, rather than on attributes of the other projects that do not contribute to the cumulative impact.

4.2. Aesthetics

4.2.1. Introduction

Existing visual resources in the vicinity and the region are described in this section. Potential impacts on visual resources from implementation of CV Link are assessed and mitigation measures are set forth to reduce potential impacts where appropriate. Regional-scale planning and environmental documents, as well as documentation on existing and approved development projects in vicinity, have been reviewed to obtain data and information used in this analysis and to evaluate the project's potential effects.

4.2.2. Thresholds of Significance

The following thresholds or criteria are not strictly those recommended in 15064 of CEQA. They are also derived from Appendix G of CEQA, which is used to determine the level of potential effect and whether potential adverse effects can be adequately mitigated. The proposed CV Link would have a significant effect on aesthetics if it would:

a) Have a substantial adverse effect on a scenic vista.

b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway.

c) Substantially degrade the existing visual character or quality of site and its surroundings.

d) Create a new source of substantial light or glare, which would adversely affect day or nighttime views in the area.

4.2.3. Regulatory Framework

Federal

The National Environmental Policy Act of 1969 states that it is the responsibility of the federal government to "ensure all Americans safe, healthful, productive, and aesthetically and culturally pleasing surroundings … and to attain the widest range of beneficial uses in the environment with degradation, risk to health or safety, or other undesirable and unintended consequences."[1] The Federal Highway Administration (FHWA) in its implementation of NEPA[2] dictates that final decisions regarding projects are to be implemented according to the best overall public interest, taking into consideration the adverse environmental impacts, including the destruction or disruption of aesthetic values that would occur as result of a Proposed Project.

State

California Scenic Highway Program

In 1963, the State of California established the Scenic Highway Program to develop a system of State roadways whose adjacent corridors contained scenic resources worthy of protection and enhancement. Sections 260 through 263 of the State Streets and Highways Code establish the Scenic Highways Program and require local government agencies to take the following actions to protect the scenic appearance of a scenic corridor:

1 National Environmental Policy Act of 1969 (Section 101 42 USC Section 4331 [b] [2])
2 Ibid. (USC Section 109 [h])

- Regulate land use and density of development,
- Provide detailed land and site planning,
- Prohibit off-site outdoor advertising and control on-site outdoor advertising,
- Pay careful attention to and control earthmoving and landscaping, and
- Scrutinize the design and appearance of structures and equipment.

CV Link is not proposed on any road segment designated a State Scenic Highway.

Regional/Local

No regional or local regulations regarding aesthetics are applicable to the proposed CV Link.

4.2.4. Existing Conditions

The Coachella Valley is a low desert basin surrounded by dramatic mountainous terrain created by the active geology that is characteristic of Southern California. The overall gradient of the Valley is from northwest to southeast, gently sloping from the San Gorgonio Pass, at approximately 2,600 feet above mean sea, level to the Salton Sea, which has a current surface elevation of approximately 228 feet below mean sea level.

The Valley and the Salton Sea are located within the Salton Trough, a fault-controlled valley formed by the San Andreas Fault Zone. The Salton Trough is located within the Colorado Desert Geomorphic Province, which is bounded to the southwest by the Peninsular Ranges province, to the north by the eastern Transverse Ranges province, and to the northeast by the southeastern portion of the Mojave Desert province. The surrounding provinces contain some of the highest mountain peaks in the state and the region.

Surrounding mountains include the San Jacinto Mountains, the foothills and slopes of which ascend from the Valley floor as near as approximately 1.5 miles to the west of the CV Link alignment. At its peak, Mount San Jacinto rises to an elevation of 10,834 feet above mean sea level. To the south and southeast are the Santa Rosa Mountains, with Toro Peak at an elevation of 8,715 feet above mean sea level. The Santa Rosa and San Jacinto Mountains National Monument, which encompasses portions of each of these mountain ranges, was established in 2000.

To the north and northeast of the Valley are the San Bernardino and Little San Bernardino Mountains, both of which are visible from the CV Link alignment.

Alluvial, wind and lake deposits that have accumulated over time characterize the Valley floor. Emanating from the mouths of mountain canyons are numerous alluvial fans, such as Tahquitz Canyon, which is located immediately west of the planning area.

Concepts and Terminology

The following section describes the terms used in this aesthetics evaluation. For analysis purposes, proposed construction staging areas have been included.

Aesthetics resources are typically defined as both the natural and built environments of the surrounding landscapes that influence the public's enjoyment and appreciation of the environment. A visual or aesthetic impact may occur depending on the extent to which a project's presence would alter the visual character of the area in which it is located.

Visual Character
Visual character includes attributes such as form, line, color, and texture, and is used to describe, not evaluate; that is, these attributes are neither considered good nor bad. However, a change in visual character can be evaluated when it is compared with the viewer response to that change. Changes in visual character can be identified by how visually compatible a proposed project would be with the existing condition by using visual character attributes as an indicator. For this project, the following attributes were considered:

Dominance is position, size, or contrast;
Scale is apparent size as it related to the surroundings;
Form is visual mass or shape;
Color is reflective brightness (light, dark) and hue (red, green); and
Continuity is uninterrupted flow of form, line, color, or textural pattern.

Visual Quality
Visual quality is evaluated by identifying the vividness, intactness, and unity present in the project corridor. Public attitudes validate the assessed level of quality and predict how changes to the project corridor can affect these attitudes. This process helps identify specific methods for addressing each impact that may occur as a result of the project. The three criteria for evaluating visual quality are defined below:

Vividness is the extent to which the landscape is memorable and is associated with distinctive, contrasting, and diverse visual elements.
Intactness is the integrity of visual features in the landscape and the extent to which the existing landscape is free from non-typical visual intrusions.
Unity is the extent to which all visual elements combine to form a coherent, harmonious visual pattern.

Affected Viewers
CV Link neighbors are people who have views *to* CV Link. They can be subdivided into different viewer groups in two different ways – by mode of travel or by reason for travel. For example, subdividing CV Link neighbors by mode of travel may yield motorists, pedestrians, bicyclists, and bus riders. Dividing CV Link users or viewer groups by reason for travel creates categories like tourists and commuters. It is also possible to use both mode and reason for travel simultaneously, creating a category like *bicycling tourists*, for example. For this project, the following CV Link neighbors were considered:

- Roadway Travelers;
- Residents;
- Commercial and Industrial Users; and
- Recreational Area Users.

Visual Sensitivity
Visual sensitivity is a measure of the viewer's recognition of a particular object. It has three attributes: activity, awareness, and local values. Activity relates to the preoccupation of viewers – are they preoccupied, thinking of something else, or are they truly engaged in observing their surroundings. The more they are actually observing their surroundings; the greater the sensitivity the viewer will have of changes to visual resources. Awareness relates to the focus of the view – the focus is wide and the view is general, or the focus is narrow and the view specific. The more specific the awareness, the more sensitive a viewer is to change.

Existing Visual Environment


Palm Springs: West View

City of Palm Springs

CV Link begins in northern Palm Springs at the Palm Springs Visitor Center and continues north and east along the Chino Wash towards Vista Chino. Undeveloped land and natural landforms are the prominent viewsheds of North Palm Springs. To the west and northwest the steep, rocky foothills of the San Jacinto Mountains are located as close as ½ mile from the alignment, and create a stark comparison view of the mountain scape and desert floor. To the north of the alignment the open expanse of desert land is located in the foreground, with a cluster of wind turbines the middle ground, and the San Bernardino and Little San Bernardino Mountains complete the view approximately 10 miles in the distance.

The primary views and land use to the south consist of the residential and vacant residential lands. The residential developments are separated from the proposed Route by perimeter walls. Furthermore, the proposed Route's alternatives include a path that runs inside the Whitewater River floodplain, which will leave the existing levee as additional form of privacy and visual protection.


Tahquitz Creek Looking East From West Terminus

The western terminus of CV Link is located at the intersection of the South Palm Canyon Drive and the Tahquitz Creek, where it moves eastwards towards the Whitewater River Stormwater Channel. The foreground views consist of a mix of commercial, light industrial, residential and recreation developments. The San Jacinto Mountains are still visible to the west and the Santa Rosa Mountains can be seen to the south.

City of Cathedral City

South of Vista Chino and along the Whitewater River channel, the Route passes the Escena golf club community on the east end of Palm Springs, and enters Cathedral City in proximity to the Dream Homes community, and the Cimarron golf course. Great expanses of the broad river channel are supplemented with golf course views. The foreground is typically characterized by nearby commercial development and residential developments. South of Ramon Road to the confluence with Tahquitz Creek, the Link passes through and along vacant Tribal lands, single-family development and the northern portions of the Cathedral Canyon golf course in the wash. Distant views to the west include the San Jacinto Mountains, to the north the San Bernardino and Little San Bernardino Mountains and the Santa Rosa Mountains to the south.

City of Rancho Mirage

The CV Link Proposed Project does not include the City of Rancho Mirage. Section 5 of this EIR analyzes an alternative project that includes Rancho Mirage.

The San Jacinto foothills are the main focal point in the city of Rancho Mirage with the addition of landscaped golf courses. In the vicinity of the two prospective West Termini, views include commercial land uses and the stormwater channel, with the exception of the single-family residential developments at the northwest corner of Da Vall Drive and Frank Sinatra Drive, which back onto the stormwater channel. Wolfson Park is located at the southeast corner of these two streets.

One East Terminus is proposed at the intersection of Highway 111 and Parkview Drive, where surrounding lands are fully developed with regional and community commercial services in both Rancho Mirage and Palm Desert. Important views primarily consist of the Santa Rosa foothills to the west and southwest.

City of Palm Desert

Both single family and multi-family residential development abuts the Park View Drive portion of the alignment as it enters the City from the west. CV Link extends east to the College of the Desert campus. It continues through the campus and also extends a alignment north along Monterey Avenue to Magnesia Falls Drive and thence east along gated golf course residential on the north and college and public open space lands to the south. Views from Magnesia Falls include residential development and an elementary school. Magnesia Falls eventually connects to the Whitewater River where the Link will continue along the southern bank towards Palm Desert High School. A bridge is proposed for the alignment's connection across Cook Street. CV Link continues along the southern bank of the Whitewater River to the city limits, passing residential development and the wash.

City of Indian Wells

In Indian Wells, CV Link continues along the south bank of the Whitewater River, crosses the wash north of Fred Waring Drive to Eldorado Drive, passing residential lands and an IID substation. The Route splits south of Eldorado Drive to continue east along the north bank of the wash through the Indian Wells Golf Resort, and also south to Highway 111 and east along the highway and past resort hotels to Miles Avenue, where it continues north to the wash. Two alignment variations continue east along the south side of Miles Avenue passing homes, the Indian Wells Tennis Garden and vacant lands with views to the Santa Rosas to the west. An arching pylon-supported and cable-suspended bridge is proposed on the south bank. This structure will be located along the edge of Point Happy. The second alignment continues along the south bank of the wash, passing nearby residential and commercial uses to Washington Street, where it enters La Quinta. Please see Appendix B, pages 41 through 47.

City of La Quinta

The majority of the La Quinta Link is located along the south bank of the Coachella Valley Stormwater Channel and is bordered by a mix of predominantly commercial uses on the western two thirds of its length through the City, and residential land uses on the eastern portion of the Route. Distant views of the Santa Rosa foothills are enjoyed by viewers but will be obstructed by existing development.

City of Indio

All of the Indio portion of CV Link is located along the south (right) bank of the Coachella Valley Stormwater Channel and is bordered by a mix of single-family residential with limited service commercial and light industrial along the western portion of the Route. Sections of the Route in the City will abut the rear yards of homes where the finished floor elevations are at elevations that range from six to ten feet below the existing channel maintenance road on which the Route will occur. Rear views from these homes and yards include decorative block walls and fences, and the slope of the levee.



View at Dillon Road and channel looking west.

City of Coachella

The majority of this portion of CV Link is located along the Coachella Valley Stormwater Channel, , and in this area the Route is bordered by a mix of service industrial and fallow agricultural lands. South of Dillon Road to Avenue 56, the Route passes agricultural lands, an auto wrecking yard, scattered single-family, agriculture-related industrial, water treatment facilities and vacant and active agricultural lands. The core

alignment terminates at Airport Boulevard. Existing channel vegetation and surrounding agricultural fields with distant mountain views dominate the views enjoyed by the surrounding public. Residential developments will be protected by proposed screening elements.

County of Riverside

CV Link is proposed to occur within unincorporated area at only two locations, both at the southeastern end of the Route. The first is located east of Van Buren Street and extends to Dillon Road. In this area, the Proposed Project occurs on the channel levee, and is adjacent to vacant lands to the south, and the Highway 86 right of way to the north. Beyond Highway 86 is the Spotlight 29 Casino. Distant mountain views are visible to the north and southwest. The second occurrence of the Proposed Project on unincorporated County lands is south of Avenue 52, where the Proposed Project briefly occurs on unincorporated lands surrounded by the City of Coachella. Surrounding lands are vacant, and distant mountain views are available to the north and southwest.

4.2.5. Project Impacts

The subsequent discussion analyzes the temporary (construction-related) and permanent (operation and use) impacts on scenic resources, scenic vistas, and the overall visual quality and character of the surrounding areas. The visual setting is characterized by the natural and built landscape features that may be viewed from publicly accessible vantage points. For analysis purposes, scenic resources are categorized as the built or natural environment that contributes to a scenic public setting. This includes but is not limited to trees and rock outcroppings. Scenic vistas are considered any publically accessible viewpoints that provide expansive views of a highly valued landscape view.

The use of construction staging areas, grading activities, and construction equipment could create temporary impacts on aesthetics. Permanent impacts will be those associated with the operation of CV Link. The analysis of temporary visual impacts during construction is determined by activities that would substantially degrade the existing visual character or quality of the project planning area and the total duration. Construction-related impacts are temporary in nature.

Permanent impacts from the proposed CV Link are assessed based on the project's potential to have a substantial adverse effect on scenic vistas, substantially damage scenic resources, or substantially degrade the existing visual character or overall quality of the site and its surroundings including through the potential creation of light and glare.

CEQA requires this analysis to determine the level of visual impacts by assessing changes to the visual resources and predicting viewer response to these changes. Impacts can be classified as either beneficial or detrimental. As stated above, temporary impacts associated with construction activities and cumulative impacts are also integrated.

The following discusses the CV Link project in the context of applicable thresholds of significance. The responses to these threshold questions are based in part upon the CV Link Master Plan and extensive analysis of existing visual resources. It is also based upon the project description, assessments of existing conditions and the above analysis of potential impacts. The analysis considers several key locations where components of CV Link will have the potential to affect the aesthetic value of the area, as defined above. The discussion summarizes the findings of the Visual Impact Assessment prepared for the project. This document can be found in its entirety in Appendix D.

a) Have a substantial adverse effect on a scenic vista.

Scenic vistas may be designated by local planning documents or by the Caltrans scenic highway program, or they can be informal, for instance mountain peaks or expansive views. CV Link's effect would be considered

significant if it would damage or obstruct the visual quality that makes the subject view unique. The Coachella Valley is known for the stark contrast between the desert environment and the surrounding mountainous terrain.

Portions of CV Link will enjoy these dramatic visuals. Design elements such as bridges, shade structures, and associated structures may add context to the views without creating a substantial adverse effect since they will be small in size and take into account the surrounding lands.

From viewing locations within the cities of Cathedral City, Rancho Mirage, Indian Wells, La Quinta, Indio and Coachella the Proposed Project will be largely flat work with scattered shade structures and related signage. This will not create a substantial effect to the overall scenic vistas enjoyed the surrounding viewers.

The analysis below is based on a series of visual simulations created for the Proposed Project. The locations of each of these simulations are shown in Exhibit 4.2-1.

Palm Springs

The CV Link alignment in Palm Springs will include two segments – one beginning at the Visitor Center at the northwestern end of the City, and one beginning at South Palm Canyon Drive at Tahquitz Creek, in the west-central portion of the City. The segment extending from the Visitor Center includes a bridge structure spanning Highway 111. As shown Exhibit 4.2-2, the current condition at this location offers a clear view of the San Jacinto foothills. The proposed overcrossing will span the divided four-lane roadway at this location. The visual impact of the proposed bridge is also shown on Exhibit 4.2-2. Its open design and thin profile will still be evident against the mountain and desert background but will not detract from or significantly obscure the mountain and desert vistas. The overcrossing is reflective of the "Palm Springs Modern" style of architecture, and still allows views of the mountains through its structure.

From the overcrossing, the alignment will follow the edge of the Whitewater River floodplain, passing residential development on the south side of the levee. In this area, the path occurs both on top of the levee and at its base. The path in this area will consist of primarily hardscape. At its location adjacent to the Four Seasons community, three Whitewater River alignment variations are proposed: one on the top of the levee, one in the 10 to 15 foot area between the top of the levee and the Four Seasons property line, and one at the base of the levee in the channel bottom. The first alignment variation on top of the levee would result in CV Link users having views into the rear yards of the residents, because the elevation of the levee is above the elevation of the homes. The residents' views of the mountains to the north could be partially obstructed by screening that would be installed on the levee top to assure privacy, but the peaks of the range would remain visible due to the angle of the view at this location, as it relates to the levee top (also see Section 4.10, Land Use). The second alignment variation in the intervening land between the levee and the Four Seasons property line would occur at the same elevation as the homes, and existing perimeter walls would remain. Under this alignment variation, the views of the mountains to the north from residents' properties would remain as they currently occur, since the Proposed Project would not change the visual condition. The third alignment variation on the channel bottom would be on the north side of the levee, and would not be proximate to, or visible to Four Seasons residents. The location of the path in the floodplain will also assure that the views from the Four Seasons community of the surrounding mountains will remain as they are currently. As shown in Exhibit 4.2-3, at this location there are sweeping views of the mountains and foothills. The addition of CV Link, as shown in the Exhibit, will not impact the scenic vista at this location. Rather, it will create an opportunity for a wider range of the local population to have access to this scenic vista.

East of the Four Seasons community, the Route travels along the wash to Gene Autry Trail, which is another gateway roadway that connects US I-10 with the communities of Palm Springs and Cathedral City to the south and southeast. It is also a major commuting route for travelers working south of I-10. Southbound viewers will be traveling at moderate speed having traveled unimpeded across the two-mile wide flood plain. Residential development is located some distance to the southwest in an area that occurs below the Gene Autry roadway

grade, with primary views to the west and south, views to the northeast are limited because of the homes' locations below the road elevation, but extend over the floodplain and valley floor to the distant Little San Bernardino Mountains. As shown in Exhibit 4.2-4, an overcrossing is planned for this location which will include two elevated earthen embankments that will provide adequate clearance between the overcrossing and traffic below. The bridge will consist of a single span concrete slab approximately 25 feet in width, with decorative fencing and handrails. Because of the relatively narrow span, there will not be a need for supportive columns, wing walls or girders. The bridge will present a narrow, ribbon-like profile that will have a limited impact on the mountain backdrop beyond. Embankments will be landscaped with the CV Link landscaping theme of desert tolerant plants in angular, orderly patterns, which will provide both aesthetic value and slope stabilization. As shown in Exhibit 4.2-4, the landscaped embankment will blend into the viewshed for both residents and travelers. The potential impacts of the bridge to nearby residences will be less than significant.

The balance of the Route in Palm Springs travels on City streets or through the Demuth Park and Tahquitz Canyon Area. These portions of the alignment occur on flat ground, in areas that are developed. The addition of hardscape, including occasional shade structures, benches or similar facilities, will not significantly change the scenic vistas available to the general public.



Source: Alta Planning + Design, 2016

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CV Link Project
Visual Assessment Units and Key Views Map
Coachella Valley Association of Governments

CV LINK
CONNECTING THE COACHELLA VALLEY
CVAG

Exhibit
4.2-1



BEFORE



AFTER

Source: Alta Planning + Design, 2016

07.25.16

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CV Link Project
Visual Simulation - View 1
N. Palm Canyon Drive Overcrossing
Coachella Valley Association of Governments

CV LINK
CONNECTING THE COACHELLA VALLEY
CVAG

Exhibit
4.2-2



BEFORE



AFTER

Source: Alta Planning + Design, 2016

07.25.16

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CV Link Project
Visual Simulation - View 2
Four Seasons Channel Levee
Coachella Valley Association of Governments

CV LINK
CONNECTING THE COACHELLA VALLEY
CVAG

Exhibit
4.2-3



BEFORE



AFTER

Source: Alta Planning + Design, 2016

09.14.16

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CV Link Project
Visual Simulation - View 3
Gene Autry Trail Overcrossing
Coachella Valley Association of Governments

CV LINK
CONNECTING THE COACHELLA VALLEY
CVAG

Exhibit
4.2-4

Cathedral City

The majority of the Route through Cathedral City occurs either in the Whitewater River or along existing developed areas. The improvements proposed for the path include undercrossings at Date Palm Drive and Dinah Shore Drive. As shown in Exhibit 4.2-5, which depicts the Dinah Shore undercrossing, the existing condition in this area provides views of the Santa Rosas to the south. The addition of CV Link will be visible from the roadways it will pass under, but will not impact views of the surrounding areas. Again, as with the locations described above in Palm Springs, the construction of CV Link will result in more people having opportunities to experience views of the mountains than under current conditions, since the improvements will provide safe access in areas that are currently unimproved levee roads.

Rancho Mirage

The dominant scenic vista of Rancho Mirage is the Santa Rosa Mountains, which are south of and roughly parallel to this portion of CV Link. The distance between the proposed pathway and mountain slopes is roughly ½ mile in most locations. The two termini points will not create conditions that would disrupt the views of Rancho Mirage residents since they will be located outside of city limits, on existing streets and on existing levee tops where current views are of graded soil. The location of the termini will not compromise the scenic vistas of the Santa Rosa Mountains.

Palm Desert

The portion of the alignment that passes through Palm Desert occurs on existing streets and paths from the western City limits to Portola Avenue. In this area, improvements to the path will consist of hardscape to delineate the Route. In these areas, scenic vistas are severely limited due to existing development and mature landscaping. As shown in Exhibit 4.2-6, the improvements proposed on City streets will have no impact on scenic vistas.

Once east of Portola Avenue, CV Link continues along the south bank of the Whitewater River, on top of the levee. Along this portion of the River, the bed of the channel occurs at varying depths, and in several locations is over 20 feet below the top of levee. An overcrossing is proposed to occur over Cook Street. As shown in Exhibit Exhibit 4.2-7, scenic vistas of the Santa Rosa mountains are clearly visible to travelers on Cook Street. As also shown in the Exhibit, the overcrossing is of similar architectural style to that proposed in Palm Springs, and will have a minor impact on scenic vistas at this location. The overall views of the mountains, however, will be preserved.

Indian Wells

That portion of CV Link proposed through Indian Wells begins at the western City limits along the Whitewater River's south bank. Several alternatives are possible in this area, ultimately providing two possible alignments. The first would occur on Highway 111, and extend easterly to the City limits. In this case, the improvements proposed would be similar to those proposed on City streets in Palm Desert, and shown in Exhibit 4.2-6. Hardscape improvements would have no impact on scenic vistas, which are available to the south and would remain unimpeded.

The second potential alignment would continue along the channel, which is currently improved municipal golf course, and provide access to the existing luxury resort hotels that occur at this location. Improvements would consist of hardscape which would not interfere with the distant views of both the Santa Rosa and the San Bernardino mountains which are currently visible from this location.

La Quinta

As CV Link exits Indian Wells on the Whitewater River, it would continue on the levee top on the south bank, past Point Happy. Scenic vistas of Point Happy are available to travelers on Washington Street, which provides clear views of this striking rock formation. As shown in Exhibit 4.2-7, a bridge is proposed at this location, of a

similar style as the previously described overcrossings. The bridge structure would have a less than significant impact on the scenic vista of Point Happy, but the majority of the rock formation would remain unimpeded.

The balance of the Route through La Quinta occurs on top of the levee of the Coachella Valley Stormwater Channel, on its south side. This portion of the channel is surrounded by existing development, and will have no impact on scenic vistas for travelers on City streets. Scenic vistas for residents of the homes on the north side of the channel will be unaffected by the extension of the path. Scenic vistas from the Route are to the north and northeast, where the upper reaches of the San Bernardino mountains will remain visible over the rooftops of existing development. Scenic vistas of the Santa Rosa mountains to the south are blocked by large scale commercial development which generally occurs along the entire segment of the Route in La Quinta.



BEFORE



AFTER

08.01.16

Source: Alta Planning + Design, 2016

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CV Link Project
Visual Simulation - View 4
Dinah Shore Undercrossing
Coachella Valley Association of Governments

CV LINK
CONNECTING THE COACHELLA VALLEY
CVAG

Exhibit
4.2-5



Before



After

08.01.16

Source: Alta Planning + Design, 2016

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CV Link Project
Visual Simulation - View 5
Magnesia Falls Drive
Coachella Valley Association of Governments

CV/LINK
CONNECTING THE COACHELLA VALLEY
CVAG

Exhibit
4.2-6



Before



After

Source: Alta Planning + Design, 2016

07.25.16

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CV Link Project
Visual Simulation - View 6
Cook Street Overcrossing
Coachella Valley Association of Governments

CV/LINK
CONNECTING THE COACHELLA VALLEY
CVAG

Exhibit
4.2-7



Before



After

Source: Alta Planning + Design, 2016

07.25.16

CV Link Project
Visual Simulation - View 7
Point Happy
Coachella Valley Association of Governments

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CV LINK CONNECTING THE COACHELLA VALLEY

CVAG

Exhibit 4.2-8

Indio

CV Link continues along the Stormwater Channel into Indio. On the south side of the levee, residential development occurs immediately adjacent to the path's alignment. Issues associated with this portion of the alignment as they relate to views into existing homes are discussed below in Section 4.2.5 d). Scenic vistas in this area of the path will not be significantly affected by the alignment. The hardscape improvements through Indio and Coachella will be visible from cross streets such as Miles Avenue, Indio Boulevard and Dillon Road. However, the improvements will not block views from existing homes to the north or northeast. These views are currently limited by the location of these homes at elevations which are somewhat below the existing levee. The addition of hardscape will not change this condition. The addition of landscaping or fencing has the potential to somewhat limit views, but again, because the homes occur at a lower elevation than the levee, the potential for view obstruction is limited.

Coachella

As shown above in the description of the alignment in Indio, the path travels along the channel in an area where the levee provides little elevation. This portion of the path travels past agricultural and industrial land uses, where scenic vistas are of distant peaks, and the addition of hardscape will not change the vistas.

South of Avenue 50, the path will again border single family homes which, like some of the homes described above in Indio, are located at a lower elevation than the levee. Conditions in Coachella at these locations will be similar to those described in Indio, where the back yards of these homes occur below the grade of the path. In these locations, where required, landscaping and screening will be provided to ensure privacy to those residents. The views from the back yards of these homes are to the north and northeast, toward the Indio Hills. The addition of screening on the path could somewhat limit these views, but the yards' location below the grade of the levee already impacts these views.

As described above and in Appendix D, the implementation of CV Link will have a limited impact on scenic vistas. Project features are limited to hardscape, benches or small scale shade structures in most areas. The overcrossings proposed will be visible, but will not block the scenic vistas from the areas where they occur. Impacts associated with scenic vistas will be less than significant.

County of Riverside

The Route will be built on top of the Coachella Stormwater Channel levees along the County of Riverside's lands. Similar to the impacts described above in the City of Coachella the Route will traverse through past agricultural land uses, where scenic vistas are of distant peaks, and the addition of hardscape will not change the vistas.

Construction Impacts

Construction of the Proposed Project will result in temporary impacts to scenic vistas from the use of construction equipment on the Route, and the use of cranes at planned bridge locations. Construction activities will be linear, insofar as it will progress on any given alignment from one end to the other. It is anticipated that construction will take approximately one month per mile, although multiple segments could be under construction at one time.

Construction activities for those portions of the Route occurring on existing City streets will be similar to any maintenance or repair activity conducted on City streets currently, and would not impact scenic vistas, because the views of equipment would be short range, and would not affect long range views for the traveling public.

Construction activities on levee tops would not impact scenic vistas for the traveling public, insofar as the major drainages are not visible from most Valley roadways except at River crossings. At those location, much like street improvements, construction would be visible for up to a month in the near view of travelers over the River at those locations where the Route approaches those crossings. Because of the scale of the construction work, however, which primarily involves hardscape improvements, long range vistas would not be affected. Construction activities on levee tops adjacent to existing homes would result in visibility of construction

equipment over the walls of those residences that abut the levee. There is the potential for view blockage for short time periods while equipment works on the area behind any given home. Given that construction activities would last approximately one month on any given mile of the route, the impact of construction activities adjacent to the homes that abut the levy would be of very short duration. This view blockage will be temporary, intermittent, and will not have any permanent impacts on scenic vistas.

Construction of the Proposed Project would also require staging areas. These staging areas are proposed at several locations along the route (please see Appendix B, CV Link Route Map Book), in locations adjacent or proximate to the alignment which it would serve. The location of these staging areas will be visible to surrounding travelers, residents and businesses who currently have views of these areas. Once construction is complete, the staging areas will be removed. However, during the construction of any given portion of the Route, multiple staging areas will be in place. These staging areas will not be of substantial mass and scale, and will not block views from surrounding areas, and will be temporary. As described in Section 4.14, Public Services, these staging areas will be fenced. In order to assure that heavy equipment, construction materials and similar utilitarian items stored in staging areas are not visible to the traveling public or adjacent residents or businesses, and that impacts to scenic vistas are minimized during the temporary construction period, mitigation measure AES-1 has been added, requiring the screening of staging areas. This mitigation measure will assure that temporary construction impacts associated with staging areas are less than significant.

Finally, construction of the proposed overcrossings for the project in Palm Springs and La Quinta would require the use of cranes for short periods to raise the design elements of those bridges. Impacts to scenic vistas at those locations would be affected insofar as these cranes would be clearly visible to the traveling public on the roads where the bridges occur. Again, however, the construction equipment will be visible for a short period, and will not permanently impact scenic vistas.

With the implementation of mitigation measure AES-1, impacts associated with construction of the Proposed Project will be less than significant.

b) Substantially damage scenic resources, including, but not limited to, trees, rock outcropping, and historic buildings within a state scenic highway?

Substantial damage to a scenic resource occurs when a proposed project adversely degrades one or more of the aesthetic qualities that contribute to a scenic setting. This includes damages to trees, rock outcroppings, and historic buildings within a state scenic highway. No segment of the proposed Route is located within a State Scenic Highway and for the is reason there will be no impact as a result of the construction and operation of CV Link to this criterion.

Segments of the project are situated along State Highway 111, which is listed as an “Eligible State Scenic Highway—Not Officially Designated”. At the time of this analysis, Caltrans has not designated the highway as a State Scenic Highway.

CV Link will occur on levee tops, through City parks and on City streets, all areas that are currently disturbed. The Proposed Project will not result in the destruction of trees or historic buildings, since it will occur on existing pathways throughout the Valley (also please see Section 4.5, Cultural Resources). The Proposed Project proposes a bridge structure at Point Happy in La Quinta, as described above. Point Happy is a rock outcropping which borders the Whitewater River immediately west of Washington Street. The Proposed Project would result in a structure at the base of Point Happy. However, as shown in Exhibit 4.2.7, the bridge structure will not damage the rock outcropping, and it will remain as a visual feature in this area.

c) Substantially degrade the existing visual character or quality of the site and its surroundings?

A proposed project is classified as "substantially degrading" to the visual character or quality of the site if it would create a negative effect to the public's appreciation and experience of the visual environment. For this reason, visual changes are considered in the full context of a site or locale's visual sensitivity.

The Proposed Project's impacts to visual changes were evaluated in terms of potential damage to, or removal of features of the natural or built environment that create a scenic setting. The level of change to a visual resource also takes into consideration the degree of permanence.

Construction Impacts

Given that certain segments of CV Link will require a moderate amount of earthwork to provide a level and structurally sound base for path construction, there will be temporary construction-related impacts on the visual character of the project planning area. Direct views of the CV Link Route and construction staging areas are available from roadways and public areas in residential neighborhoods and from other recreational facilities. For this reason, construction equipment may be visible on service roads and along streets where improvements are being installed, and will progressively move along the segment as construction progresses. Additionally, sites for construction staging and stockpiling have been identified along the Route that will create temporary storage areas for construction equipment and building materials. The construction of the proposed Route will be carried out in segments commencing in Palm Springs and moving eastward to Coachella. The length of a segment under construction at any one time will vary throughout the build out period. Impacts associated with construction will be short term, and will not result in any permanent alteration of the visual character of any portion of the Route.

In order to further reduce the impacts of construction on neighboring land uses, best management practices (BMPs), time of day restrictions and other development regulations. The construction-related impacts visual character will therefore be less than significant.

Long Term Impacts

The long term use of CV Link has the potential to impact the visual character of specific locations, particularly where single family homes occur immediately adjacent to the pathway. In most locations, the path will be separated from these single-family homes by privacy walls that currently exist. CV Link improvement plans include privacy screening where it does not occur and the path will be passing private rear yards. This privacy fencing, if added, will have limited impact on the visual character of the homes where it occurs, insofar as these locations currently have views of an unimproved maintenance road along the levee. Moreover, the channel service roads upon which a majority of the proposed Route will be constructed will be upgraded and enhanced. This will supplement the visual character through CV Link improvements and landscaping.

Grade differentials between the path and neighbors in two areas have the potential to impact the visual character of the residents. These are individually addressed below.

Palm Springs

At its location adjacent to the Four Seasons community, three Whitewater River alignment variations are proposed: one on the top of the levee, one in the 10 to 15 foot area between the top of the levee and the Four Seasons property line, and one at the base of the levee in the channel bottom. The first alignment variation on top of the levee would result in CV Link users having views into the rear yards of the residents, because the elevation of the levee is above the elevation of the homes. The residents' views of the mountains to the north could be partially obstructed by screening that would be installed on the levee top to assure privacy, but the peaks of the range would remain visible due to the angle of the view at this location, as it relates to the levee top (also see Section 4.10, Land Use). The second alignment variation in the intervening land between the levee and the Four Seasons property line would occur at the same elevation as the homes, and existing perimeter walls would remain. Under this alignment variation, the views of the mountains to the north from residents' properties would be

remain as they currently occur, since the Proposed Project would not change the visual condition. The third alignment variation on the channel bottom would be on the north side of the levee, and would not be proximate to, or visible to Four Seasons residents. As shown on Exhibit 4.2-3, the location of the pathway adjacent to the Four Seasons community at the base of the levee structure will act as a privacy screen for that community, prohibiting views by path users into the back yards of residents. At this location and along this segment of the path in Palm Springs, the path will have no impact on the visual character observed by homeowners or travelers on City streets.

Indio and Coachella

As shown in Exhibit 4.2-9, portions of CV Link occurring along the bank of the Stormwater Channel will pass residential units which are located at a lower elevation than the path. The project plans propose both landscaping and physical screening in these areas, as shown in Exhibit 4.2-9, which depicts a landscaped visual simulation, and Exhibit 4.2-10 which depicts the privacy screening proposed at locations where rear walls do not occur. At these locations, the Proposed Project will provide a visual barrier which will change the visual character from the rear yards of these homes. However, because the homes occur at a lower elevation, and currently have views of the levee slope, the change to the visual character will not represent a significant negative impact, since no views will be lost.



Before



After

07.26.16

Source: Alta Planning + Design, 2016

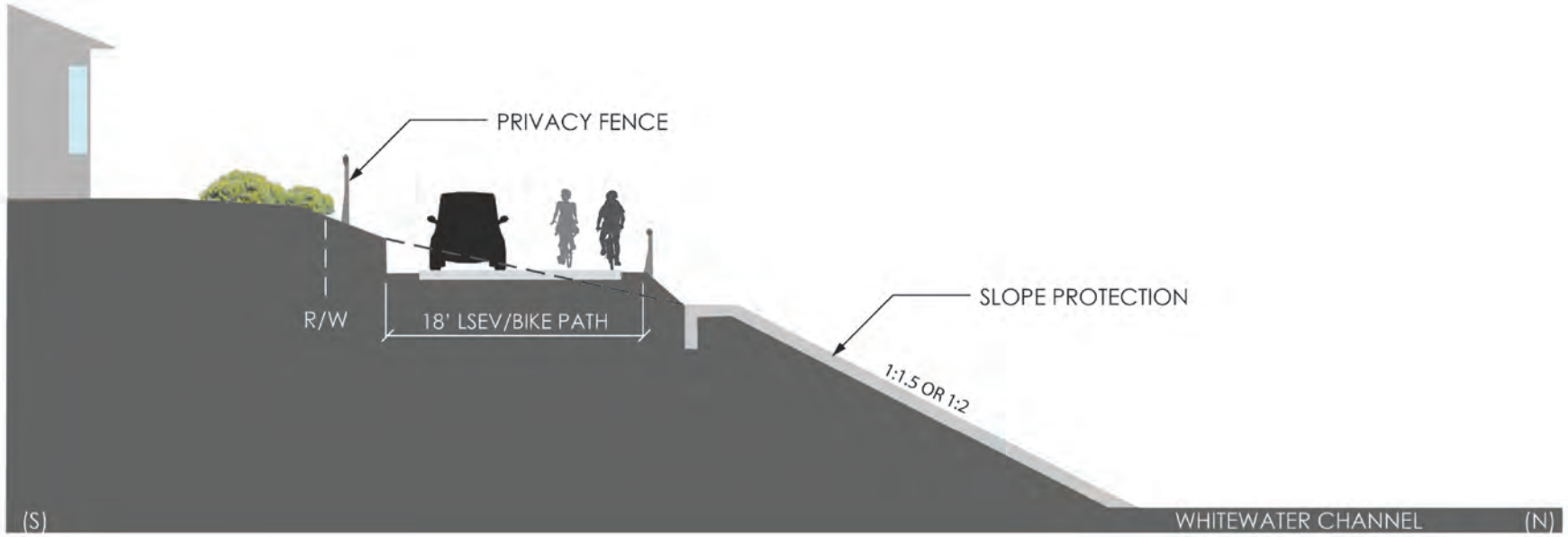
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CV Link Project
Visual Simulation - View 8
Typical Levee Condition
Coachella Valley Association of Governments

CV LINK
CONNECTING THE COACHELLA VALLEY
CVAG

Exhibit
4.2-9





Source: CV Link Master Plan, January 2016

07.11.16

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CV Link Project
Conceptual Privacy Screening Treatments
Coachella Valley Association of Governments

CV LINK CONNECTING THE COACHELLA VALLEY

CVAG

Exhibit **4.2-10**

d) Create a new source of substantial light or glare, which would adversely affect day or nighttime views in the area.

CV Link does not propose nighttime construction. Lighting is proposed along the Route and at the various rest areas, which will encourage and provide a level of safety to evening use. Lighting will be comprised of low-profile bollards, as well as embedded LED lighting that would be incorporated throughout the Route. The lighting will produce a limited and directed level of light and will result in little or no spillover effects. Additional sources of light will include low-level lighting near turnoff and access points. Should any lighting be proposed on lighting poles, they will be subject to local standards and requirements, which dictate that there will be no spillover at the property line. All the cities along which the path travels require that pole lighting be shielded, and that lighting not spill over onto adjacent properties. In order to assure that lighting from pole lighting would not significantly impact neighboring uses, mitigation measure AES-2 has been included below.

4.2.6. Mitigation Measures

AES-1: Construction staging areas should be located as far away from sensitive receptors as practicable and shall be screened from public view. The screening will consist of a perimeter chainlink fence with a windscreen, which will also provide a view screen. When staging areas' use is complete, the land shall be restored to its original condition.

AES-2: Lighting plans shall be prepared by the project design team, and shall demonstrate that lighting from all fixtures will not extend beyond the edge of the right-of-way. Any lighting fixture proposed above the path shall be fully shielded.

4.2.7. Significance After Mitigation

The substantial majority of the proposed CV Link improvements are flat work, including pavement and decomposed granite, and associated travel surface improvements. Even where structures are planned, they will include only shade structures and similar facilities whose mass and scale will not significantly block views or affect scenic viewsheds. The development of the Proposed Project would be consistent with the overall developed nature of the existing Coachella Valley.

The sensitivity of residents adjacent to and near the proposed CV Link alignments is expected to range from low to moderate. For a certain number of residents who live along the channel where the levee occurs higher than their back yards, sensitivity would be greatest. Even so, with the implementation of landscaping and screening design elements included in the project, the majority of CV Link construction and use activities will be only minimally visible to residents. Portions of the proposed Route that border residences will be screened by landscaping and fencing, which will fully screen adjacent residences from the pathway. The screening and fencing will allow views above to the scenic vistas provided by distant surrounding mountains. As described above, impacts associated with scenic vistas and scenic resources will be less than significant. Impacts associated with construction have been provided mitigation for staging areas. Impacts associated with lighting will be mitigated with the implementation of existing City standards and requirements, consistent with other projects in the Valley. These design features and mitigation measures will avoid and minimize impacts not only to visual resources but also to privacy.

With the implementation of design features and the mitigation measures includes above, impacts associated with implementation of the Proposed Project on aesthetics will be less than significant.

4.2.8. Cumulative Impacts

Each jurisdiction's visual resources were analyzed to determine the extent of the impacts CV Link would create to the resources. Given that CV Link is a regional project the cumulative impacts are based on the regional impacts, and the scope of the analysis was based on the jurisdictions' General Plan and Zoning policies and standards relating to visual resources and lighting. The majority of CV Link construction and use activities will be only minimally visible to residents, whose views shall also be maintained because the project does not propose large structures that could block views.

Cumulative impacts are those resulting from past, present, and reasonably foreseeable future actions, combined with the potential visual impacts of this project. Generally the CV Link Route is proposed within areas of existing activity, development, and light. The construction and long term use of CV Link will not significantly change the scenic vistas or visual character of the areas where it occurs. Because of the limited structures proposed, it will not contribute to cumulative increases in mass of urban development along the project Route. The implementation of the Proposed Project will have less than significant cumulative impacts.

4.3. Air Quality

4.3.1. Introduction

The following section describes the existing air quality in the Coachella Valley, and analyzes the potential impacts associated with the CV Link project. A variety of local and regional data and information, ranging from research and analysis conducted for the project site, to regional-scale planning and environmental documents, have been used in researching and analyzing the project and its potential effects on air quality. An Air Quality and Greenhouse Gas Report was prepared for the CV Link project and is provided in Appendix E of this EIR.

4.3.2. Thresholds of Significance

The following significant thresholds or criteria are not strictly those recommended in § 15064.7 of the CEQA Guidelines, rather they are derived from Appendix G of the Guidelines, and are used to determine if and to what extent a project may have a potentially significant impact on air quality. The project would have a significant effect to air quality if the Proposed Project would:

a) Conflict with or obstruct implementation of the applicable air quality plan.

b) Violate any air quality standards or contribute substantially to an existing or projected air quality violation.

c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions, which exceed quantitative thresholds for ozone precursors).

d) Expose sensitive receptors to substantial pollutant concentrations.

e) Create objectionable odors affecting a substantial number of people.

4.3.3. Regulatory Framework

Federal and state agencies have adopted air quality standards for a variety of pollutants. In 1971, the USEPA established the National Ambient Air Quality Standards (NAAQS) for managing criteria pollutants. The California Clean Air Act (CCAA) became effective on January 1, 1989 and mandated health-based air quality standards at the state level. The California Air Resources Board (CARB) is responsible for enforcing state standards, which are generally more stringent than federal standards. One of the ways standards are applied is through State Implementation Plans (SIP), which are prepared to assist regional air quality management districts in meeting the federal and state ambient air quality standards in accordance with the deadlines specified in the Federal Clean Air Act (CAA) and emission reduction targets of the California Clean Air Act.

Regional and local agencies have also assumed some responsibility for assuring that state and federal air quality standards are achieved. For the Coachella Valley, the SCAQMD is responsible for establishing air quality measurement criteria and relevant management policies for the Salton Sea Air Basin (SSAB).

The 2003 PM_{10} Coachella Valley State Implementation Plan (CVSIP) was jointly developed by the SCAQMD, Coachella Valley Association of Governments (CVAG) and its member cities, and was approved by the USEPA. The 2003 PM_{10} CVSIP updated the 1990 plan, which was drafted as a requirement of the federal Clean Air Act to demonstrate expeditious attainment of PM_{10} standards.[1] On April 18, 2003, the USEPA approved the updated CVSIP.

[1] 2003 Coachella Valley PM10 State Implementation Plan, August 1, 2003.

The SSAB, including the Coachella Valley, is subject to the provisions of the SCAQMD Rule Book,[2] which sets forth policies and other measures designed to meet federal and state ambient air quality standards. These rules, along with SCAQMD's 2012 Air Quality Management Plan[3] and Draft 2016 Air Quality Management Plan are intended to satisfy the planning requirements of both the federal and state Clean Air Acts. The SCAQMD also monitors daily pollutant levels and meteorological conditions throughout the District.

Air Quality Standards

Federal and state air quality standards established for specific pollutants, which are called "criteria pollutants," are designed to protect the general population and especially that segment of the population that is most susceptible to respiratory distress or infection, including the elderly, children, asthmatics, or those who are weak from disease or illness.

The following air pollutants are collectively known as criteria air pollutants and are defined as those pollutants for which established air quality standards have been adopted by federal and state governments:

Ozone (O_3) is a pungent, colorless, toxic gas, and a component of photochemical smog. It is formed when byproducts of combustion react in the presence of ultraviolet sunlight. This process takes place in the atmosphere where oxides of nitrogen combine with reactive organic gases, such as hydrocarbons. Exposure to ozone can result in diminished breathing capacity, increased sensitivity to infections, and inflammation of the lung tissue. Children and people with pre-existing lung disease are most susceptible to the effects of ozone.

Carbon Monoxide (CO) is a colorless, odorless, toxic gas and a byproduct from the partial combustion of fossil fuels, most notably from automobiles and other motor vehicles. Carbon monoxide passes through the lungs directly into the blood stream and reduces the amount of oxygen reaching the vital organs, such as the heart, brain and tissues. In high concentrations, carbon monoxide can contribute to the development of heart disease, anemia, and impaired psychological behavior. Individuals that have heart and blood diseases, smokers, babies in utero, and people with chronic hypoxemia are most susceptible to the effects of CO. The SSAB is in non-attainment for the federal 8-hour O_3 standard.

Nitrogen Oxide (NO_x) includes Nitric oxide (NO) and Nitrogen dioxide (NO_2), which are the primary oxides of nitrogen, and combined are known as nitrogen oxides. These oxides are produced at high temperatures during combustion as byproducts of motor vehicles, power plants, and off-road equipment. NOx contributes to the formation of ozone serving as the primary receptor of ultraviolet light and initiating the photochemical reaction. Short-term exposure to nitrogen dioxide can result in airway constriction, diminished lung capacity, and is highly toxic by inhalation. Populations living near roadways are more likely to experience effects of nitrogen oxides due to elevated exposure to motor vehicle exhaust. The SSAB is in attainment for NO_2.

Sulfur Dioxide (SO_2) results from the combustion of high-sulfur content fuels, such as coal and petroleum. Sources include motor vehicle fuel combustion, chemical manufacturing plants, and sulfur recovery plants. Sulfur dioxide is a colorless, pungent, extremely irritating gas that can cause airway constriction and severe breathing difficulties in asthmatics. High levels of exposure can cause fluid accumulation in the lungs, damage to lung tissue, and sloughing off of cells lining the respiratory tract. The SSAB is in attainment for SO_2.

Particulate Matter (PM_{10} and $PM_{2.5}$) consist of fine suspended particles of ten microns or smaller in diameter, and are the byproducts of road dust, sand, diesel soot, windstorms, and the abrasion of tires and brakes. The elderly, children and adults with pre-existing respiratory or cardiovascular disease are most susceptible to the effects of

[2] South Coast Air Quality Management District Rules and Regulations, Adopted February 4, 1977.

[3] Final 2012 Air Quality Management Plan, prepared by the South Coast Air Quality Management District, December 2012.

PM. Elevated PM_{10} and $PM_{2.5}$ levels are also associated with an increase in mortality rates, respiratory infections, occurrences and severity of asthma attacks and hospital admissions. The SSAB is a non- attainment area for PM_{10} and is classified as attainment/unclassifiable for $PM_{2.5}$.

Volatile Organic Compounds (VOC) are also known as Reactive Organic Gas (ROG). This class of pollutants has no state or federal ambient air quality standards and is not classified as criteria pollutants; however, they are regulated because they are responsible for contributing to the formation of ozone. They also contribute to higher PM_{10} levels because they transform into organic aerosols when released into the atmosphere. VOCs pose a health threat when people are exposed to high concentrations. Benzene, for example, is a hydrogen component of VOC emissions known to be a carcinogen.

Lead (Pb) occurs in the atmosphere as particulate matter resulting from the manufacturing of batteries, paint, ink, and ammunition. Exposure to lead can result in anemia, kidney disease, gastrointestinal dysfunction, and neuromuscular and neurological disorders. Babies in utero, infants, and children are especially susceptible to health risks associated with exposure to lead by impacting the central nervous system and cause learning disorders. The SSAB is in attainment for lead.

The air quality of a particular locale is considered to be in attainment if the measured ambient air pollutant levels for O_3, CO, SO_2 (1-hour and 24-hour), NO_2, and PM_{10} and $PM_{2.5}$ are not exceeded and all other standards are not equaled or exceeded at any time in any consecutive three-year period. Attainment also assumes the national standards (other than O_3, PM_{10}, and those based on annual averages or arithmetic mean) are not exceeded more than once per year. The O_3 standard is in attainment when the fourth highest eight-hour concentration in a year, averaged over three years, is equal to or less than the standard. For PM_{10}, the 24-hour standard is attained when 99 percent of the daily concentrations, averaged over three years, are equal to or less than the standard.

The following table shows the state and national ambient air quality standards for criteria pollutants.

Table 4.3-1
State and National Ambient Air Quality Standards

Pollutant	State Standards		National Standards**	
	Averaging Time	Concentration	Averaging Time	Concentration
Ozone (O_3)	1-hour 8-hour	0.09 ppm 0.07 ppm	1-hour 8-hour	 0.070 ppm
Carbon Monoxide (CO)	1-hour 8-hour	20.0 ppm 9.0 ppm	1-hour 8-hour	35.0 ppm 9.0 ppm
Nitrogen Dioxide (NO_2)	1-hour AAM	0.18 ppm 0.030 ppm	 AAM	0.10 ppm* 0.053 ppm
Sulfur Dioxide (SO_2)	1-hour 24-hour	0.25 ppm 0.04 ppm	1 & 24 hour AAM	.075ppm**
Particulate Matter (PM_{10})	24-hour AAM	50 μg/m^3 20 μg/m^3	24-hour AAM	150 μg/m^3
Particulate Matter ($PM_{2.5}$)	AAM 24-hour	12 μg/m^3 35 μg/m^3	AAM 24-hour	12 μg/m^3 35 μg/m^3
Lead	30 day Avg.	1.5 μg/m^3	3 month Avg.	0.15 μg/m^3
Visibility Reducing Particles	8-hour	No standard	No federal Standard	No federal Standard
Sulfates	24-hour	25μg/m^3	No federal Standard	No federal Standard
Hydrogen Sulfide	 1-hour	 0.03 ppm	No federal Standard	No federal Standard
Vinyl Chloride	24-hour	0.01 ppm	No federal Standard	No federal Standard

Source: California Air Resources Board, 06/04/13
Notes: ppm = parts per million; ppb= parts per billion; μg/ m^3 = micrograms per cubic meter of air;
AAM = Annual Arithmetic Mean; * Note that this standard became effective as of January 22,2010.
** Final rule signed June 2, 2010, effective as of August 23,2010

Regional Air Quality Monitoring

The South Coast Air Quality Management District operates and maintains two air quality monitoring stations within Source Receptor Area (SRA) 30 (Coachella Valley). SR 30 includes the Indio and Palm Springs monitoring stations, which have been operational since 1985 and 1987, respectively. The Mecca monitoring station has been in operation since 2013, however monitoring data has not yet been released.

The following tables show the maximum concentration and number of days annual that state and federal standards for ozone and particulate matter (PM_{10} and $PM_{2.5}$) were exceeded between 2010 and 2015 in the Coachella Valley.

Table 4.3-2 shows that the federal 24-hour standard for PM_{10} was exceeded more frequently at the Indio station between 2010 and 2015. PM_{10} levels continue to exceed state standards.

Table 4.3-2
PM_{10} Monitoring Data for the Coachella Valley

Monitoring Station	Year	Maximum Concentration (µg/m^3/24hours) **	No. Days Exceeding 24-hr. Standards		Annual Average (µg/m^3)
			Federal[1]	State[2]	AAM[3]
Palm Springs	2010	144.8	0.0	0.0	19.4
	2011	396.9	2.0	0.0	21.7
	2012	143.4	0.0	0.0	19.9
	2013	185.8	1.0	13.1	23.1
	2014	313.8	1.1	*	25.4
	2015	199.0	1.0	*	*
Indio	2010	107.0	0.0	23.9	28.8
	2011	375.9	2.0	18.6	32.6
	2012	270.6	N/A	43.2	33.6
	2013	255.2	3.0	85.2	37.5
	2014	322.3	6.1	94.9	43.5
	2015	381.0	*	*	*

Source: Annual air quality site monitoring reports per ARB. http://www.arb.ca.gov/adam/ Accessed June 18, 2015.
1 = > 150 µg/m3 in 24 hour period; 2 = > 50 µg/m3 in 24 hour period; 3 Federal Annual Average Standard AAM > 50µg/m3 revoked December 17, 2006. State standard is AAM > 20µg/m^3
4 State Annual Average Standard = AGM > 20µg/m3
* There are insufficient (or no) data available to determine the value.
** Data may include exceptional events.

Table 4.3-3 shows that both the federal 24 hour $PM_{2.5}$ standard and the AAM state standard of >12 µg/m^3 have not been exceeded at either monitoring station from 2010 to 2015.

Table 4.3-3
$PM_{2.5}$ Monitoring Data for the Coachella Valley

Monitoring Station	Year	Max Concentration (µg/m^3/24hours)	No. Days Exceeding 24-hr. Standards	Annual Average (µg/m^3)
			Federal[a]	AAM[b, c]
Palm Springs	2010	12.8	0.0	5.9
	2011	26.3	0.0	6.0
	2012	15.5	0.0	6.5
	2013	18.5	0.0	6.5
	2014	15.5	**	**
	2015	22.7	**	**
Indio	2010	16.0	0.0	6.8
	2011	35.4	0.0	7.2
	2012	18.4	0.0	7.6
	2013	25.8	0.0	8.3
	2014	16.8	**	**
	2015	24.6	**	**

Source: Annual air quality site monitoring reports, prepared by ARB. http://www.arb.ca.gov/adam/ Accessed June 18, 2015.
a = > 35 µg/m^3 in 24 hour period, Federal standard as of December 17, 2006.
b Federal Annual Average Standard = AAM > 15µg/m^3
c State Annual Average Standard = AAM > 12µg/m^3 as of July 5, 2003.
* Less than 12 full months of data; may not be representative.
** There was insufficient (or no) data available to determine the value.

Table 4.3-4 shows that the Palm Springs monitoring station exceeds the 8 hour federal and state ozone standards more frequently than the Indio site. This exceedance is attributable to the Palm Springs station's location closer to the San Gorgonio Pass where ozone is imported into the SSAB from air basins to the west.

Table 4.3-4
Ozone Monitoring Data for the Coachella Valley

Monitoring Station	Year	Max. Concentration		No. Days Standard Exceeded		
				Federal[1]	State[2]	
		1 Hour ppm	8 Hour ppm	8 Hour	1 Hour	8 Hour
Palm Springs	2010	0.114	0.099	52	20	78
	2011	0.124	0.099	49	21	69
	2012	0.126	0.101	51	17	79
	2013	0.113	0.104	46	10	82
	2014	0.108	0.093	35	9	61
	2015	0.102	0.092	26	3	51
Indio	2010	0.100	0.087	19	6	45
	2011	0.099	0.090	19	3	42
	2012	0.102	0.089	24	2	45
	2013	0.105	0.087	18	2	38
	2014	0.095	0.091	10	2	30
	2015	0.093	0.085	4	0	12

Source: ARB Annual Air Quality Data Tables. http://www.arb.ca.gov/adam/ Accessed June 18, 2015.
1 = > 0.070 parts per million for the 8 hour standard.
2 = > 0.09 and 0.070 parts per million in 1 hour and 8 hour respectively.

Criteria Air Pollutant Summary

Air quality in the SSAB exceeds state and federal standards for fugitive dust (PM_{10}) and ozone (O_3), and is in attainment/unclassified for $PM_{2.5}$. Ambient air quality in the SSAB, including the area of the CV Link Route, does not exceed state and federal standards for carbon monoxide, nitrogen dioxides, sulfur dioxide, lead, sulfates, hydrogen sulfide, or Vinyl Chloride. The following table shows the basin's federal and state attainment status for criteria pollutants.

Table 4.3-5
Salton Sea Air Basin Designation Status

Criteria Pollutants	Federal Designation	State Designation
Ozone - 8 hour standard	Nonattainment	Nonattainment
Carbon Monoxide	Attainment	Attainment
Nitrogen Dioxide	Attainment	Attainment
Sulfur Dioxide	Attainment/Unclassified	Attainment
PM_{10}	Nonattainment	Nonattainment
$PM_{2.5}$	Attainment	Nonattainment

Source: CARB Air Quality Planning Branch, June 2013. This information has been cross-checked with the U.S. EPA Green Book, last updated June 17, 2016

4.3.4. Existing Conditions

The proposed CV Link project is located within the Salton Sea Air Basin (SSAB) and is within the jurisdiction of the South Coast Air Quality Management District (SCAQMD). Air quality in the Salton Sea Air Basin has been impacted by emissions associated with increased development, population growth, and vehicle emissions. Although air pollution is emitted locally from various sources, some of the degradation of air quality within the Salton Sea Air Basin can be attributed to sources tributary to, but located outside of the basin. In the project area, air quality is regulated by the SCAQMD, as well as federal and state policy.

Meteorological conditions of the Coachella Valley portion of the SSAB, including the project area, are largely attributable to the low desert geographic setting and the mountains surrounding the region that isolate the Coachella Valley from moderating coastal influences and create a hot and dry low-lying desert condition. As the desert heats up, a large area of thermal low pressure develops, which draws dense, cooler coastal air through the narrow San Gorgonio Pass and into the Valley, generating strong winds that cross the most active fluvial (water-related) erosion zones in the Valley. These strong winds sweep up, suspend and transport large quantities of sand and dust, reducing visibility, damaging property, and constituting a significant health threat. The region is also subject to seasonal northeasterly Santa Ana winds that are associated with high pressure over Nevada and the four corners region.

Air inversions, where a layer of stagnant air is trapped near the ground and is loaded with pollutants from motor vehicles and other sources, occasionally occur in the Coachella Valley due to local geological and climatic conditions. Inversions create conditions of haziness caused by suspended water vapor, dust, and a variety of chemical aerosols. Due to local climactic conditions, inversion layers generally form 6,000 to 8,000 feet above the desert floor.

4.3.5. Project Impacts

The CV Link project is proposed as a 44 mile multi-modal transportation path network that extends across the Coachella Valley. For air quality analysis purposes, construction of the Proposed Project is anticipated to occur over a four year period starting in 2018 with buildout in 2021. Construction activities will include site preparation, grading, pathway paving, underpass/overpass construction, and operation of construction equipment. Construction related air quality emissions are temporary and end once construction is complete. Detailed construction plans are not currently available to show locations or specific scheduling of pathway construction. Construction emissions do not assume specific locations or construction schedules for pathway segments or jurisdictions. Instead, construction emissions assume continuous buildout of the entire 44 mile Route within the four year time span. This approach results in conservative projections of maximum daily emissions with potential for multiple segments to be under construction at one time.

a) Conflict with or obstruct implementation of the applicable air quality plan.

The Proposed Project is located within the SSAB, which is governed by the SCAQMD. SCAQMD is responsible for monitoring criteria air pollutant concentrations and establishing management policies for the SSAB. All development within the SSAB, including the Proposed Project, is subject to the current SCAQMD Air Quality Management Plan and 2003 PM_{10} Coachella Valley State Implementation Plan. These comprehensive plans establish control strategies and guidance on regional emission reductions for air pollutants. CV Link would be developed in accordance with all applicable air quality management plans to ensure impacts to air quality are less than significant. Actions include, but are not limited to the preparation of a standard dust control management plan, in compliance with the CVSIP, and the enforcement of mitigation measures in the event that criteria pollutant thresholds are exceeded during construction activities.

As demonstrated below (under threshold (b)), CV Link (as mitigated) will not exceed any South Coast AQMD thresholds of significance for criteria pollutants, and will actually *reduce* regional air quality emissions as compared to baseline conditions by reducing vehicle miles traveled. Therefore, CV Link will not only avoid any conflict with, or obstruction of, the applicable air quality management plans, it will actually assist in meeting the clean air goals that those plans are intended to achieve.

Construction of the Proposed Project would not prevent the SCAQMD from implementing these actions. Therefore the Proposed Project would not obstruct implementation of applicable air quality plans. This impact is less than significant.

b) Violate any air quality standards or contribute substantially to an existing or projected air quality violation.

Development of the CV Link project will result in the direct and indirect generation and emission of air pollutants during project construction and operation of various facility features, such as pathway lighting and water demands for landscaping. Criteria air pollutant and greenhouse gas emissions from grading and construction will be temporary; however, emissions from daily operation will be ongoing.

Due to the regional nature of CV Link, it is possible that material cut from one segment of the Link may be used as fill for another portion. Therefore, materials may require hauling trips regardless of a net balance of materials. For analysis purposes, it is assumed that all cut and fill material projections will require hauling, resulting in 238,500 cubic yards of export and 135,000 cubic yards of import. It is assumed that each haul trip will travel 30 miles and carry up to 20 tons (or 16 cubic yards) per haul. This overstates overall construction emissions associated with grading and provides a conservative emission estimate for analysis.

Construction Emission Impacts

Total length of the proposed CV Link Route is 44 miles. When considering all alignment variations, the total length, for analysis purposes, is approximately 57.62 miles. Although pathway widths will vary in size at different locations, ranging from 5 feet to 30 feet wide, it was conservatively assumed that the construction of the entire 57.62 miles of alignment variations would have a paved pathway of approximately 30 feet wide resulting in a total paved area of 209.53 acres. An additional 10-foot buffer was added to account for construction staging, landscaping and other ground disturbing activities, resulting in a total project area of 279.37 acres of possible disturbance[4].

[4] The total project area assumed for air quality analysis is slightly larger than the project impact area analyzed in the biological report. To be clear, this is not because the biological analysis under-reports impacts. To the contrary, the air quality modeling software uses inputs that tend to over-state the area that may be potentially disturbed during construction. Because any over-statement in disturbance area would only result in an even more conservative air quality analysis, the total disturbance areas and the potential emissions associated with those areas remain as predicted by the air quality model. Realistically, however, the actual anticipated total project disturbance area is as-stated in the biological analysis, and is slightly smaller than what is analyzed for air quality purposes.

The following table provides construction-related air quality impacts for project buildout.

Table 4.3-6
Unmitigated Construction Emissions Summary
Maximum Daily Emissions (lbs./day)

Year	CO	NO_x	ROG	SO_x	PM_{10}	$PM_{2.5}$
2018	96.07	118.30	10.16	0.22	26.80	13.37
2019	92.40	108.45	9.52	0.22	24.32	12.50
2020	38.60	38.22	3.95	0.06	2.62	2.00
2021	38.33	35.00	3.64	0.06	2.41	1.80
SCAQMD Threshold*	**550.00**	**100.00**	**75.00**	**150.00**	**150.00**	**55.00**
Exceeds Threshold	**No**	**Yes**	**No**	**No**	**No**	**No**

Source: CalEEMod Version 2013.2.2. See Appendix E of this EIR for detailed tables. Value shown represents the average unmitigated emissions from summer and winter.
* Source: "SCAQMD Air Quality Significance Thresholds" prepared by South Coast Air Quality Management District, March 2015.

As shown in the table above, SCAQMD daily thresholds for CO, ROG, SOx, PM_{10} and $PM_{2.5}$ will not be exceeded during construction of any phase of project development. However, NOx emissions have the potential to exceed SCAQMD thresholds due to simultaneous use of construction equipment and material hauling. To reduce NOx emissions and overall project impacts to less than significant levels, mitigation measures AQ-1 andAQ-2 are provided in Section 4.3.6. Results of the implementation of these measures and mitigated conditions are provided in section 4.3.7 below.

Operational Emission Impacts

Operational emissions associated with CV Link will be negligible and limited to area source emissions, such as pavement off gassing[5] and energy used to water landscaping. Energy demands will be limited to lighting and recharge stations, specifically light tubes, bollards, charging stations and LED lighting. Energy use for the project will not result in the direct emission of criteria pollutants; however, energy use will result in emission of greenhouse gases and is further discussed in Section 4.7 Greenhouse Gas Emissions. .

CV Link will not generate new mobile source emissions, instead the project is expected to reduce mobile source emissions by promoting and providing alternative modes of transportation, including biking and electric vehicles. The CV Link Traffic Report (2016) prepared by Urban Crossroads projects the Proposed Project, once constructed and in use, would result in a reduction of 7,410,993 annual vehicle miles traveled by 2040. The following table summarizes the daily reduction in mobile source criteria pollutants that would result due to the reduction in vehicle miles. Overall, operation of the CV Link project will result in a significant net reduction of daily criteria pollutants, and impacts would be less than significant.

[5] Off gassing refers to the volatile organic compounds (VOC) emissions that result from evaporation of solvents contained in surface coatings, such as paints and material sealants.

Table 4.3-7
Operational Emission Reductions of Criteria Pollutants
(Lbs per Day)

	CO	NO_x	ROG	SO_x	PM_{10}	$PM_{2.5}$
Mobile Source Reductions	23,326.89	2,583.27	3,251.46	5.40	36.20	23.13
Operational Emissions	0.02	0.00	58.86	0.00	0.00	0.00
Net Operational Emissions	**-23,326.87**	**-2,583.27**	**-3,192.60**	**-5.40**	**-36.20**	**-23.13**

Source: CalEEMod Version 2013.2.2. See Appendix E of this EIR for detailed tables. Value shown represents average daily-unmitigated emission across summer and winter activities.

c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions, which exceed quantitative thresholds for ozone precursors).

See Section 4.3.8 Cumulative Impacts, below.

d) Expose sensitive receptors to substantial pollutant concentrations.

The purpose of analyzing Localized Significance Thresholds (LST) is to determine whether a project may generate significant adverse localized air quality impacts in relation to the nearest exposed individual, or sensitive receptor. Land uses that are air quality sensitive receptors include, but are not limited to, schools, churches, residences, hospitals, day care facilities, and elderly care facilities. Sensitive receptors in proximity to CV Link include single- and multi-family residences, public parks, and schools. Please see Section 4.14, Public Facilities, for a listing of the parks and schools located in the vicinity of the Proposed Project.

Use of LSTs by a local government is voluntary and are designed for projects that are less than or equal to five acres. The maximum area of disturbance associated with buildout of the CV Link project is approximately 280 acres and it is assumed that buildout would occur gradually over the course of four years. Although the total project area is greater than five-acres, the area of daily disturbance (for purposes of LST analysis only) is limited to five acres or less per day at any given location, which is equivalent to one mile of pathway construction.[6] As such, the five acre look up table is appropriate under the SCAQMD's methodology to screen for potential localized air quality impacts.[7]

The Mass Rate Look-Up tables for LSTs were used to determine if the Proposed Project would have the potential to generate significant adverse localized air quality impacts during construction. The LST for Source Receptor Area (SRA) 30 (Coachella Valley) was used to determine LST emission thresholds. The distance from the emission source and the maximum daily site disturbance also determines emission thresholds. Sensitive receptors will vary depending upon which portion of the Link is being developed. For analysis purposes, the worst case scenario of a sensitive receptor being within 25 meters was used.

[6] The equipment specific grading rates are based on the SCAQMD's Fact Sheet for Applying CalEEMod to Localized Significance Thresholds guidance document. Per SCAQMD's guidance, the identified equipment is used to determine the maximum daily soil disturbance area for the purposes of evaluating localized construction impacts and is not an exhaustive list of all equipment that would be used during project construction. Additionally, the acreage identified in this table is used for the purposes of identifying a conservative Localized Significance Threshold (i.e., smaller disturbed areas have lower Localized Significance Thresholds) and does not represent a daily limit on the grading allowed on the site. In summary, then, the LST methodology focuses on the equipment that may be operated and acreage that may be disturbed in areas immediate proximate to potential sensitive receptors, even if other equipment may be operated or other acreage may be disturbed in areas that are farther away from the sensitive receptor.

[7] South Coast AQMD, "Fact Sheet for Applying CalEEMod to Localized Significance Thresholds."

Results show that LST thresholds are not expected to be exceeded during project development under unmitigated conditions. The project will be developed in accordance to SCAQMD Rule 403, and apply best management practices to ensure impacts to sensitive receptors are further reduced. Impacts will be less than significant.

Table 4.3-8
Localized Significance Thresholds
25 Meters, 5 Acres
(lbs per day)

	CO	**NO_x**	**PM_{10}**	**$PM_{2.5}$**
1-mile Path	13.67	16.53	4.47	2.53
LST	**2,292**	**304**	**14**	**8**
Exceed?	**No**	**No**	**No**	**No**
Source: CalEEMod Version 2013.2.2. See Appendix E of this EIR. Emissions show the highest emitting day for all emissions generated onsite during construction.				

e) Create objectionable odors affecting a substantial number of people.

The Proposed Project is not expected to generate significant objectionable odors during any phase of construction. The Proposed Project has the potential to result in short-term odors associated with paving and other construction activities. However, construction-related odors would be quickly dispersed below detectable levels and as distance from the construction area increases. Therefore, impacts from objectionable odors are expected to be less than significant.

Operation, or use, of CV Link will be limited to pedestrian, bicyclist, and low-speed electric vehicle use. There will be no operational impacts associated with objectionable odors.

4.3.6. Mitigation Measures

The following mitigation measures are required during construction to reduce impacts of Section 4.3.4 b) to less than significant levels.

AQ-1 To reduce particulate matter and NOx emissions construction equipment shall utilize aqueous diesel fuels, diesel particulate filters and diesel oxidation catalyst with a minimum 30% reduction rating during all construction activities.

AQ-2 SCAQMD Rule 403 (403.1 specific to the Coachella Valley): A dust control Plan shall be prepared and implemented by all contractors during all construction activities, including ground disturbance, grubbing, grading, and materials import and export. Said plan shall include but not be limited to the following best management practices:

- Chemically treat soil where activity will cease for at least four consecutive days;
- All construction grading operations and earth moving operations shall cease when winds exceed 25 miles per hour;
- Water site and equipment morning and evening and during all earth-moving operations;
- Operate street-sweepers on paved roads adjacent to site;
- Establish and strictly enforce limits of grading for each phase of development;
- Wash off trucks as they leave the project site to control fugitive dust emissions
- Cover all transported loads of soils, wet materials prior to transport, provide freeboard (space from the top of the material to the top of the truck) to reduce PM_{10} and deposition of particulate matter during transportation

- Use track-out reduction measures such as gravel pads at project access points to minimize dust and mud deposits on roads affected by construction traffic.

4.3.7. Significance After Mitigation

As shown in the table below, adherence to the above mitigation measures would reduce construction-related criteria pollutant emissions below SCAQMD thresholds. Construction emissions will be further minimized through best management practices, proper maintenance of construction equipment, and other recommendations set forth in the *Air Quality and Greenhouse Gas Report* that limit the project's contribution to air pollutant emissions during construction.

Table 4.3-9
Mitigated Construction Emissions Summary
Maximum Daily Emissions
(lbs./day)

Year	CO	NO_x	ROG	SO_x	PM_{10}	$PM_{2.5}$
2018	96.07	94.44	10.16	0.22	18.38	9.21
2019	92.40	86.61	9.52	0.22	15.89	8.34
2020	38.60	29.20	3.95	0.06	2.62	2.00
2021	38.33	26.75	3.64	0.06	2.41	1.80
SCAQMD*	**550.00**	**100.00**	**75.00**	**150.00**	**150.00**	**55.00**
Exceeds?	**No**	**No**	**No**	**No**	**No**	**No**

Source: CalEEMod Version 2013.2.2. See Appendix E of this EIR for detailed tables. Value shown represents the average mitigated emissions from summer and winter.
* Source: "SCAQMD Air Quality Significance Thresholds" prepared by South Coast Air Quality Management District, March 2015.

As shown in the table above, all impacts associated with criteria pollutants will be reduced to less than significant levels with adherence to the mitigation measures provided in Section 4.3.6. Therefore, impacts to air quality resulting from construction of the CV Link Project will be less than significant.

4.3.8. Cumulative Impacts

Cumulative air quality impacts were assessed on a regional scale given the dispersing nature of pollutant emissions and aggregate impacts from surrounding jurisdictions and air management districts. Any activity resulting in emissions of PM_{10}, ozone, or ozone precursors will unavoidably contribute, at some level, to regional non-attainment designations of ozone and PM_{10}. However, the level of impact a single project may have on regional air quality is difficult to measure. The Coachella Valley is subject to the SCAQMD 2016 Air Quality Management Plan and the 2003 PM_{10} Coachella Valley State Implementation Plan (CVSIP) to ensure levels of criteria pollutants are regulated and minimized to the best of the region's ability. The 2016 AQMP has set forth attainment deadlines and future emission level projections for criteria pollutants within the project area, which satisfies Section 15130(b)(1)(B) of the CEQA guidelines for analyzing cumulative impacts. These regional plans provide guidelines and rules for achieving state and federal air quality standards, which aid to reduce cumulative impacts, particularly through the enforcement of SCAQMD daily thresholds and implementation of time-sensitive reduction strategies to achieve attainment status. Overall, CV Link will result in a net reduction of all criteria pollutants and will have a positive long-term impact on cumulative air quality conditions. Cumulative air quality impacts are therefore limited to construction emissions. Construction mitigation and minimization measures set forth in this EIR are aimed to reduce CV Link's contribution to any significant cumulative effects related to air quality.

The SSAB is designated as nonattainment under both the CAAQS and the NAAQS for ozone and PM_{10}. Emissions of CO, NOX and ROG that exceed the SCAQMD operational thresholds would contribute to the ozone nonattainment designation, while emissions of PM_{10} that exceed the SCAQMD thresholds would contribute to the PM_{10} nonattainment designation of the SSAB.

Construction activities associated with development of CV Link will not exceed SCAQMD daily thresholds for criteria pollutants with the imposition of the above mitigation measures. However, emission of CO, NOx, ROG, and PM_{10} during construction of the project are unavoidable and will marginally contribute to regional ozone and PM_{10} non-attainment designations. The following discussions address cumulative impacts related to ozone and PM_{10}.

Regulation of Ozone

As previously discussed, SCAQMD studies indicate that most ozone is transported to the Salton Sea Air Basin from the upwind sources in the South Coast Air Basin. The amount of ozone contributed from other air basins is difficult to quantify; however, improved air quality in the project area depends upon reduced ozone emissions in the South Coast Air Basin. Therefore, cumulative impacts to ozone are better managed on a multi-regional scale as opposed to single projects. The SCAQMD 2012 AQMP and Draft 2016 AQMP provide current and future measures to reduce both stationary and mobile source ozone emissions. Proposed measures to reduce ozone include emission reductions from coatings and solvents, RECLAIM facilities, early transitions to cleaner mobile technologies, and incentives to adopt net zero and near zero technologies[8].

CalEEMod does not calculate ozone emissions directly and therefore emissions of ozone precursors (CO, NOx, and ROG) were evaluated to determine project-related impacts to ozone. Ozone precursors are the primary pollutants involved in the chemical reaction process that forms ozone. The Proposed Project will not exceed local construction or operational thresholds for ozone precursors under required mitigated conditions. In addition, the reduction of criteria pollutants associated with reduced vehicle miles traveled when the project is completed significantly outweighs new emissions created during project construction.

Development of the CV Link will adhere to ozone reduction measures set forth in the SCAQMD AQMP. In addition, the project will result in significant reductions of future ozone precursors related to mobile source emissions. Therefore, the Proposed Project is considered less than significant in regards to cumulative air quality impacts related to ozone.

Regulation of PM_{10}

Similar to ozone, PM_{10} is regulated through the SCAQMD 2016 Air Quality Management Plan and 2002 PM_{10} Coachella Valley State Implementation Plan (CVSIP). Additional PM_{10} reduction measures include applicable state code and AQMD Rules, such as Rule 403 (Fugitive Dust), which enforces fugitive dust compliance for all activities within the SSAB. As shown in the analysis above, the Proposed Project will not exceed local daily thresholds for PM_{10}. Therefore, cumulative impacts to PM_{10} are considered less than significant.

In conclusion, cumulative air quality impacts related to construction and use of CV Link are considered less than significant with mitigation. Development and operation will not exceed air quality maximum daily thresholds for CO, NOx and PM_{10}, which are cumulative thresholds by their nature. In addition, the Proposed Project is consistent with regulation requirements of ozone and PM_{10} in the Salton Sea Air Basin. Therefore cumulative impacts related to ozone and PM_{10} emissions will be less than significant.

[8] Final 2016 Air Quality Management Plan, South Coast Air Quality Management District, 2016.

4.4. Biological Resources

4.4.1. Introduction

This section provides an overview of the existing biological resource conditions within the project area and surrounding region and environmental analysis of potential biological resource impacts that would result from implementation of the Proposed Project. The regulatory environment and thresholds of significance are described. The project's potential biological impacts are discussed and where needed, mitigation measures are set forth. The section concludes with a discussion of residual and cumulative impacts. This section is based on the Biological Resource Assessment Report and the Jurisdictional Delineation Report both prepared for the project by AMEC Foster Wheeler. The Biological Resource Assessment Report is appended to this EIR as Appendix F. The Jurisdictional Delineation is provided as Appendix G.

4.4.2. Thresholds of Significance

The following significant thresholds or criteria are not strictly those recommended in §15064.7 of CEQA, rather they are derived from Appendix G of CEQA, which is used to determine if and to what extent a project may have a potentially significant impact on biological resources. CV Link would have a significant effect on biological resources if it is determined that the project will:

a) Have a substantial adverse effect, either directly or indirectly, or through habitat modifications, on any species identified as a candidate, sensitive, or special status species (including species listed as threatened or endangered) in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service.

b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service.

c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.

d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.

e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.

f) Conflict with the provisions of any adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional or state habitat conservation plan.

4.4.3. Regulatory Framework

Federal

Endangered Species Act (ESA)

The United States Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service are the designated federal agencies accountable for administering the ESA. ESA defines species as "endangered" or

"threatened" and provides regulatory protection at the federal level. Section 9 of the ESA prohibits the "take" of listed (i.e., endangered or threatened) species. The ESA definition of take is "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to engage in such conduct." Recognizing that take cannot always be avoided, Section 10(a) includes provisions for take that is incidental to, but not the purpose of, otherwise lawful activities. Specifically, Section 10(a)(1)(A) permits (authorized take permits) are issued for scientific purposes. Section 10(a)(1)(B) permits (incidental take permits) are issued for the incidental take of listed species that does not jeopardize the species. Section 10(a) of the ESA also establishes standards for the content of habitat conservation plans, such as the Coachella Valley Multiple Species Conservation Plan (CVMSHCP).

Section 7 (a)(2) requires federal agencies to evaluate a proposed Project with respect to species currently listed or proposed to be listed, and their respective critical habitat (if applicable). Federal agencies must employ programs for the conservation of listed species and are prohibited from authorizing, funding, or carrying out any action that would jeopardize a listed species or destroy or modify its critical habitat.

As defined by the ESA, "individuals, organizations, states, local governments, and other non-federal entities are affected by the designation of critical habitat only if their actions occur on federal lands, require a federal permit, license, or other authorization, or involve federal funding."

Migratory Bird Treaty Act (MBTA)

Treaties signed by the U.S., Great Britain, Mexico, Japan, and the countries of the former Soviet Union make it unlawful to pursue, capture, kill, or possess, or attempt to engage in any such conduct to any migratory bird, nest, egg or parts thereof listed in this document. The Secretary of the Interior can issue permits for incidental take of migratory bird species. As with the ESA, the MBTA also allows the Secretary of the Interior to grant permits for the incidental take of these protected migratory bird species.

Section 404 of the Clean Water Act

This section of the Clean Water Act (CWA), administered by the US Army Corps of Engineers (USACE), regulates the discharge of dredged and fill material into "waters of the United States." The USACE has created a series of nationwide permits that authorize certain activities within waters of the U.S. provided that the proposed activity does not exceed the impact threshold for nationwide permits; takes steps to avoid impacts to wetlands where practicable; minimizes potential impacts to wetlands; and provides compensation for any remaining, unavoidable impacts through activities to restore or create wetlands. For projects that exceed the threshold for nationwide permits, individual permits under Section 404 can be issued.

U.S. Army Corps of Engineers

The USACE regulates the discharge of dredged or fill material in waters of the United States (WUS) pursuant to Section 404 of the CWA. CWA regulations (33 CFR 328.3(a)) define WUS as follows:

- All waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;
- All interstate waters including interstate wetlands;
- All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation or destruction of which could affect interstate or foreign commerce including any such waters: (i) Which are or could be used by interstate or foreign travelers for recreational or other purposes; or (ii) From which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or (iii) Which are used or could be used for industrial purpose by industries in interstate commerce;
- All impoundments of waters otherwise defined as WUS under the definition;
- Tributaries of WUS;
- The territorial seas;
- Wetlands adjacent to WUS (other than waters that are themselves wetlands).

The USACE delineates non-wetland waters in the Arid West Region by identifying the ordinary high water mark (OHWM) in ephemeral and intermittent channels (USACE, 2008a). The OHWM is defined in 33 CFR 328.3(e) as:

"…that line on the shore established by the fluctuations of water and indicated by physical characteristics such as clear, natural line impresses on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas."

Identification of OHWM involves assessments of stream geomorphology and vegetation response to the dominant stream discharge. Determining whether any non-wetland water is a jurisdictional WUS involves further assessment in accordance with the regulations, case law, and clarifying guidance as discussed below.

Wetlands and Other Special Aquatic Sites

Wetlands are defined at 33 CFR 328.3(b) as "those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas."

Special aquatic sites are geographic areas, large or small, possessing special ecological characteristics of productivity, habitat, wildlife protection, or other important and easily disrupted ecological values. These areas are generally recognized as significantly influencing or positively contributing to the general overall environmental health or vitality of the entire ecosystem of a region. Special aquatic sites include sanctuaries and refuges, wetlands, mud flats, vegetated shallows, coral reefs, and riffle and pool complexes. They are defined in 40 CFR 230 Subpart E.

State

California Endangered Species Act (CESA)

This legislation is similar to the federal ESA; however it is administered by the California Department of Fish and Wildlife (CDFW). The CDFW is authorized to enter into "memoranda of understanding" with individuals, public agencies, and other institutions to import, export, take, or possess state-listed species for scientific, educational, or management purposes. CESA prohibits the take of state-listed species except as otherwise provided in state law. Unlike the federal ESA, CESA applies the take prohibitions to species currently petitioned for state-listing status (candidate species). State lead agencies are required to consult with CDFW to ensure that actions are not likely to jeopardize the continued existence of any state-listed species or result in the destruction or degradation of occupied habitat.

The Native Plant Protection Act (NPPA)

The NPPA includes measures to preserve, protect, and enhance rare and endangered native plant species. Definitions for "rare and endangered" are different from those contained in CESA. However, the list of species afforded protection in accordance with the NPPA includes those listed as rare and endangered under CESA. NPPA provides limitations on take as follows: "no person will import into this state, or take, possess, or sell within this state" any rare or endangered native plants, except in accordance with the provisions outlined in the act. If a landowner is notified by CDFW, pursuant to section 1903.5, that a rare or endangered plant is growing on their property, the landowner shall notify CDFW at least 10 days prior to the changing of land uses to allow CDFW to salvage the plants.

Natural Community Conservation Planning (NCCP) Program

The NCCP, which is managed by the CDFW, is intended to conserve multiple species and their associated habitats, while also providing for compatible use of private lands. Through local planning, the NCCP planning process is designed to provide protection for wildlife and natural habitats before the environment becomes so fragmented or degraded by development that species listing is required under CESA.

Instead of conserving small, often isolated "islands" of habitat for just one listed species, agencies, local jurisdictions, and/or other interested parties have an opportunity through the NCCP to work cooperatively to develop plans that consider broad areas of land for conservation that would provide habitat for many species. Partners enroll in the programs and, by mutual consent, areas considered to have high conservation priorities or values are set aside and protected from development. Partners may also agree to study, monitor, and develop management plans for these high value "reserve" areas. The NCCP provides an avenue for fostering economic growth by allowing approved development in areas with lower conservation value. An NCCP is included as a part of the CVMSHCP.

Sections 1600-1603 of the State Fish and Game Code

The California Fish and Game Code, Sections 1600 through 1603, regulates all diversions, obstructions, or changes to the natural flow or bed, channel, or bank of any river, stream, or lake that supports fish or wildlife resources. Under state code, CDFW jurisdiction is assessed in the field based on one, or a combination, of the following criteria (CDFW 2005b):

- At minimum, intermittent and seasonal flow through a bed or channel with banks and that also supports fish or other aquatic life.
- A watercourse having a surface or subsurface flow regime that supports or that has supported riparian vegetation.
- Hydrogeomorphically distinct top-of-embankment to top-of-embankment limits.
- Outer ground cover and canopy extents of, typically, riparian associated vegetation species that would be sustained by surface and/or subsurface waters of the watercourse.

The CDFW requires that public and private interests apply for a "Streambed Alteration Agreement" for any project that may impact a streambed or wetland. The CDFW has maintained a "no net loss" policy regarding impacts to streams and waterways and requires replacement of lost habitats on at least a 1:1 ratio.

Section 2081 of the State Fish and Game Code

Under Section 2081 of the California Fish and Game Code, the CDFW authorizes individuals or public agencies to import, export, take, or possess state endangered, threatened, or candidate species in California through permits or memoranda of understanding. These acts, which are otherwise prohibited, may be authorized through permits or "memoranda of understanding" if (1) the take is incidental to otherwise lawful activities, (2) impacts of the take are minimized and fully mitigated, (3) the permit is consistent with regulations adopted in accordance with any recovery plan for the species in question, and (4) the applicant ensures suitable funding to implement the measures required by the CDFW. The CDFW must make this determination based on the best scientific information reasonably available and must include consideration of the species' capability to survive and reproduce.

State Fish and Game Code

Section 3505.5 makes it unlawful to take, possess, or destroy any birds in the order Falconiformes or Strigiformes (birds-of-prey, i.e.: owls, hawks, eagles, etc.) or to take, possess, or destroy the nest or eggs of any bird-of-prey. Section 3503 makes it unlawful to take, possess, or needlessly destroy the nest or eggs of any bird. Section 3513 makes it unlawful to take or possess any migratory nongame bird as designated in the MBTA.

Regional/Local
No regional or local regulations regarding biological resources are applicable to the proposed CV Link.

4.4.4. Existing Conditions

Historically, (prior to 1960), large areas of the CV Link project Route and surrounding general area were primarily covered with wind-deposited sands and hummocks. As urban development expanded throughout the greater Coachella Valley, the flow and deposition of aeolian sand deposits from the west and north has been interrupted and slowed by these manmade impediments. This has resulted in the gradual stabilization and compaction of sands that were once continuous, loose and dynamic.

Additionally, most of the proposed alignment has been directly and indirectly impacted by a variety of anthropomorphic influences. The most evident disturbance is co-terminus with the proposed footprint of the CV-Link path, which for a large proportion of the alignment already consists of a graded, compacted dirt path that often runs along the top of existing stream banks, including the Tahquitz Creek Channel and the Whitewater River/Coachella Valley Stormwater Channel embankments and levees.

Significant portions of the alignment are located within paved public roads and paths adjacent to golf courses and parks. Equally significant examples of disturbance include onsite and adjacent commercial, industrial, recreational (golf course), and residential development, limited agriculture (only on the southern end of the Route), road shoulder disturbance, fragmentation caused by public roads, operation of off-road vehicles and/or golf carts (existing dirt and paved roads and trails), dumping of trash, debris and waste and the presence of domestic animals such as dogs and livestock. All of these onsite and adjacent human-related disturbances have had adverse impacts to the natural environment in the immediate vicinity of the project Route and have negatively affected the distribution, diversity and abundance of flora and fauna.

Biological Conditions in the Study Area

The following section describes the natural communities associated with the CV Link project area, including vegetation and wildlife communities, aquatic resources, invasive species and habitat connectivity.

Vegetation Communities
Native vegetation, where present adjacent to the Route, is mostly dominated by a mixture of the following vegetation communities:

- *Larrea tridentata/Ambrosia dumosa* shrubland alliance Sawyer et. al (2009) (Sonoran creosote bush/mixed woody and succulent scrub in the CVMSCHP);
- Creosote bush – white bursage scrub [Sandy association]/*Ambrosia salsola* alliance (Ephemeral and Stabilized shielded sand fields in the CVMSHCP); and
- *Atriplex canescens* alliance (Desert saltbush scrub in the CVMSHCP).

Dominant native perennial plant species representative of the Sonoran creosote bush/mixed succulent scrub communities observed during the biological field survey included creosote bush (*Larrea tridentata*), white bursage (*Ambrosia dumosa*), brittle bush (*Encelia farinosa*), California indigo-bush (*Psorothamnus arborescens* var. *simplicifolius*), Schott's indigo-bush (*Psorothamnus schottii*), and golden cholla (*Cylindropuntia echinocarpa*).

Species representative of Ephemeral and Stabilized shielded sand fields include Emory dalea (*Psorothamnus emoryi*), California croton (*Croton californicus*), sand verbena (*Abronia villosa* var. *villosa*), and dune sunflower (*Helianthus petiolaris* ssp. *canescens*). Plants representative of Desert saltbush scrub included four-wing saltbush (*Atriplex canescens*), allscale (*Atriplex polycarpa*), cheesebush (*Ambrosia salsola*), and salt grass (*Distichlis spicata*).

The northern end of the Route, adjacent to the CVMSHCP Whitewater Floodplain Conservation area, is mapped in the CVMSHCP as passing through/adjacent to a large area of mixed Ephemeral, Stabilized, and Stabilized shielded sand fields. That portion of the alignment that runs along North Palm Canyon Drive/Highway 111 from Tramway Road north to the alignment's intersection with the Whitewater Floodplain Conservation area is mapped in the CVMSHCP as Sonoran mixed woody and succulent scrub. Areas of Sonoran creosote bush scrub along or close to the alignment are present along Highway 111 between Sungate Way and Frank Sinatra Drive; between Paxton Drive and Mirage Road; and between Rio del Sol Road and Parkview Drive.

The only area of CVMSHCP-mapped Desert saltbush scrub habitat on the Route is between Avenue 48 and Avenue 50. Lastly, there are some limited areas in the Whitewater River channel on the southern end of the Route (adjacent to the alignment, not on the alignment) that support small stands of willows and cottonwoods. These fragmented and highly restricted stands are not truly representative of a natural willow woodland (such as Black willow thickets) but are remnant "pockets" of riparian vegetation resulting from groundwater recharge, agricultural runoff and municipal wastewater treatment facility discharges into the channel. They also result from ongoing Coachella Valley Water District/Riverside County Flood Control and Water Conservation District channel maintenance activities.

Plants that were observed in the urban and residential portions of the CV Link corridor include a mixture of nonnative and native landscaped trees and shrubs, including gum trees (*Eucalyptus spp.*), Mexican bird-of-paradise (*Caesalpinia pulcherrima*), ocotillo (*Fourquieria splendens* ssp. *splendens*), Texas sage (*Leucophyllum frutescens*), various acacia (*Acacia sp.*), oleander (*Nerium oleander*), and bougainvillea (*Bougainvillea* sp.) .

A list of one hundred four (104) plant species observed during the surveys, including common and scientific names, is appended to this EIR as Appendix B of the Biological Resource Assessment.

Wildlife Communities

Vertebrate wildlife directly observed and/or otherwise detected through presence of sign (e.g., scat, bones, prints, feathers, burrows, etc.) during the field survey was not diverse or abundant. Vertebrates recorded along the Route during the field survey and in previous surveys include: one fish, three amphibians, nine reptiles, 33 birds, and eight mammals. Appendix C of the Biological Resource Assessment contains a complete list of vertebrate species detected.

Reptiles detected included side-blotched lizard (*Uta stansburiana*), northern desert iguana (*Dipsosaurus dorsalis dorsalis*), common chuckwalla (*Sauromalus ater*), western zebra-tailed lizard (*Callisaurus draconoides rhodostictus*), desert spiny lizard (*Sceloporus magister*), long-tailed brush lizard (*Urosaurus graciosus*), western whiptail (*Aspidoscelis tigris tigris*), Mohave shovel-nosed snake (*Chionactis occipitalis occipitalis*), and Colorado Desert sidewinder (*Crotalus cerastes laterorepens*). Other common species such as southern desert horned lizard (*Phrynosoma platyrhinos calidiarum*), red coachwhip (*Masticophis flagellum piceus*), desert glossy snake (*Arizona elegans eburnata*) and desert banded gecko (*Coleonyx variegatus variegatus*) are also expected to occur in and around the CV Link corridor.

Representative birds observed onsite included Gambel's quail (*Callipepla gambelii*), mourning dove (*Zenaida macroura*), greater roadrunner (*Geococcyx californianus*), common raven (*Corvus corax*), northern mockingbird (*Mimus polyglottos*), great-tailed grackle (*Quiscalus mexicanus*) and verdin (*Auriparus flaviceps*). Other common desert and migrant bird species are also expected to occur.

Common mammals detected onsite or immediately adjacent to the corridor included black-tailed jackrabbit (*Lepus californicus*), Audubon's cottontail (*Sylvilagus audubonii*), Calfornia ground squirrel (*Spermophilus beecheyi*) white-tailed antelope squirrel (*Ammospermophilus leucurus*), desert wood rat (middens) (*Neotoma lepida*), northern raccoon (tracks) (*Procyon lotor*), and coyote (*Canis latrans*). Other small mammals, particularly rodents, occur near the project corridor as burrows were observed.

Aquatic Resources

Aquatic resources are limited to sparsely scattered water pools located along the proposed Route. One exotic fish species, mosquitofish (*Gambusia affinis*), was observed within the few areas of pooled water present along the alignment in the Whitewater River channel, including, for example, a location west of Miles Avenue in Indian Wells. One non-native amphibian species, bullfrog (*Lithobates catesbeianus*) was also observed in the same area as the mosquitofish in Indian Wells. California toad (*Anaxyrus boreas halophilus*) and California chorus frog (*Pseudacris cadaverina*) tadpoles were observed adjacent to the South Palm Canyon Bridge crossing during an unrelated survey performed on April 14, 2015. None of these areas, however, are considered to be suitable habitat for the arroyo toad, desert pupfish or razorback sucker.

Invasive Species

There are no invasive plant or animal species located within the CV Link project area[1]. Landscape plans for development projects and land uses that are located adjacent to or within a conservation area are required to not use invasive, non-native plant species in their design. To the maximum extent feasible, Coachella Valley native plant species listed in Table 4-112 of the CVMSHCP must be incorporated into project landscape designs within or adjacent to conservation areas.

Waters of the US and the State of California

The CV Link alignment generally occurs adjacent to the Whitewater River and Tahquitz Creek along the levee access road. The dirt levee access road is generally adjacent to residential housing, commercial facilities, agricultural land, and undeveloped land. The study area also occurs along city streets and through golf courses. Both the Whitewater River and Tahquitz Creek are intermittent drainages that flow for less than 3 months per year. Therefore, the USACE will likely classify them as "non-Relatively Permanent Waterways."

The entire length of the Route was surveyed to identify the potential for jurisdictional water features. Following field observations, regulated waters of the US and waters of the State were delineated as prescribed by the USACOE's *A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States*. Waters of the US were determined by identifying the indicators for the Ordinary High Water Mark (OHWM).

The USACE has identified three criteria necessary to determine an area a federal wetland:

- **Hydrophytic Vegetation.** More than 50% of all the dominant vegetation species present must have a wetland indicator status of obligate (OBL), facultative wetland (FACW), or facultative (FAC) (USACE, 2008b). An OBL indicator refers to plants that almost always occur in wetlands. A FACW indicator refers to plants that usually occur in wetlands, but may occur in non-wetlands. A FAC indicator refers to plants that occur in wetlands and non-wetlands.

- **Hydric Soils**. Soils in the area can be inferred or observed to have a high groundwater table, if there is evidence of prolonged soil saturation, or if there are any indicators suggesting a long-term reducing environment in the upper part of the soil profile. Reducing conditions are most easily assessed using soil color.

- **Wetland Hydrology.** Field observations must indicate that an area has a high probability of being inundated or saturated long enough during the growing season to develop anaerobic conditions in the surface soil environment, especially the root zone.

[1] "Biological Resource Impact Report," prepared by AMEC Foster Wheeler, August 23, 2016.

The United States Fish and Wildlife Service (USFWS) is the principal Federal agency that provides information to the public on the extent and status of the Nation's wetlands. The USFWS has developed a series of maps, known as the National Wetlands Inventory (NWI) to show wetlands and deepwater habitat. NWI wetlands occurring along Tahquitz Creek at the north end of the CV Link alignment are characterized as riverine (R4USJx) and freshwater pond (PUSKx, PUBHx) based on Cowardin Classification. Three freshwater pond wetlands (PUBHx) are located along the alignment adjacent to Calle Tecuala, approximately 2 miles southeast of where Tahquitz Creek flows into the Whitewater River and 1,500 feet west of the closest reach of the Whitewater River.

NWI wetlands occurring along the Whitewater River, throughout the Route, are characterized as riverine (R4SBJ, R4SBJx), freshwater pond (PUBHx, PUSCh, PUSJ), freshwater emergent wetland (PEMC, PEMFx), and freshwater forested/ shrub wetland (PSSC).

4.4.5. Project Impacts

CV Link is proposed as a multi-modal transportation path network that passes through some of the most developed and populated portions of the Coachella Valley, providing access and connectivity between residential, commercial, recreational, institutional, and other land uses throughout the region, and providing recreational opportunities for pathway users. The following analysis is supported by the Biological Resource Assessment Report and Coachella Valley Multiple Species Habitat Conservation Plan Compliance Analysis, provided in Appendix F; and the Jurisdictional Delineation provided in Appendix G.

a) Have a substantial adverse effect, either directly or indirectly, or through habitat modifications, on any species identified as a candidate, sensitive, or special status species (including species listed as threatened or endangered) in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service.

The Proposed Project has the potential to impact sensitive species with the introduction of pathway facilities and the generation of new sources of noise or light, which may generate edge effects.

The CVMSHCP protects a number of species that could occur in the area surrounding CV Link. These species were considered and studied in the Biological Resources Assessment Report, which can be found in Appendix F. As discussed under Section 4.4.5 f), potential impacts to those species will be mitigated through the payment of impact fees.

Tables 4.4-1 through 4.4-6 summarize information on all special-status species that have been reported within the vicinity (5-mile radius), or are considered to have some potential to occur onsite based on geographic distribution and presence of potentially suitable habitat. These tables provide the names, legal or conservation status, general habitat associations, and the probability of occurrence for each of these species. In addition, AMEC Foster Wheeler conducted biological field surveys on November 20, 2015; May 17, 2016; and June 1, 2, 3, 6, 7, and 16, 2016.

The following discussion addresses species not covered by the CVMSHCP, that have the potential to occur on the CV Link Route.

Special Status Plants

Potentially-occurring special-status plant species that are not covered by the CVMSHCP include: chaparral sand-verbena, singlewhorl burrobush, gravel milk-vetch, glandular ditaxis, and slender cottonheads. The complete list of special status plants is shown in Table 4.4-1.

Potential impacts to chaparral sand-verbena may be considered significant if a substantial population were to be lost or impacted, as this species is designated as a CNPS List 1B.1 species, meaning that it is considered to be

"seriously threatened in California and elsewhere," has a "high degree (and/or) immediacy of threat" and is considered to be "seriously endangered in California (over 80% of occurrences threatened / high degree and immediacy of threat)." However, due to the extremely disturbed and/or developed condition of the majority of the proposed Route, this plant is not expected to occur on the CV Link Route, and the Project is not expected to impact a substantial population of this species.

The remaining plant species are considered to be CNPS List 2 species or higher. Impacts to those species, if any, would fall below the threshold of significance under CEQA because they are "more common elsewhere" or "more information is needed," as defined by the California Native Plant Society. Similar to CNPS List 1 species, impacts to CNPS List 2 species will be less than significant, if not negligible, due to the extremely disturbed and/or developed condition of the majority of the proposed Route.

Special Status Wildlife

Invertebrates
Special status invertebrates not covered by the CVMSHCP include Casey's June beetle and cheeseweed owlfly. The Casey's June beetle has been observed along the portion of the Route occurring between El Cielo Road and Jenkins Trail, in Demuth Park and the Tahquitz Creek Golf Course in the City of Palm Springs. The Casey's June beetle is federally listed as endangered, and is fully protected by the ESA. CV Link occurs in the Survey Area for the species, and not in critical habitat.

Focused surveys for the species were conducted in 2014[2] in accordance with the Casey's June Beetle (Dinacoma caseyi) Survey Guidelines following the reconnaissance site visit/habitat assessment. Standard black light bucket traps were placed along potentially suitable areas of the Proposed Project Route within the approximate two-mile section during each visit. Light trapping started approximately 1 hour before sunset and continued for at least 3 hours each night during suitable survey conditions. A total of 81 male Casey's June beetles were temporarily captured and released at 11 of the 15 trap locations. The highest concentration was trapped at location immediately north of critical habitat for the species. In other locations, isolated individuals were located, in areas with limited open sandy areas, or where light pollution impacted the trap lights. Four of the fifteen locations trapped resulted in no Casey's June beetle detections. These include trap locations in areas that were almost entirely developed (i.e., golf course and park) and were adjacent to Demuth Park where adjacent stadium lighting contributes to significant light pollution. These three locations also routinely had significantly fewer other beetles and insects in comparison to the other trap locations. No female Casey's June beetles were detected.

The portion of the Route where Casey's June Beetles were found consists of the limited widening of an existing path and the addition of an access point, which will include wayfinding signage, benches and similar project features. Take of the species during construction or long term operation of the path would represent a potentially significant impact to the species, which requires mitigation. CVAG has completed a Habitat Conservation Plan (HCP) for this portion of the Route, and has consulted extensively with the USFWS. The total area impacted by project activities within the affected area totals 3.03 acres. Of these 3.03 acres, 1.67 acres is already paved and operating as a trail or pathway; 0.07 will be improved with native landscaping, creating habitat; the area to be disturbed for construction, which will result in temporary impacts, has been determined to be 0.59 acres; and the area of permanent impact beyond what is current paved is 0.79 acres. The USFWS has required mitigation for both temporary and permanent impacts. The USFWS further determined that, consistent with other mitigation programs implemented for the species relating to other projects, mitigation lands must be provided on a 3 to 1 ratio for temporary impacts, and on a 9 to 1 ratio for permanent impacts. As a result, a total of 8.88 acres of mitigation land must be provided to fully mitigate the impacts of the Proposed Project to CJB. The USFWS has identified 16.3 acres of land within the Tahquitz Creek Golf Course which has good potential for habitat

[2] The 2014 surveys have been accepted by the USFWS as current and are the basis for preparation of the Casey's June Beetle Habitat Conservation Plan (HCP).

conservation for the species. Of these 16.3 acres, CVAG and the City had previously established that 9.4 acres were suitable for use in the preservation of the species as part of CVAG's HCP. In order to assure that sufficient land is preserved to compensate for both temporary and permanent impacts to the species, 8.88 acres will be placed in conservation easements; restored to native conditions approved by USFWS; and monitored and maintained in perpetuity. These lands are shown in Exhibit 4.4-1. In addition, CVAG will implement avoidance and minimization measures, consistent with the requirements of the ESA. The mitigation program will include the funding of a permanent endowment in the amount of $160,075, to assure that monitoring costs for the mitigation lands will continue in perpetuity. By assuring long term funding, CVAG will assure that the conservation areas preserved for the species are maintained throughout the life of the project. These mitigation measures are provided below in mitigation measure BIO-5. No CV Link construction could or would occur until issuance of the permit. This proposed mitigation would mitigate impacts to the species to less than significant levels.

The cheeseweed owlfly is not a covered species under the CVMSHCP, and is not listed as an endangered or threatened species by the CDFW or USFWS. The species has been observed in Palm Canyon Wash less than one mile south of the Tahquitz Creek segment of the project. Undeveloped areas of Tahquitz Creek adjacent to the Route support habitat that is similar to that found in Palm Canyon Wash, and there is a low probability that cheeseweed owlfly could occur in this area. Currently, this species has a CDFW CNDDB sensitivity ranking of S2. However, the species is not expected to occur on the CV Link Route, because this section of the Route occurs on compacted dirt, asphalt or concrete paths that are not suitable habitat for the species.

Reptiles

The red-diamond rattlesnake is s species of concern that is not covered under the CVMSHCP. The biological assessment found that the probability of occurrence was low, because the species is known only in rocky areas on the west boundary of Rancho Mirage, and the South Palm Canyon bridge area, away from the Route. In addition, the species required surface cover (rocks, shrubs) not available on the graded levee tops on which the Route is proposed. Finally, the species is usually located in areas of rodent burrows, which provide prey. Rodent burrows were not identified in the South Palm Canyon bridge alignment area.

Birds

Although covered by the CVMSHCP, burrowing owl requires special consideration under the Plan. Surveys conducted for this project identified burrows with burrowing owl sign and one live burrowing owl were identified on the CV Link alignment on 29 Palms Tribal lands between Dillon Road and Golf Center Parkway. In addition, although no sign or individuals were observed elsewhere on the Route, several burrows that would be capable of occupation by the species were observed at several locations on the Route. Finally, the Whitewater Floodplain Conservation Area of the CVMSHCP provides "Other Conserved Habitat" for the burrowing owl. The portion of the CV Link Route that passes through this area has suitable habitat for burrowing owl, although none were observed during field surveys. Construction of the path could impact the species, either at its known location or other locations on the Route. This would represent a potentially significant impact that will require mitigation. Well established protocols exist for pre-construction surveys for the species, and the avoidance of identified individuals during the nesting season. Mitigation measures have been provided below that require that pre-construction surveys be conducted for the species, as required by CDFW protocols.

Loggerhead shrike was observed at several locations along the Route. There is a moderate to high potential for loggerhead shrike to nest at various locations along or immediately adjacent to the Proposed Project Route. This species is considered a CDFW "Species of Special Concern" (CSC).

There is a moderate potential for black-tailed gnatcatcher to occur and nest along portions of the CV Link Route, especially adjacent to the Whitewater Floodplain Conservation Area. Black-tailed gnatcatchers are not listed as threatened, endangered, or as a CDFW CSC, and are not a "covered" species under the CVMSHCP. This species has a CDFW CNDDB ranking of S3S4.



Source: CVAG, 2016

12.15.16

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CV Link Project
Casey's June Beetle Mitigation Lands Map
Coachella Valley Association of Governments

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CVAG

EXHIBIT
4.4-1

A juvenile vermilion flycatcher was observed near the alignment north of Ramon Road. Vermilion flycatcher has a moderate potential to nest along the Route in several areas of the Whitewater River channel with appropriate vegetation, as well as along golf course and park areas adjacent to the CV Link Route. This species is considered a CDFW CSC when nesting.

Impacts to nesting loggerhead shrike, black-tailed gnatcatcher and vermillion flycatcher would be avoided through the mitigation measures provided in compliance with the MBTA and described below.

Mammals
There is a low to moderate potential for the spotted bat, western mastiff bat and pocketed free-tailed bat to forage over portions of the Route. No roosting habitat occurs for these species on or adjacent to the Route. None of these bats are State or Federal listed as threatened or endangered, and all have a CDFW CNDDB ranking of S3 or S3S4, with the spotted bat also considered a CDFW CSC.

Townsend's big-eared bat is a candidate for listing as threatened by the State of California. There is a low potential for this bat to occur along the project Route, both for foraging and roosting.

The American badger is highly unlikely to utilize the project Route due to its proximity to development and ongoing human disturbance.

Woodrat middens were observed adjacent to the Route. However, they are believed to harbor San Diego desert woodrat rather than Colorado Valley woodrat due to lack of habitat for the Colorado Valley woodrat.

There is a low potential for pallid San Diego pocket mouse to occur along the CV Link Route since the Project area is on the edge of the species known range.

The likelihood of Project-related impacts to the potentially occurring mammals are considered less than significant for several reasons. First and foremost, the proposed Route occurs primarily on developed or impacted land which does not contain native habitat. Second, the species described above have a large distribution and are more common elsewhere. Third, the location of the Route is at the extreme edge of the range for pallid San Diego pocket mouse. Fourth, the Townsend's big-eared bat, spotted bat, western mastiff bat and pocketed free-tailed bat have no roosting habitat available on the Route, and their ability to forage will only be marginally affected by activity on the Route. The CV Li could have limited indirect impacts on the species related to increased noise, activity and lighting. However, the Route occurs in areas that are already available and frequented by hikers, runners and bicyclists, and has been impacted by these users. Therefore, the affected species currently experience human activity, which will have either deterred them from activity on the Route or habituated them to human presence.

Table 4.4-1
Special Status Plant Species

Species	Protective Status	Habitat	Flowering Period	Occurrence Probability
Abronia villosa var. *aurita* chaparral sand-verbena	F: None C: None CNPS: List 1B.1 Global Rank: G5T2T3 State Rank: S2 CVMSHCP: No	Sandy areas in chaparral and coastal sage scrub; 75-1600 m (262-5,249 ft)	January - September	Low (*C.v.* var. *aurita* not common on the floor of the Coachella Valley)
Acmispon haydonii pygmy lotus	F: ND C: ND CNPS: List 1B.3 State Rank: S3 CVMSHCP: No	Rocky sites in creosote bush scrub to pinyon-juniper woodland, 590 – 4,200 feet	January - June	Absent (No habitat present, site below elevation range of species, two closest CCH records from 1930, both developed now)
Ambrosia monogyra (singlewhorl burrobush)	F: ND C: ND CNPS: List 2B.2 State Rank: S2 CVMSHCP: No	Occurs in chaparral and Sonoran desert scrub in sandy soils, 32 – 1,640 feet	August - November	Low (Only two area CCH records are from Tahquitz Canyon west of alignment)
Astragalus lentiginosus var. *coachellae* Coachella Valley milk-vetch	F: END C: None CNPS List: 1B.2 Global Rank: G5T1 State Rank: S1 CVMSHCP: Yes	Sandy flats, washes, alluvial fans, sand field, dunes and dune edges; 40-655 m (130-2,150 ft), a CA endemic	February - May	Moderate (Most of project footprint lacking wind-blown sands, potential near 34th and Dinah Shore Drive, also between Airport Blvd. and Golf Center Parkway, CCH records in project vicinity, many lost to development), Core Habitat in Whitewater Floodplain Conservation Area
Astragalus preussii var. laxiflorus Lancaster milk-vetch	F: None C: None CNPS: List 1B.1 Global Rank: G4T2 State Rank: S1 CVMSHCP: No	Chenopod scrub; 700 m (2297 ft)	March - May	Absent (project below known elevation range of species)

Table 4.4-1
Special Status Plant Species

Species	Protective Status	Habitat	Flowering Period	Occurrence Probability
Astragalus sabulonum gravel milk-vetch	F: None C: None CNPS: List 2B.2 Global Rank: G5 State Rank: S2 CVMSHCP: No	Sandy, sometimes gravelly flats, washes, and roadsides, desert dunes, Mojavean desert scrub and Sonoran desert scrub; -60-930 m (-197-3051 ft)	February - June	Low (In habitat adjacent to northern portion of Route adjacent to Whitewater River channel, only two CCH records (old) near project, from Indio and Coachella and both have been developed)
Astragalus tricarinatus triple-ribbed milk-vetch	F: END C: None CNPS List: 1B.2 Global Rank: G1 State Rank: S1 CVMSHCP: Yes	Rocky canyon slopes, edges of boulder-strewn desert washes; 427-792 m (1400-2,600 ft)	February – May	Absent (project below elevation range, habitat lacking on proposed path)
Atriplex parishii Parish's brittlescale	F: ND C: ND CNPS: List 1B.1 State Rank: S1 CVMSHCP: No	Alkali meadows, vernal pools, chenopod scrub, playas, 82 – 6,230 feet	June - October	Absent (No habitat present, single CCH record from general area [1901] is from San Jancinto Mtns. ~5 mi. SW of Demuth Park area of project)
Ayenia compacta California ayenia	F: None C: None CNPS List: 2B.3 Global Rank: G4 State Rank: S2? CVMSHCP: No	Rocky Sonoran and Mojavean desert scrub; 150-1095 m (492-3593 ft)	March - April	Absent (most records are from rocky areas west of Route, not likely on valley floor)
Bursera microphylla little-leaf elephant tree	F: None C: None CNPS List: 2B.3 Global Rank: G4 State Rank: S2 CVMSHCP: No	Rocky Sonoran desert scrub; 200-700 m (656-2297 ft)	June - July	Absent (habitat not present, species would not be overlooked if present)
Caulanthus simulans Payson's jewelflower	F: ND C: ND CNPS List: 4.2 State Rank: S4 CVMSHCP: No	Often found in burned or disturbed areas such as stream beds and rocky steep slopes. Favors sandy, granitic soils 1,300 – 7,200 feet	March - May	Absent (Route below elevation range of species, single CCH record from vicinity is from La Quinta 1935, now a golf course)
Chamaesyce abramsiana Abram's spurge	F: None C: None CNPS List: 2B.2 Global Rank: G4 State Rank: S2 CVMSHCP: No	Sandy Sonoran Desert scrub; 9-915 m (30-3,000 ft)	September - November	Remote (only 1 1968 CNDDB record mapped as best guess)

Table 4.4-1
Special Status Plant Species

Species	Protective Status	Habitat	Flowering Period	Occurrence Probability
Chorizanthe parryi var. *parryi* Parry's spineflower	F: ND C: ND CNPS List: 1B.1 State Rank: S3 MSHCP: No	On dry, sandy soils in coastal scrub, chaparral, cismontane woodland, and valley and foothill grassland, 738 – 4,000 feet	April - June	Absent (No habitat present, site is largely below elevation range of species, no CCH records near project, closest is in mouth of Whitewater Canyon well N of Route)
Chorizanthe xanti var. *leucotheca* white-bracted spineflower	F = None C = None CNPS List: 1B.2 CNDDB element rank: Global = G4T2 State = S2.2 CVMSHCP: No	Mojavean desert scrub, pinyon and juniper woodland, sandy or gravelly; 299-1200 m (984 – 3,937 ft)	April - June	Absent (Mojavean desert scrub habitat lacking, site below elevation range of species)
Cuscuta californica var. apiculata pointed dodder	F: None C: None CNPS List: 3 Global Rank: G5T2T4 State Rank: S3? MSHCP: No	Mojavean Desert scrub, Sonoran desert scrub/sandy; 0-500 m (0-1640 ft)	February - August	Absent (no dodder species observed during surveys, No CCH records in project vicinity, known from Mojave Desert near Colorado River)
Ditaxis clariana glandular ditaxis	F: None C: None CNPS List: 2B.2 Global Rank: G3G4 State Rank: S2 CVMSHCP: No	Sandy Sonoran Desert scrub and Mojavean desert scrub; 0-465 m (0-1526 ft)	October - March	Low (No Ditaxis observed during surveys, CCH records are from south and west of southern end of Route; Jackson St. and Indio Blvd. record now a parking lot)
Ditaxis serrata var. *californica* California ditaxis	F: None C: None CNPS List: 3.2 Global Rank: G5T3T4 State Rank: S2? CVMSHCP: No	Sonoran Desert scrub; 30-1000 m (98-3281 ft)	March - December	Absent (3 of 4 CCH record locations now developed, remaining site is >5 mi. south of Palm Desert portion of Route)
Eremothera boothii ssp. *boothii* Booth's evening-primrose	F: None C: None CNPS List: 2B.3 Global Rank: G5T4 State Rank: S2 CVMSHCP: No	Rocky alluvial slopes in open creosote bush scrub, Joshua tree and pinyon-juniper woodlands; 815-2400 m (2,674-7,875 ft)	April - September	Absent (habitat not present on Route, project below elevation range of species)

Table 4.4-1
Special Status Plant Species

Species	Protective Status	Habitat	Flowering Period	Occurrence Probability
Eriastrum harwoodii Harwood's eriastrum	F: None C: None CNPS List: 1B.2 CNDDB element rank: Global Rank: G2 State Rank: S2 CVMSHCP: No	Desert dunes;125-915 m (410-3002 ft)	March - June	Absent (No CCH records in project area, nearest record is 30 miles northeast of Indio portion of Route)
Euphorbia arizonica Arizona spurge	F: ND C: ND CNPS List: 2B.3 State Rank: S2 CVMSHCP: No	Sandy soils in Sonoran Desert Scrub, 164 – 1,000 feet elevation,	March - April	Absent (No CCH records near project, closest are from Anza Borrego Desert State Park)
Euphorbia misera cliff spurge	F: ND C: ND CNPS List: 2B.2 CNDDB element rank: Global Rank: G5 State Rank: S2 CVMSHCP: No	Rocky coastal bluff, coastal scrub, Mohaveave desert scrub; 10-500 m (33-1640 ft)	December - October	Absent (rocky coastal bluff and Mojave desert scrub habitat [cliffs] lacking, only inland records are from Whitewater Canyon)
Euphorbia platysperma flat-seeded spurge	F: ND C: ND CNPS List: 1B.2 State Rank: S1 MSHCP: No	Sonoran desert scrub, sandy habitats/dunes, ~210 – 328 feet elevation	February - September	Absent (Only 2 CCH records in vicinity; 1926 record is now I-10 near Monterey Ave., 1964 record is in wind farm ~3.22 mi. N. of N. Indian Canyon Drive crossing. Species extremely rare in CA)
Heuchera hirsutissima shaggy-haired alumroot	F: ND C: ND CNPS List: 1B.3 State Rank: S3 MSHCP: No	Subalpine coniferous forest and upper montane coniferous forest, often near large rocks, 4,980 – 11,500 feet	June - July	Absent (habitat not present, site is far below elevation range of species)
Imperata brevifolia California satintail	F: ND C: ND CNPS List: 2B.1 State Rank: S3 CVMSHCP: No	Coastal scrub, chaparral, riparian scrub, Mojavean scrub, meadows and seeps, 0 – 4,000 feet	September - May	Absent (habitat not present, All three CCH records from area [Palm Springs] are from 1965, all developed now)
Lilium parryi lemon lily	F: ND C: ND CNPS List: 1B.2 State Rank: S3 CVMSHCP: No	Upper and lower montane coniferous forest, riparian forest, meadows and seeps, 4,000 – 9,000 feet	July - August	Absent (habitat not present, site is far below elevation range of species)

Table 4.4-1
Special Status Plant Species

Species	Protective Status	Habitat	Flowering Period	Occurrence Probability
Linanthus jaegeri San Jacinto linanthus	F: ND C: ND CNPS List: 1B.2 State Rank: S2 CVMSHCP: No	Subalpine coniferous forest and upper montane coniferous forest, often on sheer granitic outcrops, 7,200 – 10,000 feet	July - September	Absent (habitat not present, site is far below elevation range of species)
Linanthus [Gilia] maculatus Little San Bernardino Mts. linanthus (Gilia)	F = BLM Sensitive C = None CNPS List: 1B.2 Global Rank: G2 State Rank: S2 CVMSHCP: Yes	Desert dunes, Sonoran desert scrub, Mojavean desert scrub, Joshua tree woodland; occurs most often on low benches along washes or bajadas where substrate shows evidence of water flow; 640-6,808' elev	March-May	Low (Route is largely below elevation range of species, closest CCH record is >1.5 mi. northeast of north end of Route)
Marina orcuttii var. orcuttii California marina	F: None C: None CNPS List: 1B.3 Global Rank: G2G3T1T2 State Rank: S2? CVMSHCP: No	Chaparral, pinyon and juniper woodland, Sonoran desert scrub/rocky; 1050-2073 m (3445-3,806 ft)	May-October	Absent (Route well below elevation range of species)
Matelea parvifolia spearleaf	F: None C: None CNPS List: 2B.3 Global Rank: G5? State Rank: S2.2 CVMSHCP: No	Mojavean desert scrub, Sonoran desert scrub/rocky; 440-1095 m (1444-3,593 ft)	March-May	Absent (Route below elevation range of species, closest CCH record >11 mi. southwest of Indian Wells portion of project)
Mentzelia tridentata creamy blazing star	F: None C: None CNPS List: 1B.3 Global Rank: G3 State Rank: S3 CVMSHCP: No	Mojavean desert scrub/rocky, gravelly, sandy; 700-1175 m (2297-3855 ft)	March-May	Absent (Mojavean desert habitat not present, Route below elevation range of species, no CCH records near project)
Nemacaulis denudata var. *gracilils* slender cottonheads	F: None C: None CNPS: List 2B.2 Global Rank: G3G4T3? State Rank: S1 CVMSHCP: No	Coastal and desert dunes in Sonoran Desert scrub; -15- 564 m (-50-1,850 ft)	April – May (rarely March)	Low (most CCH records are from west of Route, the few that were "nearby" have been developed)
Phaseolus filiformis slender-stem bean	F: None C: None CNPS: List 2B.1 Global Rank: G5 State Rank: S1 CVMSHCP: No	Sonoran Desert scrub; 125 m (410 ft)	April	Absent (Only CCH record in general project vicinity is from southwest of Mecca)

Table 4.4-1
Special Status Plant Species

Species	Protective Status	Habitat	Flowering Period	Occurrence Probability
Pseudorontium cyathiferum Deep Canyon snapdragon	F: None C: None CNPS: List 2B.3 Global Rank: G4? State Rank: S1 CVMSHCP: No	Sonoran desert scrub (rocky); 0-800 m (0-2625 ft)	February - April	Absent (exceedingly rocky habitat not present, closest CCH record is from ~5 mi. south of Palm Desert portion of Route)
Saltugilia latimeri Latimer's woodland-gilia	F: None C: None CNPS: List 1B.2 Global Rank: G2 State Rank: S2 CVMSHCP: No	Rocky, sandy, often granitic, sometimes washes in chaparral, Mojavean desert scrub, pinyon and juniper woodland; 400-1900 m (1312-6234 ft)	March-June	Absent (Route below elevation range of species, closest CCH record is from >7 mi. south of Palm Desert portion of Route on Highway 74)
Salvia greatae Orocopia sage	F: None C: None CNPS: List 1B.3 Global Rank: G2G3 State Rank: S2S3 CVMSHCP: Yes	Known from Orocopia and Chocolate Mountains; 100-1,475 feet	March-April	Absent (All CCH records from well east and south of Route, closest is ~14 miles southeast of Airport Blvd. access point)
Selaginella eremophila desert spike-moss	F: None C: None CNPS: List 2B.2 Global Rank: G4 State Rank: S2S3 CVMSHCP: No	Shady sites on gravelly soils; crevices or among rocks in Sonoran desert scrub, chaparral, 200-899 m (655-2,950 ft)	June (uncommon May & July)	Absent (shady and crevice habitat lacking, most of Route below elevation range of species, CCH records are mostly from rocky areas west of Route)
Senna covesii Coves' cassia	F: None C: None CNPS: List 2B.2 Global Rank: G5 State Rank: S3 CVMSHCP: No	Sonoran desert scrub (sandy), 285-1070 m (935-3510 ft)	March-June	Absent (Route below elevation range of species, CCH records west and south of Route, 1931 Coachella record is developed)
Stemodia durantifolia purple stemodia	F: None C: None CNPS: List 2B.1 Global Rank: G5 State Rank: S2 CVMSHCP: No	Mesic sites on sandy soils in Sonoran Desert scrub; 180-299 m (590-980 ft)	January - December	Absent (Route below elevation range of species, CCH records all west of Route, closest record ~ 2 mi. SW of project)

Table 4.4-1
Special Status Plant Species

Species	Protective Status	Habitat	Flowering Period	Occurrence Probability
Streptanthus campestris southern jewelflower	F: ND C: ND CNPS: List 1B.3 State Rank: S3 CVMSHCP: No	Chaparral, lower montane coniferous forest, pinyon-juniper woodland with open, rocky areas, 2,950 – 7,550 feet	May - July	Absent (No habitat present, Route too low in elevation, all CCH records well west and south of Route, closest record ~ 10 mi. S. of Palm Desert section of project)
Thelypteris puberula var. *sonorensis* Sonoran maiden fern	F: None C: None CNPS: List 2B.2 Global Rank: G5T3 State Rank: S2 CVMSHCP: No	Streams, meadows & seeps; 50-610 m (164-2001 ft)	January - September	Absent (All CCH records west of Route, closest record is 1 mile SW of Route in Tahquitz Cyn.)
Thysanocarpus rigidus rigid fringepod	F: None C: None CNPS: List 1B.2 Global Rank: G1G2 State Rank: S1S2 CVMSHCP: No	Pinyon and juniper woodland/Dry rocky slopes; 600-2200 m (1969-7218 ft)	February -May	Absent (Project below elevation range of species, closest CCH record is 12.5 mi. SW of Bermuda Dunes portion of Route)
Wislizenia refracta ssp. palmeri Palmer's jackass clover	F: None C: None CNPS: List 2B.2 Global Rank: G5T2T4 State Rank: S1 CVMSHCP: No	Chenopod scrub, desert dunes, Sonoran desert scrub, Sonoran thorn woodland; 0-300 m (0-984 ft)	January - December	Absent (All CCH records are from Anza Borrego Desert State Park)
Wislizenia refracta ssp. refracta jackass clover	F: None C: None CNPS: List 2B.2 Global Rank: G5T5? State Rank: S1 MSHCP: No	Desert dunes, Mojavean desert scrub, playas, Sonoran desert scrub; 600-800 m (1969-2625 ft)	April - November	Absent (Route below elevation range of species, all CCH records well north or east of project, closest one ~7.3 mi. east/northeast of Airport Blvd. access point)
Xylorhiza cognata Mecca-aster	F: None C: None CNPS: List 1B.2 Global Rank: G2 State Rank: S2 CVMSHCP: Yes	Grows on steep canyon slopes on sandstone and clay substrates; 20-305 m (65-1,000 ft)	January - June	Absent (canyon slope habitat not present, site lacks favored substrates)

Table 4.4-2
Special Status Invertebrates

Species	Status	Habitat	Probability
desert fan palm oasis woodland	F=None C= None NDDB Element Global – G3 State – S3.2 CVMSHCP: Yes	Natural *Washingtonia filifera* groves	Absent (not observed)
Dinacoma caseyi Casey's june beetle	F=END C=None Global: G1 State rank: S1 CVMSHCP: No Critical habitat: No Species Survey Area: No	Sandy soils; flightless females live below ground and come to surface only for mating. Known only from two populations in a small area of southern Palm Springs	Present (Present along Route from Demuth Park east to confluence of Tahquitz Creek and Whitewater River channel [AMEC 2014])
Macrobaenetes valgum Coachella giant sand treader cricket	F=None C= None NDDB Element Rank: Global: G1G2 State: S1S2 CVMSHCP = Yes	Active sand dune hummocks and ridges, sites favorable to permanent habitation include spring-moistened sand.	Low (Not expected on Route as substrates are too compacted, but could occur in appropriate sandy areas adjacent to path; e.g. Habitat north of 34th Ave. and Marguerite Street near Dinah Shore Drive. Modeled habitat present on north and south portions of Route). Core Habitat in Whitewater Floodplain Conservation Area
Oliarces clara cheeseweed owlfly	F: None C: None Global: G1G3 State: S2 MSHCP: No	Known from lower Colorado River drainage, creosote is suspected larval host. Found under rocks or in flight over streams in canyons	Low (Amec Foster Wheeler biologists have observed this species < in Palm Canyon Wash <1 mile south of the Tahquitz Creek segment of the project)
Stenopelmatus cahuilaensis Coachella Valley Jerusalem cricket	F=None C= None NDDB Element Rank: Global - G1G2 State - S1S2 CVMSHCP = Yes	Wind-deposited (aeolian) sand dunes, drift sands and water deposited (alluvial) gravelly/sandy soils	Low (Modeled habitat primarily along northern third of Route. Only potential in adjacent sandy habitat, actual footprint too compacted and lacking suitable habitat characteristics)

Table 4.4-3
Special Status Fish

Community	Status	Habitat	Probability
Cyprinodon macularius macularius desert pupfish	F=END C= END NDDB Element Rank: Global – G1 State – S1 CVMSHCP = Yes	Able to adapt to a variety of aquatic habitats, including those having high temperatures and salinities	Absent (suitable permanent aquatic habitat lacking)
Xyrauchen texanus razorback sucker	F=END C= END NDDB Element Rank: Global – G1 State – S1S2 CVMSHCP = No	Medium and large streams and rivers with sand, mud, or gravel bottoms.	Absent (aquatic riverine habitat lacking)

Table 4.4-4
Special Status Amphibians & Reptiles

Species	Status	Habitat	Probability
Batrachoseps major aridus desert slender salamander	F = END C = END NDDB Element Rank: Global = G4T1 State = S1 CVMSHCP = No	Known only from rocky seeps, crevices in Hidden Palm Canyon and Guadalupe Canyon on the eastern slope of the Santa Rosa Mountains	Absent (suitable habitat lacking, Route not within known range of species)
Rana draytonii California red-legged frog	F: THR C: CSC State rank: S2S3 CVMSHCP: No	Requires sources of permanent water, usually deep pools or ponded areas in foothill and lowland areas	Absent (no habitat present, not in species' range)
Rana muscosa southern mountain yellow-legged frog	F: END C: END State rank: S1 CVMSHCP: No	Sandy areas of the Coachella Valley (dunes and sand field habitats)	Absent (no habitat present, not in species' range)

Table 4.4-4
Special Status Amphibians & Reptiles

Species	Status	Habitat	Probability
Anaxyrus californicus arroyo toad	F: END C: None State rank: S2S3 CVMSHCP: Yes	Washes, arroyos, sandy riverbanks, riparian with willows, sycamores, oaks, and cottonwoods west of the desert in coastal areas. Former records from Whitewater canyon, San Felipe Creek, Vallecito Creek, and Pinto Canyon have been shown to be based on errors.	Absent (a habitat specialist, required breeding habitat not present, Route is not within known range of species)
Crotalus ruber ruber red-diamond rattlesnake	F = None C = CSC NDDB Element Rank: Global = G4 State = S2? CVMSHCP = No	Chaparral, woodland, grassland, desert areas from coastal SD Co to eastern slopes of mountains; rocky areas and dense vegetation, needs rodent burrows, cracks in rocks or surface cover objects	Low (Limited to area adjacent to rocky toe of slope NW of Highway 111 & Mirage Drive, also some potential near the rocky toe of slope in South Palm Canyon Bridge area)

Table 4.4-4
Special Status Amphibians & Reptiles

Species	Status	Habitat	Probability
Gopherus agassizi desert tortoise	Fed: THR Cal: THR NDDB Element Rank: Global = G3 State = S2 CVMSHCP = Yes	Various desert communities and habitats (Mojavean creosote bush scrub, Joshua tree woodland, saltbush scrub); washes, arroyos, bajadas, rocky hillsides, open flat desert	Absent-Very Low (No habitat on Route, very low potential in Whitewater Floodplain Conservation Area adjacent to northern portion of project. This area is not classified as Core Habitat in the CVMSHCP)
Phrynosoma mcallii flat-tailed horned lizard	F = BLM Sensitive C = CAN END NDDB Element Rank: Global = G3 State = S2 CVMSHCP = Yes	Restricted to desert washes and desert flats in central Riverside, eastern San Diego and Imperial Counties; critical habitat is fine sand, requires vegetative cover and ants	Low (Modeled habitat south of Vista Chino, Dinah Shore and 34th St. area, and in that part of the Route adjacent to the Whitewater Floodplain Conservation Area. Very unlikely on actual project footprint)
Uma inornata Coachella Valley fringe-toed lizard	F = THR C = END NDDB Element Rank: Global = G1Q State = S1 CVMSHCP = Yes	Restricted to sandy areas in the Coachella Valley; requires fine, loose, windblown sand interspersed with hardpan and widely spaced desert shrubs	Low-Moderate (Modeled habitat in same areas as flat-tailed horned lizard. Very unlikely on actual project footprint). Core Habitat in Whitewater Floodplain Conservation Area

Table 4.4-5
Special Status Birds

Species	Status	Habitat	Probability
Aquila chrysaetos golden eagle	F: BCC C: FP, WL State rank: S3 CVMSHCP: No	Forages over a wide range of open habitats, nesting habitat is often cliff walls or large trees in open areas	Breeding: Absent Foraging: very low (no nesting habitat, not likely to forage over site due to proximity to development)
Laterallus jamaicensis coturniculus California black rail	F: BCC C: THR, FP State rank: S1 CVMSHCP: Yes	Dense coastal and inland marsh habitat with shallow water (<2.5cm) dominated by California bulrush (Scirpus californicus) and three square bulrush (S. americanus). Do not prefer areas dominated by cattails.	Absent (breeding & foraging) (Although habitat has been modeled along the southern portion of the Route [Indio to Thermal], highly unlikely to occupy these areas due to ongoing maintenance activities [vegetation removal] by water district, and lack of suitable marsh habitat)
Rallus obsoletus yumanensis Yuma Ridgway's rail	F: END C: THR, FP Global: G5 State rank: S1 CVMSHCP: Yes	Found in well-developed marsh habitats of cattails (*Typha domingensis*) and bullwhip/California bulrush (*Scirpus californicus*). Also requires water depths varying from 6.5 cm to 20 cm. Whitewater River habitats are potentially impacted by chemical contaminants, salt cedar infestations, and flood control channel maintenance.	Breeding: Absent Foraging: very low (Suitable well-developed marsh habitat not present along Route, no modeled habitat along Route, closest populations are at the Salton Sea State Recreation Area at the mouth of Salt Creek and Dos Palmas marsh)
Athene cunicularia burrowing owl	F = BLM Sensitive, BCC C = CSC (burrows) NDDB Element Rank: Global: G4 State: S3 CVMSHCP: Yes	Open, dry annual or perennial grassland, deserts & scrublands characterized by low-growing vegetation	Occurs (An owl observed in the segment of the Route north of Dillon Road and south of Golf Center Parkway in both 2015 & 2016) Breeding: Moderate Foraging: Occurs
Cypseloides niger black swift	F: BCC C: SSC State rank: S2 CVMSHCP: No	Breeds in small colonies on cliffs behind or near waterfalls in deep canyons, forages widely	Absent (no breeding habitat, not commonly seen foraging in desert areas)

Table 4.4-5
Special Status Birds

Species	Status	Habitat	Probability
Empidonax traillii extimus southwestern willow flycatcher	F = END C = END NDDB Element Global = G5T2 State = S1 CVMSHCP = Yes	Nests in large areas of riparian forests and woodlands	Breeding: Absent (suitable riparian forest habitat lacking) Foraging: Low (during migration)
Falco mexicanus prairie falcon	F = None, BCC C = CSC (nesting) NDDB Element Global = G5 State = S4 CVMSHCP = No	Breeding sites located on cliffs, forages far afield	Breeding: Absent (habitat lacking) Foraging: Moderate (may nest on nearby cliffs and forage over portions of project Route)
Lanius ludovicianus loggerhead shrike	F = None, BCC C = CSC (nesting) NDDB Element Global = G4 State = S4 CVMSHCP = No	A variety of open habitats, nests in trees and shrubs	Breeding: Moderate-High (All areas of Project Route with appropriate vegetation). Foraging: Occurs (observed)
Vireo bellii pusillus least Bell's vireo	F: END C: END Global rank: G5 State rank: S2 CVMSHCP: Yes	Riparian woodland habitats along the riverine systems of Southern California, primarily in San Diego, Santa Barbara, and Riverside Counties. Needs dense shrub cover within 1 to 2 meters (3 to 6 feet) off the ground for nesting, and stratified canopy for foraging.	Breeding: Absent-Very Low (Modeled habitat between Golf Center Parkway and Avenue 52, habitat limited and subject to water district maintenance activities.) Foraging: Low (during migration)
Vireo vicinior gray vireo	F: None C: None Global rank: G4 State rank: S2 CVMSHCP: Yes	Arid, shrub-covered slopes in pinyon-juniper, juniper, and chamise-redshank chaparral, Habitats on foothills and mesas. Suitable Habitat typically occurs from 2,000 to 6,500 feet (600-2,000 m)	Breeding: Absent (Habitat not present, Route well below elevation range of species.) Foraging: Absent (rarely observed during migration, no records on project Route)
Icteria virens yellow-breasted chat	F = None C = CSC (nesting) NDDB Element Rank: Global = G5 State = S3 CVMSHCP = Yes	Riparian forest and woodland; nests along many river systems in southern CA	Breeding: Absent (riparian forest habitat lacking, impacted by maintenance activities in river channel). Foraging: Low (during migration)

Table 4.4-5
Special Status Birds

Species	Status	Habitat	Probability
Setophaga petechia brewsteri yellow warbler	F = None, BCC C = CSC (nesting) NDDB Element Rank: Global = G5 State = S3S4 CVMSHCP = Yes	Although prefers wetlands and mature riparian woodlands dominated by cottonwoods, alders, and willows, will also use well-watered, second growth woodlands and even gardens.	Breeding: High (suitable habitat present on southern end of Route, between Golf Center Parkway and Airport Boulevard). Foraging: Occurs (observed between Dillon road and Golf Center Parkway on 5/17/16)
Piranga rubra cooperi summer tanager	F = None C = CSC (nesting) NDDB Element Rank: Global = G5 State = S1 CVMSHCP = Yes	Summer resident that nests in mature riparian groves dominated by cottonwoods and willows. Usually prefers canyon riparian in our area.	Breeding: Absent (Although habitat has been modeled along Route between Dillon Road and Avenue 52, suitable riparian forest habitat lacking, impacted by maintenance activities in river channel, species highly unlikely to breed there). Foraging: Very Low (during migration)
Polioptila melanura black-tailed gnatcatcher	F = None C = None NDDB Element Rank: Global = G5 State = S3S4 CVMSHCP = No	Primarily inhabits wooded desert wash habitats, desert scrub habitat, esp. in winter; nests in desert washes containing mesquite, palo verde, ironwood, acacia, absent from areas where salt cedar introduced	Breeding: High (In adjacent undeveloped areas of Whitewater River channel) Foraging: High (same areas listed above)
Pyrocephalus rubinus vermilion flycatcher	F: ND C: CSC (nesting) Global: G5 State rank: S2S3 MSHCP: No	Usually associated with desert riparian habitats, forages from open perch	Breeding: Moderate (Potential in several areas of the Whitewater River channel with appropriate vegetation, as well as along golf course and park areas. Amec Foster Wheeler biologists have observed a juvenile near the alignment just north of Ramon Road in 2012) Foraging: Occurs

Table 4.4-5
Special Status Birds

Species	Status	Habitat	Probability
Toxostoma crissale crissal thrasher	F = None, BCC C = CSC NDDB Element Ranks: Global = G5 State = S3 CVMSHCP = Yes	Resident of southeastern deserts in desert riparian and desert wash habitats; nests in dense vegetation along streams/washes; honey mesquite, screwbean mesquite, ironwood, catclaw, acacia, arrowweed	Breeding: Low (Modeled habitat only along southern end of Route, mainly between Golf Center Parkway and Avenue 52, however habitat is narrow with high edge to area ratio) Foraging: Low - (same as above)
Toxostoma lecontei Le Conte's thrasher	F = BLM Sensitive, BCC C = CSC (San Joaquin population only) NDDB Element Ranks: Global = G4 State = S3 CVMSHCP = Yes	Desert resident, primarily of open desert wash, desert scrub, alkali desert scrub, and desert succulent scrub habitats; commonly nests in a dense, spiny shrub or densely branched cactus in desert wash habitat, usually 2-8 feet above ground	Breeding: Low (Most of modeled habitat is along the N section of project [Whitewater Floodplain Conservation Area], but there are also areas in the central and southern portions, best potential in the north) Foraging: Moderate (same areas listed above)

Table 4.4-6
Special Status Mammals

Species	Status	Habitat	Probability
Chaetodipus fallax pallidus pallid San Diego pocket mouse	F = None C = CSC NDDB Element Global = G5T3 State = S3S4 CVMSHCP = No	Desert border areas in eastern SD Co. in desert wash, desert scrub, desert succulent scrub, pinon-juniper, etc.; sandy herbaceous areas usually in association with rocks or coarse gravel.	Low (Route on edge of known range)
Corynorhinus townsendii Townsend's big-eared bat	F = None C = CAN THR NDDB Element Global = G3G4 State = S2 WBWG = H CVMSHCP = No	Generally viewed as a cave dwelling species, but the western subspecies are also found in human-made structures (e.g. old mine workings and buildings)	Roosting: Low (Prefers caves or abandoned mines, but rarely uses abandoned buildings, bridges, and culverts) Foraging: Low (especially around lighting and adjacent water features)

Table 4.4-6
Special Status Mammals

Species	Status	Habitat	Probability
Dipodomys merriami collinus earthquake Merriam's kangaroo rat	F: None C: None Global = G5T1T2 State rank: S1S2 MSHCP: No	Currently only known from Riverside and San Diego counties. Habitats are Riversidean Sage Scrub, chaparral, and nonnative grassland	Remote (habitat marginal, Route on edge of known range)
Euderma maculatum Spotted bat	F = None C = CSC NDDB Element Global = G4 State = S3 WBWG = H CVMSHCP = No	Wide variety of habitats from arid deserts and grasslands through mixed conifer forests. Feeds on moths over water and along washes. Roosts in rock crevices in cliffs and caves.	Roosting: Absent (rock crevices, cliffs and caves lacking) Foraging: Low (especially over washes, over surface waters on golf courses or parks, around lights)
Eumops perotis californicus western mastiff bat	F = None C = None NDDB Element Global = G5T4 State = S3S4 WBWG = H CVMSHCP = No	Roosts in rock crevices on high cliffs with vertical faces	Roosting: Absent (rock crevices and cliffs lacking) Foraging: Low (especially over surface waters on golf courses or parks, around lights)
Lasiurus (ega) xanthinus western (southern) yellow bat	F = None C = CSC NDDB Element Global = G5 State = S3 WBWG = H CVMSHCP = Yes	Valley foothill riparian, desert riparian, desert wash and palm oasis habitats; roosts in trees, particularly palms, forages over water and among trees.	Roosting: Moderate (in landscaped palms with aprons at businesses, parks, golf courses, and residences along Route) Foraging: Moderate (especially around palms and adjacent water features)
Neotoma albigula venusta Colorado Valley woodrat	F: None C: None Global: G5T3T4 State rank: S1S2 MSHCP: No	Associated with beavertail cactus & mesquite in the Colorado Desert.	Absent (habitat limited)
Neotoma lepida intermedia San Diego desert woodrat	F: None C: None Global: G5T3T4 State rank: S3S4 MSHCP: No	Often in coastal scrub habitats, but enters desert areas. Usually prefers moderate to dense canopies near rocky areas.	High (woodrat middens observed during Route surveys)
Nyctinomops femorosaccus pocketed free-tailed bat	F: None C: None Global = G4 State rank: S3 WBWG = M MSHCP: No	Roosts in crevices on rugged cliffs, on high rocky outcrops and slopes. May also roost in buildings, caves, and under roof tiles.	Roosting: Absent-Low (rock crevices, cliffs and caves lacking) Foraging: Moderate (especially over washes, around lights and adjacent water features)

Table 4.4-6
Special Status Mammals

Species	Status	Habitat	Probability
Ovis canadensis nelsoni pop. 2 Peninsular bighorn sheep DPS	F: END C: THR Global = G4T3Q State rank: S1 MSHCP: Yes	Desert rocky slopes of the Peninsular Ranges in San Diego, Riverside, and Imperial Counties	Absent (suitable habitat lacking)
Perognathus longimembris bangsi Palm Springs pocket mouse	F = BLM Sensitive C = CSC NDDB Element Global = G5 State = S2S3 CVMSHCP = Yes	Sonoran Desert habitats with level to gently sloping topography, sparse to moderate vegetative cover, and loosely packed or sandy soils.	Moderate (The majority of the Route [or immediate adjacent areas] has been mapped as modeled habitat for this species. However, unlikely to occur on proposed CV-Link path due to compacted soils and extensive disturbance/clearing of native habitat). Core Habitat in Whitewater Floodplain Conservation Area
Taxidea taxus American badger	F = None C = CSC NDDB Element Global = G5 State = S3 CVMSHCP = No	Grasslands, a variety of open arid land habitats	Absent-Very Low (1949 CNDDB record exists near Indio segment of Route (now developed), species highly unlikely to utilize alignment due to proximity to development and ongoing human disturbance)
Xerospermophilus tereticaudus chlorus Palm Springs round-tailed ground squirrel	F = None C = CSC NDDB Element Global = G5 State = S1S2 CVMSHCP = Yes	Restricted to the Coachella Valley, prefers desert succulent scrub, desert wash, desert scrub, alkali scrub and levees; prefers open, flat, grassy areas in fine-textured, sandy soil.	Occurs (Observed by author in Stabilized Shielded Sand Field habitat adjacent to west side of Route ~350 feet north of Ramon Road on April 16, 2012). Core Habitat in Whitewater Floodplain Conservation Area

b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service.

Riparian habitats in the Coachella Valley are located within the Santa Rosa and San Jacinto Mountains Conservation Area (sensitive communities). The proposed CV Link Route closely approaches, but does not encroach on the Santa Rosa and San Jacinto Mountains Conservation Area in two relatively small areas: between

Paxton Drive and Mirage Road on the south side of Highway 111, and in the Parkview Drive/Highway 111 area. The Proposed Project could have limited indirect impacts on conservation areas related to increased noise, activity and lighting. However, the Route occurs in areas that are already available and frequented by hikers, runners and bicyclists, and has been impacted by these users. Because the Proposed Project will not encroach on riparian habitat or other sensitive natural communities, the Proposed Project is not anticipated to have adverse impacts on such resources.

Potential impacts to federally protected wetlands are further discussed in response to c) below.

c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.

The following discussion summarizes the findings of the Jurisdictional Delineation prepared for the Proposed Project. The complete Jurisdictional Delineation can be found in Appendix G.

The entire length of the Route was surveyed to identify the potential for jurisdictional water features. Following field observations, regulated waters of the US and waters of the State were delineated as prescribed by the USACOE's *A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States*. Waters of the US were determined by identifying the indicators for the Ordinary High Water Mark (OHWM).

Potential federally regulated wetlands were determined using the USACE's *Wetlands Delineation Manual* and *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region*.

The Coachella Valley Water District (CVWD) completed a jurisdictional delineation (JD) for the Whitewater River and Coachella Valley Stormwater Channel, which included a wetlands designation. That document was used to determine wetlands in that channel. The CVWD JDs have been recently updated by the findings of the JD prepared for the Proposed Project.

Waters of the State were identified by measuring the areas that confine streams when waters rise to their highest level. The drainages were walked and recorded using global positioning systems. The width of the drainage was determined by the OHWM and bankfull width at locations where transitions were apparent. Other data recorded included bank height and morphology, substrate type, and all vegetation within the streambed and riparian vegetation adjacent to the streambed.

Of the 19 soil types occurring along the CV Link Route the following are listed on the National List of Hydric Soils: Carsitas gravelly sand (CdC), Carsitas cobbly sand (ChC), Fluvents (Fe), Myoma fine sand (MaB), Myoma fine sand (MaD), Riverwash (RA), and Rock outcrop (RO). These soils have been mapped as part of the Jurisdictional Delineation, and are provided in Appendix A of that report.

The locations of the NWI wetlands are mapped in Appendix B of the Jurisdictional Delineation. NWI wetlands occurring along Tahquitz Creek at the north end of the CV Link Route are characterized as riverine (R4USJx) and freshwater pond (PUSKx, PUBHx). They occur between South Palm Canyon Drive and Sunrise Way; north of the Palm Canyon Wash on both sides of Gene Autry Trail; and west of Cathedral Canyon Drive. NWI wetlands occurring along the Whitewater River, throughout the Route, are characterized as riverine (R4SBJ, R4SBJx), freshwater pond (PUBHx, PUSCh, PUSJ), freshwater emergent wetland (PEMC, PEMFx), and freshwater forested/ shrub wetland (PSSC). They occur west of Frank Sinatra Drive, east and west of Peterson Road, east of Paxton Road, between Cabazon Avenue and Dillon Road, east of Harrison Street, and north and east of Polk Street.

All the data was mapped using geographic information system software. A total of 97.89 acres of non-wetland waters of the United States (WUS) and waters of the State (WSC), 13.09 acres of wetlands, and 433.27 acres of CDFW jurisdictional streambeds were found to occur along the CV Link Route. The alignment of CV Link was then overlain on the jurisdictional delineation boundary to determine what portions of the path would impact wetlands, waters of the US or waters of the State. The resulting analysis concluded that along the Proposed Project (and not including waters occurring in the City of Rancho Mirage), CV Link will:

- Temporarily impact 0.40 acre of wetlands;
- Permanently impact 0.19 acre of wetlands;
- Temporarily impact 4.55 acres of waters of the US;
- Permanently impact 2.67 acres of waters of the US;
- Temporarily impact 31.18 acres of CFFW streambed; and
- Permanently impact 16.28 acres of CDFW streambed.

CVAG has met and conferred with the USACE, CDFW and the RWQCB to discuss impacts associated with jurisdictional waters. It has been agreed that the In-Lieu Fee Program[3] established by the USACE and the Coachella Valley Conservation Commission shall be used as the means of mitigation for jurisdictional waters. The USACE/CVCC In-Lieu Fee Program was established to allow CVCC to perform pre-approved habitat restoration and enhancement projects and to set impact fees based on the cost of these projects. This understanding will be formalized and applied on a site-specific basis in permits from the USACE, CDFW, and RWQCB. Completion and approval of the appropriate permits issued by the USACE, CDFW, and RWQCB (See Section 4.4.6 Mitigation Measures BIO-6 through BIO-9) will ensure impacts to federally protected wetlands will be less than significant.

d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.

The proposed CV Link Route is not located within a mapped migratory corridor or native wildlife nursery site. The majority of the proposed CV Link Route has been previously cleared of vegetation (dirt levee roads maintained by CVWD), or is located with paved roads and/or golf cart paths completely devoid of vegetation suitable for migratory movement. In addition, buildout of CV Link will not result in habitable structures or fencing that would potentially restrict wildlife movement from occurring.

However, significant portions of the Route pass through or adjacent to areas including golf courses, park lands, areas of landscaped trees and shrubs, and undeveloped natural habitats that contain habitat for a variety of nesting birds. Bird nests were observed in landscaped trees and shrubs, and on several of the existing bridges along the proposed CV Link Route. Although some of the birds potentially nesting along the project Route are CVMSHCP covered species, this coverage does not allow the take of the individual birds or their active nests. Additionally, the CVMSHCP does not provide coverage or conservation for many other bird species potentially occurring or nesting onsite that are protected by the MBTA. Impacts to birds covered by MBTA could be significant if construction activities for any portion of the Route are undertaken during nesting season, without the implementation of mitigation measures. CVAG will be required to implement mitigation measures that adhere to conditions set forth under the MBTA to ensure impacts to migratory or other nesting birds will be less than significant. Mitigation measure BIO-3 for the MBTA are provided below, in Section 4.4.6 Mitigation Measures.

[3] "Coachella Valley In-Lieu Fee Program", US Army Corps of Engineers and Coachella Valley Conservation Commission. 2014. Parties to the program include the USACE, USEPA, CDFW, and CRWQCB.

e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.

A thorough investigation of all participating jurisdictions' Municipal Codes was conducted in preparing this document. Neither the County of Riverside nor the cities through which the Proposed Project will occur have local ordinances protecting biological resources (See Section 4.10 Land Use for list of City ordinances). All the affected jurisdictions, however, are signatories to and participate in the implementation of the Coachella Valley Multiple Species Habitat Conservation Plan. The Proposed Project will not conflict with any local policies or ordinances protecting biological resources.

f) Conflict with the provisions of any adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional or state habitat conservation plan.

As previously stated, neither the County of Riverside nor the cities through which the Proposed Project will occur have local ordinances protecting biological resources. All the affected jurisdictions, however, are signatories to and participate in the implementation of the Coachella Valley Multiple Species Habitat Conservation Plan.

The majority of the existing and Proposed Project Route is located outside of designated CVMSHCP conservation areas. A portion of the northern part of the alignment (Segment 1) however, is within or immediately adjacent to the CVMSHCP Whitewater Floodplain Conservation Area, which encompasses 7,400 acres and occurs south of Interstate 10 to the Whitewater Floodplain Preserve, established by the Coachella Valley Fringe-toed Lizard HCP, and beyond it to Gene Autry Trail. The Conservation Area connects to other Plan Conservation Areas, forming a web of preservation areas for sand-dependent species. This conservation area provides core habitat for the Coachella Valley milkvetch, Coachella Valley giant sand-treader cricket, Coachella Valley fringe-toed lizard, Coachella Valley round-tailed ground squirrel, and Palm Springs pocket mouse. The area also provides conserved habitat for the triple-ribbed milkvetch, desert tortoise, flat-tailed horned lizard, burrowing owl and Le Conte's thrasher.

Additionally, the CV Link alignment closely approaches, but does not encroach on the Santa Rosa and San Jacinto Mountains Conservation Area at two locations: between Paxton Drive and Mirage Road on the south side of Highway 111, and in the Parkview Drive/Highway 111 area. Both these locations are in Rancho Mirage, and would not be affected by the Proposed Project. The Santa Rosa and San Jacinto Mountains Conservation Area contains suitable migration and breeding habitat for CVMSHCP-covered riparian obligate species. All riparian habitats within the CVMSHCP coverage area are considered important for these species. Desert fan palm oasis woodlands within the Conservation Area also provide habitat for the southern yellow bat. Habitat is also provided for triple-ribbed milkvetch, Coachella Valley milkvetch, Coachella Valley giant sand-treader cricket, Coachella Valley Jerusalem cricket, Coachella Valley fringe-toed lizard, flat-tailed horned lizard, burrowing owl, Le Conte's thrasher, Coachella Valley round-tailed ground squirrel, and Palm Springs pocket mouse.

Construction associated with CV Link will be largely within either existing paved surfaces and/or within the graded/cleared dirt roads (where present), and therefore Project-related impacts to natural vegetation communities and habitats within Conservation Areas are expected to be largely avoided. As a Permittee under the CVMSHCP, CVAG must comply with all applicable terms and conditions of the CVMSHCP and Implementing Agreement (See Section 13.0 of the CVMSHCP Implementing Agreement), which are summarized in Section 4.4.6 Mitigation Measures, below. This includes, but not limited to, payment of a land development/mitigation fee and implementation of "Land Use Adjacency Guidelines."

Compliance with the mitigation measures presented below (BIO-1, BIO-2, BIO-4, and BIO-10 through 12) including compliance with all requirements of the CVMSHCP, will ensure CV Link will not conflict with any local policy, ordinance, or Habitat Conservation Plan. Therefore, impacts will be less than significant.

4.4.6. Mitigation Measures[4]

Mitigation Related to the CVMSHCP

The CVMSHCP provides full coverage for plan participants (Permittees) and/or projects that are covered by the CVMSHCP for covered species. Participants may pay a standard development fee prior to receiving requisite grading or development permits with some exceptions and special provisions or requirements. Exceptions and special provisions include those established by the CVMSHCP for burrowing owl, projects within Conservation Areas and nesting birds covered under the Migratory Bird Treaty Act (MBTA), mitigation for these are discussed below.

As a Permittee under the CVMSHCP, CVAG and participating jurisdictions must also comply with all other applicable terms and conditions of the CVMSHCP and Implementing Agreement (See Section 13.0 of the CVMSHCP Implementing Agreement), which are summarized below and include but are not limited to:

BIO-1 CVAG will be required to pay the local development mitigation fee to mitigate for impacts to covered species and natural communities within the plan area, inside or outside of Conservation Areas. Project activities inside Conservation Areas are subject to the Joint Project Review process to determine consistency with plan goals and objectives.

BIO-2 CVAG shall comply with all terms and conditions of the CVMSHCP and Implementing Agreement including, but not limited to: 1) participation in the Joint Project Review Process with the Coachella Valley Conservation Commission for projects within conservation areas as described in Section 6.6.1.1 of the CVMSHCP, and 2) Implementation of the "Land Use Adjacency Guidelines" as described in Section 4.5 of the CVMSHCP for any portion of the Proposed Project that impact or are adjacent to the Whitewater Floodplain and Santa Rosa and San Jacinto Mountains Conservation Areas.

Measures for the "Land Use Adjacency Guidelines" include:

a. Drainage: Development of the Proposed Project adjacent to or within a conservation area shall incorporate plans to ensure that the quantity and quality of runoff discharged to the adjacent conservation area is not altered in an adverse way when compared with existing conditions. Storm water systems shall be designed to prevent the release of pollutants (e.g., toxins, chemicals, petroleum products, exotic plant materials) or other elements that might degrade or harm biological resources or ecosystem processes within the adjacent conservation area.

b. Toxics: Development of the Proposed Project adjacent to or within a conservation area shall be required to incorporate measures to ensure that application of fertilizers, pesticides, herbicides or similar chemicals does not result in any discharge to the adjacent conservation area.

c. Lighting: Lighting in areas adjacent to or located within conservation areas shall be shielded and directed away from the conservation area, toward developed areas. Landscape shielding or other appropriate methods shall be incorporated in project designs to minimize the effects of lighting adjacent to or within the adjacent conservation area in accordance with the guidelines included in the Implementation Manual.

[4] The mitigation measures in this document are consistent with those in the NEPA Environmental Assessment. Due to requirements of the NEPA document format, however, the mitigation measure numbers are different.

d. Noise: Noise generated by construction adjacent to or within a conservation area in excess of 75 dBA shall incorporate setbacks, berms, or walls, as appropriate, to minimize the effects of noise on the adjacent conservation area according to Implementation Manual guidelines.

e. Invasives: Landscape plans shall be prepared for the Proposed Project. Landscape plans for areas that are located adjacent to or within a conservation area are prohibited from using invasive, non-native plant species in their design. Prohibited invasive ornamental plant species are listed in Table 4-113 of the CVMSHCP (Appendix F). The Coachella Valley native plant species listed in Table 4-112 of the CVMSHCP shall be incorporated into landscape design within or adjacent to conservation areas.

Mitigation Related to MBTA

BIO-3 If ground disturbance, tree or plant removal is proposed between February 1st and August 31st, a qualified biologist shall conduct a nesting bird survey within 14 days of initiation of grading onsite focusing on MBTA covered species. If active nests are reported, then species-specific measures shall be prepared. At a minimum, grading in the vicinity of a nest shall be postponed till the young birds have fledged. For construction between September 1st and January 31th, no pre-removal nesting bird survey is required.

a. In the event active nests are found, exclusionary fencing shall be placed 200 feet around the nest until such time as nestlings have fledged. Nests of raptors and burrowing owls shall be provided a 500-foot buffer.

Ground disturbance between September 1 and January 31 shall be exempt from this requirement.

Mitigation Related to Burrowing Owl

BIO-4 A “take avoidance survey” for the burrowing owl no less than 14 days (in accordance with the Staff Report on Burrowing Owl Mitigation [CDFW 2012]) and no more than 30 days (in accordance with CVWD’s Operations and Maintenance Manual) prior to ground breaking activities are required within and outside of conservation areas that contain suitable habitat for this species. Additionally, a final survey must be conducted within 24 hours of the initiation of ground disturbance activities in accordance with the CDFW 2012 protocol.

a. If no burrowing owls are detected during those surveys, implementation of ground disturbance activities could proceed without further consideration of this species assuming there is no lapse between the surveys and construction as the protocol states “time lapses between Project activities trigger subsequent take avoidance surveys including but not limited to a final survey conducted within 24 hours prior to ground disturbance."

b. If burrowing owls are detected during the take avoidance surveys, avoidance and minimization measures would then be required and could include the establishment of a buffer zone, the passive or active relocation of the individual(s) or other measures approved by the CDFW.

Mitigation Related to Casey’s June Beetle

BIO-5 Prior to any construction in that portion of the Proposed Project occurring within the Survey Area for Casey’s June Beetle, an HCP containing the following requirements shall be approved by the USFWS.

a. Restoration of portions of Tahquitz Creek Golf Course (10.38 acres) to natural wash habitat suitable for CJB as identified on Exhibit 4.4-1.
b. Establishment of conservation easement(s) on 10.38 acres of land within the restoration area of Tahquitz Creek Golf course, as described in item 1.
c. Installation of 0.07 acres of native landscaping to enhance habitat adjacent to the path.

In addition, the following shall be incorporated by CVAG in its management and maintenance of the path within the Survey Area.

a. Any and all lighting fixtures shall be turned off between April 1 and May 31 of any year.
b. Construction activities will not occur within the Survey Area from April 1 to May 31 of any year.
c. An education kiosk will be installed along the CV Link path with information about the species and the importance of native desert wash habitat.
d. Signage will be placed along the CV Link path to alert users to the presence of habitat and to encourage respect for and avoidance of undisturbed habitat areas.
e. Any lands conserved by CVAG may be available as sites for future CJB propagation, if such propagation is determined to be a viable means of conserving the species.
f. Pesticide use on non-listed species is an allowable use, but no take of Casey's June Beetle associated with pesticide use will be authorized by the permit. Application, storage, and use of pesticides, herbicides, insecticides, biocides, and fertilizers in a lawful manner that does not affect Casey's June Beetle is allowed. All such use must occur in accordance with the EPA label on each product.
g. CVAG shall post signage at each end of the path within the Survey Area, identifying the area as Casey's June beetle habitat, and cautioning users that mating season for the species occurs between April 1 and May 31. Signage shall also include warnings about not harming the species if it is encountered by the user or impacting adjacent habitat.
h. No electronic "bug zappers" will be utilized.
i. Irrigation at the surface of the soil will be prohibited in the habitat areas created, restored or conserved by CVAG.
j. CVAG shall place $1,000,000.00 in an endowment approved by the Service to be used for the maintenance of all acreage conserved, created or restored as part of this HCP.
k. CVAG shall assure that management and maintenance of all acreage conserved, created or restored is contracted in perpetuity with a qualified land management agency/organization approved by the Service.

Mitigation Related to Jurisdictional Waters and Wetlands

BIO-6 Prior to the initiation of any construction within areas determined by the Jurisdictional Delineation to be waters of the US, a permit or permits shall be approved and issued by the USACE under Section 404 of the CWA to authorize the discharge of dredged or fill material into waters of the US.

BIO-7 Prior to the initiation of any construction within areas determined by the Jurisdictional Delineation to be waters of the US or the State, a Water Quality Certification(s) shall be approved and issued by the Colorado River RWQCB (Region 7) and by the Twenty-Nine Palms Band of Mission Indians for lands within Tribal boundaries, under Section 401 of the CWA.

BIO-8 Prior to the initiation of any construction within areas determined by the Jurisdictional Delineation to be waters of the State, a permit or permits shall be approved and issued by the Colorado River RWQCB (Region 7) under the Porter Cologne Water Quality Control Act. The permit could be a Construction General Permit, State General Waste Discharge Order, or Waste Discharge Requirements, depending upon the level of impact and the properties of the waterway.

BIO-9 Prior to the initiation of any construction within areas determined by the Jurisdictional Delineation to be waters of the State, a 1602 Streambed Alteration Agreement shall be approved and issued by the California Department of Fish and Wildlife.

Additional Mitigation Measures

The following mitigation measures are applicable to those sections of the Route adjacent to native habitat, as described in the Biological Resource Assessment Report.

BIO-10 **Fencing/Signage** – As a means to protect the adjacent lands of the Whitewater Floodplain Conservation Area present on Segment 1 of the CV Link Route (see Appendix B, CV Link Alignments Map Book for location of this Segment), and as prescribed by the requirements of the MSHCP for all areas adjacent to conservation areas under that document's "Land Use Adjacency Guidelines", fencing and/or regularly placed signage shall be employed near the "top-of-slope" of the levee to prevent people and their pets (particularly dogs being walked by their owners) from straying off the designated CV Link path and into the adjacent natural habitat. Signage shall be placed intermittently along the entire CV Link Segment.

BIO-11 **Pet Control** – Additional signage shall be placed intermittently along the entire CV Link Route indicating that all dogs shall be required to be on a leash while traversing CV Link. Signage location shall be shown on the construction plans for all portions of the project. Aside from preventing individual animals from entering native habitat, the benefits of such a mandate are numerous including facilitating personal safety for other users of the Link, preventing altercations with other dogs present on the path, and increased safety for the individual pet in question (i.e. preventing collisions with bicyclists and LSEV users). In addition, disposal bins for pet waste shall also be provided throughout CV Link.

BIO-12 **Interpretive Signage** – Interpretive signs adjacent to areas of native habitat (such as the Whitewater Floodplain Preserve) shall illustrate and educate the public on some of the native wildlife, plant, or vegetation communities present adjacent to CV Link.

With the implementation of the recommendations, requirements and guidelines summarized above, including requisite participation in the CVMSHCP, project-related impacts to the CVMSHCP-covered species, special-status species not covered by the CVMSHCP, nesting birds protected under the MBTA and USACE and/or CDFW jurisdictional areas will be mitigated to less than significant levels.

4.4.7. Significance After Mitigation

Impacts to biological resources associated with construction of the CV Link project will be reduced to a less than significant level by adherence to the mitigation measures set forth above. Operational impacts associated with the Proposed Project will be less than significant.

4.4.8. Cumulative Impacts

The project has been designed to adhere to local, state, and federal regulations related to the protection of biological resources; therefore, the project would not make a considerable contribution to cumulative impacts to biological resources. The geographic scope for the analysis of potential cumulative biological impacts includes the immediate vicinity around each of the path segments. Using the summary of projections method to analyze cumulative impacts set forth in State CEQA Guidelines section 15130 (b)(1)(B), impacts have been assessed on both a regional and local level. The primary document used to determine cumulative impacts was the CVMSHCP, which was designed for the long-term protection and regulation of biological resources in the project area.

The species of concern in the Project Area are covered species under the CVMSHCP, with the exception of the Casey's June Beetle. As described above, potential impacts to biological resources in and outside of CVMSHCP Conservation Areas will be largely avoided or mitigated to less than significant levels with implementation of the mitigation program provided above. CVAG shall also comply with all terms and conditions of the CVMSHCP and its Implementing Agreement including, but not limited to: 1) participation in the Joint Project Review Process and implementation of the "Land Use Adjacency Guidelines", which are set forth in the above mitigation measures. As regards CJB, the Proposed Project will be required to comply with the requirements of the ESA, and implement an HCP which results in the addition of habitat for the species, and a net increase in native lands suitable for its occupation. Therefore, the project's impacts to biological resources will be less than significant and the project's contribution to cumulative impacts will not be cumulatively considerable.

4.5. Cultural Resources

4.5.1. Introduction

This section evaluates the potential for the CV Link Proposed Project to result in adverse impacts to cultural resources. Cultural resources include Native American tribal cultural resources, unique paleontological or geological resources, archaeological resources, historic architectural resources, and human remains. Mitigation measures to reduce impacts to a less than significant level are identified, where appropriate. This section is based primarily on the Cultural Resources Report prepared for the project by CRM TECH (2016)[1], and which is included in Appendix H of this EIR.

4.5.2. Thresholds of Significance

Federal, State, and Local thresholds or criteria have been used to evaluate the significance of project-related impacts on cultural resources pursuant to CEQA.

CEQA Guidelines

The California Environmental Quality Act (CEQA) prescribes how the Lead Agency must address issues related to archaeological, historic, and paleontological resources. The State CEQA Guidelines state that the term "historical resources" applies to any such resources listed in or determined to be eligible for listing in the California Register of Historical Resources. The definition also includes resources included in a local register of historical resources or identified as significant in an historical resource survey meeting the requirements of section 5024.1(g) of the Public Resources Code. According to Public Resources Code Section 5020.1, "historical resources" include, but are not limited to an object, building site, area, place, record, or manuscript that is historically or archaeologically significant.

According to Appendix G of the CEQA Guidelines[2], the project would have a significant effect on cultural or paleontological resources if it would:

a) Cause a substantial adverse change in the significance of a historical resource as defined in § 15064.5?

b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5?

c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

d) Disturb any human remains, including those interred outside of dedicated cemeteries?

According to recent Appendix G changes and additions under the heading *Tribal Cultural Resources* per Assembly Bill (AB) AB 52, the following thresholds also apply:

a) Would the project cause a substantial adverse change in the significance of a Tribal Cultural Resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American Tribe, and that is:

[1] "Historic Property Survey Report and Archaeological Survey Report for CV Link", prepared by CRM TECH, November 23, 2016.

[2] Appendix G: Environmental Checklist Form, "California Environmental Quality Act (CEQA) Statute and Guidelines," 2015.

- Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or

- A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1 for the purposes of this paragraph, the lead agency shall consider the significance of the resource to a California Native American tribe.

4.5.3. Regulatory Framework

Federal

National Historic Preservation Act

The National Historic Preservation Act (NHPA) was established in 1966 by the Advisory Council on Historic Preservation (ACHP) with the goal to encourage federal agencies to factor historic preservation into federal project requirements. ACHP is an independent federal agency that promotes the preservation, enhancement, and productive use of the nation's historic resources, and advises government leaders on national historic preservation policy. The ACHP defines "historic properties" as "any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in, the National Register of Historic Places."

Section 106 of the NHPA applies when two thresholds are met: 1) there is a federal or federally licensed action, including grants, licenses, and permits, and 2) that action has the potential to affect properties listed in or eligible for listing in the National Register of Historic Places. Section 106 requires each federal agency to identify and assess the effects of its actions on historic resources. If it is determined that a proposed action has the potential to affect historic properties, the federal agency must identify the appropriate State Historic Preservation Officer/Tribal Historic Preservation Officer (SHPO/THPO) to consult with during the process.

The federal agency reviews background information, consults with the SHPO/THPO and others, seeks information from knowledgeable parties, and conducts additional studies as necessary. If the federal agency finds that no historic properties are present or affected, it provides documentation to the SHPO/THPO, who has 30 days to provide written comment or objection. If there is no objection, the agency proceeds with its undertaking. If the agency finds that historic properties are present, it proceeds to assess possible adverse effects.

National Register of Historic Places

Authorized under the NHPA, the National Register of Historic Places is the nation's official list of cultural resources that qualify for preservation. Properties listed in the Register include districts, sites, buildings, structures, and objects that are significant in American history, architecture, archaeology, engineering, and culture. The following criteria are used to determine eligibility for inclusion in the National Register. These criteria have been developed by the National Park Service as provided for in the NHPA:

a) Are associated with events that have made a significant contribution to the broad patterns of our history;
b) Are associated with the lives of persons significant in our past;
c) That embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
d) That yielded, or may be likely to yield, information important in prehistory or history (36 CFR 60.4).

In addition to the criteria for evaluation above, the National Register maintains a list of property types or circumstances that generally do not qualify for the National Register. These are: cemeteries, birthplaces or graves

of historical figures; properties owned by religious institutions or used for religious purposes; structures that have been moved from their original locations; reconstructed historic buildings; properties primarily commemorative in nature; and properties that have achieved significance within the past 50 years.

State

California Public Resources Code

The California Environmental Quality Act (CEQA) is the principal statute governing the environmental review of projects within the State. The State of California's Public Resources Code (PRC) establishes the definitions and criteria for "historical resources," which require similar protection to what the NHPA mandates for historic properties. According to PRC Section 5020.1(j), a "historical resource includes, but is not limited to, any object, building, site, area, place, record, or manuscript which is historically or archaeologically significant, or is significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California."

If a lead agency determines that an archaeological site is a historical resource, the provisions of PRC Section 21084.1 and CEQA Guidelines Section 15064.5 would apply. If an archaeological site does not meet the CEQA Guidelines criteria for a historical resource, then the site may meet the threshold of PRC Section 21083 regarding unique archaeological resources.

In addition, PRC Section 5097.98 states that if Native American human remains are identified within a project area, the landowner must notify and consult with the Native American Most Likely Descendant (MLD), as identified by the NAHC, to develop a plan for proper treatment and/or removal of the human remains and associated burial artifacts. These procedures are also addressed in Section 15046.5 of the CEQA Guidelines and within the California Health and Safety Code (see discussion below).

Assembly Bill 52

Assembly Bill (AB) AB 52 was passed by the California Legislature and signed into law by the Governor in 2015. It established a new category of resources in the California Environmental Quality Act called Tribal Cultural Resources. (Public Resources Code § 21074.) "Tribal cultural resources" are either of the following:

(1) Sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are either of the following:

(A) Included or determined to be eligible for inclusion in the California Register of Historical Resources.
(B) Included in a local register of historical resources as defined in subdivision (k) of Section 5020.1.

(2) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Section 5024.1. In applying the criteria set forth in subdivision (c) of Section 5024.1 for the purposes of this paragraph, the lead agency shall consider the significance of the resource to a California Native American tribe.

While CV Link is not subject to the provisions of AB 52 due to the fact that the CEQA Notice of Preparation for the project was released prior to July 1, 2015, CVAG and Caltrans have and continue to carry out on-going consultations with local of and other interested tribes.

California Register of Historical Resources

For CEQA purposes, "historical resources" applies to any such resources listed in or determined to be eligible for listing in the California Register of Historical Resources, included in a local register of historical resources, or determined to be historically significant by the Lead Agency (Title 14 CCR Section 15064.5(a)(1)-(3)). CEQA guidelines mandate that "generally a resource shall be considered by the lead agency to be 'historically

significant' if the resource meets the criteria for listing on the California Register of Historical Resources" (Title 14 CCR Section 15064.5(a)(3)). A resource may be listed in the California Register if it meets any of the following criteria:

a) Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage.
b) Is associated with the lives of persons important in the State's past.
c) Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values.
d) Has yielded, or may be likely to yield, information important in prehistory or history. (Public Resources Code section 5024.1(c))

California Health and Safety Code

The California Health and Safety Code Section 7050.5 regulates the treatment of human remains. According to the Code, in the event of discovery or recognition of any human remains in any location other than a dedicated cemetery, there shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains until the coroner of the county in which the human remains are discovered has determined that the remains are not subject to further investigation. If the coroner recognizes, or has reason to believe that the human remains are those of a Native American, he or she shall contact the NAHC to determine the Most Likely Descendant (MLD). Consultation with the designated MLD will determine the final disposition of the remains.

Local

Several of the local jurisdictions participating in or affected by CV Link have ordinances or guidelines for the management of cultural resources in their respective communities. These include policies set forth in each of the jurisdictions' General Plans and in some cases adopted ordinances. The following summarizes the local plans and ordinances that comprise the local regulatory framework within which cultural resources are managed.

City of Palm Springs: General Plan Recreation, Open Space and Conservation Element, Municipal Code Section 8.05

City of Cathedral City: General Plan Archaeological and Historic Resources Element

City of Rancho Mirage: General Plan Conservation and Open Space Element, Municipal Ordinance No. 831

City of Palm Desert: General Plan Environmental Resources Element, Cultural Resources Ordinance No. 1168

City of Indian Wells: General Plan Conservation and Open Space Element

City of La Quinta: General Plan Cultural Resources Element, Municipal Code Section 7 Historic Preservation

City of Indio: General Plan Cultural Resources Element, Municipal Code Section 32.30

City of Coachella: General Plan Sustainability + Natural Environment Element, Municipal Code Section 15.48

4.5.4. Existing Conditions

The following summarizes the history of human occupation of the Coachella Valley, first by those who first migrated to North American from northeast Asia via the Bering Strait approximately 12,000 years ago, and millennia later with the arrival of Europeans at the end of the 18th century. The earliest periods of human occupation were distinguished by artifacts of hunting and gathering, including stone arrow and spear points, to milling stones and other food grinding implements. From about 4,000 years ago, seeds and grains and their processing became more important, and stone-tools became more sophisticated; there was also a corresponding increase in cultural complexity and variation. By about 1,500 years ago, at the end of the archaic period, burial practices had changed to cremations and a wider food base was exploited. Milling of foodstuffs also continued extensively.

Later periods involved important cultural changes, including the introduction of pottery and the bow and arrow. The Late Prehistoric pre-ceramic transitional phase from 1,200 to 1,500 years ago; ceramics were locally introduced about 1,200 years ago. Pottery was an innovation of peoples of the Colorado River, and its presence in the Coachella Valley indicates that contact occurred between inhabitants of the Coachella Valley and Colorado River settlements. From about 800 years ago to just before contact with Europeans, there is evidence of extensive contact and trade with tribes of the Colorado River. This included the distribution of pottery across the upper Colorado and Mojave Deserts. It is from this period that ethnic or tribal affiliations are best known.

The oldest cultural remains known to existing within the CV Link planning area date back about 2,700 years and were discovered near the intersection of Jefferson Street and Fred Waring Drive along the ancient shoreline of Lake Cahuilla. Numerous types of habitation and village sites were developed throughout Valley. These included villages occupied for extended periods of time, milling sites used seasonally as particular foods became available, lithic workshops for making stone tools and weapons, and rock art sites used for artistic/religious expression.

History of Planning Area Settlement

Archaeological resources in the planning area include numerous village sites associated with the shoreline of ancient Lake Cahuilla, which was created and maintained by inflows of the Colorado River. As the lake level fell approximately 500 years ago, the Cahuilla moved their villages into or near the mouth of mountain canyons where most of their food and other resources were to be found. Dependable water sources were essential, especially after the retreat of ancient Lake Cahuilla. Canyons of the San Jacinto Mountains, including and especially Tahquitz Canyon, had apparently been important habitation areas during Lake Cahuilla's last stand, and also including Palm, Andreas and Murray Canyons, which Tahquitz Creek then as now had year-round streams. As stated by Bean, et al., "It can be assumed that spring sites were places known to the Cahuilla and used by them, and that there were villages or significant use sites near all major springs."[3]

While records indicated that Spanish explorers entered the Coachella Valley region in the 1770s, there is no evidence of European settlements until about 1812, when the region fell under the influence of Mexico, as it secured its independence from Spain. The issuance of land grants and the establishment of agricultural enterprises, under the organization of rancheros, dominated the region for the next thirty years. Following the end of the Mexican-American War in 1848 the stage was set for admittance of California into the union in 1850, and led to the influx of peoples from many countries. The first U.S. Government Surveys were made in the Coachella Valley in 1855-56, by surveyors who observed a number of trails and roads crossing the area.

[3] "The Cahuilla and the Santa Rosa Mountain Region: Places and Their Native American Association", Lowell J. Bean, Sylvia Brakke Vane and Jackson Young. Edited by Russell L. Kaldenberg. Cultural Systems Research, Inc. for the US Bureau of Land Management. October, 1981.

Until the beginning of the 20th century, most of the Coachella Valley remained unsettled and devoid of any evidence of land development until around the turn of the twentieth century. The only features recorded during that time were the Southern Pacific Railroad, Bradshaw Trail, and another trail along the base of the Little San Bernardino Mountains at the mouth of West Wide Canyon. Several railroad construction workers' camps were present by the early 1900s. Future roadways included the Ocean-to-Ocean Highway that run along today's Union Pacific Railroad alignment. During the 1910s, the County of Riverside improved the Bradshaw Trail, originally built through the Valley in the 1880s, into a county trail (the forerunner of today's Highway 111), which further paved the way for settlement and growth in the "cove communities" region of the Coachella Valley.

Large-scale agriculture was initiated in the Valley with the introduction of the date palm and citrus in 1904. By the late 1910s, the date industry was firmly established, extending from present-day Cathedral City south beyond Indio, which became the central agri-business district. As the easily accessible groundwater resource was tapped and became progressively inaccessible in the east Valley, further growth of agriculture was limited until the completion of the Coachella Branch of the All-American Canal in 1949, which brought Colorado River water to the Valley for irrigation and other uses.

By 1941, several rural settlements had been established in the area between the Southern Pacific Railroad (now Union Pacific) and the Indio Hills. The small community of Palm Village was established south of the railroad, on the north side of Highway 111 in present day Palm Desert. General George S. Patton selected Palm Village as the site for his motor pool during World War II, as it was in close proximity to the Desert Training Center used for military training during the war.

Paleontological Resources

In general, paleontological resources only occur in sedimentary rock such as sandstone, siltstone, mudstone, claystone, and shale. Specific rock and soil types of a locale are useful indicators in determining the likelihood for the presence of paleontological resources. Soils on the valley floor portion of the planning area are generally post-Pleistocene age alluvium from the surrounding mountains.[4] Such soils are generally considered recent by paleontological standards and therefore have little potential to yield fossilized remains. The southeastern portions of the CV Link alignment are located within the boundary of the ancient Lake Cahuilla, an area where most paleontological resources in the Valley have occurred.[5]

Occasionally fossils may be exposed at the surface through the process of natural erosion or as a result of human disturbances; however, they generally lay buried beneath the surficial soils. Thus, the absence of surface fossils does not preclude the possibility of their being present within subsurface deposits, while the presence of fossils at the surface is often a good indication that more remains may be found in the subsurface.

CV Link would be constructed upon a variety of previously disturbed lands, or upon alluvial fan and aeolian (windblown) deposits, including those excavated from the adjoining channels to construct levees. The proposed route is also well removed from intact bedrock or sedimentary rock that most typically harbors paleontological resources. Most of the Proposed Project would be constructed on the low-lying valley floor and on lands that have been previously disturbed and developed. Soils along the route are from the Holocene epoch, of relatively recent age, and are therefore not expected to contain paleontological resources. Therefore the planning area has a low, less than significant potential to contain paleontological resources or for paleontological resources to be impacted.

Planning Area Cultural and Historic Resources

As discussed in detail in Section 2 of this EIR, CV Link would be built primarily along and atop existing flood control channel embankments and levees with limited crossing of drainage channels. The balance of the

[4] "Paleontological Resources Assessment – College Park Specific Plan", prepared by CRM TECH. May 2009.

[5] "Paleontologic Resources Technical Report – City of La Quinta General Plan", prepared by CRM TECH. August 2010.

alignments will occur on and adjacent to existing public roads, pathways and trails. As discussed below, a variety of cultural and historic resources have previously been detected and recorded along certain alignments.

Area of Potential Effect (APE)

The Area of Potential Effects for CV Link was established in consultation with archaeologists at Caltrans, the Bureau of Indian Affairs and local Native American Tribes. It is meant to encompass the maximum extent of ground disturbance required to construct and operate this multi-modal transportation facility. The APE also encompasses adjacent properties containing buildings or other built-environment features of historical origin with potential to receive visual, atmospheric, or other indirect effects due to the nature, scope, and scale of CV Link.

The horizontal dimension of APE along all of the prospective path alignments measures approximately 74.5 linear miles in total length with disturbances of up to 100 feet in width in some areas, including construction buffer zones on either side of the proposed path. The balance of the APE subject to direct impacts during construction consists of 40 proposed staging areas, totaling approximately nine acres.

The vertical extent of the APE is generally 1-2 feet along the path alignment but may reach up to 60-120 feet at ten proposed overcrossing sites for drilling and the installation of bridge supports. No substantial subsurface disturbance is anticipated in the construction staging areas. The entire APE stretches from Chino Canyon area in the eastern foothills of the San Jacinto Mountains to the community of Thermal, mostly in and near the Whitewater Floodplain, Whitewater River/Coachella Valley Stormwater Channels and Tahquitz Creek channel.

Cultural Resources Identified

Project research included a review of the records in the Eastern Information Center (EIC) at the University of California-Riverside, as well as the Caltrans Historic Bridge Inventory. It was determined that much of the APE has been included in previous cultural resources studies completed over the past 40 years, but the APE as a whole had not been surveyed systematically prior to this study. As a result of the past studies in the vicinity, 17 cultural resources identified as being within or adjacent to the APE are listed below:

Table 4.5-1
Cultural Resources CV Link Planning Area

Site Number/Trinomial	Resource Description
33-000064 (CA-RIV-64/H)	Cahuilla village site & site of Old Indian Wells Village
33-000149 (CA-RIV-149)	Prehistoric habitation site
33-001178 (CA-RIV-1178	Prehistoric habitation site
33-001754 (CA-RIV-1754)	Ceramic scatter
33-002935 (CA-RIV-2935)	Prehistoric habitation site
33-004076 (CA-RIV-4076)	Ceramic scatter
33-005705 (CA-IMP-7658H)	Coachella Canal
33-007513	College of the Desert Foundation Building
33-007835 (CA-RIV-5828)	Small prehistoric habitat area
33-009022	Isolate: mano fragment
33-009498 (CA-RIV-6381H)	Southern Pacific Railroad Los Angeles to Yuma Mainline
33-011476	La Hacienda Nursery
33-013202	Early 20th century steel pipeline
33-017259/33-017913 (CA-RIV-9456H)	Coachella Valley Stormwater Channel
33-024741	Isolate: glass fragment
33-024742	Isolate: glass and ceramic fragments
33-026436	Former Tramway Gas Station (NRHP#15000645)

Bridges

Five highway bridges within the APE were identified in the Caltrans Historic Bridge Inventory and listed as Category 5, i.e., not eligible for the National Register of Historic Places.

Table 4.5-2
Highway Bridges - CV Link Planning Area

Bridge Number	Resource Description
Bridge 56C0408	South Palm Canyon Drive bridge at Tahquitz Creek
Bridge 56C0292	Indio Boulevard bridge (north bound) at CVSC
Bridge 56C0293	Indio Boulevard bridge (south bound) at CVSC
Bridge 56C0318	Dillon Road bridge at CVSC
Bridge 56C0020	Airport Boulevard bridge at CVSC

Of the 17 cultural resources identified within or adjacent to the APE by the California Historical Resources Information System, six built-environment sites and two isolates remain extant today, along with all five of the highway bridges identified by the Caltrans Historic Bridge Inventory. The seven additional historical/archaeological resources recorded within or adjacent to the APE during this study as listed below:

Table 4.5-3
Other Cultural Resources - CV Link Planning Area

Site Number	Resource Description
33-024876 (CA-RIV-12331H)	Octagonal Concrete Footings
33-024880	Isolate: Clear Glass Bottle Base
33-026432	Cathedral Palms R.V. Resort
33-026434	Historic residence: Rancho Chiquito
33-026435	Rancho Mirage Villa Apartments
33-026433	Commercial property: MJ Custom Furniture
33-026437	Commercial property: Ayala's Auto Repair

Summary of Cultural Resources

As noted, a variety of cultural resources have been identified as having or still occurring within or adjacent to the CV Link APE. These include a total of 29 cultural resources identified in the past or during the present survey. Of these, nine of the previously recorded resources could not be located during this study, leaving a total of 20 historical/archaeological resources extant today, all of them dating to the historic-period. The historical significance of these 20 properties was evaluated under NRHP Criteria A, B, C, and D, pursuant to 36 CFR 800.4(b) and (c). The criterion defines the scope of eligibility for NHRP listing based on significance and historic integrity within the historic context of the resource.

Based on the established criteria, three of the 20 historical/archaeological resources, namely the former Tramway Gas Station at 2901 North Palm Canyon Drive (Site 33-026436/NRHP #15000645), the Coachella Canal (Site 33-005705/CA-IMP-7658H), and the Southern Pacific Railroad Los Angeles to Yuma Mainline (Site 33-009498/CA-RIV-6381H), appear to qualify as "historic properties" under Historic Preservation Act Section 106 provisions.

As a result of the field survey and the background research, it was determined that two of the previously recorded archaeological sites, 33-000064 (CA-RIV-64/H) and 33-000149 (CA-RIV-149), are located outside the horizontal and vertical extents of the APE. Six other sites and an isolate, 33-001178 (CA-RIV-1178), 33-001754 (CA-RIV-1754), 33-002935 (CA-RIV-2935), 33-004076 (CA-RIV-4076), 33-007835 (CA-RIV-5828), 33-009022, and 33-013202, were destroyed by channel, golf course and other development, or could not be relocated in the field, and no longer exist in or near the APE.

Description of Cultural Resources

The above summarizes the cultural resources, both historic and archaeological, that occur within or adjacent to the CV Link APE. These include such resources as the Former Tramway Gas Station in Palm Springs and the Cahuilla Kavinish Village site in Indian Wells. Potentially impacted cultural resources, including historic and archaeological resources, are described in more detail in the impacts discussion below.

Palm Springs Visitor Center (Former Tramway Gas Station)

An important local example of "Mid-Century Modern" architecture, the former Tramway Gas Station at 2901 N. Palm Canyon Drive (APN 504-040-001), now the Palm Springs Visitors Center, is a widely recognized architectural and historical landmark in the Palms Springs area and the Coachella Valley, and one of the best-known examples of the works of architects Albert Frey and Robson Chambers. Most prominent of the building's character-defining features is triangular roof, described as "a roof form that would come to symbolize mid-century design, the hyperbolic paraboloid" (see photo below). The distinctive canopy is constructed of ribbed, galvanized steel panels resting on steel beams, held aloft by six round steel posts, and anchored on the downward edges by stepped, triangular piers. The exterior walls are built of concrete blocks that are stacked and aligned to give the appearance of offset squares, and are generously interspersed with floor to ceiling plate glass windows.

In 2015, the Palm Springs Visitor Center was placed in the National Register of Historic Places as a result of a multiple-property nomination, "The Architecture of Albert Frey," under Criterion C, with a local level of significance, as it "embodies the distinctive characteristics of the specific property type associated with architect Albert Frey as his designs evolved over a thirty year period in response to the desert environment of the Coachella Valley". As a property that is currently listed in the National Register of Historic Places, it clearly meets the definition of a "historic property."

Palm Springs Visitor Center
(Former Tramway Gas Station)



Former Tramway Gas Station featuring its distinctive elongated, triangular roof, with a view of the existing paved sidewalk (along the low wall) that will adjoin the CV Link path at points on the southern and western perimeters of the property. (Photo taken on July 14, 2016, view to the northeast).

Coachella Canal

The Coachella (Branch) Canal was built as an extension of the All-American Canal to bring Colorado River water to the Coachella Valley to irrigate crops in the east valley. Site 33-005705 represents the entire length of the Coachella Canal, which was constructed between 1938 and 1948. During a 2003 study, the entire length of the Coachella Canal was evaluated under the National Register criteria and was found to be eligible for listing under Criteria A and C because of its close association with "the enormous public works effort arising from the Boulder Canyon Act" and as an example of the "state-of-the-art construction methods and innovative approaches to working in extreme desert temperatures" (Schaefer and Ghabhláin 2003:105-106).

The segment lying closest to the APE was lined with concrete when the project was completed in 1948, and since then has remained largely unaltered. At the location where the APE crosses Site 33-005705, the concrete-lined open canal turns into an underground syphon to cross the Whitewater River/CVSC on the northwest (see photo below). Except for the construction of the flood control channel embankments and levees that most of the APE is located on, aerial photographs show no major changes in the configuration of the canal crossing since 1952 (NETR Online 1953-2012), and thus it retains excellent historic integrity. Based on these considerations, the CV Link cultural analysis concurred with the 2003 evaluation, and found Site 33-005705 to meet the definition of a "historic property."



Coachella Canal (Site 33-005705 in the APE).

Southern Pacific Railroad Southern Pacific Railroad Los Angeles to Yuma Mainline

The historic Southern Pacific Railroad (Site 33-009498/CA-RIV-6381H) represents the former Southern Pacific Railroad Coachella Valley line, part of the Los Angeles to Yuma Mainline, which remains in operation today as a part of the Union Pacific Railroad system. As is the case with the Coachella Canal, above, and other long linear resources, multiple non-contiguous segments of the historic railroad route have been individually recorded in different counties. The entire route from Los Angeles to the Arizona border was recorded into the California Historical Resources Inventory in 1999.

The Southern Pacific Railroad Los Angeles to Yuma mainline was constructed in 1876-1877, during the company's rapid rise to virtual monopoly on modern transportation in California, and has remained in use ever since. It crosses the planning area at the rail line crossing of the CVSC in the western portion of the City of Indio, parallel to Indio Boulevard and about 500 feet northwest of Clinton Street. At this location, the rail line crosses the project alignment and the CVSC on two adjacent bridges, one of them built in 1930 and the other in 2008. As proposed, this CV Link alignment will pass beneath the bridges and join a short access path leading from Indio Boulevard at a point southeast of the road's intersection with the CVSC.



1930 Southern Pacific Railroad bridge, views to the northwest (*left*) and the southeast (*right*) with the second railroad bridge built in 1980 and the Indio Boulevard bridges to the right. (Photographs taken on July 9, 2016)

Kavinish Village

Kavinish Village was a large, important site located in Indian Wells and along the Whitewater Stormwater Channel. This important archaeological site is currently a designated California Point of Historical Interest was first recorded as a "camp site evidenced by scattered sherds," together with a walk-in well that had been filled with sand. Other artifacts observed include beads, groundstone, and bone tools. Human cremation remains have also been found in association with this site. Evidence suggests that it was an area of extensive use by Native American inhabitants. This site and other cultural resource sites are also described in the impacts discussion below.

4.5.5. Project Impacts

Approach and Methodology

Project research and analysis was initiated with a literature search and review. The historical/archaeological resources records search was conducted 2015 and 2016 at the Eastern Information Center (EIC), University of California-Riverside. A standard one-mile radius was adopted for the record search. A variety of additional sources were also researched, including the National Register of Historic Places, California Register of Historical Resources, California Historical Landmarks, California Points of Historical Interest, Historical Landmarks of Riverside County, California Historical Resources Inventory and the California Historic Bridge Inventory.

A written request was submitted to the State of California's Native American Heritage Commission (NAHC) for a records search in the commission's Sacred Lands File. In response, the NAHC identified the potential for Native American cultural resources to be impacted by the CV Link project, particularly in the Palm Springs and Indio areas. Direct consultation was initiated with the Agua Caliente Band of Mission Indians and the Cabazon Band and Twenty-Nine Palms Band of Mission Indians, among other local tribes. Each of these Tribes and others has been consulted. Letters and additional input were provided by local Tribes, including those whose lands could be directly impacted by the CV Link project. Consultation has also been carried out by the US Bureau of Indian Affairs and Caltrans on behalf of the Federal Highway Administration pursuant to Section 106 of the Historic

Preservation Act. Representatives of each of the potentially affected cities and Riverside County were also contacted, as were local historical and archaeological societies. For a complete list of consulting parties, please see Appendix H: CV Link Historic Property Survey Report.

The field surveys of the APE were carried out in 2015 and 2016 and were conducted to determine the occurrence of sensitive cultural resources, including archaeological, historic and architectural resources. The portions of the APE confined within existing paved municipal streets were surveyed at a reconnaissance level by driving along the project route and visually inspecting the surrounding ground surface for any indications of potential cultural resources. Areas containing visible ground surface, such as on levees along the Whitewater River and Tahquitz Channels and in the staging areas, were surveyed on foot at an intensive level by walking parallel transects spaced 5-15 meters (approximately 15-50 feet) apart.

Application of the Criteria of Adverse Effect
Pursuant to 36 CFR 800.4(c)(1), the Former Tramway Gas Station (Palm Springs Visitor's Center) and the Coachella Canal (Site 33-005705) are considered "historic properties" for the purpose of this undertaking. The fact that the undertaking will have an effect on these "historic properties" dictates that Caltrans, as assigned by FHWA, apply the criteria of adverse effect to these two sites in consultation with the State Historic Preservation Officer, and the Agua Caliente and Twenty-Nine Palms Tribal Historic Preservation Officers (36 CFR 800.5(a)). The criteria of adverse effect are stated in 36 CFR 800.5(a)(1-2):

> Adverse effects occur when an undertaking may directly or indirectly alter characteristics of a historic property that qualify it for inclusion in the Register. Reasonably foreseeable effects caused by the undertaking that may occur later in time, be farther removed in distance, or be cumulative also need to be considered. Examples of adverse effects include physical destruction or damage; alteration not consistent with the Secretary of the Interior's Standards; relocation of a property; change of use or physical features of a property's setting; visual, atmospheric, or audible intrusions; neglect resulting in deterioration; or transfer, lease, or sale of a property out of Federal ownership or control without adequate protections.

Impact Analysis
The following discussion evaluates the potential impacts to sensitive cultural resources, including Tribal cultural resources, and other archaeological, historic and paleontological resources, as a result of the construction of the CV Link Proposed Project.

a) Cause a substantial adverse change in the significance of a historical resource as defined in § 15064.5?

As noted above, the CV Link Route and alignment variations cross through lands that have been a part of and have been affected by the historic development of the Coachella Valley. The location of these historic resources, their relationship to the CV Link APE and whether they still exist has resulted in the identification of two significant historical resources that could be adversely impacted by the Proposed Project. These include the Palm Springs Visitor's Center (Former Tramway Gas Station) and the Coachella Branch of the All-American Canal (Coachella Canal), the potential impacts to which are discussed below.

Palm Springs Visitor's Center (Former Tramway Gas Station)
This site within the CV Link APE occupies a portion of APN 504-040-001, an approximately one-acre parcel located at the northwestern corner of Tram Way and North Palm Canyon Drive (Highway 111). Besides the building, which currently functions as the City of Palm Spring's Visitors Center, the property contains a restroom facility, a paved parking area, and a concrete walkway that skirts a low wall in front of the building. All of these peripheral features are of modern to recent age, and none have been identified as contributors to the building's historical significance or as factors to its National Register eligibility.

The potential of CV Link to affect the former Tramway Gas Station stems from the proposed use and extension of the existing walkway to connect to the recreational path alignment at points on the eastern and western perimeters of the property. The project will not directly impact the former Tramway Gas Station building, and the access point planned at this location will occur within the existing parking lot and previously disturbed lands behind this structure. With regard to potential visual and atmospheric effects, there would be very little alteration to the setting and feeling of the property by the addition of the CV Link path, which will be designed across the property to resemble the appearance of the connecting path alignments as they approach the property, so that the path will be easily identifiable, though modified in size.

The former Tramway Gas Station's significance is mainly derived from Frey's design of the building, which will not be altered in any way. Considering that it stands amid non-contributing elements consisting of modern, utilitarian improvements, and that the scope and nature of the undertaking as this location will be essentially a ground-level path mostly demarcated over an existing sidewalk, any visual and atmospheric impacts would be minimal. Such minor impacts would not significantly change of the use or physical features of the property's setting to the extent that would constitute an "adverse effect," nor would they compromise any historical characteristics that qualify the property for inclusion in the National Register.

Coachella Canal

The portion of the CV Link APE lying across the Coachella Canal (Site 33-005705) is situated in the western portion of the City of Indio, between Fred Waring Drive and Miles Avenue. The potential for effects on Site 33-005705 by this undertaking lies primarily in the proposed construction of a rest area near Coachella Canal with shade structure, a charging facility and interpretative signage. The undertaking will entail no direct effect to Site 33-005705, which is fenced off and will remain so. For visual and atmospheric effects, the setting and feeling of the canal would be somewhat altered at this location by the addition of the rest area, which would be located on a small open, triangular area bound by the canal to the southwest, the Whitewater Wash to the northwest, and a row of modern residential buildings to the east. It should also be noted that the canal and syphon are currently not visible to the general public except from the air.

Considering existing conditions and essentially in accessible location and fencing, the factors that the canal's significance is derived from, the most important aspects of the canal's historic integrity are the location of its entire 120-mile course and the physical features that embody its overall design and construction methods rather than microscopic originality in terms of materials and workmanship or localized setting and feeling, which have been greatly altered since its period of significance. These macro-level aspects of integrity would not be substantially compromised by the construction of the rest area, charging station or interpretive signage.

In comparison to the total expanse of the channel, the extent of both physical and visual impacts that the CV Link project may have on the historical characteristics of the canal is minimal. In sum, while the proposed undertaking would inevitably have an effect on certain aspects of the Coachella Canal's historic integrity at this particular location, such effect would not reach the level of an "adverse effect."

Southern Pacific Railroad Los Angeles to Yuma Mainline (33-009498/CA-RIV-6381H)

Site 33-009498 represents the former Southern Pacific Railroad's Coachella Valley line, which remains in operation today as a part of the Union Pacific Railroad system. It was constructed in 1876-1877 as a part of the Southern Pacific line from Los Angeles to Yuma, Arizona. The entire route was recorded into the California Historical Resources Inventory in 1999. The APE for this undertaking crosses the rail line under an existing bridge in the western portion of the City of Indio, on the northeastern side of Indio Boulevard.

As a part of the first major railroad system to reach southern California, Site 33-009498 played an important part in the phenomenal growth spurt in the region during the late 19th and early 20th centuries. However, like other components of the historical transportation infrastructure that remain in use today, the physical features of the site have been modified and upgraded repeatedly over the years in order to maintain and improve functionality. As a

result, the rail line demonstrates little distinctively historical characteristics. During a 2005 study, the site was evaluated under the criteria for both the National Register of Historic Places and the California Register of Historical Resources, and was found not to retain historic integrity in the aspects of design, materials, setting, and feeling. Therefore, it was determined not to be eligible for listing in either register. The construction of CV Link facilities at this location will not have a significant adverse effect on the railroad facilities, including its bridge over the Coachella Valley Stormwater Channel.

Potential Impacts to Other Cultural Resources

In addition to the three major resources identified and discussed above, the cultural and historic resource surveys conducted for this project also identified other resources, which are further discussed below. None of these resources have been identified as sensitive or of important historic value, and any direct or indirect CV Link impacts to these resources would be less than significant.

Concrete Footing

This historic-period site (Site 33-024876 (CA-RIV-12331H)) was identified and recorded near the northwestern end of the APE, in the City of Palm Springs. It consists of a large octagon-shaped concrete footing with a concrete support, or pier, at each corner. The footing segments connecting the supports are 1.5 feet thick. The supports measures 2.5 x 2 feet, and each of them has two 1-inch anchor bolts in the center. A small concentration of rusted metal, approximately 13 x 10 feet in size, is located in the center of the octagon. Lying approximately 31 feet from the southwestern edge of Highway 111, Site 33-024876 appears to be the remains of a water tank. However, historic maps dated 1856-1975 and aerial photographs taken in 1972-2012 yield no evidence of a building or structure at this location.

Despite diligent research efforts, the history of the structural remains at Site 33-024876 remains unclear. As a minor feature of unknown age and historical background, Site 33-024876 is not closely associated with any persons or events of recognized significance in national, state, or local history, nor does it retain the necessary historic integrity to relate to the period of its construction or operation, or to the historic period in general. The site does not demonstrate any notable qualities in design or engineering, does not represent the work of a significant creative individual, and does not hold the potential for any important archaeological data. Therefore, it does not appear eligible for listing in the National Register of Historic Places, and does not meet the definition of a “historic property.” Therefore, the construction of CV Link facilities will not have a significant adverse effect on this resource.

Palm Springs Water Company Site

Site 33-013202 was originally identified as consisting of segments of a steel pipeline built by the Palm Springs Water Company, the pipeline was originally recorded in 2004 at a location lying south of Tramway Road and west of Highway 111, well outside the APE. Later that year, newly identified pipeline segments lying to the northeast of Highway 111 were added to the site, bringing it into the northwestern end of the APE. The 2004 study found the pipeline unlikely to have been associated with the early development of water supply by John G. McCallum and his Palm Valley Land and Water Company in the late 1800s, but most likely dates to the 1920s, a relatively late period in the growth of the Palm Spring colony. As a secondary component of the company’s extensive water system, Site 33-013202 was considered ineligible for listing in the California Register of Historical Resources. During the field survey, it was discovered that the portion of the site within the APE is no longer present. As the area where it was recorded has been fully developed into a residential neighborhood, that portion of the site clearly has been removed. Therefore, the construction of CV Link facilities in the vicinity of Site 33-013202 will not have a significant adverse effect on cultural or historic resources.

Coachella Valley Stormwater Channel

Sites 33-017259 and 33-017913, recorded in 2008 and 2009, respectively, consist of two different segments of the Coachella Valley Stormwater Channel, which generally follows the natural course of the Whitewater River. For the purpose of this analysis, they are essentially the same site and are discussed as such. A large portion of the

APE lies within the Whitewater River wash/CVSC, and thus within the site boundary of 33-017259/33-017913. The typical configuration of the channel today features two parallel earthen levees flanking the former river wash, each with a dirt access road on top, although portions of the channel have been lined with concrete in recent years.

The channelization of the Whitewater River into the CVSC is the result of flood-control work by various public agencies in the Coachella Valley since the 1910s. Despite the well-known aridity of the desert valley, the early settlements were often at the mercy of periodic flooding, at times with devastating effects. In response to the need for a cohesive regional flood protection program, in 1915 the Coachella Valley Stormwater District was formed on the basis of two small flood-control interests, the Indio Levee District and the Coachella Stormwater District.

During initial construction and with about a quarter of the project completed, in January 1916 torrential flooding ravaged and gouged the Whitewater riverbed, significantly changing its course and deepening it to up to 50 feet between Cathedral City and Point Happy. The newly altered riverbed offered a practical choice for subsequent flood-control works in the valley. As a result, the Whitewater River became the "backbone" of the Coachella Valley Stormwater District's (later CVWD's) 50-mile stormwater channel, which ultimately conveys runoff to the Salton Sea.

The segment of the riverbed from Point Happy to the Salton Sea, similarly, has evolved into a manmade channel bent to skirt communities and protected by flood-control devices, mainly earthen levees. By the 1930s-1950s, the presence of levees and dikes along the course of the former Whitewater River wash in the project vicinity was well documented in historic maps (BOR 1938; USGS 1941; 1956). Over the years, the channel and levees have undergone constant repairs, maintenance, and upgrading to insure that the banks are stable and that vegetation does not become overgrown. In recent years, portions of the channel were lined with concrete and these modifications continue today. At the time of their recordation, both 33-017259 and 33-017913 were determined not to be eligible for the National Register of Historic Places or the California Register of Historical Resources. Therefore, the construction of CV Link facilities along the Whitewater and Coachella Valley Stormwater Channels will not have a significant adverse effect on these facilities.

Summary of Impacts
Three historical resources were identified that appear to qualify for (or are already on) the National Register of Historic Places and/or the California Register of Historical Resources, have been identified within the CV Link APE. These include the former Tramway Gas Station in Palm Springs, and the Coachella Canal and the Southern Pacific Railroad Los Angeles to Yuma Mainline both in Indio. However, CV Link facilities and improvements planned at or in proximity of these resources will have a less than significant direct and indirect impact.

b) Cause a substantial adverse change in the significance of an archaeological resources pursuant to § 15064.5?

The cultural resource surveys completed for this project identified the following archaeological resources in the vicinity of the Proposed Project:

<u>Indian Wells Golf Resort – North Bank</u>
Site 33-002935 (CA-RIV-2935) is located on the north (left) bank of the Whitewater River opposite and west of Site 33-001754 (see below), and was recorded in 1984 as a prehistoric habitation site with ceramics, lithics, modified bone fragments, fire affected clay, midden soil, and an ash lens suggesting a fire pit (see HPSR Attachment D). By that time, that site had been disturbed by local pothunters and, more significantly, by flood-control work along the river channel, and part of it had been buried under two meters of fill.

An archaeological testing program was apparently implemented on the site in 1985, although the testing results were unclear in a draft report found at the EIC. Subsequently, the site became a part of the Indian Wells Golf Resort, with the northern end of a bridge built in the general vicinity of the site (NETR Online 1996). During the field survey conducted for the CV Link project, no archaeological features or artifacts associated with Site 33-002935 were found on the surface. While the existing documentation at the EIC does not clarify whether any subsurface cultural remains may still survive at the site, CV Link-related ground disturbance in this area is not expected to reach beyond the previously disturbed surface soil. The likelihood of uncovering intact, potentially significant features of artifact within the vertical extent of the APE during this undertaking, therefore, appears to be minimal and the project is not expected to have a significant adverse effect on cultural or historic resources.

Indian Wells Golf Resort – South Bank

Site 33-001754 (CA-RIV-1754) is located on the south side of the Whitewater River and to the west of the Miles Avenue bridge in Indian Wells, was first recorded in 1979 as a surface scatter of 40 pottery sherds. The site was revisited in 1984, and was determined at that time as "a secondary deposit of isolated sherds" resulting from channelization of the river and construction of the levee. Therefore, the site was considered to be of "little value," and no further archaeological work was considered necessary (McCarthy 1984:5). Due to limitation of the locational data, it is unclear whether the site extended into the APE.

In any event, the site area has since been developed into the Indian Wells Golf Resort and the Esmeralda Hotel. Field survey efforts during this study yielded no prehistoric cultural remains at or near the recorded location of Site 33-001754. Only a small portion of the Link route through this area will require grading and then only to a depth of about one foot. Therefore, the construction of CV Link facilities along this portion of the Whitewater Stormwater Channel will not have a significant adverse effect on cultural or historic resources.

Kavinish Village – Indian Wells

The resource Site 33-000064 (CA-RIV-64/H) is a large site in Indian Wells that represents the general locations of both the 19th century Cahuilla village of Kavinish and the early 20th century Old Indian Wells Village, is probably one of the most important archaeological sites in Riverside County, and is currently a designated California Point of Historical Interest (No. Riv-017). The site was first recorded in 1954 as a "camp site evidenced by scattered sherds," together with a walk-in well that had been filled with sand. Other artifacts observed at the site in 1954 included beads, groundstone, and bone tools, the distribution of which extended "for miles in each direction". In 1963, additional archaeological remains were reported at 33-000064, including two sets of cremation remains. During a more recent revisit in 1994, several historic-period features were also noted at the site, such as refuse dumps and foundations, along with several concentrations of fire-affected rock and clay. The density of artifacts found at the site suggest that it was an area of extensive use by Native American inhabitants, and because of its location, CA-RIV-64 is believed to be associated with Kavinish, although no direct linkage other than location has been clearly established. Interestingly, the location of Kavinish, represented by a few huts observed in 1856, was in fact a short distance outside the current boundaries of 33-000064.

Two CV Link alignments would extend across the northern portion of Site 33-000064, on either side of the Whitewater River. The northern alignment will be located on the existing paved cross section of Miles Avenue beginning at the Miles Avenue bridge and proceeding east to Washington Street. During the field survey, no archaeological features or artifacts of either prehistoric of historical origin were observed on the surface in or near this portion of the APE. The heavily disturbed surface and near surface soil within the Miles Avenue right-of-way is unlikely to contain any archaeological remains that may contribute to the significance of the site. Therefore, there will be no subsurface disturbance and this alignment will have no impact on the subject resource area.

On the south side of Whitewater River, the south alignment would be atop the south (right) bank channel maintenance road. This portion of Site 33-000064 was covered by at least four archaeological surveys between 2001 and 2013, and none of these surveys resulted in potentially significant findings. A 2001 survey recorded a

light scatter of mano fragments, pottery sherds, fire-affected clay, and sun-colored amethyst glass on the surface of heavily disturbed soil, but concluded that the locus does not contribute to the significance of the site due to the lack of contextual integrity in location or stratigraphy. In 2007, a survey within and adjacent to the channel found two isolated groundstone artifacts, evidently outside the boundary of Site 33-000064. Two other surveys, completed in 2005 and 2013, did not encounter any archaeological remains at this location.

The field survey for CV Link confirmed the presence of imported soil on the ground surface in the APE across Site 33-000064, and no features or artifacts associated with the site were observed on the ground surface. As-built plans secured from CVWD confirm this condition along this reach of the channel. It is of further note that the previously approved Miles Crossing Flood Control Improvement Plan by the Coachella Valley Water District, to be implemented in the near future, will result in the deposition of additional imported fill on the banks of the Whitewater River and a narrowed channel. The proposed CV Link alignment on the south side of channel will be placed on the new surface to be created through that project. Therefore, there will be no CV Link-related subsurface disturbance through this area and this alignment will have no impact on the subject resource area.

Whitewater Channel at Point Happy

Site 33-004076 (CA-RIV-4076) was recorded in 1990 as a small surface scatter of four pottery sherds, three of them apparently from the same vessel. The artifacts were found just to the east of Point Happy, on the north side of Highway 111. During an intensive-level archaeological survey of the site area in 1999, however, none of the artifacts reported in 1990 could be re-located. Between 1999 and 2001, a systematic archaeological testing, mitigation, and monitoring program was carried out on two other sites on the property, and no cultural remains were discovered in the vicinity of 33-004076. The property has since been developed into a shopping center, and the location of Site 33-004076, some 5-6 meters from the base of Point Happy, is now under pavement as a part of the driveway. During the field inspection of the area for this study, it was observed that the unpaved ground surface around the site location had also been completely reconfigured for landscaping purposes. Site 33- 004076, therefore, no longer exists. Therefore, the construction of CV Link facilities in the vicinity of this site will not have a significant adverse effect on cultural resources associated with this site.

CVSC in Central La Quinta

Located a short distance west of Jefferson Street, Site 33-007835 (CA-RIV-5828) was recorded in 1996 as a sparse scatter of pottery sherds and camp debris, such as fire-affected rock, shell, burned bone, and semi-fired clay. The location of the site was on the south side of the Whitewater River and the west side of Jefferson Street, in this portion of the City of La Quinta. The limitation of data available from the EIC precludes a positive determination of whether Site 33-007835 indeed extended into the APE, and the extent of subsequent archaeological investigation at the site in unknown. By 2002, the Home Depot project for which the 1996 survey was conducted had been completed, as had an apparently improved CVSC levee on which the APE at this location lies. As a result, Site 33-007835 has evidently been removed. The field survey for this study encountered no archaeological remains along the Link alignment or in the vicinity. CV Link plans show that there will be very limited grading along this reach and will not exceed 1.25 feet in depth atop the levee along this reach. The Jefferson Street CV Link undercrossing will require a bench in the manufactured fill of the channel side slope, as built at Adams Street, for the pathway. Therefore, the construction of CV Link facilities in the vicinity of Site 33-007835 (CA-RIV-5828) is expected to have a significant adverse effect on cultural or historic resources.

CVSC at Jefferson Street

This cultural resource site (Site 33-001178 (CA-RIV-1178)) was recorded in the 1970s as a large prehistoric habitation area lying between the Whitewater River and Highway 111 near Jefferson Street, on the western edge of the City of Indio. At the time, it was described as “a number of areas of exceptionally heavy surface scatter” of pottery sherds, lithic debitage, and fired clay, with one human cremation noted near the southeastern extremity of the site.

The EIC's files contain no records of any further archaeological investigations on Site 33-001178. However, since the site was first reported, the entire area of the site has been thoroughly disturbed, most notably by the construction of the La Quinta Evacuation Channel and the residential neighborhood on either side of the new channel between 1972 and 1996, followed by the Jefferson Plaza shopping center over the ensuing decade. As a result, the sand dunes on which the surface scatters of artifacts were noted in the 1970s were completely removed. A 2013 archaeological survey along the Whitewater River channel encountered no remnant of Site 33-001178

The portion of the APE in this area lies on an elevated levee and an artificial terrace at the confluence of the Whitewater River and the La Quinta Evacuation Channel, which also dates to the 1972-1996 era (Fig. 6). During the field survey, the ground surface in and near the APE was closely inspected for any remnants of Site 33-001178 or of the original landscape, but none was found. From all indications, Site 33-001178 no longer exists. It should also be noted that in addition to the extensive disturbance and construction in this area, channel as-built indicate that the levee upon which CV Link would be constructed is comprised of 5 to 10 feet of fill removed from the channel bottom. Finally, CV Link plans show that grading along this reach will generally not exceed 1.5 feet in depth along this reach. Therefore, the construction of CV Link facilities in the vicinity of Site 33-001178 (CA-RIV-1178) will not have a significant adverse effect on cultural or historic resources.

CVSC at Dillon Road/Twenty-Nine Palms Reservation

As noted elsewhere in this EIR, the CV Link alignment would pass through the Twenty-Nine Palms Tribe's reservation as it runs along and atop the south (right) bank of the channel in the vicinity of Dillon Road. The Link would be built on the existing levee grade. Located on the southern tip of the Twenty-Nine Palms Indian Reservation, Site 33-000149 (CA-RIV-149) was first recorded in 1951 as a large prehistoric habitation area with assorted lithic, ceramic, and faunal artifacts such as beads, bone fragments, shells, pot sherds, points, knives, scrapers, manos, metates, and a stone ball. The original dimension of the site is unknown, but the 1951 site record indicates that most of the site had been destroyed by the development of Indio. The current location and dimension of the site, as reflected in EIC records, were evidently established during a revisit to the site in 1972. Prior to the development of the nearby Spotlight 29 Casino on the reservation, the site area was included in two archaeological surveys in 1982 and 1993. The 1982 survey encountered no "significant cultural remains" at 33-000149. The 1993 survey resulted in, through more intensive survey efforts, the discovery of 20 sherds, a flake, and two pieces of fire-affected rock. Based on these findings, the 1993 study concludes:

> ...[T]his site has been mostly destroyed, It appears that we simply found the few artifacts that have been exposed by vehicles traveling along the storm channel or by eolian sand removal. We saw no evidence of midden and note all ceramics were small and badly eroded body sherds. (Rosenthal and Jertberg 1993:12)

Both the 1982 and the 1993 studies conclude that Site 33-000149 no longer possessed sufficient archaeological data potential to be considered eligible for the National Register of Historic Places (Napton and Greathouse 1982:18; Rosenthal and Jertberg 1993:13).

During the field survey conducted on this site for the CV Link project, no features or artifacts were found in or near the APE. The project design at this location features two different alignments. The Dillon Road at-grade crossing Link alignment lies on the existing levee built of 3-4 feet of fill material excavated from the channel. The second, river bottom undercrossing alignment branches off the levee and into and back out of channel, where the surface and near surface soil has been extensively disturbed both by fluvial activities and by flood-control work over the past century. Both portions of the APE, therefore, are unlikely to contain intact, potentially significant subsurface archaeological deposits within its vertical extent. Also, it should be noted that the nature of Link construction at this location would involve minor grading and little or no excavation. Therefore, the construction of CV Link facilities in the vicinity of Site 33-000149 (CA-RIV-149) is not expected to not have a significant adverse effect on these resources.

Isolates

The three historic-period isolates (glass shards, stoneware crock rim sherd) in the APE were all found in greatly disturbed settings, essentially on artificial ground surface created by flood-control work far post-dating the origins of the artifacts. Their presence at the recorded locations is likely the result of fill material being imported from elsewhere. Due to the lack of any contextual integrity, such isolates do not qualify as archaeological sites, according to guidelines set forth by the California Office of Historic Preservation, and are not considered to be potential "historic properties." Therefore, the construction of CV Link facilities in the vicinity of these isolates will not have a significant adverse effect on these resources.

Isolate 33-009022 found in 1998 to the west of Washington Street and north of the Whitewater River, on the eastern edge of the City of Indian Wells. It consisted of unifacial granitic mano fragment. Despite diligent efforts during the field survey, the isolate could not be found. This area has been highly disturbed and has been used in the past by CVWD for channel maintenance access. Therefore, the construction of CV Link facilities in the vicinity of these isolates will not have a significant adverse effect on cultural resources at this location.

Summary of Impacts

Archaeological resources identified along CV Link alignments have been analyzed and the potential direct and indirect effects that could result from CV Link have been assessed in accordance with Appendix G and Section 15064.5 of the CEQA Guidelines. None of the sensitive resources identified will or are expected to be significantly impacted by the Proposed Project. Nonetheless, monitoring by a qualified archaeologist at locations where undisturbed soils may be disturbed by the Proposed Project will further serve to avoid or minimize the potential for impacts to these resources. Also see Mitigation Measures CUL-1 et al, below.

c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

The Proposed Project includes all CV Link alignment variations excepting those in Rancho Mirage. As noted above, and relevant to the Proposed Project, CV Link would be constructed upon various previously disturbed lands, or upon alluvial fan and aeolian (windblown) deposits that have been previously disturbed and built upon, including those excavated portions of the adjoining channels, the spoils of which were used to construct levees. The lacustrine (lakebed) soils of the eastern Coachella Valley have been identified as sensitive for bi-valves and related fossils, which are well documented. In this area, and with the exception of five in-channel undercrossings, all of the CV Link Route project alignments are located atop the CVSC service/maintenance road built upon excavated channel spoils. By virtue of conditions in the CV Link planning area, previous channel cuts and levee fills that comprise most sensitive portions of the project alignments, and the limited geographic distribution of lakebed-related paleontological resources, no areas of sensitivity for paleontological resources have been identified along the CV Link alignments. Therefore, the Proposed Project will have a less than significant potential for impacts to paleontological resources. However, in an abundance of caution, mitigation measure CUL-7 is included below, should a resource be identified during cultural resource monitoring.

d) Disturb any human remains, including those interred outside of dedicated cemeteries?

The archaeological resource surveys conducted for CV Link, and the numerous studies conducted by others along the various alignments, indicate that cremation sites have been among the resources identified in proximity to the Proposed Project. These include locations in the vicinity of the Indian Wells Golf Resort and lands along the Whitewater River Channel east of the Miles Avenue bridge and associated with the Kavinish Village, and in the vicinity of Jefferson Street and the CVSC. No human remains or signs of cremation were identified during field surveys and are not expected to be encountered in the locations where CV Link alignments are planned. Therefore, the project will not impact historic or pre-historic human remains. Nonetheless, in the event that unknown and unexpected human remains are discovered during project construction, the provisions of California Health and Safety Code Section 7050.5 - 7055 and mitigation measure set forth below would ensure that impacts would be less than significant. However, in an abundance of caution, mitigation measure CUL-67 is included below, should human remains be identified during cultural resource monitoring.

Impacts to Tribal Cultural Resources

According to recent Appendix G changes and additions under the heading *Tribal Cultural Resources* per Assembly Bill (AB) AB 52, the following thresholds also apply:

a) Would the project cause a substantial adverse change in the significance of a Tribal Cultural Resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American Tribe, and that is:

- *Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or*

- *A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1 for the purposes of this paragraph, the lead agency shall consider the significance of the resource to a California Native American tribe.*

In addition to the literature searches and field surveys conducted for the CV Link project, a wide range of previous surveys and reports were also reviewed. Consultation was also conducted with the Agua Caliente, Cabazon and Twenty-Nine Palms Tribes, and the Native American Heritage Commission. A variety of sites, features, places and objects have been identified, which may have cultural value to local tribes and the cultural history of the Coachella Valley in general. The CV Link cultural resource reports also identified both listed and eligible for listing under the California Register of Historical Resources.

Sites that could harbor sensitive tribal cultural resources in the CV Link planning area include lands within the Indian Wells Golf Resort, the Kavinish Village site east of the Miles Avenue bridge, and lands in the vicinity of Jefferson Street and the CVSC. The 13 archaeological resources identified within or adjacent to the APE include nine sites and four isolates. During the field survey, however, eight of the sites and one of the isolates could not be located and three of these sites are known to have been lost to new development and other disturbances. The other five sites may remain extant in the vicinity, including in subsurface sediments, but no components of these sites are located within the horizontal and vertical extent of project site disturbance due to past disturbances/erosion to the ground surface and the presence of artificial fill from development projects, such as levee construction. The fate of the isolate that could not be located, 33-009022, is unclear.

As noted throughout, the cultural resources assessments prepared for the CV Link project included detailed a consideration of horizontal and vertical extent of the project and associated land disturbance. A variety of as-built plans, engineering and geotechnical data and mapping were also analysed to document the depths of manufactured fill along and comprising stormwater channel embankments and levees to the used by the project. It was determined that most CV Link improvements will not encroach into native, undisturbed soils. Exceptions include areas where bridges and associated structural piers are proposed. These discrete and identified locations will involve piers from 40 to up to 200 feet deep. Mitigation Measure CUL-1.b and others will ensure that potential impacts to tribal cultural resources will be less than significant.

Therefore, based upon the substantial evidence presented herein and in referenced technical reports and pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the Proposed Project will not have a significant adverse impact on Tribal cultural resources with the implementation of mitigation measures CUL-1 through CUL-5 set forth below.

4.5.6. Mitigation Measures

As discussed throughout this section of the EIR, a few of the CV Link alignments would occur in locations where potentially sensitive archaeological and historic resources have been identified both over the course of CV Link cultural resource investigations and through a wide range of other investigations. These locations include the historic Tram Gas Station, Southern Pacific Railroad Mainline and the Coachella Canal, as well as a variety of pre-historic and historic Native American sites along portions of Indian Wells and La Quinta and other alignments of the Proposed Project. The analysis of these resources and the potential for CV Link to impact them indicates that the project will have a less than significant impact on cultural resources with the application of mitigation measures set forth below. The following measures are designed to avoid, minimize and mitigate the potential for adverse impacts.

In order to ensure that impacts to Tribal and other cultural and/or historic resources are less than significant, the following measures shall be applied to project locations of high archaeological sensitivity. The following measures shall apply to those portions of CV Link alignment that are adjacent to or that cross sensitive resource areas as depicted on the CV Link APE.

CUL-1. Construction-related earth-moving operations shall be monitored by a qualified archaeologist at five (5) locations delineated on the CV Link APE mapbook. If cultural materials more than 50 years of age are discovered, they will be field-recorded and evaluated in conformance with an approved Post-Review Discovery and Monitoring Plan (PRDMP). The monitors shall be prepared to recover artifacts quickly to avoid construction delays, but will have the power to temporarily halt or divert construction equipment to allow for controlled archaeological recovery if a substantial cultural deposit is encountered.

CUL-2. CVAG shall prepare a construction archaeological monitoring program to be designed and implemented in coordination with local Native American groups, including the Agua Caliente Band of Cahuilla Indians, Augustine Band of Cahuilla Indians, Cabazon Band of Mission Indians, Torres Martinez Desert Cahuilla Indians, and the Twenty-Nine Palms Band of Mission Indians, who have requested and in some cases expressed their desire to participate in such monitoring.

CUL-3. Collected artifacts shall be processed, catalogued, analyzed, and prepared for permanent curation in a repository with permanent retrievable storage that would allow for additional research in the future.

CUL-4. Archaeological site records shall be prepared to document the cultural remains discovered during monitoring and submitted to the Eastern Information Center for incorporation into the California Historical Resources Inventory.

CUL-5. Should unknown archeological or tribal materials become unearthed, the qualified archeologist shall prepare a findings report summarizing the methods and results of the monitoring program, including an itemized inventory and a detailed analysis of recovered artifacts upon completion of the field and laboratory work. The report shall include an interpretation of the cultural activities represented by the artifacts and a discussion of the significance of all archaeological or tribal finds. The submittal of the report to the CVAG, along with final curation of the recovered artifacts, will signify completion of the monitoring program and, barring unexpected findings of extraordinary significance, the mitigation of potential project impacts on cultural and tribal resources.

CUL-6. Should buried human remains be discovered during grading or project development, in accordance with State law, the County coroner shall be contacted. If the remains are determined to be of Native American heritage, the Native American Heritage Commission and the appropriate local Native American Tribe shall be contacted to determine the Most Likely Descendant (MLD). CVAG shall work with the designated MLD to determine the final disposition of the remains.

CUL-7. In the unlikely event paleontological resources be discovered, the monitor shall, upon discovery of any fossils, quickly salvage them as they are unearthed to avoid construction delays. The monitor shall remove samples of sediments that are likely to contain the remains of small fossil invertebrates and vertebrates. The monitor shall have the authority to temporarily halt or divert grading and excavation equipment to allow for removal of abundant or large specimens.

CUL-8. All project-related ground disturbance and construction activities, including access and staging area, shall remain within the APE boundaries.

CUL-9. In the event that project changes are made to include land not contained within the designated APE, subsequent surveys and revisions to the HPSR, HRER and ASR shall be required.

4.5.7. Significance After Mitigation

The CV Link project will not have a significant adverse effect on sensitive paleontological resources and no mitigation is required. Impacts to cultural and historic resources associated with construction of the project would be less than significant level by adherence to the mitigation measures set forth above. The operation of CV Link will include pedestrians, bicyclists and LSEV users, who will be accommodated by rest areas, access points, restrooms, shade structures and other user amenities. CV Link operation will not result in any further ground disturbance or alteration of any other lands or buildings, which might be considered to be of historic or archaeological significance. Neither will CV Link isolate or alter the character of sensitive resources, nor will it introduce visual, audible or atmospheric elements that could conflict with or alter the setting of identified sensitive cultural resources. Therefore, with the application of the mitigation measures set forth above the operation of CV Link will have no significant adverse impacts on tribal, historical or archaeological resources.

4.5.8. Cumulative Impacts

The geographic scope of analysis of potential cumulative impacts on cultural, historical, tribal, and paleontological resources includes the Areas of Potential Effect (APE), the immediate vicinity and the traditional use areas of the Cahuilla people in the Coachella Valley. The project would contribute considerably to cumulative impacts if it were to have a substantial or significant adverse effect on these cultural, historical or paleontological resources in the Coachella Valley. Cultural resources surveys and, where necessary, resource recovery and other mitigation, serve to limit if not preclude further cumulative impacts to cultural resources in the planning area.

The CV Link cultural resources surveys have consolidated a wide range of literature, data and information on historic, tribal and other archaeological resources that has added to our knowledge and understanding of these resources and the people who made them. Three historical resources have been identified as listed or eligible for listing under the California Register of Historical Resources and the National Register of Historic Places. No new unmitigated impacts to historic or archaeological resources will result from the construction or operation of CV Link project that are cumulatively considerable.

Impacts to paleontological resources could also be cumulatively substantial if the project impacted any unique paleontological features. CV Link alignments do not occur in areas or on lands, which have been identified as being sensitive for paleontological resources. The lacustrine (lakebed) deposits in the eastern portion of the project area are associated with ancient Lake Cahuilla, may make up portions of the stormwater levee and channel in these areas, and remains of bi-valves have been identified in these soils. However, the past excavation of fill for the channel and levees, as well as the periodic grading and other disturbance in the channel during maintenance operations, have further reduced the likelihood that the CV Link project will impact sensitive resources.

While other development may also impact paleontological resources, which occur throughout much of the southeastern portion of the Valley, these resources have been well documented by past surveys and studies. The potential impacts of the Proposed Project on important paleontological resources has been assessed and none of the build alternatives will have a significantly impact paleontological resources. In addition, avoidance, minimization and mitigation measures have been set forth requiring that in the unlikely event paleontological resources are encountered during project construction, impacts to these resources will be mitigated to levels that are less than significant. Therefore, the Proposed Project's incremental impacts to these resources, if any, will not be cumulatively considerable.

The CV Link project has a less than significant potential to impact unique geologic features. The Point Happy bridge component of the CV Link project is designed to avoid any alteration of this feature, suspending the pathway from a tubular steel arch anchored above the channel. Therefore, CV Link will not make a considerable cumulative contribution to impacts to unique geologic features.

4.6. Geology and Soils

4.6.1. Introduction

This section of the EIR describes existing conditions with regard to geology and soils within the CV Link planning area and analyzes the potential impacts to the Proposed Project based on regional and/or local geology and soils. A wide range of data and information, ranging from research and analysis conducted for specific projects in the area, to regional-scale planning and environmental documents, have been used in researching and analyzing the project and its potential effects.[1] These include detailed analysis of regional and local geology, soils, and seismicity conditions, as well as detailed analysis of future conditions.

CV Link Preliminary Subsurface Investigation and Geotechnical Background and Impact Study

A wide range of resources were reviewed as a part of this analysis to assess the existing regional and local geological and soils conditions in the planning area and to determine whether and to what extent the project could be adversely affected by geology and soils. The "Preliminary Subsurface Investigation and Geotechnical Background and Impact Study," was prepared for the CV Link project by Petra Geoscience, Inc. in August 2016 to assess the existing regional and local geology and soils conditions, and measure the potential for ground shaking, soil collapse, fault surface rupture, wind erosion, and subsidence in the project vicinity. The geological analysis evaluates documented faults and associated ground shaking at three main locations from Palm Springs to Coachella along the CV Link route. Finally, an evaluation of geological and soils issues and safety considerations associated with the planned CV Link facility along with mitigation measures and recommendations are also presented (see Appendix I of this EIR).

4.6.2. Thresholds of Significance

Based upon Appendix G of the CEQA Guidelines, the proposed CV Link Proposed Project would be significantly affected by soils and/or geological conditions if they would:

a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:

   i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area of based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42?
   ii) Strong seismic ground shaking?
   iii) Seismic-related ground failure, including liquefaction?
   iv) Landslides?

b) Result in substantial soil erosion or the loss of topsoil?

c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?

d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?

e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?

[1] "Preliminary Subsurface Investigation and Geotechnical Background Report, CV Link Project, CVAG, Coachella Valley, Riverside County, California", prepared by PETRA Geoscience Inc. on August 2016.

4.6.3. Regulatory Framework

There is a variety of federal, state, and regional/local plans that regulate or have otherwise affected the development of CV Link.

Federal

Coachella Canal Area Resources Management Plan
A very short of the CV Link project is located within the boundaries of the Recreation Areas, specifically, that portion which crosses the canal in the City of Indio. These and other US Bureau of Reclamation lands are subject to the policies set forth in Reclamation's "Coachella Canal Area Resource Management Plan."[2] The National Environmental Policy Act (NEPA) requires analysis of Project impacts on federally-owned land in the Project area and impacts to the Coachella Canal Area Resource Management Plan. A separate Environmental Assessment (EA) is being prepared, with Caltrans as the Lead Agency, and project-related geotechnical impacts to federal land are evaluated therein.

State

Seismic Hazards Mapping Act
Like the Alquist-Priolo Act, the Seismic Hazards Mapping Act of 1990 (Public Resources Code Sections 2690 to 2699.6) is intended to reduce damage resulting from earthquakes. While the Alquist-Priolo Act addresses surface fault rupture, the Seismic Hazards Mapping Act addresses other earthquake-related hazards, including strong ground shaking, liquefaction, and seismically-induced landslides. Its provisions are similar in concept to those of the Alquist-Priolo Act; the State is charged with identifying and mapping areas at risk of strong ground shaking, liquefaction, landslides, and other corollary hazards. Cities and counties are required to regulate development within mapped Seismic Hazard Zones.

Under the Seismic Hazards Mapping Act, permit review is the primary mechanism for local regulation of development. Specifically, cities and counties are prohibited from issuing development permits for sites within Seismic Hazard Zones until appropriate site-specific geologic and/or geotechnical investigations have been conducted and measures to reduce potential damage have been incorporated into the development plans. According to the preliminary geotechnical reports prepared for the project, the project sites are not within areas designated by Riverside County as Seismic Hazard Zones.

Alquist-Priolo Earthquake Fault Zoning Act
The Alquist-Priolo Earthquake Fault Zoning Act was passed in 1972. Its purpose is to prohibit structures intended for human occupancy across active surface traces of fault lines until a site is determined to be safe based on site-specific geotechnical investigations.[3] The Alquist-Priolo Act also requires local jurisdictions to publicly disclose areas that are subject to seismic hazards.

California Building Codes
The California Building Code (CBC), which is codified in CCR Title 24, Part 2, was promulgated to safeguard the public health, safety, and general welfare by establishing minimum standards related to structural strength, egress facilities, and general building stability. The purpose of the CBC is to regulate and control the design,

[2] "Coachella Canal Area Resource Management Plan/ Environmental Assessment," prepared by U.S. Department of the Interior in 2006; http://www.usbr.gov/lc/yuma/environmental_docs/Coachella/coachella-ea-1.pdf

[3] California Department of California; http://www.conservation.ca.gov/cgs/rghm/ap ; Accessed 08.01.2016.

construction, quality of materials, use/occupancy, location, and maintenance of all building and structures within its jurisdiction. Title 24 is administered by the California Building Standards Commission, which by law is responsible for coordinating all building standards.

The 2013 CBC is based on the 2006 International Building Code (IBC) published by the International Code Conference. In addition, the CBC contains necessary California amendments that are based on the American Society of Civil Engineers (ASCE) Minimum Design Standards 7-05. ASCE 7-05 provides requirements for general structural design and includes means for determining earthquake loads, as well as other loads (e.g., flood, snow, wind) for inclusion in building codes. The provisions of the CBC apply to the construction, alteration, movement, replacement and demolition of every building or structure or any appurtenances connected or attached to such buildings or structures throughout California.

The earthquake design requirements take into account the occupancy category of the structure, site class, soil classifications, and various seismic coefficients, all of which are used to determine a Seismic Design Category (SDC) for a project. The SDC is a classification system that combines the occupancy categories with the level of expected ground motions at a given site, and ranges from SDC A (very small seismic vulnerability) to SDC E/F (very high seismic vulnerability and near a major fault). Design specifications are then determined according to the SDC.

California Code of Regulations, Title 14, Division 2, Chapter 8, Article 10
These regulations govern the exercise of city, county and state agency responsibilities to identify and map seismic hazard zones and to mitigate seismic hazards to protect public health and safety in accordance with the provisions of Public Resources Code, Section 2690 et seq. (Seismic Hazards Mapping Act). [4]

4.6.4. Existing Conditions

Regional Geologic Setting
The Coachella Valley is located across the boundary of two geologic-geomorphic provinces: the Colorado Desert Province and Peninsula Ranges Province. The Colorado Desert Province is a low-lying desert basin and a depressed block between active branches of the alluvium-covered San Andreas Fault with the southern extension of the Mojave Desert on the east. The Peninsular Ranges Province is a group of mountain ranges separated by northwest trending valleys, sub-parallel to faults branching from the San Andreas Fault. These provinces include low-lying basins, northwest-trending valleys, and mountain ranges.

The Coachella Valley is surrounded by mountain ranges, including the San Bernardino, San Jacinto, Santa Rosa and Little San Bernardino Mountains. The foothills of the San Bernardino Mountains extend along the northerly, easterly, and southeasterly portion of the Valley. The foothills of the Santa Rosa and San Jacinto Mountains extend along the westerly and southerly portions of the Valley.

Regional Fault Systems
San Andreas Fault System runs through the northeastern portion of the Valley from along the east shore of the Salton Sea to the San Bernardino Mountains at Mission Creek. San Jacinto Fault System runs along western portion of the San Jacinto Mountains but is very active and capable of generating strong groundshaking in the Coachella Valley. Both the fault systems have a complex structural characteristics and slip rates. The slip rate along southern portion of the San Andrea Fault is approximately 23 to 35 mm/yr.[5] The slip rate along San Jacinto

[4] Guidelines For Evaluating And Mitigating Seismic Hazards in California", Special Publication 117, 2008

[5] Stein, R. S., King, G. C., & Lin, J. (1992). Change in failure stress on the southern San Andreas fault system caused by the 1992 magnitude= 7.4 Landers earthquake. Science, 258(5086), 1328-1332.

Fault is approximately 7 to 11 mm/yr.[6] During the offset along San Andrea Fault system and associated smaller faults, sediments have been eroded from the topographic highs (mountains) to fill the lows (valleys) and developed geologic units in such areas as the Indio and Mecca hills, which are now exposed.[7]

Erosion of these elevated areas, along with deposition from the Gulf of California and Colorado River, have provided as much as 12,000 feet of sediments in the basin. Soils of different ages and compositions have developed on these sedimentary units, and on the younger alluvial units filling the valley floor. Coachella Valley is underlain by a thick sequence of sedimentary deposits.[8]

Sediments, three to five million years old, within the Valley are typically associated with shallow seas (Marine: Imperial Formation) and lakes (Lacustrine: Palm Spring Formation). Imperial and Palm Spring Formations are typically composed of salt beds, fine-grained muds (silts and clays) and relatively minor sand and channel gravels. The fine-grained basin deposits typically pinch out and interfinger with coarser grained sediments along the trough margin. Along CV Link route, these units typically consist of sands, gravel and conglomerates, which include relatively young fluvial fan deposits. Geologic units along the western CV Link alignment (from the western termini to about Jefferson Street) are primarily young alluvial (stream-laid) sandy deposits. East of Jefferson Street to the east terminus of CV Link at Avenue 56, the geologic units are interlayered sandy alluvial and dune deposits, and fine sand, silts and clayey lake deposits.

The Valley floor is traversed by multiple strands of the San Andreas Fault, and is punctuated by localized compressional squeeze-ups that form dome-shaped hills of uplifted sand and gravel[9], as evidenced by Edom Hill and the Indio Hills. The Valley floor is a contractional region that has developed over the last 1 million years in response to left steps among various strands of the San Andreas fault. This left step still is taking place today, and provides the background for current earthquake activity in the Coachella Valley region. Sedimentary materials that are filling up the basin record information about interactions among the various fault systems, including their origin and movement history.

Site-Specific Geologic Setting

Along CV Link route, the geologic units typically consist of sands, gravel and conglomerates, which include relatively young fluvial fan deposits. Geologic units along the western CV Link alignment (from the western termini to about Jefferson Street) are primarily young alluvial (stream-laid) sandy deposits. East of Jefferson Street to the east terminus, the geologic units are interlayered sandy alluvial and dune deposits, and fine sand, silts and clayey lake deposits.

The San Bernardino, San Jacinto, and Santa Rosa Mountain Ranges are uplifted blocks of igneous and metamorphic rocks lying between two major fault systems, the San Jacinto and the San Andreas Fault. They consist of early Mesozoic granitic and metamorphic rocks intruded by Mesozoic granitic rocks ranging in composition from granite to granodiorite to tonalite. The project and surrounding areas are located in a region that is dominantly clay, sand, and gravel. Clay (Ql) is a lacustrine deposit that has low potential for collapse in this area. Sand (Qa) and gravel (Qf) are relatively young and are more susceptible to erosion (wind/water) and shaking during an earthquake.

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6 Bennett, R. A., Rodi, W., & Reilinger, R. E. (1996). Global Positioning System constraints on fault slip rates in southern California and northern Baja, Mexico. Journal of Geophysical Research: Solid Earth, 101(B10), 21943-21960.

7 Keller, E. A., Bonkowski, M. S., Korsch, R. J., & Shlemon, R. J. (1982). Tectonic geomorphology of the San Andreas fault zone in the southern Indio Hills, Coachella Valley, California. Geological Society of America Bulletin, 93(1), 46-56.

8 Ibid.

9 Proctor, R. J. (1968). Geology of the Desert Hot Springs—Upper Coachella Valley area, California. With a bibliography of the Coachella Valley, Salton Sea, and Vicinity. California Division of Mines and Geology, Special Report, 94.

Soils: CV Link alignments cross or abut a wide range of soil types, including windblown (aeolian) soils, water transported soils (fluvial) and to a very limited extent rubble lands. Most of the soils crossed by project alignments include those of the following soil series: Carsitas, Coachella, Fluvents, Gilman, Indio and Myoma, as well as riverwash. A three segments approach the toe of slope at Paxton Road and near the east city limits of Rancho Mirage, and at Point Happy in Indian Wells. Historically, (prior to 1960), large areas of the project alignment and surrounding general area was primarily covered with wind-deposited sands. As urban development expanded throughout the greater Coachella Valley, the flow and deposition of aeolian sand from the west and north has been interrupted and slowed by these manmade impediments. This has resulted in the gradual stabilization and compaction of sands that were once continuous, loose and dynamic.

Seismic Faults and Groundshaking: The Coachella Valley, including the project planning area, lies within Seismic Zone 4, the designation assigned by the California Geological Survey to a geographic location with a high probability of significant seismic activity. As noted above, there are numerous earthquake-producing faults in this region, including the San Andreas Fault Zone and San Jacinto Fault Zone.[10] The nearest active fault to the project area is the San Andreas Fault, which is located 1± mile to the northeast, and the San Jacinto Fault Zone located 10± miles to the southwest. Both are capable of generating large earthquakes and, given their proximity to the project site, moderate to severe ground shaking is considered the primary geologic hazard affecting the site. Ground acceleration associated with a maximum probable earthquake on these faults would range from 0.59 to 0.84g (gravity, or 32 feet per second). Potential impacts associated with this level of ground shaking include slope collapse, seismically induced ground cracking or buckling of the pathway associated with soils settlement or collapse, damage to shade structures and other vertical improvements associated with the project.

Overall, only the San Andreas Fault Zone is in proximity to the CV Link planning area, with the closest approach being approximately one mile in the Indio-Coachella area. No active or potentially active faults are known to cross the project alignments. Along the South San Andreas fault zone shake maps for Coachella Valley indicate that earthquakes on the San Andreas Fault Zone could generate maximum earthquake magnitudes of 7.1 to 7.4 on the Richter Scale, resulting in estimated site intensities of IX on the Modified Mercalli scale. Earthquakes on the San Jacinto fault zone were estimated to be capable of generating magnitudes of 6.8 to 7.2 and result in MM intensities of VII to VIII in the Project area.[11]

The project-specific geology report prepared for the CV Link project has identified Peak Ground Acceleration with a probability of 2 percent in 50 years (~ 2475 year return period) is given for three CV Link alignments, which ranges from 0.59 to 0.84g.

Table 4.6-1
Peak Ground Acceleration in the CV Link Planning Area

Location	Latitude, Longitude	Peak Ground Acceleration (g)
West (111/Palm Springs)	33.868205, -116.567940	0.84
Central (Fred Waring Dr.)	33.736242, -116.365748	0.59
East (Avenue 56)	33.642026, -116.136162	0.79

Source: "Preliminary Subsurface Investigation and Geotechnical Background Report, CV Link Project, CVAG, Coachella Valley, Riverside County, California," prepared by Petra Geoscience Inc. 2016.

[10] Sharp, R. V. (1967). San Jacinto fault zone in the Peninsular Ranges of southern California. Geological Society of America Bulletin, 78(6), 705-730.

[11] United States Geological Survey: http://earthquake.usgs.gov/earthquakes/shakemap/sc/shake/s._san_andreasco_m7.0_se/; Accessed 06.01.2016.

An earthquake on faults close to the planning area could generate groundshaking that could cause significant damage in the planning area. Potential impacts include slope collapse, seismically induced ground cracking or buckling of the pathway associated with soils settlement or collapse, or damage to shade structures, bridges and other vertical improvements associated with the Proposed Project.

Liquefaction: Liquefaction occurs when the strength and stiffness of unconsolidated soils is reduced by seismic shaking or other rapid loading usually in the presence of groundwater. During liquefaction, soils lose their bearing or shear strength needed to support structural foundations and can cause structural failures. For liquefaction to occur groundwater levels must generally be within 50 feet of the ground surface and lands must be subject to strong groundshaking. The majority of the project site is located in an area with no liquefaction susceptibility. However, those portions adjacent to Coachella Valley Stormwater Channel in the cities of Indio and Coachella have a "high" liquefaction susceptibility due to a combination of youthful, unconsolidated sediments and a historically shallow groundwater table that is 30 to 50 feet below the ground surface and higher at the southeast terminus of the Route.[12,13]

Seismically Induced Slope Failures and Landslides: Strong groundshaking can result in unstable slope conditions, including rock falls and landslides. The project site is located within the Valley floor with relatively flat terrain. There is a "low" susceptibility to slope instability on most portions of the CV Link alignments, including the potential for soil slumps, soil block slides, and rock falls. Although, the vast majority of the project will be located within areas of relatively flat terrain, much of the Route will be constructed on manufactured fill used to construct channel levees, which occur along different CV Link alignments. Also, the slopes associated with the project stormwater channels will also be subject to lateral forces during a strong quake. These slopes are on the order of a few feet to over 20 feet in height and are typically sloped at 2:1 (horizontal:vertical) to 4:1 (h:v) slope ratios. There are also one location of the Proposed Project where a rockfall hazard potential exists along Proposed Project alignments at Point Happy in Indian Wells and La Quinta.

Soil Erosion: CV Link would extend through an area of the Valley with wind erosion or erodability ratings of "moderate" to "very high", with most of the Route occurring in the "high" rating[14], a condition that is widespread throughout much of the Valley. Portion of CV Link alignments are subject to severe wind erosion.[15] Small portions of CV Link in Rancho Mirage, Indio, and Coachella are designated as "high wind erodibility," with the exception of a few pockets of "moderate wind erodibility".

Expansive Soils: Expansive soils, also referred as swelling soils, are soils that have a tendency to increase volume with an increase in the moisture content. These soils swell when water is added to them and shrink when they dry out. Foundations with swelling soils will heave and can cause lifting of a building or structure when the moisture content rises. This can ultimately lead to the failure of foundations and structures. Expansive soils are common in the lakebed soils in the eastern area of CV Link but do not occur elsewhere in the CV Link planning area.

Soils in the Palm Springs and Cathedral City portions of CV Link mainly consist of Coachella fine sand (CcC), Indio very fine sandy loam (Is), and Carsitas gravelly sand (CdC), which have a low shrink/swell potential.[16] The area near the Whitewater Floodplain mainly consists of Indio very fine sandy loam (Is) and Riverwash (RA). The project site near the Gene Autry, Vista, and Mesquite Avenue is mainly consists of Coachella fine sand (CcC), Carsitas gravelly sand (CdC), and Riverwash (RA). Non-expansive soils predominate along the Route and only occur in the eastern CV Link Route in areas with lakebed soils.

12 Exhibit IV-3, La Quinta General Plan, 2013.
13 Ibid.
14 Riverside County Safety Element Technical Report, prepared by Earth Consultants International. Riverside County General Plan, 2015.
15 "Preliminary Subsurface Investigation and Geotechnical Background Report, CV Link Project, CVAG, Coachella Valley, Riverside County, California", prepared by PETRA Geoscience Inc. on August 2016.
16 Lommler, J. C., & Bandini, P. (2015). Characterization of Collapsible Soils. In IFCEE 2015 (pp. 1834-1841). ASCE.

Collapsible Soils: Collapsible soils are unsaturated soils that exhibit a high strength when dry but experience a large and rapid volume reduction upon saturation, which can result in substantial structural damage. Alluvial and aeolian sediments in the planning area have the potential for settlement and collapse even under relatively low loads. Collapsible soils were primarily found in the near surface of wind and water-deposited soils, and have been noted in the mid and east valley areas (Palm Desert, Indian Wells, La Quinta, Indio, and Coachella).

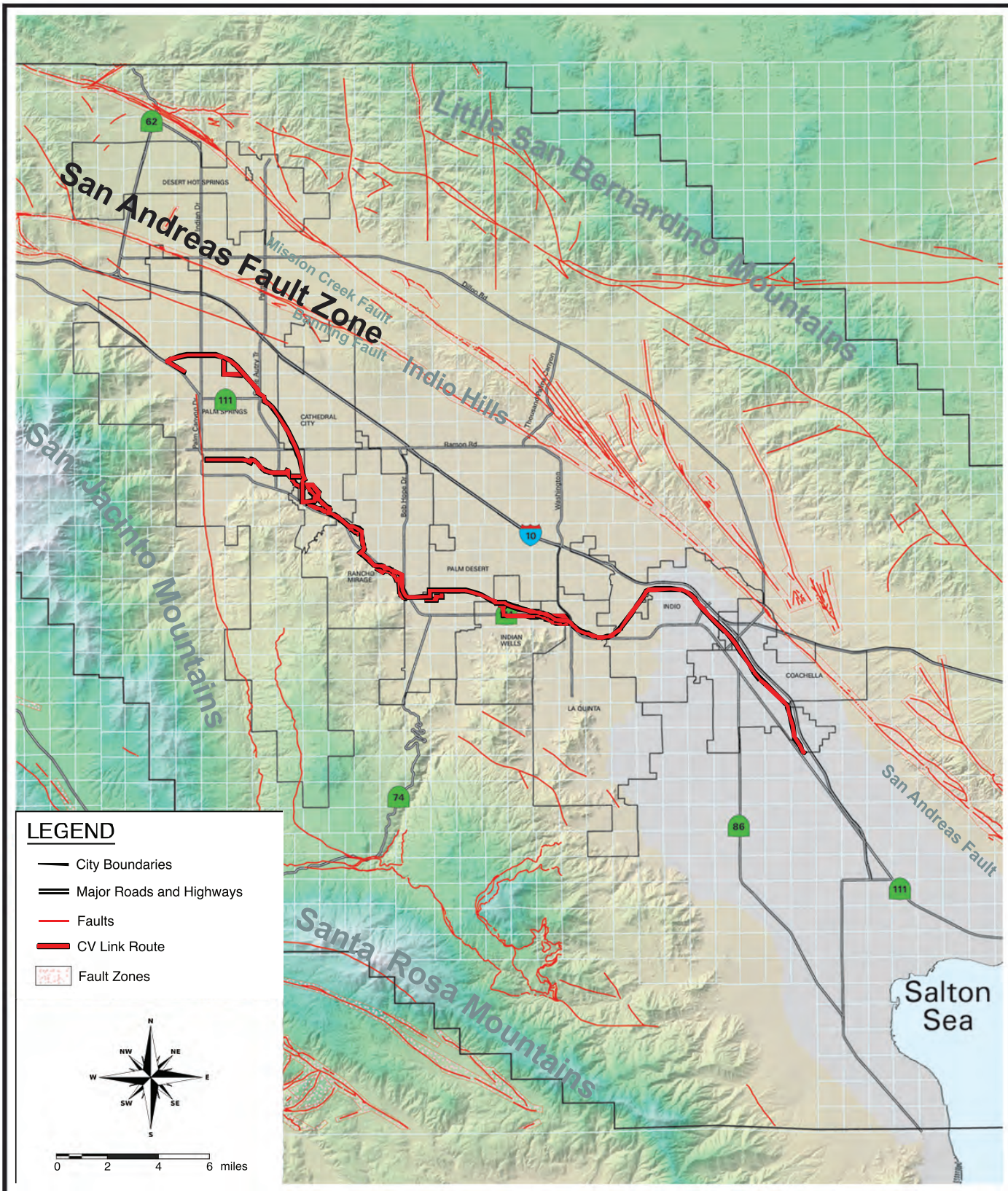
Lateral Spreading: Lateral spreading is the lateral displacement of gently sloping ground that is underlain by loose sands and a shallow water table. It is caused by seismically induced liquefaction and can result in fracturing, rotation, or liquefaction and flow of structures. If located in areas with sloping ground or where an open free face exists such as along a stormwater channel, lateral spreading towards the channel may occur where the liquefiable materials are located at a depth less than two times the height of the open free face (channel depth). The potential for lateral spreading along CV Link is generally from Indio to the CV Link terminus at Airport Boulevard.

Subsidence: Ground subsidence involves the settling or sinking of a body of rock or sediment due to either natural or human-caused activities. Groundwater held in pore spaces between sediment grains maintains the open internal structure of the sediments; and when the water is extracted, grains compact causing subsidence at the surface. In the Coachella Valley, the main source of ground subsidence has been associated with the pumping of groundwater. Beginning in the late 1940s, pumping of groundwater resulted in water-level declines as much as 15 meters. Since 1996, the U.S. Geological Survey (USGS) and Coachella Valley Water District (CVWD) have investigated land subsidence associated with groundwater level declines.[17] Results show that the land surface subsided from about 220 to 600 mm (0.72 to 1.97 ft) in three areas of the Coachella Valley: near Palm Desert, Indian Wells, and La Quinta and are associated with areas of substantial and on-going groundwater pumping. The potential for groundwater extraction-related ground subsidence along the CV Link Route is considered to be limited due to reduction in pumping in these areas. On-going groundwater recharge, water conservation and conversion of golf courses to canal and reclaimed water are designed to reduce or stop subsidence.

Seiches and Tsunamis: A seiche is defined as "an occasional and sudden oscillation of the closed water body (lake, bay, estuary, etc.) producing fluctuations in the water level." There are many causes that can produce seiches, for example, wind, earthquakes, and changes in barometric pressure. The seiche hazard associated with the planning area includes above-ground water reservoirs, golf course lakes and other impoundments. Domestic water reservoirs in the Coachella Valley have been constructed to resist the effects of groundshaking that could compromise the integrity of these structures. Golf course lakes and other impoundments are relatively small and shallow, and do not pose a significant seiche hazard. Given the Valley's location more than 100 miles east of the Pacific Ocean, the potential for tsunamis in the project area is negligible.

Wastewater Disposal Systems: Lands in the vicinity of the CV Link Route are largely developed and are connected to municipal sewer systems. Soils in the project area are capable of supporting existing and new sewer infrastructure, including on-lot septic tanks.

[17] "Land Subsidence, Groundwater Levels, and Geology in the Coachella Valley, California, 1993–2010", Scientific Investigations Report 2014-5075, US Geological Survey in Cooperation with the Coachella Valley Water District. 2014.



10.11.16

Sources: US Geological Service, Bureau of Land Management, FEMA, CVAG
SCAG and Earth Consultants International. Map Prepared by: Aerial Information Systems, Inc.

TERRA NOVA®
PLANNING & RESEARCH, INC.

CV Link Project
Earthquake Fault Zones Map
Coachella Valley
Association of Governments

CV/LINK
CONNECTING THE COACHELLA VALLEY
CVAG

Exhibit
4.6-1

4.6.5. Project Impacts

There are two basic categories by which geological and seismological impacts are assessed, those impacts that are the result of natural events and those that occur as a direct result of construction of the project. Examples of the former include fault displacement, earthquake shaking, liquefaction, and landslides. These can often be reduced to a level of insignificance through avoidance or by proper engineering design. Examples of potential geological impacts that can occur as a result of project construction are typically related to disturbance of surficial geologic formations and include induced hydroconsolidation of collapsible soils, induced slope instability, and increased soil erosion. Regardless of whether the impact is due to a natural event or a direct result of the CV Link project, the following potential for impacts have been identified and are discussed below.

a) *Will the Project expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:*

    i) *Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area of based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42?*

The CV Link planning area is not located within an Alquist-Priolo Earthquake Fault Zone, and there are no known active or potentially active faults in the planning area or within the immediate vicinity. The nearest major active fault is the San Andreas Fault and its splays (Mission Creek fault), located approximately one mile to the northeast near Indio and Coachella. This fault is capable of generating large earthquakes. Given its proximity to the subject site, moderate to severe ground shaking is considered the primary geologic hazard affecting the site. However, there will be no impact to the CV Link Project from fault-related ground rupture because no portion of the Route is located within an Alquist-Priolo Earthquake Fault Zone.

    ii) *Strong seismic ground shaking?*

There is a high probability that all of the CV Link alignments will be subject to strong groundshaking during the life of this facility. There are numerous earthquake-producing faults in this region, including the San Andreas Fault Zone, San Jacinto Fault Zone (Hot Springs, Thomas Mountains, and Buck Ridge faults and others. The nearest fault to the project area is the San Andreas Fault system located at its closest approach approximately one mile to the northeast. According to the geotechnical report (see Appendix I), the planning area is subject to potential ground shaking ranging from 0.59 to 0.84 (g). The report calculated peak ground acceleration values at three locations within the planning area, West (111/Palm Springs), Central (Fred Waring Drive), and East (Avenue 56) with peak ground acceleration values of 0.84, 0.59, and 0.79g, respectively. During strong seismic groundshaking, stress to pavements or stormwater channel slopes will occur. Buckling of pavements and damage to shade structures, bridges and other vertical elements of the project could also be caused by strong groundshaking. All elements of CV Link, including flatwork, shade structures, bridges and other vertical elements, will be constructed in compliance with applicable seismic safety codes, including the California Building Code and other relevant codes. Based upon the adherence of project structural design to applicable seismic and other codes, the effects of seismically induced groundshaking can be reduced to a level that it will have a less than significant impact on CV Link facilities and users.

    iii) *Seismic-related ground failure, including liquefaction?*

b) *Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?*

As noted above, the eastern portions of the CV Link Route are located in a liquefaction hazard area with high groundwater, poorly consolidated and liquefiable soils, and the potential for strong groundshaking. Most of the CV Link alignments will be located within areas of relatively flat terrain, including those portions within the liquefaction hazard area, and will be constructed on manufactured fill used to construct channel levees. Also, the slopes associated with the project stormwater channels will also be subject to lateral forces during a strong quake. These slopes are on the order of a few feet to over 20 feet in height and are typically sloped at 2:1 (horizontal:vertical) to 4:1 (h:v) slope ratios.

Therefore, in the easternmost portions of the CV Link Route the potential exists for lateral spreading to occur. Lateral displacement can occur on gently sloping ground that is underlain by loose sands and a shallow water table. It is caused by seismically induced liquefaction and can result in fracturing, rotation, or liquefaction and flow of structures. If located in areas with sloping ground or where an open free face exists such as along a stormwater channel, lateral spreading towards the channel may occur where the liquefiable materials are located at a depth less than two times the height of the open free face (channel depth). The potential for lateral spreading along CV Link is generally from Indio to the CV Link terminus at Airport Boulevard.

The potential impacts of liquefaction on CV Link improvements and users can be effectively mitigated through standard methods of soil engineering, including overexcavation and hydroconsolidation, spread footings and other means provided in mitigation measure GEO-2 below will stabilize soils under project improvements, and require that project improvements be constructed to standards which compensate for liquefaction hazards. With the application of recommendations set forth in the CV Link geotechnical report provided in the mitigation measures set forth below, the potential impacts on CV Link facilities and users will be less than significant.

iv) Landslides?

The potential for large-scale landslides or slope failures were assessed by the project geotechnical engineers. As noted, the large majority of CV Link alignments will be located within areas of relatively flat terrain. However, there are extensive slope areas associated with the various drainage channels along and through which CV Link will run. These channel slopes are on the order of a few feet to over 20 feet high and are typically sloped at 2:1 (horizontal:vertical) to 4:1 (h:v) slope ratios. Portions of the slope are lined with concrete and the rest are earthen materials.

The slope stability analysis conducted as a part of the geotechnical evaluation assumed a worst-case scenario, and indicates that minor surficial slope failures can be expected in areas of the project next to unlined portions of the channel. Channel slopes could fail as a result of scour and removal of supporting soils during rapid flash flooding along unlined portions of the channel. The potential for minor slope failures are on a nuisance rather than significant impact level; therefore, the Proposed Project will not result in a potentially significant landslide hazard.

According to the CV Link geotechnical report and review of a variety of Safety Element technical reports prepared for local General Plans, there is one location where a rockfall hazard potential exists along the Proposed Project alignment, this being Point Happy at the Indian Wells /La Quinta city boundary west of Washington Street. Point Happy is a spur of the Santa Rosa Mountains foothills that juts north and into the Whitewater Stormwater Channel. Around the tip of Point Happy a bridge is planned that will be suspended on and supported by a tubular steel arch and cable stays, and away from the rock face. With the type of conventional rock face stabilization recently carried out on the Highway 111 side of this spur of rock, and with the proposed innovative bridge design, potential rock fall impacts will be less than significant with mitigation (please see mitigation measure GEO-9, below).

c) Result in substantial soil erosion or the loss of topsoil?

CV Link would extend through an area of the Valley that is considered to have a wind erosion or erodability rating of "moderate" to "very high", with most of the Route occurring in the "high" rating. [18] The potential for wind-related soils erosion exists along the entire length of CV Link. However, construction of the CV Link alignments will result in very limited new ground disturbance, including areas where grading will be required atop channel levees and embankments, where soils are already well compacted. Disturbance within the channels will be limited and will occur in areas already regularly disturbed by nuisance and flood flows, as well as on-going channel maintenance activities. CV Link construction will occur incrementally and in measured stages, which will allow good control of soil moisture and stability. However, because of the wind erosion hazard throughout the Valley, impacts associated with wind erosion could be significant. Mitigation measures GEO-4, GEO-5 and GEO-10 provided below are expected to reduce wind erosion potential to less than significant levels, by controlling wind-blown soils during construction. Once completed, the improvements provided by the proposed project will eliminate the potential for wind erosion within the project area by placing paved or gravel surfaces over these soils. As a result of the implementation of these mitigation measures, impacts will be reduced to less than significant levels.

Soils in the project area are also susceptible to water erosion, and although rain events are very infrequent, when they occur they can be intense and generate high rates of runoff in a short period of time. Therefore, the potential always exists for disturbed or stockpiled soils associated with CV Link construction to be eroded by rainstorms or by the inadvertent or inappropriate application of water during construction. A variety of avoidance/minimization/mitigation measures are set forth in the hydrology analysis section associated with water quality management, which directly addresses the potential for water erosion of soils. These and the mitigation measures set forth below (GEO-3, GEO-7, GEO-8, GEO-10) will ensure that the loss of soils from water erosion will be less than significant by compacting soils and directing water away from structures. Neither will the CV Link Proposed Project expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death from the creation of such conditions. As a result of the implementation of these mitigation measures, impacts will be reduced to less than significant levels.

d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?

Expansive soils have a tendency to increase volume with an increase in the moisture content. These soils swell when water is added to them and shrink when they dry out. Foundations built on expansive soils can heave and can cause lifting and even structural damage when the moisture content rises. This can ultimately lead to the failure of foundations and structures. Expansive soils are common in the lakebed soils in the eastern area of CV Link. Most of the soils along the CV Link Route have a low shrink/swell potential.[19] [20] The potential impacts associated with expansive soils can be effectively mitigated through prescribed soils engineering. Therefore, the impacts of expansive soils on the CV Link project will be less than significant with the application of foundation and flatwork recommendation set forth below (GEO-13 and GEO-16) and in the CV Link geotechnical report by replacing expansive soils with stable soil below project improvements. As a result of the implementation of these mitigation measures, impacts will be reduced to less than significant levels.

CV Link travelways and structural foundations that are built upon collapsible soils are potentially subject to damage if such soils become saturated. In an unsaturated state, these soils exhibit a high strength when dry but experience a large and rapid volume reduction (collapsed) upon saturation, which can result in substantial

[18] Riverside County Safety Element Technical Report, prepared by Earth Consultants International. Riverside County General Plan, 2015.
[19] Ibid.
[20] Op. cit. Petra 2016.

structural damage. Alluvial and aeolian sediments in the planning area have the potential for settlement and collapse even under relatively low loads. Collapsible soils were primarily found in the near surface of wind and water-deposited soils, and have been noted in the mid and east Valley areas (Palm Desert, Indian Wells, La Quinta, Indio, and Coachella). The potential impacts associated with collapsible soils can be effectively mitigated through prescribed soils engineering. Therefore, the impacts of collapsible soils on the CV Link project will be less than significant with the application of foundation and flatwork recommendation set forth below (please see mitigation measures GEO-1, GEO-2, GEO-4, GEO-5, GEO-6, GEO-9, GEO-11 through 15) and in the CV Link geotechnical report.

e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?

The CV Link restrooms will connect to municipal sewerage systems and will not rely on on-lot septic tanks. Therefore, there will be no impacts associated with soils that may be inadequate to support on-lot septic tanks.

4.6.6. Mitigation Measures

CV Link improvements will be constructed on soils and in geologically active areas that require the application of specific geotechnical and soils engineering solutions. Mitigation measures include implementation of standard erosion control methods, slope stabilization measures, removal and recompaction of loose surficial soils or soil reinforcement, and establishing procedures for controlling erosion and runoff.

GEO-1. CV Link final design and engineering shall conform to the prevailing California Building Code (CBC) for buildings and other structures, and Caltrans design standards for bridges where appropriate in order to mitigate the effects of groundshaking and earthquake damage.

GEO-2. Structural foundation designs and subsurface soil improvements shall be conducted based on the California Code of Regulations Volume 18, Title 14, Article 10, Section 3721[a]) to minimize liquefaction hazards. Such measures shall include but are not limited to overexcavation and hydrocompaction, other remedial grading, strengthening and deepening structural foundations.

GEO-3. Ground improvements consisting of removal and recompaction of loose, near surface sandy soils, is required to minimize dynamic settlement of dry soils. Other methods may include deep dynamic compaction, additives to the soils, such as cement or fiber (e.g., nylon) and flooding of in-place loose granular soils, to increase the density of the resultant compacted fill and thereby removing or reducing to insignificant levels the tendency to settle under dynamic shaking. Deep foundation elements should also be considered, as determined by the project geologist, when effective at bypassing zones of loose sand subject to dynamic settlement.

GEO-4. All grading plans shall include a soil erosion prevention/dust control plan. Blowing dust and sand during grading operations shall be mitigated by adequate watering of soils prior to and during grading, and limiting the area of dry, exposed and disturbed materials and soils during these activities. To mitigate against the effects of wind erosion after site development, a variety of measure shall be provided including maintaining moist surface soils, planting stabilizing vegetation, establishing windbreaks with non-invasive vegetation or perimeter block walls, and using chemical soil stabilizers.

GEO-5. Unprotected, permanent graded slopes shall not be steeper than 3:1 (horizontal/vertical) to reduce wind and water erosion. Protected slopes with ground cover may be as steep as 2:1. However, maintenance with motorized equipment may not be possible at this inclination. Fill slopes shall be overfilled and trimmed back to competent material. Fill slope surfaces shall be compacted to 90% of the laboratory maximum density by either over-filling and cutting back to expose a compacted core or by approved mechanical methods.

GEO-6. Positive site drainage shall be established during finish grading. Finish grading shall include a minimum positive gradient of 2% away from structures for a minimum distance of 3 feet and a minimum gradient of 1% to the street, channel or other approved drainage course.

GEO-7. Utility trench excavations in slope areas or within the zone of influence of structures shall be properly backfilled in accordance with the recommendations of the project geotechnical consultant. Backfill of utilities within roads or public right-of-ways shall be placed in conformance with the requirements of the governing agency (water district, public works department, etc.). Utility trench backfill within the project area shall be placed in conformance with the provisions of the project geotechnical report. In general, service lines extending inside the project area may be backfilled with native soils compacted to a minimum of 90-percent relative compaction. Backfill operations shall be observed and tested to monitor compliance with these recommendations.

GEO-8. Installation of slope protection, cutoff walls, deepening of proposed foundations below the maximum depth of scour and comparable measures shall be applied, as determined by the project geologist, to mitigate potential scour and any resulting instability.

GEO-9. In order to address the potential rockfall hazards at Point Happy, the adjoining rock face shall be thoroughly evaluated and scaling of loose rock from the surface of exposed slopes shall be conducted as determined by the project geologist. The installation of rock catchment devices, such as walls or steel mesh shall be installed, as determined by the project geologist, to mitigate the rockfall hazards.

GEO-10. There shall be a cessation of grading activities during rainstorms or high wind events. The project contractor shall install flow barriers and soil catchments (such as straw bales, silt fences, and temporary detention basins) during construction to control soil erosion.

GEO-11. The project contractor shall ensure that the dust control measures set forth in Sections 4.3 and 4.9 are implemented to control wind-blown sand during construction. Project grading shall be conducted in strict compliance with the requirements of the SCAQMD and the Coachella Valley PM10 SIP.

GEO-12. Excavated soils may be used as fill material so long as they are free of organic or deleterious matter. Rocks or concrete larger than 6 inches in greatest dimension shall be removed from fill or backfill material. Prior to integrating reconditioned fill soil onto needed sites, receiving areas shall be scarified, brought to near optimum moisture conditions, and recompacted to at least 90% relative compaction (ASTM D1557).

GEO-13. Imported soils (if needed) shall be non-expansive, granular soils meeting the USCS classifications of SM, SP-SM, or SW-SM with a maximum rock size of 3 inches and 5 to 35 percent passing the No. 200 sieve. Imported fill shall be placed in maximum 8-inch lifts (loose) and compacted to at least 90 percent relative compaction (ASTM D 1557) near optimum moisture content.

GEO-14. Excavations within sandy soil shall be kept moist, but not saturated, to reduce the potential of caving or sloughing. Where excavations over 4 feet deep are planned, lateral bracing or appropriate cut slopes of 1.5:1 (horizontal/vertical) shall be provided. No surcharge loads from stockpiled soils or construction materials shall be allowed within a horizontal distance measured from the top of the excavation slope and equal to the depth of the excavation.

GEO-15. Removal and recompaction of susceptible soils, flooding and surcharging, and/or other ground densification techniques shall be implemented to mitigate hydro-collapse potential.

GEO-16. Standard geotechnical practices such as excavation of the expansive soils and replacement with non-expansive compacted fill (by using additional steel reinforcing in foundations, post-tensioned slabs, presoaking, and drainage control devices) shall also be used as determined appropriate by the geotechnical and structural engineers.

4.6.7. Significance After Mitigation

The geotechnical conditions in which CV Link will be constructed pose certain constraints on its development, including seismic and soil conditions that require specific design and engineering solutions. With the application of the avoidance/minimization/mitigation measures set forth above, impacts associated with project geotechnical conditions will be mitigated to a level of insignificance.

4.6.8. Cumulative Impacts

A consideration of cumulative effects associated with geotechnical conditions includes the degree to which a project may contribute to the cumulative impacts from seismic events, marginal soils, steep and unstable terrain and other conditions. CV Link will not significantly increase the community impacts associated with prevailing geotechnical conditions in the Coachella Valley. To the extent the project may provide an alternative means of travel through CV Link communities in the event streets are impacted by earthquakes or other geotechnical condition, CV Link can serve to offset these adverse impacts by providing alternative access, any contribution that would otherwise be cumulatively substantial.

4.7. Greenhouse Gas Emissions

4.7.1. Introduction

The following section describes the existing greenhouse gas conditions within the Coachella Valley, and analyzes the potential impacts associated with the CV Link project. A variety of local and regional data and information, ranging from research and analysis conducted for the project site, to regional-scale planning and environmental documents, have been used in researching and analyzing the project and its potential effects on air quality. An Air Quality and Greenhouse Gas Report was prepared for the CV Link project and is provided in Appendix E of this EIR.

4.7.2. Thresholds of Significance

In accordance with Appendix G of the CEQA Guidelines, the project would have a significant effect on greenhouse gases if it were to:

a. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.

b. Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

4.7.3. Regulatory Framework

California was the first state to establish regulations that require the reduction of emissions of GHGs from motor vehicles. On September 24, 2004, the California legislature adopted a bill that requires all motor vehicles of 2009 vintage or later to reduce their greenhouse gas emissions by about 30% by the year 2016. On June 1, 2005 Governor Arnold Schwarzenegger issued executive order S-3-05, which calls for reduction in GHG emission to 1990 levels by 2020 and for an 80 percent reduction below 1990 levels by 2050.

The California Global Warming Solutions Act (AB 32) was adopted by the state legislature in 2006. It sets forth a program to achieve 1990 emission levels by 2020 and requires CARB to proclaim 1990 GHG emissions and develop a Scoping Plan, which sets forth GHG reduction methods. CARB has reported that 1990 GHG emissions totaled 427 million metric tons (MMT) for the state of California; CARB adopted a GHG scoping plan on December 11, 2008. The Scoping Plan includes a cap and trade program, green building strategies, recycling and waste reduction, and Voluntary Early Actions and Reductions. More recently, Executive Order B-30-15 was issued by Governor Brown on April 29, 2015 establishing a new California goal to reduce greenhouse gas emissions to 40 percent below 1990 levels by 2030 ensuring the state will continue its efforts to reduce carbon pollution. Most recently, this 40% target was codified through Senate Bill 32 (2016), which adds section 38566 to the Health and Safety Code and requires that CARB ensure statewide GHG emissions meet the 40% reduction target no later than Dec. 31, 2030.

California SB 375 was signed by the Governor in September 2008 and is intended to at least in part implement greenhouse gas reduction targets set forth in AB 32 by setting regional “caps” on the GHGs emitted by the transportation sector. The bill encourages regional land use planning to reduce vehicle miles traveled and requires Metropolitan Planning Organizations (MPO) to adopt a sustainable communities strategy as part of their Regional Transportation Plans. The applicable MPO for the Coachella Valley is the Southern California Association of Governments (“SCAG”), which adopted its most recent Regional Transportation Plan and sustainable communities strategy in April of 2016. The current reduction targets from SCAG’s RTP and SCS are 9% reduction by 2020 and a 16% reduction by 2035, as compared to 2005 emissions levels.

Regional Climate Action Plans

In December 2015, the County of Riverside approved a Draft Climate Action Plan (CAP). The CAP established goals and policies that incorporate environmental responsibility into its daily management of residential, commercial and industrial growth, education, energy and water use, air quality, transportation, waste reduction, economic development and open space and natural habitats to further their commitment towards reducing GHG emissions.

Riverside County has set a goal in accordance with AB 32 to reduce emissions back to 1990 levels by the year 2020. This target was calculated as a 15% decrease from 2008 levels, as recommended in the AB 32 Scoping Plan. The estimated community-wide emissions for the year 2020, based on population and housing growth projections associated with the assumptions used in the County's 2015 General Plan Update, are 12,129,497 MT CO2e. In order to reach the reduction target, Riverside County must offset this growth in emissions and reduce community-wide emissions to 5,960,998 MT CO2e by the year 2020.

In order to reach the reduction target, the County of Riverside would need to implement various state policies and the additional local reduction measures described in the County's CAP. These measures encourage energy efficiency and renewable energy in buildings, transit oriented planning, water conservation, and increased waste diversion. Riverside County does not have project- or region-specific thresholds for GHG emissions at this time. The CAP was challenged in January 2016. It is unclear how the litigation will impact the implementation of the CAP. However, at this time, the CAP is in full force and effect.

Local Climate Action Plans

Several jurisdictions have adopted individual Sustainability Plans or Climate Action Plans (CAP) as part of the Coachella Valley Association of Governments (CVAG) Green for Life program, including the City of Palm Springs, Cathedral City, Palm Desert, Indian Wells, La Quinta, Indio, Coachella, and the Aqua Caliente Band of Cahuilla Indians (ACBCI). The goal of the CAP is to reduce GHG emissions within jurisdiction operations and throughout the community. The CAP GHG inventory was prepared using the Clean Air and Climate Protection (CACP) Software, which is the industry standard for climate action planning developed by Local Governments for Sustainability (also known as ICLEI, International Council for Local Environmental Initiatives.) Various utility and service companies provided City-specific data that were used to populate the CACP software, including electricity usage, natural gas usage, waste treatment, solid waste disposal, public transit data, and estimated citywide vehicle miles traveled. The following provides reduction targets for each jurisdiction:

- Palm Springs: Reduce GHG emissions (citywide) by one percent (1.0%), or 4,263 tonnes to achieve the AB 32 target of 1990 emission levels by 2020.
- Cathedral City: Reduce GHG emissions (citywide) by 23.4% or 55,909 tonnes to achieve the AB 32 target of 1990 emission levels by 2020.
- Palm Desert: Reduce GHG emissions to 7% below 1990 baseline levels of 406,607 metric tonnes, equivalent to reaching a total of 378,144.5 tonnes citywide by 2020.
- Indian Wells: Reduce GHG emissions (citywide) by 15.9% or 16,088 tonnes to achieve the AB 32 target of 1990 emission levels by 2020.
- La Quinta: Reduce GHG emissions (citywide) by 10% to achieve the AB 32 target of 2005 emission levels by 2020.
- Indio: CAP is currently underway as part of the General Plan Update.
- Coachella: Established a per service population 2020 emissions reduction target of 15% below 2010 levels (187,262 tonnes) and a 2035 emissions reduction target of 49% below 2010 levels (786,993).
- ACBCI: Reduce GHG emissions by 10.89% or 27,780 tonnes to achieve the AB 32 target of 1990 emission levels by 2020.

4.7.4. Existing Conditions

The project area is located in the Coachella Valley portion of the Salton Sea Air Basin (SSAB or Air Basin). The Coachella Valley portion of the SSAB is typical of a low desert climate, with summer daytime temperatures that can exceed 110°F and drop into the 20's during winter nights. The Valley floor receives an average of four to six inches of rainfall per year with greater precipitation at higher elevations.

Climate Change and Greenhouse Gas

Air pollution is a chemical, physical or biological process that modifies the chemistry and other characteristics of the atmosphere. The primary contributor to air pollution is the burning of fossil fuels used in transportation, power and heat generation, and industrial processes. The byproducts from the combustion of fossil fuels can contain a number of air polluting substances. These emissions are responsible for the poor air quality that is evident in industrial centers worldwide.

Some air polluting agents are also greenhouse gases (GHG), such as carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), and fluorinated gases (hydrofluorocarbons, perfluorocarbons and sulfur hexafluoride), which are released into the atmosphere through natural processes and human activities. These gases are termed greenhouse gases due to their shared characteristic of trapping heat, and are believed to be responsible for the global average increase in surface temperatures of 0.7-1.5 °F that were observed during the 20th century.[1] The quantity of greenhouse gases in the atmosphere has increased significantly over a relatively short period. More recently, the concentration of CO_2 in the atmosphere had increased by 42%, methane by 15%, and NOx by 9% from 1990 to 2010.[2]

Carbon dioxide is the primary greenhouse gas that has raised the most concern of atmospheric scientists due to current atmospheric levels, current and projected emission levels, and the highly correlated temperature regression curve that has been observed, predicting a future path of rising carbon dioxide levels. Currently (2016), carbon dioxide concentrations in the atmosphere are around 400 ppm. Comparatively, prior to the Industrial Revolution, about 250 years ago, CO_2 levels were 278 ppm, and over the past 650,000 years carbon dioxide levels have fluctuated between 180 and 300 ppm, making present day atmospheric CO_2 levels substantially greater than at any point in the past 650,000 years.[3]

There is much debate over what the effects of climate change will be, but there is a general consensus that the levels of emissions need to be reduced in order to minimize GHG emissions and limit the amount of carbon dioxide and other pollutants that are released into the atmosphere.

In 2004, the State of California generated 492 million metric tons (tonnes) of carbon dioxide equivalent (CO_2E). In 2013 the State of California generated 459.3 million tonnes of CO_2E, representing an overall decrease of 7% since 2004[4]. During the 2000 to 2013 period, per capita GHG emissions in California have continued to drop from a peak in 2001 of 14.0 tonnes per person to 12.0 tonnes per person in 2013, representing a 14% decrease. GHG emission reductions are attributed to energy conservation measures such as use of more fuel-efficient vehicles, energy efficient lighting, appliances and building materials that are prescribed under Title 24 of the California Building Code.

1 U.S. Environmental Protection Agency, State of Knowledge.
2 U.S. Environmental Protection Agency, Figure 1: Global Greenhouse Gas Emissions by Gas, 1990-2010, May 2014. http://www.epa.gov/climatechange/science/recentac.html
3 "Working Group III Contribution to the Intergovernmental Panel on Climate Change Fourth Assessment Report, Climate Change 2007: Mitigation of Climate Change," prepared by the Intergovernmental Panel on Climate Change, May 2007.
4 "2015 California GHG Emission Inventory," California Air and Resources Board, June 16, 2015.

4.7.5. Project Impacts

CV Link is proposed as a 44-mile multi-modal transportation path network that extends across the Coachella Valley. Construction of the Proposed Project is anticipated to occur over a four-year period starting in 2018 with buildout in 2021. Construction activities will include site preparation, grading, pathway paving, underpass/overpass construction, and operation of construction equipment. Construction related GHG emissions are temporary and end once construction is complete. However, GHG emissions from construction will be amortized over the life of the project, defined as 30 years, and added to operational emissions to be compared to the applicable GHG threshold per SCAQMD recommendation[5].

Operational GHG emissions associated with CV Link are limited to energy demands from lighting and recharge stations, specifically light tubes, bollards, charging stations and LED lighting. CV Link will not generate new mobile source emissions; instead the project is expected to reduce mobile source emissions by promoting and providing alternative modes of transportation, including biking and electric vehicles. Mobile source GHG emissions are also quantified.

a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.

Construction Related Greenhouse Gas Emissions

Construction activities will result in short-term GHG emissions associated with operation of construction equipment, employee commute, material hauling, and other ground disturbing activities. There are currently no construction-related GHG emission thresholds for projects of this nature. To determine if construction emissions will result in a cumulative considerable impact, buildout GHG emissions were amortized over a 30-year period and added to annual operational emissions to be compared to applicable GHG thresholds.

GHG emissions from construction are temporary and will not substantially affect climate or interfere with a GHG reduction plan. All components of construction, including equipment, fuels, materials, and management practices, will be subject to current regulations of GHGs. The following table summarizes the estimated GHG emissions from construction of CV Link.

Table 4.7-1
Construction GHG Emissions Summary

(Metric Tons/Year)

	CO_2	CH_4	N_2O	Total CO_2e
Buildout	3,712.85	0.72	0.00	3,728.04
Source: CalEEMod Versions 2013.2.2. See Appendix E of this EIR for detailed tables. Values shown represent the total unmitigated GHG emission projections for construction of the Proposed Project. $CO2_e$ includes the remaining GHG pollutants, such as hydrofluorocarbons, perfluorocarbons and sulfur hexafluoride.				

[5] "Interim CEQA GHG Significance Threshold for Stationary Sources, Rules and Plans," SCAQMD, December 5, 2008.

Operational Greenhouse Gas Emissions

There are five emission source categories that contribute either directly or indirectly to operational GHG emissions, including energy/electricity usage, water usage, solid waste disposal, area emissions (pavement and architectural coating off-gassing), and mobile sources. Operational GHG emissions associated with the Proposed Project will be limited to off-site energy production, water demands, and solid waste disposal. According to the project Master Plan, CV Link will require 819,527 kWh per year for various lighting needs and charging stations. The project proposes a 2kW solar energy production system to be placed on top of shade structures that will offset demands by 735,840 kWh per year, resulting in a net demand of 83,687 kWh annually. Annual solid waste generated from CV Link is projected to be 2,875 tons per year. The water budget for landscaped areas is projected to be 5.6 million gallons per year.

The project will also result in significant GHG reductions due to the motor vehicle trips that may be avoided and the associated reduction in Valley-wide vehicle miles traveled. The following table shows the projected annual reduction in emissions of GHGs plus the amortized construction emissions. As shown below, it is expected that CV Link will result in a net GHG reduction of 63,283.67 tonnes per year. Due to the project's direct significant reduction in GHG emissions as compared to baseline conditions, the Proposed Project will not generate GHGs, directly or indirectly, that would impact the environment.

On December 5, 2008, the SCAQMD formally adopted a greenhouse gas significance threshold of 10,000 MTCO2e/yr that only applies to stationary sources (industrial uses) where SCAQMD is the lead agency (SCAQMD Resolution No. 08-35). This threshold was adopted based upon an October 2008 staff report and draft interim guidance document[6] that also recommended a threshold for all projects using a tiered approach.

It was recommended by SCAQMD staff that a project's greenhouse gas emissions would be considered significant if it could not comply with at least one of the following "tiered" tests:

- Tier 1: Is there an applicable exemption?
- Tier 2: Is the project compliant with a greenhouse gas reduction plan that is, at a minimum, consistent with the goals of AB 32?
- Tier 3: Is the project below an absolute threshold (10,000 MTCO2e/yr for industrial projects; 3,000 MTCO2e/yr for residential and commercial projects)?
- Tier 4: Is the project below a (yet to be set) performance threshold?
- Tier 5: Would the project achieve a screening level with off-site mitigation?

The CV Link project is consistent with Tier 2, in that the project will result in an overall positive impact on the environment by reducing Valley-wide GHG emissions consistent with AB 32.

[6] Draft Guidance Document – Interim CEQA Greenhouse Gas (GHG) Significance Threshold, prepared by SCAQMD, October 2008.

Table 4.7-2
Operational GHG Emission Reduction Summary
(Metric Tons/Year)

	CO_2	CH_4	N_2O	CO_2e
Energy Use	23.95	0.00	0.00	24.04
Water Use	17.96	0.00	0.00	18.03
Solid Waste	583.59	34.48	0.00	1,307.88
Annual Reductions	-63,024.77	-5.80	-0.00	-63,146.74
Buildout plus Amortized Construction Emissions[1]				**-61,672.53**
Exceeds Thresholds?				No

Source: CalEEMod Version 2013.2.2. See Appendix E of this EIR for detailed tables. Values shown represent the total unmitigated GHG emission projections for operation of the Proposed Project and assumes an annual avoidance of 7,410,993 vehicle miles in 2040.
1. Buildout construction GHG emissions were amortized over 30-years then added to buildout operational GHG emissions. 3,728.03/30 =124.26

Therefore, the Proposed Project will not generate greenhouse gas emissions, either directly or indirectly, that may have a potentially significant impact on the environment and no mitigation is required.

b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

All components of construction, including equipment, fuels, materials, and management practices, would be subject to current and future County, City and SCAQMD rules and regulations related to greenhouse gases. Applicable SCAQMD rules include, but are not limited to, source specific standards that reduce the greenhouse gas content in engines and limit equipment idling durations. In addition, project-related GHG emissions will not exceed established GHG thresholds for construction because there are no such thresholds established. Therefore, this GHG impact would be less than significant.

Operation, or use of CV Link would not exceed SCAQMD thresholds for operational emissions. Operation of the Proposed Project would result in significant reductions in mobile emissions and a net reduction of greenhouse gases as compared to baseline conditions.

Additionally, CV Link would not conflict with the reduction goals of SB 375 and is identified in the Southern California Association of Governments (SCAG) 2016 RTP SCS (2017 FTIP ID RIV131005). The purpose of SB 375 is to reduce GHG emissions through coordinated transportation and land use planning and the prevention of development "sprawl." CV Link achieves this goal by encouraging non-automobile forms of transportation and reducing overall automobile vehicle miles traveled.

In addition, the project will not conflict with the goals of executive order S-3-05 or the 40% GHG reduction goal recently codified through Senate Bill 32 (2016) because (1) it is not considered a "large emitter" of GHGs (25,000 MT CO_2e/year) requiring cap-and-trade regulation per CARB's regulatory measure to help achieve statewide GHG reduction goals and (2) it results in an overall reduction in GHG emissions as compared to baseline conditions.

The CV Link project is also consistent with regional and local GHG reduction goals. The nature of intra and inter district vehicle trips makes it difficult to attribute specific vehicle trips reductions to an individual jurisdiction. However, CV Link will result in overall vehicle trip and GHG emission reductions that will benefit each of the participating jurisdictions and support reduction goals.

The Proposed Project would not conflict with an applicable plan, policy, or regulation adopted for the purposes of reducing the emissions of GHGs. This impact would be less than significant.

4.7.6. Mitigation Measures

There are no potentially significant impacts. Mitigation measures are not required.

4.7.7. Significance After Mitigation

There are no potentially significant impacts and a mitigation program is not required. Therefore, residual impacts will be less than significant.

4.7.8. Cumulative Impacts

Cumulative impacts were analyzed on a regional scale due to the dispersing nature of these pollutant emissions and aggregate impacts from surrounding jurisdictions and air management districts. Through analysis of the regional and statewide plans for GHG reductions, a summary of projects approach was used. The geographic scope for the analysis of potential cumulative greenhouse gas impacts is the overall Salton Sea Air Basin region in which the facilities are being constructed and operated. However, some percentage of electric power and vehicular emissions GHGs associated with the construction, operations and maintenance of the Proposed Project facilities may also come from sources outside of the SSAB. Therefore, cumulative greenhouse gas impacts were assessed on a regional scale due to the dispersing nature of these pollutant emissions and aggregate impacts from surrounding jurisdictions and air management districts. Any new power generation resulting in emissions of carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), and fluorinated gases (hydrofluorocarbons, perfluorocarbons and sulfur hexafluoride), would contribute, at some level, to greenhouse gas concentrations in the atmosphere.

However, based on the above analysis, the project would result in a net reduction of greenhouse gases. Therefore, the project’s GHG emissions would not be cumulatively considerable.

4.8. Hazards & Hazardous Materials

4.8.1. Introduction

This discussion describes hazardous materials and other hazards to public health and safety that could result from implementation of the proposed CV Link. Potential construction and operational impacts of the Proposed Project Route related to hazards and hazardous materials are analyzed, and mitigation measures are proposed, as appropriate. The discussion evaluates potential impacts from regional hazards including public and private airports and wildfire hazards. In August 2016, an Initial Site Assessment was prepared to support the analysis in this section and is included as Appendix J.

For analysis purposes, the term "hazardous materials" refers to both hazardous substances and hazardous wastes.[1] Under federal and state law, materials and wastes may be considered hazardous if they are specifically listed by statute or if they are toxic, ignitable, corrosive, or reactive. In some cases, past industrial or commercial activities on a site could have resulted in spills or leaks of hazardous materials to the ground, resulting in soil and/or groundwater contamination. Hazardous materials may also be required as part of, or result from, operation of a project. If improperly handled, hazardous materials and waste can cause public health hazards when released to the soil, groundwater, or air. The four basic exposure pathways through which an individual can be exposed to a chemical agent include: inhalation, ingestion, bodily contact, and injection. Exposure can come as a result of an accidental release during construction, which can also lead to exposure of workers or the public to health hazards when released to the soil, groundwater, or air. Disturbance of subsurface soil during construction can also lead to exposure of workers or the public from stockpiling, handling, or transportation of soils contaminated by hazardous materials from pervious spills or leaks.

4.8.2. Thresholds of Significance

For the purposes of this EIR, the CEQA Guidelines' Appendix G is utilized to determine if the proposed CV Link would have a significant effect relating to hazards and hazardous materials within the project planning area. Impacts would be significant if the project:

a) Creates a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.

b) Creates a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.

c) Emits hazardous emissions or handles hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school.

d) Would be located on a site which is included on a list of hazardous materials sites complied pursuant to Government Code Section 65962.5 and, as a result, would create a significant hazard to public to the public or the environment.

[1] The California Health and Safety Code defines a hazardous material as "any material that, because of its quantity, concentration, or physical or chemical characteristics, poses a significant present or potential hazard to human health and safety, or to the environment. Hazardous materials include, but are not limited to, hazardous substances, hazardous waste, radioactive materials and any material which a handler or the administering agency has a reasonable basis for believing that it would be injurious to the health and safety of persons or harmful to the environment if released into the workplace or the environment" (Health and Safety Code, Section 25501).

e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area.

f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area.

g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.

h) Expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands.

4.8.3. Regulatory Framework

Federal

U.S. Department of Transportation Hazardous Materials Transport Act (49 USC 5101)
The U.S. Department of Transportation, in conjunction with the U.S. Environmental Protection Agency (USEPA), is responsible for enforcement and implementation of federal laws and regulations pertaining to transportation of hazardous materials. The Hazardous Materials Transportation Act of 1974 directs the U.S. Department of Transportation to establish criteria and regulations regarding the safe storage and transportation of hazardous materials. CFR 49, 171–180, regulates the transportation of hazardous materials, types of material defined as hazardous, and the marking of vehicles transporting hazardous materials.

Federal Resource Conservation and Recovery Act
The Resource Conservation and Recovery Act (RCRA) gives the USEPA the authority to control hazardous waste from "cradle-to-grave." This includes the generation, transportation, treatment, storage, and disposal of hazardous waste. RCRA also sets forth a framework for the management of non-hazardous solid wastes. The 1986 amendments to RCRA enabled EPA to address environmental problems that could result from underground tanks storing petroleum and other hazardous substances.

Federal Aviation Administration
The Federal Aviation Administration (FAA) has jurisdiction over airspace in the United States. The Federal Aviation Regulations (FAR) provide criteria for evaluating the potential effects of obstructions on the safe and efficient use of navigable airspace within approximately two to three miles of airport runways. The FAA requires notification of proposed construction projects that meet specific height requirements. As indicated, the Palm Springs International Airport, Bermuda Dunes Executive Airport and Jacqueline Cochran Regional Airport are in the vicinity of some the project.

State

California Occupational Safety and Health Act – California Labor Code, Section 6300
The California Occupational Safety and Health Act of 1973 addresses California employees' working conditions, enables the enforcement of workplace standards, and provides for advancements in the field of occupational health and safety. The Act also created the California Occupational Safety and Health Administration (Cal OSHA), the primary agency responsible for worker safety in the handling and use of chemicals in the workplace. Cal OSHA's standards are generally more stringent than federal regulations. Under the former, the employer is required to monitor worker exposure to listed hazardous substances and notify workers of exposure. The regulations specify requirements for employee training, availability of safety equipment, accident-prevention

programs, and hazardous substances and hazardous substance exposure warnings. At sites known or suspected to be contaminated by hazardous materials, workers must have training in hazardous materials operations and a Site Health and Safety Plan must be prepared. The Health and Safety Plan establishes policies and procedures to protect workers and the public from exposure to potential hazardous at the contaminated site.

California Health and Safety Code, Title 22, Chapter 20 Hazardous Waste Permit Program

Title 22, Chapter 20 Hazardous Waste Permit Program, establishes provisions for the issuance and administration of hazardous waste permits pursuant to the Health and Safety Code. Regulations cover basic permitting requirements, such as application requirements, standard permit conditions, and monitoring and reporting requirements. Hazardous Waste Permits are required for the transfer, treatment, storage, and disposal of any hazardous waste pursuant to section 66261.3. Owners and operators of certain facilities require hazardous waste facility permits as well as permits under other programs for certain aspects of the facility operation.

California Health and Safety Code, Division 20, Chapter 6.5, Hazardous Waste Control Law

The California Health and Safety Code, Division 20, Chapter 6.5, Hazardous Waste Control Law regulates hazardous wastes generated within the State of California. The Law identifies proper guidance for the handling, storage, use, and disposal of hazardous wastes. Additionally, the Hazardous Waste Control Law identifies the need for proper landfill disposal in order in order to reduce long-term threats to public health and to air and water quality. Included in this is the preparation of Hazardous Materials Business Plans (HMBPs) (Chapter 6.95 of the Health and Safety Code, Sections 25501 et seq.) which are required of businesses that handle specified quantities of chemicals in accordance with community right-to-know laws. This plan allows local agencies to plan appropriately for a chemical release, fire, or other incidents. Hazardous waste regulations establish criteria for identifying, packaging, and labeling hazardous wastes; dictate the management of hazardous waste; establish permit requirements for hazardous waste treatment, storage, disposal and transportation; and identify hazardous wastes that cannot be disposed of in landfills.

License to Transport Hazardous Materials – California Vehicle Code, Section 32000.5 et seq.

Caltrans regulates hazardous materials transportation on all interstate roads. Within California, the State agencies with primary responsibility for enforcing federal and State regulations and for responding to transportation emergencies are the California Highway Patrol (CHP) and Caltrans. Together, federal and State agencies determine driver-training requirements, load labeling procedures, and container specifications for vehicles transporting hazardous materials.

California Fire Code, Title 24, Part 9, Chapters 33, 50, and 57

The 2013 California Fire Code (CFC), written by the California Building Standards Commission, is based on the 2012 International Fire Code. The International Fire Code (IFC) is a model code that regulates minimum fire safety requirements for new and existing buildings, facilities, storage and processes. The IFC addresses fire prevention, fire protection, life safety, and safe storage and use of hazardous materials in new and existing buildings, facilities, and processes.

Uniform Fire Code

The Uniform Fire Code, Article 80 (Section 80.103 of the Uniform Fire Code as adopted by the State Fire Marshal pursuant to Health and Safety Code Section 13143.9), includes specific requirements for the safe storage and handling of hazardous materials and for mixing of incompatible chemicals, and specifies specific design features to reduce the potential for a release of hazardous materials that could affect public health or the environment.

Emergency Response Planning

California has developed an emergency response plan to coordinate emergency services provided by federal, state, and local government and private entities. Responding to hazardous materials incidents is one part of this plan. The plan is administered by the State Office of Emergency Health Department's Emergency Services, which

coordinates the responses of other agencies. The Riverside County Environmental Health Department's Emergency Response Team provides the capabilities for hazardous materials emergencies within the project area. Emergency Response Team members respond and work with local fire and police agencies, California Highway Patrol, California Department of Fish and Wildfire, California Department of Transportation, U.S. Coast Guard and National Marine Sanctuary personnel.

CAL FIRE

CAL FIRE maps identify fire hazard severity zones in the state and local responsibility areas. Wildland fire protection in California is the responsibility of either the state, local government, or the federal government. A Designated Safety Responsibility Area (SRA) is the area "in which the financial responsibility of preventing and suppressing fires is primarily the responsibility of the state" (Public Resources Code Section 4125). Local responsibility areas (LRA) in the project study area include incorporated cities, cultivated agricultural lands, and portions of the desert. LRA fire protection is typically provided by city fire departments, fire protection districts, counties, and by CAL FIRE under contract to local government.

Regional/Local Plans

No regional or local regulations regarding hazards or hazardous materials are applicable to the proposed CV Link.

4.8.4. Existing Conditions

The study area for hazardous materials includes possible contaminating activities (e.g., leaking underground storage tanks) within 0.25 miles of the proposed Route. The study area for the evaluation of airport and airstrip impacts is within two miles of the proposed Route. The study area for the evaluation of wildfires and emergency access includes the proposed Route and nearby areas surrounding those sites.

The evaluation of impacts associated with hazards and hazardous materials includes two components: the potential for hazards or hazardous materials to be used, transported or stored as part of the Proposed Project during construction and operation; and the potential impacts that existing hazards or hazardous materials exacerbated by the project could have on CV Link.

The evaluation of the potential to encounter hazardous materials in soil and groundwater along the proposed Route is based on federal, State, and local regulatory database reviews which identified permitted hazardous materials uses, environmental cases, and spill sites within 1/8 miles of the proposed Route. Additional information regarding identified cases was obtained from site investigation reports available from the State Water Resources Control Board (SWRCB) Geotracker database, solid waste disposal sites identified by SWRCB, active Cease and Desist Orders and Cleanup and Abatement Orders from SWRCB, and hazardous waste subject to corrective action pursuant to Section 25187.5 of the Health and Safety Code, identified by the State Department of Toxic Substance Control (DTSC).

Permitted hazardous material uses, environmental cases and spill sites identified within 1/8 miles of the proposed Route have been characterized as to their potential to affect subsurface conditions that might be encountered during project construction according to the following classification:

- **Low Potential.** Facilities that are permitted to use or store hazardous waste, but have not had a documented release would be considered to have a low potential to affect the proposed Route. Additionally, environmental cases that are listed as closed, because remediation or cleanup has been completed and approved by the regulatory agency, would be considered to have a low potential to affect CV Link. The potential to affect subsurface conditions at a site would also be considered to be low if any of the following three factors is known to occur: (1) the direction of groundwater flow is away from the proposed Route; (2) the lateral extent of contamination from the occurrence is known and is not present

within the proposed Route construction area; or (3) only soil was affected by the occurrence and the potentially contaminated site is not located within the proposed Route or immediately adjacent to the site (within 200 feet of the construction area).

- **Moderate Potential.** The potential to affect subsurface conditions within a facility or site would be considered to be moderate, and further investigation might be necessary, if the following three factors occur: (1) an off-site occurrence was reported within 1/8 mile of the proposed Route, but does not occur within the construction area; (2) the extent of contamination and remedial status is not known; and (3) the occurrence has affected groundwater and is located up-gradient from the proposed Route.

- **High Potential.** The potential to affect subsurface conditions within the proposed Route would be high and further investigation would be necessary, if any one of the following three factors are known to occur: (1) an off-site occurrence was reported within 1/8 of a mile of the proposed Route, but does not occur within the construction area; (2) the extent of the contamination and remedial status is not known; or (3) the occurrence has affected groundwater and is located up-gradient from the proposed Route.

Evaluation of Existing Conditions for the Proposed Project

The entire length of the Route, including all alignment variations and all jurisdictions within the Route, were surveyed as part of the Initial Site Assessment prepared for the Proposed Project. The Proposed Project does not include the City of Rancho Mirage. The results of the site survey for the Proposed Project are shown in Table 4.8-1, and provide a summary of the current conditions on the Proposed Project Route. A description of the conditions in Segment 4, which encompasses Rancho Mirage, is provided in Section 5, Alternatives.

As shown in the Table, potentially hazardous materials or releases were not identified on the Proposed Project Route, which is approximately 44.05 miles. A hazardous release identified adjacent to a portion of the Route in Palm Springs, and pad mounted transformers identified in Cathedral City are discussed below in Section 4.8.5.

Table 4.8-1
Summary of Current Conditions

Location	Description
Segment 1 – North Palm Springs (Highway 111 to East Vista Chino; see Photo Nos. 1 through 8)	
Highway 111 & Tramway Rd.	This segment begins next to the asphalt-paved parking lot of the Palm Springs Visitor Center. One alignment variation then traverses through the undeveloped land northeast of the visitor's center. Another alignment variation crosses to the northern side of North Palm Canyon Drive and then traverses to the northeast through a grass lawn.
Tramway Rd. to Chino Creek Levee (west of Highway 111)	From the visitor's center, the alignment continues through undeveloped land along the southern side Highway 111 to the Chino Creek Levee.
Tramway Rd. to Chino Creek Levee (east of Highway 111)	From Tramway Road (San Rafael Drive), the alignment initially traverses along a concrete-paved sidewalk that adjoins Highway 111. It then traverses in a grass-covered lawn between the end of the sidewalk and Gateway Drive. Between Gateway Drive and Chino Creek, this alignment is then located along (on or adjacent to) a concrete-paved sidewalk that is adjoined by well-maintained landscaped areas.
Chino Creek Levee between Highway 111 and Indian Canyon Dr.	From Highway 111, this segment follows an unpaved service road along the top of a levee. This service road is surfaced with loose sand and gravel. The levee's sides are unpaved.

Table 4.8-1
Summary of Current Conditions

Location	Description
Desert Highland Park	The southern portion of this alignment within Desert Highland Park begins adjacent to a paved parking lot. This alignment then passes along the western side of the park and then north of the park through undeveloped land until it intersects the Chino Canyon Levee.
Whitewater River Levee between Indian Canyon Dr. and Gene Autry Trail	After passing over Indian Canyon Drive, this alignment continues along the unpaved service road along the top of the levee. The portion of this levee facing the rivers is surfaced with concrete. The upper portion is covered with loose sandy soil.
Whitewater River Levee to San Rafael Drive via Sunrise Way	An alignment variation leaves the Whitewater River levee and traverses south through undeveloped land covered with sandy soil and sparse vegetation. It then continues south along the center median of Sunrise Way, which is partially landscaped with desert vegetation.
Sunrise Way to Whitewater River Levee via San Rafael Drive	Between Sunrise way and the Whitewater River levee, this alignment passes along a portion of San Rafael Drive and then along the sides of a former golf course. This area was undeveloped and covered with sandy soil.
Gene Autry Trail to Vista Chino	The portion of this segment between Gene Autry Trail and Vista Chino remains along an unpaved service road along the top of a levee. The service road remains covered with sandy soil.
Segment 1 Summary: Potentially hazardous material sources and/or releases were not identified within or immediately adjacent to this segment. Nuisance debris, primarily empty food and beverage containers, was observed along Highway 111 and the levee.	
Segment 2 – Central Palm Springs (East Vista Chino to Tahquitz Creek Confluence; see Photo Nos. 9 through 14)	
Vista Chino to Dinah Shore Drive	The portion of this segment between Vista Chino and Dinah Shore Drive is similar to that encountered northwest of Gene Autry Trail. It travels along an service road on top of the levee. The service road remains covered with loose sand and gravel. An alignment variation immediately south of Vista Chino passes through a small channel (stormwater outlet) that is surfaced with sandy soil.
Dinah Shore Dr. to 34th Ave.	Southwest of Dinah Shore Drive, this segment is located on a paved and unpaved service road.
34th Ave. to Tahquitz Creek	At 34th Avenue, this segment continues south along a concrete-paved trail. This trail continues to Tahquitz Creek, where it passes over the creek and continues to the south.
Segment 2 Summary: Potentially hazardous material sources and/or releases were not identified within or immediately adjacent to this segment, including within the nuisance debris observed beneath the Ramon Road Bridge.	
Segment 2A – Tahquitz Creek (Belardo Road to Whitewater River Confluence; Photo Nos. 15 to 22)	
South Palm Canyon Dr. to Sunrise Way	This segment begins at South Palm Canyon Drive, on the northern side of Tahquitz Creek Channel. The KFC property located immediately northwest of this intersection has an operating vapor extraction system, indicating that the underlying soils have been impacted with volatile organic compounds. Groundwater monitoring wells within and adjacent to this property indicate that the groundwater has also been impacted. East of South Palm Canyon Drive, this segment passes along the southern side of North Riverside Drive. Most of this segment is located along a paved sidewalk that is bordered by well-maintained landscaped areas (referred to as the Tahquitz Creek Trail).

Table 4.8-1
Summary of Current Conditions

Location	Description
Sunrise Way Area (North Riverside Dr. to Mesquite Ave.)	One alignment variation in this area passes along the eastern side of Sunrise Way, which has a paved sidewalk and adjoining undeveloped and landscaped areas. A second alignment variation passes through the Tahquitz Creek Channel and then toward the east and south along an unpaved roadway adjacent to a canal. Both alignment variations terminate at Mesquite Avenue.
Sunrise Way to Farrel Dr. (along Mesquite Ave.)	From Sunrise way, this segment traverses within the median of Mesquite Avenue (a four-lane roadway) to Farrell Drive.
Farrel Dr. to Compadre Rd. (along Mesquite Ave.)	Between Farrell Drive and Compadre Road, the alignment passes along the northern side of Mesquite Avenue. A concrete-paved sidewalk adjoined by landscaped areas is located along the northern side of Mesquite Avenue.
Compadre Rd. to El Cielo Rd.	From Compadre Road, this alignment traverses north along a brush-covered drainage ditch until it reaches Tahquitz Creek. It then traverses east along the southern side of Tahquitz Creek through soil and brush-covered areas. At El Cielo Road, it traverses north to Mesquite Avenue.
El Cielo Rd. to Demuth Park	From El Cielo Road, this alignment traverses toward the east along a paved sidewalk on the southern side of Mesquite Avenue. It then traverses south into and through Demuth Park.
Demuth Park to Gene Autry Trail	From Demuth Park, this alignment traverses eastward on a path covered with sand and pea gravel between Demuth Park and a golf course that occupies Tahquitz Creek. East of Demuth Park, the trail is paved with asphalt.
Gene Autry Trail to Crossley Rd./Golf Club Dr.	This alignment passes beneath Gene Autry Way and then up through a short portion of a golf course where it intersects an existing paved bike path. An alignment variation passes over a pond within the golf course. This bike path continues eastward to Crossley Road. The alignment then traverses south along an existing concrete-paved sidewalk along the western side of Crossley Road/ Golf Club Drive. From this roadway, there are two planned alignment variations to the Whitewater River Channel.
Along 34th Ave. to the Whitewater River Channel	From Crossley Road/Golf Club Drive, this segment traverses along the northern side of 34th Avenue until it reaches the Whitewater River Channel.
Golf Club Dr. to the Whitewater River Channel	From Golf Club Drive, this segment is located on a concrete-paved walkway along the southern side of Tahquitz Creek.
Segment 2A Summary: A release of potentially hazardous materials (dry cleaning solvents) was evident at the KFC property located immediately northwest of South Palm Canyon Drive and Tahquitz Creek. No other potentially hazardous material sources and/or releases were identified within or immediately adjacent to this segment.	
Segment 3 – Cathedral City (Channel Confluence to Country Club Drive; Photo Nos. 23 to 28)	
Jenkins Trail – from the Channel Confluence to Cathedral Canyon Dr.	This segment traverses south from the channel confluence along an asphalt-paved path that is located between residential and commercial properties. It is fenced on each side the entire length.
Channel Confluence to Cathedral Canyon Dr.	This alignment passes on each side of the Whitewater River Channel between the channel confluence and Cathedral Canyon Drive. These alignments are located within an existing golf course. The alignments on each side of the river contain either lawn and/or concrete-paved cart paths.
Cathedral Canyon Dr. to Date Palm Dr.	Between Cathedral Canyon Drive and Date Palm Drive, this alignment is located on top of a levee that is partially paved with asphalt. Commercial businesses border the southern side of this alignment. A pad-mounted transformer is located immediately adjacent, approximately 35 feet east of Cathedral Canyon Drive. Possible releases from this transformer were not observed at the time of the assessment.

Table 4.8-1
Summary of Current Conditions

Location	Description
Jenkins Trail to Date Palm Dr. (along Cathedral Canyon Wash)	An alignment variation between Jenkins Trail and Date Palm Drive follows the left bank of Cathedral Canyon Wash between Jenkins Trail and Cathedral Canyon Drive. After it passes over Cathedral Canyon Drive, it then traverses along the right bank of Cathedral Canyon Wash to Date Palm Drive. The banks of the Cathedral Canon Wash are covered with sandy soil. The sides of the wash are surfaced with concrete.
Date Palm Dr. to Frank Sinatra Dr.	This alignment is primarily located along an unpaved service road at the top of the western bank of the Whitewater River Channel. It is covered with sandy soil a light to heavy growth of vegetation. A portion of this alignment traverses through asphalt-paved parking lots (for adjoining commercial properties) adjacent to the channel. A pad-mounted electric transformer was located immediately adjacent to this alignment approximately 530 feet northwest of Frank Sinatra Drive.
Frank Sinatra Dr. Area	Alignment variations pass north and south of Frank Sinatra Drive. The northern variation passes along a paved side road. The southern alignment variation passes adjacent to the roadway, within the channel.
Frank Sinatra Dr. to Country Club Dr.	Southeast of Frank Sinatra Drive, alignment variations pass along each side of the Whitewater River Channel for about ½ mile. The southern (west bank) variation is covered with soil and sparse vegetation. It is located between a fence and the paved channel slope. The northern (east bank) variation follows the Joe Butler Trail, which is a well maintained trail surfaced with sandy soil and/or asphalt. This trail crosses the Whitewater River Channel and then travels along its right bank. This trail passes between residential developments until it reaches Country Club Drive.
Country Club Dr.	This alignment passes a short distance along the northern side of Country Club Drive. In this area, it is located on or adjacent to a concrete-paved sidewalk that is adjoined by well-maintained lawn.
Segment 3 Summary: With the exception of two pad-mounted electric transformers, potentially hazardous material sources were not identified within or immediately adjacent to this segment. Potentially hazardous material releases, including from the transformers, were not observed within this segment.	
Segment 5 – Palm Desert (Monterey Avenue to Fred Waring Drive; Photo Nos. 35 to 40)	
Monterey Ave. between Magnesia Falls Dr. and Park View Dr.	This alignment traverses along a sidewalk on the eastern side of Monterey Avenue. The sidewalk is adjoined by well-maintained landscaped areas.
Magnesia Falls Dr. between Monterey Ave. and San Pascual Channel	This alignment is primarily located along the southern side of Magnesia Falls Drive. It is located along a relatively wide concrete-paved path that is adjoined by well-maintained landscaped areas.
College of the Desert Campus between Monterey Ave. and San Pablo Ave.	This alignment is on asphalt-paved roadways that pass through the College of the Desert Campus.
San Pablo Ave.	This alignment is located with the median of San Pablo Avenue. This median is partially landscaped with well-established trees.
San Pasqual Channel	This alignment variation passes along the eastern side of San Pasqual Channel between Magnesia Falls Drive and the Whitewater River Channel. It is currently paved with asphalt that is adjoined by soil.
Magnesia Falls Dr. between San Pascual Channel and the Whitewater River Channel	This alignment variation is located along the northern side of Magnesia Falls Drive. It is within, or adjacent to, a concrete-paved sidewalk. Some portions of this sidewalk are adjoined by landscaped areas.
Whitewater River between San Pasqual Channel and Magnesia Falls Dr.	This alignment variation is located along the top of the right bank of the Whitewater River Channel. Most of this area is relatively level and covered with soil and relatively sparse growth of vegetation.

Table 4.8-1
Summary of Current Conditions

Location	Description
Whitewater River between Magnesia Falls Dr. and Cook St.	This alignment also located along the top of the right bank of the Whitewater River Channel, is located on a concrete-paved path adjoined by soil.
Cook St. to Fred Waring Dr.	Between Cook Street and Fred Waring Drive, alignment variations are provided within the channel, as well as on each bank of the channel. Unmaintained soil-covered pathways are located along each side of the channel. The channel bottom in this area is covered with sandy soil and sparse vegetation. Another alignment variation in this area leaves the channel and traverses south to Fred Warring Drive along an unnamed service road for an electrical substation. This service road is paved and is adjoined by well-maintained landscaped areas.
Segment 5 Summary: Potentially hazardous material sources and/or releases were not identified within or immediately adjacent to this segment.	
Segment 6 – Indian Wells (Fred Waring Drive to Washington Street; Photo Nos. 41 to 46)	
Fred Waring Dr. to El Dorado Dr.	This alignment variation is located along the top of the riverbank. It is generally covered with grass lawn.
El Dorado Dr. between the Whitewater River Channel and Highway 111	This alignment variation is located along the eastern side of El Dorado Drive. A concrete-paved path within this alignment is adjoined by well-maintained landscaped areas. Part of this alignment crosses driveways to the city hall property.
Highway 111, between El Dorado Dr. and Miles Ave.	This alignment variation is located along the northern side of Highway 111. A concrete-paved sidewalk and landscaped areas are located along most of this area. One portion is covered with soil, and another is covered with a lawn.
Whitewater River between El Dorado Dr. and Existing Channel Bridge	This alignment variation is located along the top of the left bank of the Whitewater River Channel. It is currently part of a well-maintained golf course. It passes over a bridge that spans the Whitewater River Channel.
Whitewater River between existing Channel Bridge and Miles Ave.	Alignment variations are located on each side of the river between the channel bridge and Miles Avenue. The northern alignment is located within landscaped portions of a golf course. It then traverses through undeveloped areas covered with sand and some desert vegetation. The southern alignment initially passes between the golf course and adjoining hotel. It is located on a concrete-paved sidewalk adjoined by well-maintained landscaping. It then passes along the top of the right riverbank, which is highly eroded and surfaced with sandy soil and sparse vegetation.
Whitewater River between Miles Ave. and Deep Canyon Channel	In this area, there are alignment variations on the northern and southern sides of the Whitewater River Channel, both located at the top of the riverbank. The northern alignment variation is covered with sandy soil and sparse desert vegetation. A trail or pathway is not located within this area. An unpaved service road is located along the southern alignment variation in this area.
Miles Ave. between the Whitewater River Channel and Washington St.	This alignment traverses along a sidewalk along the south side of Miles Avenue. This sidewalk is adjoined by landscaped areas. An apparent sewer pumping station is located adjacent to this alignment, just north of the Whitewater River Channel near the western side of Miles Avenue. A relatively new diesel-powered generator is located within this pumping station. The associated diesel tank is located at the base of the generator. Possible diesel spills were not observed in this area. Due to its size, this engine and associated tank are not considered a significant hazardous material source.

Table 4.8-1
Summary of Current Conditions

Location	Description
Whitewater River between Deep Canyon Channel and Washington St.	The alignment located along the northern side of the river remains in an undeveloped area that is covered with sand and sparse vegetation. The southern alignment variation passes along the base of a moderately steep hillside covered with rock. There are no through-going trails at the base of this hillside. East of the hill, this alignment variation is located on a service road that is surfaced with decomposed granite.
Washington St. between Miles Ave. and the Whitewater River Channel	An alignment passes along a sidewalk on the western side of Washington Street. The alignment leaves the sidewalk and then crosses the bottom of the channel and stops on its right bank.
Segment 6 Summary: Potentially hazardous material sources and/or releases were not identified within or immediately adjacent to this segment.	
Segment 7 – La Quinta/Indio (Washington Street to Coachella Canal; Photo Nos. 47 to 52)	
Whitewater River Channel between Washington St. and Jefferson St.	The alignment is located in the upper right bank of the Whitewater River Channel between Washington Street and Jefferson Street. It is located along an unpaved service road that is covered with silty soil and sparse vegetation. This alignment traverses under Washington Street, under Adam Street, over Dune Palms Road, and under Jefferson Street. With the exception of Dune Palms Road, these roadways have bridges over the Whitewater River Channel.
Whitewater River Channel between Jefferson St. and the Coachella Canal	East of Jefferson Street, the alignment remains along the right bank of the Whitewater River Channel. An unpaved service road is present at the top of the bank just east of Jefferson Street. After 8 single-family dwellings, it traverses along the edge of a vacant property. It then crosses through the La Quinta Channel. Between the La Quinta Channel and Coachella Canal, the alignment stays along an unpaved road at the top of the Whitewater River Channel's right bank.
Segment 7 Summary: Potentially hazardous material sources and/or releases were not identified within or immediately adjacent to this segment.	
Segment 8 – Indio (Coachella Canal to Van Buren Street; Photo Nos. 53 to 58)	
Coachella Canal to Van Buren St.	Along this segment, the alignment remains along the unpaved service road at the top of the right bank of the Whitewater River Channel. It crosses Fred Waring Drive, Indio Boulevard (and adjoining train tracks), Monroe Street, Jackson Street, Avenue 44, and Golf Center Parkway. It has connections to each of these roadways.
Segment 8 Summary: Potentially hazardous material sources and/or releases were not identified within or immediately adjacent to this segment.	
Segment 9 – East Native Lands (Van Buren Street to Tyler Street; Photo Nos. 59 to 63)	
Van Buren St. to Tyler St.	This segment remains along the unpaved service road at the top of the right bank of the Coachella Valley Stormwater Channel. It crosses Dillon Road and Avenue 50. It has connections to each of these roadways. Utility poles and associated electric lines are located along a portion of this alignment.
Wild Bird Center	The alignment leaves the right bank of the Coachella Valley Stormwater Channel and travels approximately 0.94 mile south on an unpaved roadway to a wild bird sanctuary. A sewer treatment facility is located along the western side of this roadway.
Segment 9 Summary: Potentially hazardous material sources and/or releases were not identified within or immediately adjacent to this segment.	

Table 4.8-1
Summary of Current Conditions

Location	Description
Segment 10 - Coachella (Tyler Street to Airport Boulevard; Photo Nos. 64 to 68)	
Tyler St. to Airport Blvd.	This segment remains along the unpaved service road at the top of the right bank of the Coachella Valley Stormwater Channel. It crosses under Avenue 52. Utility poles and associated electric lines are located along a portion of this alignment.
Segment 10 Summary: Potentially hazardous material sources and/or releases were not identified within or immediately adjacent to this segment.	

Known Hazardous Materials Issues in Proximity to CV Link

Environmental cases and spill sites within 1/8 mile of proposed Route are summarized in Table 4.8-2. The Table addresses sites from west to east, from Palm Springs to Coachella. These sites do not occur within the Proposed Project Route, but are located in proximity to it. All but five of these properties have been remediated to the satisfaction of the regulatory agencies. The five remaining properties are discussed in Section 4.8.5 below.

Table 4.8-2
Summary of EDR Properties Located within 1/8 Mile of the Route

EDR ID No.	Business Name	Address	Environmental Database Lists	Comments
City of Palm Springs				
2, 3	Palm Springs Oil #5 / Express Gasoline / Union Station #119	2901 N. Palm Canyon Dr., Palm Springs	HIST CORTESE, LUST	Gasoline was released into the soil underlying this property (currently the Palm Springs Visitor's Center). This case was closed in May 1998, indicating that the impacted soil has been remediated to the satisfaction of the regulating agency.
14	Palm Springs Oil #8	670 S. Palm Canyon Dr., Palm Springs	LUST	Gasoline was released into the soil underlying this property. This case has been closed.
14	Caliber Collision Center	672 S. Palm Canyon Dr.,	CHMIRS, ERNS	This 1991 accidental release of about 100 gallons of waste oil was cleaned.
14	Mr. Meat	681 S. Palm Canyon Dr.,	LUST	Gasoline was released into the soil underlying this property. This case has been closed.
14	Mobil #18	694 S. Palm Canyon Dr., Palm Springs	LUST, CHMIRS	Gasoline was released into the soil underlying this property (currently Jack in the Box). This case was closed in 1996.
14	Not Listed	507 Sunny Dunes Rd., Palm Springs	CHMIRS, ERNS	This 1994 release involved about 0.5 gallons of a mixture of chlorine and muriatic acid. The spill was immediately cleaned.
14	Meader's Cleaners*	711 S. Palm Canyon Dr., Palm Springs	Cortese, SLIC	Dry cleaning solvents were released into the soil and groundwater underlying this property. The cleanup up this release is underway. Impacted groundwater from this property has migrated beneath the Route. This case is not closed. See discussion below for further details.
17	Not listed	541 Industrial Pl., Palm Springs	CHMIRS	This 1988 release of potentially hazardous materials (type not specified) was cleaned the same day.

Table 4.8-2
Summary of EDR Properties Located within 1/8 Mile of the Route

EDR ID No.	Business Name	Address	Environmental Database Lists	Comments
17	Brudvik Property	551 Industrial Pl., Palm Springs	LUST, HIST Cortese	Diesel was released into the soil underlying this property. This case has been closed.
22	Not Listed	1036 San Lorenzo Rd., Palm Springs	CHMIRS	This 2007 release of 50 gallons of sewage onto the roadway was cleaned the same day.
24	Mesquite Country Club	2700 Mesquite Ave., Palm Springs	LUST	Gasoline was released into the soil underlying this property. This case was closed in 1999.
31	Not Listed	1885 Golf Club Dr., Palm Springs	CHMIRS	This 2001 release of sewage from percolation ponds was reportedly cleaned.
City of Cathedral City				
9	Not Listed	30290 San Diego Dr., Cathedral City	ERNS	An oily substance was spilled on a residential sidewalk in August 1992. This release was 140 to 350 feet from Route. Based on the documentation reviewed, this oily substance was cleaned.
42	C&M Building Materials, Inc.	68355 Kieley Rd., Cathedral City	LUST	Diesel was released into the soil underlying this property. This case was closed in 2001.
48	Familian Pipe & Supply	36283 Plaza Dr., Cathedral City	Hist Cortese	Diesel was released into the soil underlying this property. This case was closed in 1992.
54	Palm Springs Ford Motors	69200 Highway 111, Cathedral City	LUST	Gasoline was released into the soil underlying this property. This case was closed in 1994.
City of Rancho Mirage				
59	Exxon Station #7-3156	69800 Highway 111, Rancho Mirage	LUST	Gasoline was released into the soil underlying this property. This case was closed in 1991.
60	Not Listed	282 Turf Paradise, Rancho Mirage	ERNS, CHMIRS	This 1993 dumping of 36 containers of various pesticides was reportedly cleaned.
63	Thunderbird Country Club	70612 Highway 111, Rancho Mirage	LUST	Diesel was released into the soil underlying this property. This case was closed in 2003.
67	Not Listed	Highway 111 at Evening Star, Rancho Mirage	CHMIRS	This 2011 release of 2.5 gallons of hydraulic oil was reportedly cleaned.
71	Elephant Car Wash	71490 Highway 111, Rancho Mirage	LUST	Gasoline was released into the soil underlying this property. This case was closed in 1999.
74	Texaco Station	71689 Highway 111, Rancho Mirage	LUST	Gasoline was released into the soil underlying this property. This case was closed in 1996.
79	Chevron 9-7961	71800 Highway 111, Rancho Mirage	LUST	Gasoline was released into the soil underlying this property. This case was closed in 1993.
City of Palm Desert				
101	Not Listed	72824 Fleetwood Cir. Palm Desert	CHMIRS	This 2007 release of 45 gallons of mineral oil was reportedly cleaned.
102	Not Listed	72920 Parkview St., Palm Desert	CHMIRS	This 2011 release of 3 gallons of mineral oil was reportedly cleaned.

Table 4.8-2
Summary of EDR Properties Located within 1/8 Mile of the Route

EDR ID No.	Business Name	Address	Environmental Database Lists	Comments
City of Indian Wells				
117	City of Indian Wells Main	44900 El Dorado Dr., Indian Wells	LUST, Hist Cortese	Gasoline was released into the soil underlying this property. This case was closed in 1997.
120	City of Indian Wells Civic Center	44900 El Dorado Dr., Indian Wells	LUST	Diesel was released into the soil underlying this property. This case was closed in 2007.
118	Not Listed	44600 Indian Wells Rd., Indian Wells	ERNS	An unknown substance was released at this property in 1996. Based on the documentation reviewed, this substance was cleaned.
118	Not Listed	44600 Indian Wells Ln., Indian Wells	ERNS	This 1996 release of vapors was generated by mixing laundry solutions.
118	Not Listed	44600 Indian Wells Rd., Indian Wells	CHMIRS	This 2011 release of natural gas is not considered a spill that could impact soil or groundwater.
118	Not Listed	44600 Indian Wells Rd., Indian Wells	CHMIRS	This 15,000 gallon release of sewage was cleaned.
118	Stouffer Esmeralda Resort	44400 Indian Wells Ln., Indian Wells	CHMIRS	This 1997 release of chlorine vapors occurred when a bucket of chlorine tablets exploded. This was not a spill to the soil or water.
128	Not Listed	Miles Ave. at Highway 111, Indian Wells	CHMIRS	This 2000 release of 1,000 gallons of sewage to the Whitewater River Channel was not reported as having been cleaned.
128	Not Listed	Miles Ave. at Highway 111, Indian Wells	CHMIRS	This 2004 release of 4,500 gallons of sewage to the ground surface was cleaned by the responsible party.
City of La Quinta				
139	ARCO AM/PM Minimarket #5896	46150 Washington St., La Quinta	LUST	Gasoline was released into the soil underlying this property. This case was closed in 2003.
148	Not Listed*	78740 Highway 111, La Quinta	ERNS	This 2006 dumping of 60 gallons of latex paint waste into the storm drain was not reported as cleaned.
City of Indio				
147	The Home Depot	79900 Highway 111, Indio	CHMIRS	This 2000 release of 1 gallon of muriatic acid onto the ground was cleaned.
140	Pan American* (Vacant Lot)	Shields Rd. & Ave. 46, Indio	LUST	No data was provided for this release in any of the databases searched. It involved a release from an underground tank.
133	Not Listed	80759 Dartmouth Ave., Indio	CHMIRS	This 2007 release of 5 gallons of gasoline to the road surface and then storm drain was cleaned by city.
87	Not Listed	81824 Trader Place, Bldg. A, Indio	CHMIRS	This 2006 release of fire water run-off (that contained basic and metal-containing solutions) was not reported as having been cleaned.
93	76 Products Facility #6351	43401 Monroe St., Indio	LUST	Gasoline was released into the soil underlying this property. This case was closed in 2002.

Table 4.8-2
Summary of EDR Properties Located within 1/8 Mile of the Route

EDR ID No.	Business Name	Address	Environmental Database Lists	Comments
93	Shell Oil Company*	43411 Monroe St., Indio	LUST, Hist Cortese	A gasoline release at this property has impacted the underlying soil and groundwater. Cleanup and monitoring are near completion.
93	Chevron Station #9-4914	43421 Monroe St., Indio	LUST, Hist Cortese	Gasoline was released into the soil and groundwater underlying this property. This case was closed in 1995.
98	Not Listed	Sage Brush & Lemon Grove St., Indio	CHMIRS	This 1991 release of an unknown substance was not reported as having been cleaned up.
99	Valley Block Co.	43320 Jackson St., Indio	LUST	Gasoline was released into the soil and groundwater underlying this property. This case was closed in 1997.
111	Not Listed	83300 Avenue 44, Indio	ERNS	This 1991 release of 5 gallons of used motor oil to the storm drain was cleaned by the city public works department.
115	CHMIRS	Dillon St. & Tourmaline St., Indio	CHMIRS	This 1990 release of an unknown material was cleaned the same day.
134	Not Listed	45435 Van Buren Ave., Indio	ERNS	This 1993 release of 140 gallons of transformer oil (to the storm drain) was cleaned.
134	Valley SD WWTP	45500 Van Buren Ave., Indio	CHMIRS, Cortese	This 2003 release of 68,000 gallons of sewage was reportedly cleaned. A 2007 release of 100 gallons of sodium bisulfite (to the soil) was also reportedly cleaned.
Unincorporated Community of Thermal				
162	Riv. Co. Road Yard	87495 Airport Blvd.,Thermal	LUST, Hist Cortese	Gasoline was released into the soil and groundwater underlying this property. This case was closed in 1997.

Table information source: EDR
* sites have not been remedied and the case is still opened

Airports

Palm Springs International Airport

The Palm Springs International Airport is located at 3400 East Tahquitz Canyon Way in the City of Palm Springs. The Airport is a commercial service airport that is owned and operated by the City of Palm Springs. This airport is the primary air transportation link for the Coachella Valley. The airport covers an area of 940 acres. Surrounding land uses include a mix of residential, professional, and light industrial developments. The Proposed Project, as it proceeds on the bank of the Whitewater River, will occur at a distance of approximately 3,600 feet east of the airport.

Bermuda Dunes Executive Airport

Bermuda Dunes Executive Airport is located at 79880 Avenue 42 in the unincorporated community of Bermuda Dunes. Bermuda Dunes is a public use airport, and is owned by the Bermuda Dunes Airport Corporation. The airport has two runways and covers an area of approximately 87 acres. The Bermuda Dunes airport is surrounded

by the cities of Indian Wells, Palm Desert, La Quinta and Indio. The Proposed Project, as it proceeds on the bank of the Coachella Valley Stormwater Channel, will occur at a distance of approximately 2.4 miles southeast of the airport.

Jacqueline Cochran Regional Airport

Jacqueline Cochran Regional Airport is located at 56-850 Higgins Drive in the unincorporated community of Thermal. Jacqueline Cochran is a public airport, owned and operated by Riverside County. The airport has two runways and covers an area of approximately 1,850 acres. The Jacqueline Cochran Regional Airport is surrounded by the unincorporated communities of Thermal, Coachella, Valerie, and Vista Santa Rosa. The southern terminus of the Proposed Project occurs approximately 1 mile east of the airport.

4.8.5. Project Impacts

Approach to Analysis

This section focuses on the potential to encounter hazardous substances in soil and groundwater during construction and the potential to discharge hazardous materials during construction or operation of the Proposed Project. This analysis addresses the project's potential to create a significant hazard to the public in regards to hazardous materials, substances, and waste; the potential to result in hazards relating to airports; the potential to impact an emergency response plan or evacuation plan; and the potential to expose persons or structure to hazards relating to wildfire. Applicable regulatory requirements and mitigation measures were utilized to assess each potential impact.

a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

During construction of the project, temporary construction impacts associated with the use of chemicals, oils fuels, lubricants, paints, and solvents could occur. However, a wide variety of laws ensure the safe transportation, use, storage, and disposal of hazardous materials (see Section 4.8.3: Regulatory Framework). Daily transport of potential hazardous materials to and from construction areas and construction staging areas can result in the increase in the potential for accidents. However, no large amounts of these materials would be used for the construction of asphalt or concrete pathways. In the case of an accidental spill of materials, the provisions of law, required of every project, and the required best management practices associated with water quality management planning would assure that such an occurrence would be contained and remediated immediately. In the case of transport of materials to or from a construction area, the local Fire Department, Caltrans and the CHP regulate the transportation of hazardous materials and wastes, including container types and packaging requirements. These regulations also include licensing and training for hazardous waste haulers, chemical handlers, and truck operators.

As identified above, there are two electrical transformers located adjacent to the proposed alignment, one between Cathedral Canyon Drive and Date Palm Drive in Cathedral City, and one at the Cathedral City/Rancho Mirage corporate limit. Should removal of these or other transformers be required by the construction of CV Link, the PCBs contained within them could be released if not properly handled. In order to assure that impacts associated with removal of the transformers, if necessary, are less than significant, mitigation measure HAZ-1 has been added below. This measure requires that prior to the removal of the transformers, they be tested for PCBs. If PCBs are identified, the transformers and any associated fluids shall be disposed of in accordance with Riverside County protocol for the removal and disposal of PCBs. Implementation of this protocol will ensure that exposure to PCBs and detrimental health consequences are avoided because it would limit and eliminate the exposure of these harmful materials to the construction workers and future CV Link users. As a result, any impacts associated with the transport, use, or disposal of the transformers will be reduced to less than significant levels.

Over the operational life of the Proposed Project, maintenance activities will likely require the use of chemicals and cleansers for cleaning and maintenance of the Route, and pesticides, herbicides and fertilizers for landscape maintenance. As with construction, the amount of these materials will not be significant, and will be typical of municipal maintenance activities conducted throughout the Valley on roads, sidewalks and trails. The use of cleaning solutions, pesticides, herbicides and fertilizers is regulated by federal, State and regional agencies, who implement the requirements of law for the use and transport of hazardous materials. For the Proposed Project, the contractors who will be involved in the maintenance and landscaping of the Route will be regulated by the Riverside County Department of Environmental Health, and the local Fire Departments in each jurisdiction. Impacts associated with the transport, use or disposal of hazardous materials will be less than significant.

Historic and Current Pesticide Use

At several locations, the CV Link Route passes near lands currently in active cultivation, or historically used for agriculture. It is likely that persistent pesticides (such as DDT) were applied to lands that were once in agriculture, and have since been converted to other uses. The location of these agricultural lands include:

- The College of the Desert Campus in Palm Desert was formerly occupied by orchards. These orchards were removed from the campus prior to its development between 1958 and 1962.
- The agricultural lands adjacent to the Whitewater River between Monterey Avenue and Fred Waring Drive were mostly removed when the river was channelized in the mid-1960s. The agricultural lands adjoining this area were removed in their entirety between 1984 and 1994.
- Between Jefferson Street and Indio Boulevard, the adjoining eastern properties were in agricultural use between at least 1944 and 1972. These lands have since been replaced with residential developments.
- The adjoining agricultural areas formerly located south of the CV Link Route between Indio Boulevard and Van Buren Street were removed in the 1940s and 1950s. These areas have been redeveloped with residential developments and some light industrial facilities.
- Between Van Buren Street and Avenue 52, the adjoining western properties have periodically been in agricultural use (fields and row crops) since the 1970s.

Elevated pesticide concentrations are not anticipated in the surficial soils that cover the CV Link Route. The land within and adjacent to the CV Link Route has been redeveloped, as described above, and any residual pesticides long ago removed. No impact associated with persistent pesticides is anticipated.

The disposal of all hazardous materials that are involved with construction and the subsequent operation of CV Link is also regulated. All hazardous materials must be properly packaged and disposed of at a qualified landfill. Should hazardous materials, such as cleansers, landscaping maintenance products or fuels require disposal, current regulations, including those regulations to which all waste haulers in the Valley are subject, would be implemented for the Proposed Project. Impacts would be less than significant.

b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?

Impacts Associated with Hazardous Materials Sites in Proximity to the Proposed Project

As described in Section 4.8.4, and Table 4.8-2, all but five of the properties that have been reported with hazardous material releases have been cleaned to the satisfaction of the regulatory agencies. Each of these properties is discussed individually below.

Meader's Cleaners, located immediately northwest of South Palm Canyon Drive and Tahquitz Creek, released tetrachloroethene (PCE; a common dry cleaning solvent) into the underlying soil and groundwater. The most recent groundwater monitoring report for this property shows that the PCE-impacted groundwater has migrated beneath the planned CV Link Route. The depth to the PCE-impacted water was measured between 215 and 244

feet beneath the surface. Because of the depth of the groundwater, and the shallow depth of construction of the Proposed Project (approximately 300 feet east), there will be no impact from PCE underlying the Route to onsite workers.

The second property involved the dumping of wastewater containing latex paint into a storm drain in 2006 near the intersection of Washington Street and Highway 111, in the City of La Quinta. Latex paint produced at that time would not have contained lead, and as a result this release is not considered a threat to the soil, groundwater, or health of onsite workers.

The third property is located at the corner of Shields Road and Avenue 46. Potentially hazardous materials were released from an underground tank on this property. The CV Link Route is located up to 8 feet above and up-gradient of this potential release area. The materials released from the underground tank are not considered a potential threat to the soils underlying the Route, and because of the shallow depth of project construction would not impact onsite workers.

81824 Trader Place, located in the City of Indio, is the fourth site along CV Link that is currently an open case. The spill is located up to 8 feet below ground and down-gradient of the CV Link Route. Metal solutions were released from this property during a fire. Due to the location of this release down-gradient from the Route, any residual contaminants are not considered a threat to the soils underlying the CV Link Route on the adjoining levee.

The fifth location is a Shell service station located between 220 and 250 feet south of the travelway near the CV Link Route at Monroe Street, is currently being remediated and monitored as a result of a gasoline spill. The fuel released at this facility had flowed away from the Route. The remediation of soil and groundwater underlying this property appears to have been completed, and a request for closure submitted. Due to the down-gradient location of this property, any residual gasoline-related contaminants associated with this release are not considered a threat to the soil and groundwater underlying the proposed CV Link project.

As described above, the un-remediated sites near or under the Proposed Project will result in less than significant impacts to CV Link, either during construction or over its lifetime.

Impacts Associated with Project Construction and Operation

The construction and operation of the Proposed Project would not result in a significant hazard to the public from foreseeable upset. Cleaners, solvents, fertilizers and pesticides may be used on-site for routine maintenance and landscaping. Their use will be in small amounts, regulated by the Department of Environmental Health and the Fire Department of the jurisdiction in which the work occurs. These materials, if used, must be properly stored, handled and treated according to the regulations issued by the State of California (See Chapter 30, Title 22 of the California Code of Regulations). None of those cleaners, solvents, fertilizers and pesticides will be used in sufficient quantities to pose a threat to humans or cause a foreseeable chemical release into the environment.

The construction phase would involve the use of heavy equipment, which uses small amounts of oil and fuels and other potential flammable substances. During construction, equipment would require refueling and minor maintenance, that could lead to fuel and oil spills. The contractor will be required to identify and properly prepare staging areas for storing materials. The use and handling of hazardous materials during construction activities would occur in accordance with applicable federal, State, and local laws, including California Occupational Health and Safety Administration (CalOSHA) requirements. The Proposed Project would not result in a significant risk of explosion or accidental release of hazardous substances.

Aerially Deposited Lead (ADL)

Lead is deposited on the soil as a result of vehicle emissions, and when occurring in sufficient concentrations and disturbed, can cause a risk to those that inhale it. An ADL survey was conducted adjacent to the major roadways the

project Route passes on or under. Soil samples were collected from 54 locations for this project, and six additional locations had been previously sampled. Soil samples were collected from each of these locations between the soil surface and a depth of 6 inches. Lead was detected in 59 of the 60 soil samples collected. The lead concentrations typically ranged between 2 and 22.3 milligrams per kilogram (mg/kg). One of the collected soil samples was reported with a lead concentration of 67 mg/kg on Country Club Drive. All of the reported lead concentrations were well below the California Human Health Screening Level for residential properties (80 mg/kg) and commercial properties (320 mg/kg). Therefore, the soils adjoining the onsite roadways are not considered a potential threat to human health. Soils along the CV Link Route are not considered potentially hazardous based on current screening levels. Lead is only an issue if there is ground disturbance of soils that contain lead levels above established Screening Levels. As described above, the lead levels adjacent to existing roadways, even if disturbed as part of the construction of CV link, would not be above Screening Levels. For this reason, impacts associated with ADL will be less than significant.

c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school?

Table 4.8-3 provides a list of schools located within ¼ mile of the Proposed Project. Impacts to schools are discussed below.

Table 4.8-3
Schools within ¼ Mile

School Name	Distance from the Proposed Route (miles)
Cahuilla Elementary School	0.15
Desert Chapel School	0.12
Agua Caliente Elementary School	0.2
Palm Desert High School	Adjacent
Palm Desert Middle School	Adjacent
Abraham Lincoln Elementary School	Adjacent
La Quinta High School	0.1
Carrillo Ranch Elementary School	0.2
Indio Middle School	0.25
Dwight Eisenhower Elementary School	0.2
Amistad Continuation High School	0.08
Andrew Jackson Elementary School	0.07
John Kelley Elementary School	0.27
Valle Del Sol Elementary School	0.2

The operation of CV Link will have no impact on schools from a hazardous materials perspective. The project will not result in the transport of these materials, as the purpose of the path is for recreational and personal use. As shown in Table 4.8-3, the Route passes within 0.25 miles of 14 schools along the entire proposed Route. The construction of the path, as described above, will involve the use of small amounts of paints, solvents and fuels, that will be used within 0.25 miles of these schools while construction occurs. However, neither the time needed for construction, nor the amount of materials to be used would result in a significant impact. In addition, regulations controlling the use, transport and disposal of construction-related materials, included standard requirements imposed by the Riverside County Department of Environmental Health, the Highway Patrol and local police and fire departments such as container types, securing of materials, etc., would ensure that impacts would remain less than significant.

d) Be located on a site which is included on a list of hazardous materials sites complied pursuant to Government Code Section 65962.5 and, as a result, would create a significant hazard to public to the public or the environment?

No location within the Proposed Project Route is included on any lists of hazardous materials sites compiled pursuant to Government Code Section 65962.5. For this reason, this criterion is not applicable to the proposed CV Link and no impact will occur.

e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?

f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area.

The Proposed Project will consist of paved or concrete pathway, occasional shade structures, benches and wayfinding signage. No large habitable structures are proposed as part of the project. The proposed Route passes 0.6 miles east of the airport in Palm Springs, 2.4 miles from the Bermuda Dunes airport, and one mile from the Jacqueline Cochran airport. The proposed path will have no impact on airport operations, and as a non-structural project located at a considerable distance from any of the airports, will have no impact on the airports' land use plans.

There are no private airstrips located in the Valley, therefore no impact will occur.

g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.

All the cities through which the Proposed Project passes, as well as the County of Riverside, have adopted emergency response plans. The construction of CV Link may create some temporary road detours. These will not conflict with established plans since they will be minimal and span relatively short distances given that the construction phase will be carried out in segments.

In addition, CV Link may prove to be an alternative form for emergency evacuation routes in a major catastrophe. In the event that a major catastrophe impacts the Coachella Valley and roads are closed, CV Link could provide Valley residents with an alternative route that connects the Valley from Palm Springs to Coachella.

h) *Expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands.*

The Proposed Project does not occur in a wildfire hazard zone as defined in any of the cities' General Plans, or in the County General Plan, and is not expected to increase the risk of wildland fires during construction or operational phases. Given that the entire project area is located primarily in urban and developed areas, there will be no impacts involving wildfires.

4.8.6. Mitigation Measures

HAZ-1: If the pad-mounted or pole-mounted transformers situated immediately adjacent to the CV Link alignment must be removed during construction activities, they will be tested for PCBs prior to their removal and disposal. If PCBs are identified, the transformers and associated fluids shall be transported offsite and disposed of in accordance with the standards and requirements of the Riverside County Department of Environmental Health, including draining of materials into approved containers, and secured transport to approved disposal facilities.

4.8.7. Significance After Mitigation

With implementation of the mitigation measure provided above, the construction and operation of CV Link will have less than significant impacts associated with hazards and hazardous materials.

4.8.8. Cumulative Impacts

As analyzed above, the project would have less than significant impacts associated with hazards and hazardous materials during both construction and operations. The addition of the Proposed Project to the urban environment, when added to other future development in the Coachella Valley, will marginally increase the potential for impacts associated with hazards and hazardous materials. However, the Proposed Project and all future other projects are subject to stringent regulations imposed by local, regional, State and federal law. The construction and operation of the Proposed Project will not significantly impact this progressive increase, because it will not use or distribute significant amounts of hazardous materials. Any project occurring in the vicinity of CV Link would be required to construct and operate facilities consistent with these same local, regional or State requirements. Therefore, the Proposed Project will not significantly contribute to cumulative impacts associated with hazardous materials.

4.9. Hydrology and Water Quality

4.9.1. Introduction

The purpose of this analysis is to assess the potential impacts associated with CV Link to the regional and local drainages and water quality. A variety of data and information, ranging from research and analysis conducted for specific projects in the area to regional planning and environmental documents, have been used in researching and analyzing the project and its potential effects. [1,2,3] These include detailed analysis of the major drainages and their facilities that will be used by CV Link, including the Whitewater Floodplain, Tahquitz Creek Channel, and the Whitewater and Coachella Valley Stormwater Channels. Smaller drainages crossed or in proximity to the Link alignments include the East and West Cathedral Canyon Channels, Magnesia Falls Channel (Alternative 2), and the Deep Canyon Channel.

Regional flood control facilities are managed and maintained by the Riverside County Flood Control and Water Conservation District (RCFCWCD) and the Coachella Valley Water District (CVWD). Both Districts are empowered with broad management functions, including development review and conditioning, flood control planning, construction operation and maintenance of drainage improvements for regional flood control facilities, as well as watershed and watercourse protection related to those facilities. Portions of CV Link that are subject to flooding from 100-year storms have been mapped by the Federal Emergency Management Agency (FEMA).

A wide range of resources were reviewed as a part of this analysis to assess the existing regional and local hydrological conditions in potentially affected drainages and to determine whether and to what extent the project could adversely affect water quality. Studies prepared for the CV Link project include a hydrology and hydraulic report[4], a hydraulic impact analysis summary[5], summary floodplain encroachment report[6], CV Link Stormwater Design Report[7] and other analyses. A variety of channel and facility analyses conducted by the CVWD and RCFCWCD have also been used to analyze the potential impacts of the CV Link project on flood control facilities and water quality. A "Water Quality Assessment Report" (WQAR) was also prepared for CV Link to ensure that the project is compliant with the National Pollution Discharge Elimination System (NDPES) permit for this area.

4.9.2. Thresholds of Significance

Standards and threshold criteria have been drawn from a variety of sources, including Appendix G: Environmental Checklist Form of the California Environmental Quality Act (CEQA) Guidelines, the City and County General Plans, and other sources. In order to adequately address the hydrological and water quality impacts that may arise from the development of the CV Link Proposed Project, the following thresholds were considered. Potential project impacts to water resources and water quality are also addressed in this section of this EIR. Potentially significant impacts could occur if the proposed development would:

a) Violate any water quality standards or waste water discharge requirements.

1 "Water Quality September Report for CV Link", prepared by Stantec Consulting, Inc. 2016.
2 "Summary Floodplain Encroachment Report for CV Link Project", prepared by Stantec Consulting, Inc. 2016.
3 "Location Hydraulic Study for CV Link", prepared by Stantec Consulting, Inc. 2016.
4 "CV Link Hydrology and Hydraulic Report", prepared by Stantec Consulting Services, Inc. July 2016.
5 "CV Link – Hydraulic Impact Analysis Summary", prepared by Stantec Consulting Services, Inc. March 2016.
6 " Summary Floodplain Encroachment Report – CV Link Project", prepared by Stantec Consulting Services, Inc. July 2016.
7 "CV Link Stormwater Design Report, prepared by Stantec Consulting Services, Inc. August 2016.

b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted).

c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or offsite.

d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate of surface runoff in a manner which would result in flooding on- or off-site.

e) Create or contribute runoff water, which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff.

f) Otherwise substantially degrade water quality.

g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazards Boundary or Flood Insurance Rate Map or other flood hazard delineation map.

h) Place within a 100-year flood hazard area structures which would impede or redirect flood flow.

i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam.

j) Inundation by seiche, tsunami, or mud flow.

4.9.3. Regulatory Framework

The CV Link project may have a nexus with a variety of regulatory programs, including those managed by federal and state agencies, RCFCWCD and CVWD, as well as the cities of Palm Springs, Cathedral City, Rancho Mirage, Palm Desert, Indian Wells, La Quinta, Indio, and Coachella. The project's regulatory environment associated with flooding, hydrology, and water quality is briefly described below.

Federal

Clean Water Act (CWA)

The federal Clean Water Act, enacted by Congress in 1972, as amended, is the primary federal law regulating water quality in the United States and forms the basis for several state and local laws and regulations throughout the country. The CWA establishes the basic structure for regulating discharges of pollutants into the waters of the United States. The CWA gives the U.S. Environmental Protection Agency (USEPA) the authority to implement federal pollution control programs, such as setting water quality standards for contaminants in surface water, establishing wastewater and effluent discharge limits for various industry contaminants in surface water, establishing wastewater and effluent discharge limits for various industry categories, and imposing requirements for controlling nonpoint-source pollution. At the federal level, the Clean Water Act is administered by the USEPA and U.S. Army Corps of Engineers (ACOE). At the state and regional levels in California, the act is administered and enforced by the State Water Resources Control Board (SWRCB) and the nine Regional Water Quality Control Boards (RWQCB). The Coachella Valley is within the Colorado River Basin RWQCB (Region 7).

Under Section 401 of the Clean Water Act, the RWQCB has regulatory authority over actions in waters of the United States and/or the State of California through the issuance of water quality certifications, which are issued in conjunction with any federal permit (e.g., permits issued by the ACOE under Section 404 of the Clean Water Act, described below). Section 401 of the Clean Water Act provides the SWRCB and the RWQCBs with the regulatory authority to waive, certify, or deny any proposed activity that could result in a discharge to surface waters of the State. To waive or certify an activity, these agencies must find that the proposed discharge would comply with State water quality standards, including those protecting beneficial uses and water quality. If these agencies deny the proposed activity, the federal permit cannot be issued. This water quality certification is generally required for projects involving the discharge of dredge or fill material to wetlands or other bodies. Jurisdictional streambeds and associated riparian habitat are also regulated by the California Department of Fish and Wildlife (CDFW) under Section 1602 of the State Fish and Game Code (see below).

Under Section 404 of the Clean Water Act, proposed discharges of dredged or fill material into waters of the United States require ACOE authorization. Waters of the United States generally include tidal waters, lakes, ponds, rivers, streams (including intermittent streams), and wetlands (with the exception of isolated wetlands). The ACOE identifies wetlands using a multi-parameter approach, which requires positive wetland indicators in three distinct environmental categories: hydrology, soils, and vegetation. According to the Corps of Engineers Federal Wetlands Delineation Manual, except in certain situations, all three parameters must be satisfied for an area to be considered a jurisdictional wetland. The Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (ACOE 2008) is also used when conducting jurisdictional wetland determinations in areas identified within the boundaries of the arid west. The Coachella Valley falls within the Arid West Region. A CWA Section 404 permit application has been filed with the US Army Corps of Engineers for CV Link-related dredge and fill activities that will take place within "waters of the US". Please see Section 4.4: Biological Resources of this EIR for a breakdown of temporary and permanent impacts to waters of the United States and of the State.

The federal CWA prohibits discharges of stormwater from construction projects unless the discharge is in compliance with an NPDES permit. The SWRCB is the water discharge permitting authority in California, and adopted an NPDES General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities (Construction General Permit) (Order No. 2009-0009, as amended by Order No. 2010-0014). The Order applies to construction sites that include one or more acre of soil disturbance. Construction activities include clearing, grading, grubbing, excavation, stockpiling, and reconstruction of existing facilities involving removal or replacement. When applicable, the Construction General Permit requires that the landowner and/or contractor file permit registration documents prior to commencing construction and then pay a fee annually through the duration of construction. These documents include a notice of intent, risk assessment, site map, stormwater pollution prevention plan (SWPPP), and signed certification statement. The SWPPP must include measures to ensure that: all pollutants and their sources are controlled; non-stormwater discharges are identified and eliminated, controlled, or treated; site Best Management Practices (BMPs) are effective and result in the reduction or elimination of pollutants in stormwater discharges and authorized non-stormwater discharges; and BMPs installed to reduce or eliminate pollutants after construction are completed and maintained. The Construction General Permit specifies minimum BMP requirements for stormwater control based on the risk level of the site. The Permit also specifies minimum qualifications for a qualified SWPPP developer and qualified SWPPP practitioner.

National Pollutant Discharge Elimination System (NPDES) Regulations

In 1987, amendments to the Clean Water Act added Section 402, which established a framework to protect water quality by regulating industrial, municipal, and construction-related sources of pollutant discharges to waters. In California, the NPDES program is administered by the SWRCB through the RWQCBs and requires municipalities to obtain permits that outline programs and activities to control wastewater and stormwater pollution. The NPDES program provides two levels of control for the protection of water quality: technology-based limits and water quality-based limits. Technology-based limits are based on the ability of dischargers to

treat the water, while water quality-based limits are required if technology-based limits are not sufficient to protect the water body. The water quality-based effluent limitations required to meet water quality criteria in the receiving water are based on the National Toxics Rule, the California Toxics Rule, and the Basin Plan (see below under Porter-Cologne Water Quality Control Act).

Executive Order 11988 – Floodplain Management

Executive Order (EO) 11988 directs federal agencies to avoid, to the extent practicable and feasible, short- and long-term adverse impacts associated with the occupancy and modification of floodplains, and to avoid direct and indirect support of floodplain development wherever there is a practicable alternative. Further, EO 11988 requires the prevention of uneconomic, hazardous or incompatible use of floodplains; protection and preservation of the natural and beneficial floodplain values; and consistency with the standards and criteria of the NFIP. The basic tools for regulating construction in potentially hazardous floodplain areas are local zoning techniques and FEMA floodplain mapping. The Federal Insurance Rate Map (FIRM) is the official map created and distributed by FEMA and NFIP that delineates Special Flood Hazard Areas (SFHAs) – areas that are subject to inundation by a base flood – for every county and community that participates in the NFIP. FIRMs contain flood risk information based on historic, meteorological, hydrologic, and hydraulic data, as well as open space conditions, flood control works, and development. For projects that would, upon construction, affect the hydrologic or hydraulic characteristic of a flooding source, and thus, result in the modification of the existing regulatory floodway, effective Base Flood Elevations (BFEs), or SFHA, a conditional letter of map revision (CLOMR) would need to be prepared and approved by Caltrans, Riverside County and FEMA prior to any work occurring. No need for a CLOMR in association with the project is anticipated.

State

California Fish and Game Code 1602

California Fish and Game Code 1602 require that the California Department of Fish and Wildlife (CDFW) be notified prior to commencing any activity that may substantially divert or obstruct the natural flow of any river, stream or lake; substantially change or use any material from the bed, channel or bank of any river, stream, or lake; or deposit debris, waste or other materials that could pass into any river, stream or lake. A 1602 Streambed Alteration Agreement application has been filed with and is being processed by the CDFW. CV Link would include encroachments into waters of the State and this application evaluates temporary and permanent impacts to State waters, and is meant to ensure that impacts to channel resources are avoided and/or minimized.

Porter-Cologne Water Quality Control Act

California's Porter-Cologne Act, enacted in 1969, provides the legal basis for water quality regulation within California. This Act requires a "Report of Waste Discharge" for any discharge of waste (liquid, solid, or gaseous) to land or surface waters that may impair beneficial uses for surface and/or groundwater of the State. It predates the CWA and regulates discharges to waters of the State. Waters of the State are defined more broadly than Waters of the U.S., and also include groundwater and surface waters not considered waters of the U.S. Additionally, it prohibits discharges of "waste" as defined and this definition is broader than the CWA definition of "pollutant". Discharges under the Porter-Cologne Act are permitted by Waste Discharge Requirements (WDRs) and may be required even when the discharge is already permitted or exempt under the CWA.

The State Water Resources Control Board (SWRCB) and RWQCBs are responsible for establishing the water quality standards (objectives and beneficial uses) required by the CWA, and regulating discharges to ensure compliance with the water quality standards. Details regarding water quality standards in a project area are contained in the applicable RWQCB Basin Plan. In California, Regional Boards designate beneficial uses for all water body segments in their jurisdictions, and then set criteria necessary to protect these uses. Consequently, the water quality standards developed for particular water segments are based on the designated use and vary depending on such use. In addition, the SWRCB identifies waters failing to meet standards for specific pollutants, which are then state-listed in accordance with CWA Section 303(d). If a state determines that waters are impaired

for one or more constituents and the standards cannot be met through point source or non-source point controls (NPDES permits or Waste Discharge Requirements), the CWA requires the establishment of Total Maximum Daily Loads (TMDLs). TMDLs specify allowable pollutant loads from all sources (point, non-point, and natural) for a given watershed.

State Water Resources Control Board and Regional Water Quality Control Boards

The SWRCB adjudicates water rights, sets water pollution control policy, and issues water board orders on matters of statewide application, and oversee water quality functions throughout the state by approving Basin Plans, TMDLs, and NPDES permits. RWCQBs are responsible for protecting beneficial uses of water resources using planning, permitting, and enforcement authorities to meet this responsibility.

Municipal Separate Storm Sewer Systems (MS4)[8]

Also applicable to the CV Link project is Section 402(p) of the CWA, which requires the issuance of NPDES permits for five categories of storm water dischargers, including MS4s. The U.S. EPA defines an MS4 as "any conveyance or system of conveyances (roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, human-made channels, and storm drains) owned or operated by a state, city, town, county, or other public body having jurisdiction over storm water, that are designed or used for collecting or conveying storm water." The SWRCB has identified the Department as an owner/operator of an MS4 pursuant to federal regulations. The Department's MS4 permit covers all Department rights-of-way, properties, facilities, and activities in the state. The SWRCB or the RWQCB issues NPDES permits for five years, and permit requirements remain active until a new permit has been adopted. The Department's MS4 Permit, currently under revision, contains three basic requirements:

1. The Department must comply with the requirements of the Construction General Permit (CGP, see below)

2. The Department must implement a year-round program in all parts of the State to effectively control storm water and non-storm water discharges, and

3. The Department storm water discharges must meet water quality standards through implementation of permanent and temporary (construction) Best Management Practices (BMPs) to the Maximum Extent Practicable, and other measures as the SWRCB determines to be necessary to meet the water quality standards.

Caltrans developed the Statewide Storm Water Management Plan (SWMP) to help address storm water pollution controls related to highway planning, design, construction, and maintenance activities. The SWMP describes the minimum procedures and practices the Department uses to reduce pollutants in storm water and non-storm water discharges. It outlines procedures and responsibilities for protecting water quality, including the selection and implementation of BMPs.

Section 401 Permitting

Under Section 401 of the CWA, any project requiring a federal license or permit that may result in a discharge to a water of the United States must obtain a 401 Certification, which certifies that the project will be in compliance with State water quality standards. The most common federal permit triggering 401 Certification is a CWA Section 404 permit, issued by ACOE. The 401 permit certifications are obtained from the appropriate RWQCB, dependent on the project location, and are required before ACOE issues a 404 permit.

In some cases the RWQCB may have specific concerns with discharges associated with a project. As a result, the RWQCB may issue a set of requirements known as Waste Discharge Requirements (WDRs) under the State Water Code (Porter-Cologne Act) that define activities, such as the inclusion of specific features, effluent limitations, monitoring, and plan submittals that are to be implemented for protecting or benefiting water quality.

[8] Draft Water Quality Assessment Report", Prepared by Stantec Consulting Services, Inc. September 2016.

WDRs can be issued to address both permanent and temporary discharges of a project. A CWA 401 certification application has been prepared and is being processed by the regional Water Quality Control Board. A copy of this application packet has also been submitted to the US EPA, which is reviewing this application on behalf of Native American Tribes.

Regional and Local

Colorado River Basin Regional Water Quality Control Board

The SWRCB carries out its water quality protection authority through the adoption of Basin Plans. These plans establish water quality standards for particular bodies of water. California water quality standards are composed of three parts: the designation of beneficial uses of water, water quality objectives to protect those uses, and implementation programs designed to achieve and maintain compliance with water quality objectives. The RWQCB, Colorado River Basin Region, is responsible for the Basin Plan for project due to its location. The RWQCB implements management plans to modify and adopt standards under provisions set forth in Section 303(c) of the CWQ and the California Water Code (Division 7, Section 13240).

The SWRCB adopted the Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California in 2000. This policy provides implementation measures for criteria contained in the California Toxics Rule, promulgated in May 2000 by USEPA. When combined with the beneficial use designations in the Basin Plan, these documents establish statewide water quality standards for toxic constituents in surface water.

Colorado River Basin Plan

The Basin Plan for the Colorado River Basin (RWQCD Region 7), amended in March 2014, establishes water quality objectives for constituents that could potentially cause an adverse effect or impact on the beneficial uses of water. Specifically, Basin Plans are designed to accomplish the following:

1. Designate beneficial uses for surface and ground waters.

2. Set the narrative and numerical objectives that must be attained or maintained to protect the designated beneficial uses and conform to California's anti-degradation policy.

3. Describe implementation programs to protect the beneficial uses of all water in the region.

4. Describe surveillance and monitoring activities to evaluate the effectiveness of the Basin Plans.

Basin Plans incorporate by reference all applicable SWRCB and RWQCB plans and policies. In addition to Basin Plan requirements, the RWQCB has water quality control authority under Section 401 of the CWA if a city were to apply for a nationwide Permit under Section 404 of the CWA.

Total Maximum Daily Load

Total Maximum Daily Load (TMDL) refers to the amount of a specific pollutant a river, stream, or lake can assimilate and still meet federal water quality standards as provided in the CWA. TMDL accounts for all sources of pollution, including point sources, non-point sources, and natural background sources. Section 303(d) requires that regulatory agencies determine TMDLs for all water bodies that do not meet water quality standards. The Section 303(d) list of impaired water bodies provides a prioritization and schedule for development of TMDLS for the state. The SWRCB, in compliance with the Section 303(d) of the CWA (33 U.S. Code [USC] Section 1313[d], prepared, and USEPA approved, a 2010 list of impaired water bodies in California. The list includes a priority schedule for the development of TMDLs for each contaminant or "stressor" impacting the water body. The Proposed Project area is adjacent to the Whitewater Floodplain, Tahquitz Channel, Cathedral Canyon Channels East and West, and Whitewater River Channel/Coachella Valley Stormwater Channel.

The Coachella Valley Stormwater Channel is listed as being impaired[9] and on the TMDL required list for DDT (Dichlorodiphenyltrichloroethane), Dieldrin, Nitrogen, ammonia (Total Ammonia), PCBs (Polychlorinated biphenyls), Toxaphene, Toxicity and Indicator Bacteria under Section 303(d) of the Clean Water Act (CWA). Chino Creek and the Whitewater Floodplain, Tahquitz Channel, Palm Canyon Channel, Whitewater Stormwater Channel, and East and West Cathedral Canyon Channels are not included in the 303(d) list.

Riverside County Ordinance No. 458

Riverside County adopted Ordinance No. 458 in 1979 to protect the public health, safety and welfare and minimize public and private costs caused by flooding in unincorporated areas as a requirement of its participation in the National Flood Insurance Program of FEMA. Ordinance No. 458 specifically regulates development in Special Flood Hazard Areas identified on maps prepared by FEMA, the State of California, or the County that are based on the 1% potential for flooding, also referred to as the 100-year flood. The ordinance is codified in the Riverside County Code of Ordinances as Title 15, Chapter 15.80 Regulating Flood Hazard Areas and Implementing the National Flood Insurance Program.

Riverside County NPDES Permit

Riverside County has been issued NPDES Permit No. CAS617002 for stormwater runoff by the Colorado River Region RWQCB. Riverside County and the Riverside County Flood Control and Water Conservation District (RCFCWCD) are principal permittees, and the CVWD and 10 cities are listed as co-permittees.

CVWD Ordinance No. 1234 (as amended)

As noted above, CVWD is the designated flood control agency within its service area. CVWD Ordinance No. 1234 provides conditions of approval for development in flood hazard areas within the CVWD stormwater service area. Ordinance No. 1234 provides design standards to minimize flood damage, and indicates that any flood protection facilities not designed and constructed to these standards will not normally be owned, operated or maintained by CVWD. CVWD has adopted the Development Design Manual (2013) that sets forth the standards that CVWD has set for stormwater facilities.

CVWD Ordinance No. 1302 (as amended)

CVWD mandates efficiency in newly installed landscape irrigation systems via Ordinance No. 1302 (Valley-wide Water Efficient Landscaping Model Ordinance). This ordinance establishes effective water-efficient landscape requirements for newly installed and rehabilitated landscapes. The ordinance also implements the requirements of the State of California Water Conservation in Landscaping Act. Most cities in the Coachella Valley have adopted the CVWD ordinance or a version thereof; some have adopted more stringent or completely different ordinances. Riverside County has adopted its own ordinance that is consistent with the State model ordinance, but less stringent than CVWD's. CVWD's ordinance is significantly more stringent than the State model ordinance.

4.9.4. Existing Conditions

The following discussion describes the existing regional, local and planning area flooding and hydrological conditions that may affect the CV Link planning area and development proposed there.

Geographic and Climatic Conditions

The surrounding mountains isolate the Valley from moist and cool maritime air masses from the west, creating a dry subtropical desert climate. Summer daytime temperatures can occasionally exceed 125°F and winter temperatures occasionally fall below freezing. The Valley is part of the West Basin of the Colorado River Watershed and drains the Salton Trough to its terminal lake, the Salton Sea, which straddles the Riverside and Imperial County lines at 228± feet below sea level. Mean annual rainfall on the Valley floor is between 2 and 6

[9] Water Management Plan, prepared by the Coachella Valley Water District. 2010.

inches[10], and while some years record no measurable rainfall, other years may be subjected to flash flood and other substantial rain events. Historic and prehistoric flooding has played a key role in shaping the Valley's current hydrological setting.

Regional Hydrology

This section of the EIR describes existing conditions with regard to hydrology and water quality within the CV Link planning area, and analyzes the potential impacts of the Proposed Project on these resources. The Coachella Valley can be characterized as a hot and dry subtropical desert bounded by slopes of the San Jacinto, Santa Rosa, San Bernardino and Little San Bernardino Mountains. Mean annual rainfall is very low (2 to 6 inches) on the desert floor and in some years no measurable rainfall has been reported within the CV Link planning area. Most of the rainfall occurs during the cooler months of November through March, but occasional high-intensity thunderstorms and tropical storms occur in late summer and early fall.

Floods that impact the planning area can be attributed to three different types of storm events: (1) general winter storms, combining high-intensity rainfall and rapid melting of the mountain snowpack; (2) tropical storms out of the southern Pacific Ocean; and (3) summer thunderstorms. Summer storms pose a greater threat of flooding to the Valley than winter storms because of their high intensity, short duration rainfall with high volumes of runoff. Major historic and benchmark storm events have generated 6.45 inches of rain in a period of 6 hours.

The combined 50-mile length of the Whitewater River Stormwater Channel/Coachella Valley Stormwater Channel (WWRSC/CVSC) is the largest drainage feature within the project area. The Whitewater River is a natural watercourse that originates from the southerly and easterly slopes of the San Bernardino Mountains, at the western portion of the Coachella Valley. Several of its tributaries originate from the easterly slopes of the San Jacinto and Santa Rosa Mountains. The Whitewater River eventually discharges to the Salton Sea through the man-made extension of the stormwater channel system known as the CVSC and extends 22 miles southeast from the City of La Quinta, through the cities of Indio and Coachella, and the agricultural communities of Thermal and Mecca down to the north end of the Salton Sea. The drainage area of the WWRSC/CVSC is approximately 1,500 square miles at the Salton Sea.

Benchmark storms and historic data are used by the US Army Corps of Engineers and other flood control agencies to gauge the potential for future flooding. In the Coachella Valley, these include two distinct storm events that occurred in 1939 and 1979. The 1939 storm event occurred on September 24, was centered over Indio and originated off the west coast of Mexico. This storm generated 6.45 inches of rain in a 6-hour period. The 1979 storm event was due to the Tropical Storm Kathleen, which impacted the area from September 9 through 11 and generated 6.81 inches of rain in the low-lying areas of the central Valley, and as much as 14 inches in the surrounding mountains. The projected 100-year 24-hour storm event in the planning area is 5.42 inches of rain over a 24-hour period (NOAA Atlas 14).[11]

In the upper Whitewater Stormwater Channel 100-year storm flows are calculated to be approximately 47,000 cubic feet per second (cfs) in the vicinity of the confluence Tahquitz Creek and the Whitewater Channel, to about 43,000 cfs east of Point Happy in La Quinta. The Standard Project Flood (SPF) flow at these locations range from 85,000 cfs on the west to 83,000 cfs at Point Happy. East of Point Happy, this drainage is called the Coachella Valley Stormwater Channel and is projected to carry a 100-year flow of approximately 43,000 cfs and an SPF flow of about 82,000 in the eastern portion of the CV Link planning area.[12]

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10 "Mean Annual Isohyets based on combined data of 1879-79 season to 1953-54 (from 1961 U.S. A.C.E. Report) and 1935-60 (From 1973-74 Riverside CO F.C.D. Report)"

11 NOAA's National Weather Service Hydrometeorological Design Studies Center; accessed 07.08.2016.

12 Whitewater River/Coachella Valley Stormwater Channel Hydraulic Analysis (Ramon Road to Jefferson Street Bridges), prepared by Northwest Hydraulic Consultants and CVWD. September 2014.

Throughout its length the Whitewater/Coachella Valley Stormwater Channel has been excavated below adjacent ground and is bounded by earthen embankments or levees. Most of the channel slopes are lined with concrete slope protection but the channel bed is only concrete-lined at drop structures and low water crossings. Golf courses occupy about 7 miles of the bottom of the channel; the remaining bed is sandy, with varying amounts of natural vegetation.

The channel generally has a trapezoidal cross section. The top width reduces from about 1,100 feet upstream of Ramon Road to 700 feet at Dinah Shore Drive, to 500-550 ft at Cathedral Canyon Drive, then to 300-400 feet at Country Club Drive. Downstream of Bob Hope Drive, the channel top width generally remains between 400 and 500 feet. The channel depth is typically about 10-20 feet between Ramon Road and Paxton Drive and 20-30 ft downstream of Paxton Drive. The average bed slope reduces from about 0.004-0.005 in the upper part of the study reach to 0.002-0.003 in the lower reaches. The channel bed material is predominantly sand with median sizes of about 0.7 mm at the upstream end and median sizes of about 0.2 mm downstream of Bob Hope Drive. In-channel vegetation includes grass (within golf course areas) and brush.[13]

CV Link Segments on Native American Lands

Portions of the CV Link alignments would cross Native American Tribal and allottee lands of the Agua Caliente, Twenty-nine Palms and Cabazon Tribes. In these areas where CV Link encroaches into "waters of the US", US Environmental Protection Agency (USEPA) will be responsible for implementation the requirement of Section 401 of the Clean Water Act and will implement EPAs General Construction Permit and EPA's NPDES Permit No. CAR10001 for construction activities.

Main Areas of Flood Deficiency Along CV Link

Most of the CV Link segments will be located atop drainage channel maintenance roads. As noted below, portions of the channel CV Link follows are currently inadequate to meet the 100-year design standard, which includes the provision of four feet of freeboard (in a "levee" condition). CVWD and RCFCWCD have evaluated these areas of levee or embankment elevation deficiencies and are developing plans to remedy these issue areas. CVWD and RCFCWCD will be raising channel embankment and levee elevations at various locations along the CV Link Route.[14,15]

Conditions and Improvements

At most channel locations coterminous with CV Link, the channel freeboard meets FEMA and flood control agency criteria. At a few locations within the Whitewater and Coachella Valley Stormwater Channels, existing channel conditions do not appear to meet 100-year standards, including the provision of adequate freeboard. These channel locations include those in the vicinity of Dinah Shore Drive, Ramon Road, Cathedral Canyon Drive, Date Palm Drive, Buddy Rogers Avenue, Frank Sinatra Drive, Butler-Abrams Trail, Tennis Club Drive, Paxton Drive, Cook Street, Fred Waring Drive, Bob Hope Drive, Monterey Avenue, Portola Avenue, Miles Avenue, Washington Street, Adam Street, Dune Palms Road, and Indio Boulevard. CV Link issues associated with these existing deficiencies are addressed in the CV Link Stormwater Design Report prepared for CVWD.[16]

Water Resources

The CV Link planning area is located within the western portion of the Colorado River Watershed, which locally drains into the Salton Trough, a terminal lake that straddles the Riverside/Imperial County line. The climate of

13 Ibid.
14 Ibid.
15 Whitewater River/Coachella Valley Stormwater Channel Hydraulic Analysis (Ramon Road to Jefferson Street Bridges), prepared by Northwest Hydraulic Consultants and CVWD. September 2014.
16 "CV Link Stormwater Design Report, prepared by Stantec Consulting Services, Inc. August 2016.

this low desert locale is characteristically dry, with an annual average rainfall of less than 4 inches on the Valley floor. Despite the limited surface water supplies the Coachella Valley is underlain by a substantial subsurface groundwater basin, which has accumulated runoff over millions of years.

The Whitewater River Groundwater Basin generally extends from the Whitewater River in the northwest to the Salton Sea in the southeast. The aquifer is naturally subdivided by fault barriers into subbasins, which are further divided into subareas. Desert Water Agency (DWA) and the Coachella Valley Water District (CVWD) jointly utilize and manage a replenishment program for the local groundwater basin, the Upper Whitewater River Subbasin. Estimates of groundwater storage in the Upper Whitewater River Subbasin range from 10.5 to 14.2 million acre-feet. In total, the subbasins underlying the Coachella Valley contain approximately 39.2 million acre-feet of water in storage, of which about 28.8 million are within the Whitewater River subbasin. Natural recharge from precipitation and mountain runoff, supplemented with artificial recharge from imported Colorado River and State Water Project water, and recycled water from wastewater treatment plants also provide water to the Coachella Valley.

During the twentieth century the Coachella Valley experienced a rapid depletion of its groundwater in storage. CVWD data shows that significant increases in total water demand in the Coachella Water Valley occurred during over the decades from 92,400 acre feet/year (AFY) in 1936 to 376,000 AFY in 1999. The increase in water demand reflects both municipal water and agricultural irrigation. This is consistent with the growth of two primary economic activities in the Coachella Valley: agriculture and tourism. Agriculture began to develop as a viable industry in the Coachella Valley in the early 1900's, especially in the eastern Valley. More recently, the region has emerged as a leading destination resort area, characterized by lushly landscaped golf courses and residential communities. Over the past several years, groundwater use has decreased through the implementation of extensive conservation measures and source substitution projects.

Water Quality and Water Quality Standards

Water for CV Link landscaping and potable use will come from the local domestic water purveyors, including DWA, CVWD, Indio Water Authority and Coachella Water Department. The providers supply their customers from wells extracting groundwater.

All providers comply with state (California Department of Public Health) and federal (U.S. Environmental Protection Agency) drinking water quality standards. Each year, domestic water providers monitor for more than 100 regulated and unregulated chemicals that are not detected during regular, ongoing monitoring. The domestic water supply meets current state and federal standards; however, drinking water supplied to some service areas does contain low levels of naturally occurring hexavalent chromium (Cr6), arsenic, radon, and nitrate.[17]

Impaired Water Bodies: The Coachella Valley Stormwater Channel is listed as being impaired for Toxaphene, DDT (Dichlorodiphenyltrichloroethane), Nitrogen, Dieldrin, ammonia (Total Ammonia), PCBs (Polychlorinated biphenyls), Toxicity and Indicator Bacteria under Section 303(d) of the Clean Water Act (CWA). Total Maximum Daily Loads (TMDLs) for those pollutants listed above occur in the Coachella Valley Stormwater Channel.

Surface Water Quality Objectives/Standards and Beneficial Uses

Being located within the Colorado River Basin Region, the Coachella Valley's surface water quality objectives include meeting or exceeding standards for the appearance or aesthetic quality of surface waters, any tainting substances, toxicity, temperature, pH, dissolved oxygen, suspended and settleable solids, total dissolved solids, bacteria, biostimulatory substances, sediment, radioactivity, chemical constituents and pesticide wastes. Also please see Section 3.3: Surface Water Quality Objectives/standards and Beneficial Uses from the project water quality report[18] in Appendix N of this EIR.

[17] Coachella Valley Water District (2013-2014 Annual Review); http://www.cvwd.org/ArchiveCenter/ViewFile/Item/59; Accessed 8.30.2016.

[18] CV Link Water Quality Assessment Report, prepared by Stantec. September 2016.

4.9.5. Project Impacts

CV Link Proposed Project

A hallmark of the CV Link Route and design is the combining of CV Link facilities with the rarely used but generally accessible embankments and levees of the Coachella Valley's major drainages. Public access to these embankments and levees has generally been restricted; however, as the demand has grown for multi-modal travel and recreational pedestrian and bicycle paths, many flood control districts have partnered with other agencies and organizations to make multi-modal access to these facilities possible.

CV Link will optimize the use of the maintenance and service roads on both banks of these channels, from which it interconnects with other community multi-modal facilities and destinations. In addition to these adjacent but out of channel Link improvements, there are a few locations where the Link alignment runs along and elsewhere crosses the channel bottom. The following provides a description of Link facilities that parallel, enter and/or cross drainages. Issues of compatibility are also addressed in Section 4.11: Land Use and Planning.

CEQA Impact Analysis

This hydrology and water quality/resources analysis focuses on potential impacts to surface water hydrology and water quality/resources from both construction and operation activities of CV Link. The surface water hydrology and water quality/resources analysis evaluates whether CV Link construction or operation will have the potential to degrade water quality, increase erosion, modify drainage patterns, or exceed capacities of existing surface drainages. These potential impacts are analyzed in accordance with the significance criteria presented above.

a) Will the Project violate any water quality standards or waste water discharge requirements?

As noted above, portions of the Coachella Valley Stormwater Channel are listed as impaired waters for pathogens and the agro-chemical Toxaphrene. The pathogen impairment extends from about Dillon Road to the Salton Sea along which the channel has perennial flows fed by municipal wastewater and agricultural water discharge into the channel. The Toxaphrene impairment occurs south of the project planning area, extending from about Lincoln Street to the Salton Sea.[19]

CV Link Construction Impacts

CV Link receiving waters include the Chino Canyon Creek and the Whitewater Floodplain, Tahquitz Channel, Palm Canyon Channel, Cathedral Canyon Channel West and East, San Pasqual Channel, Deep Canyon Channel, Whitewater and Coachella Valley Stormwater Channels, and ultimately the Salton Sea. A variety of potential water contaminants could be emitted during project construction. These include sediments, trash and debris, oil and grease, fuels, lubricants, concrete waste, paints, sanitary waste and miscellaneous chemicals. Disturbed soils, as well as trash and debris, can be conveyed to receiving waters by wind and water erosion and increase suspended solids and total dissolved solids in these waters. Liquid fuels and lubricants can be discharged during operation or servicing, if not properly maintained and managed. Other construction wastes, including concrete, coating containers and other construction materials must be properly managed to avoid soils or surface water contamination.

Construction activities such as grading and excavation could expose soil and increase the chances of soil erosion and sediments traveling downstream. Sediments in receiving waters can increase turbidity, overwhelm bottom dwelling organisms and suppress aquatic vegetation growth. Concrete and/or asphalt applications could be a source of fine sediment, metals and chemicals that could change the pH levels in water bodies. Oil, grease, fuels and lubricants leaking from construction equipment could affect receiving waters during construction activities.

[19] Op. cit. WQAR. 2016

Temporary or portable sanitary facilities provided for construction workers could be a source of sanitary waste that could affect the human use environment if not properly managed. The use and maintenance of these facilities, however, is regulated, and any contractor engaged to provide the service will be subject to and implement these regulations. Construction BMPs referenced above and required by Mitigation Measures HYD-3 and 4, HYD-6 through 9, below, will effectively reduce or avoid the discharge of any pollutants of concern that might enter nearby receiving waters by establishing limits of construction and the use of a variety of standard practices, including silt berms and fences, earth dikes, drainage swales, sediment traps, check dams, reinforced soil retaining systems, temporary sediment basins and flow diversion. In accordance with the Colorado River Basin Region NPDES Permit (NPDES No. CAS617002), the pathway is not a Priority Development project. Therefore, no post-construction Best Management Practices (BMPs) are required. Therefore, with the application of mitigation set forth below, including HYD-3, 4, 6, 7, 8 and 9, the project will not exceed wastewater discharge requirements, and impacts to water quality will be less than significant.

CV Link Operational Impacts

CV Link operational impacts that could affect water quality include trash and debris from humans, dog waste, nutrients and other chemicals from landscaped areas, and bacteria from pavement runoff are pollutants of concern for receiving waters of the Proposed Project. However, the CV Link Master Plan calls for the provision of trash containers, dog waste receptacles, and regular maintenance activities, which are intended to minimize or eliminate the impacts from these pollutants. Biological resources are dependent on aquatic resources downstream of the project site since the receiving waters have beneficial recreation uses. A wide range of project design elements, including inert and non-toxic paving and coating materials, trash and waste receptacles, restrooms, signage and regular maintenance, which are set forth in the CV Link Master Plan, will ensure that the project does not violate any water quality standards or waste water discharge requirements and will therefore have a less than significant impact on water quality.

b) Will the Project substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?

The CV Link project will generate demand for water resources for dust control, hydro-consolidation of soils, haul truck cleaning, and related construction activities, and to irrigate Link landscape areas and for periodic cleaning of access points, rest areas and other Link facilities. Potable water will also be provided via water fountains located along the Route. Water demand associated with project construction was calculated based on the extent and type of development. It is assumed, based on analysis of comparable construction projects, that CV Link construction will generate a demand of up to 86.4 acre-feet over the course of construction.

Landscape water budgets have been prepared by the project landscape architect for Link access points and buffer areas. Based on this analysis, Link landscape buffer areas will demand up to 446,526 or about 1.37 acre-feet per year, while access point landscaping would demand up to 3,746,488 gallons or about 11.50 acre-feet annually. Total landscape water demand is approximately 4,193,014 gallons or about 12.86 acre-feet per year.

While potable water drinking fountains and eight restrooms are also planned along the CV Link Route, the water demand these may generate is difficult to calculate. For purposes of this analysis, it is conservatively assumed that peak user counts on any Link segment is 2,500 per day, which is higher than the overall average and therefore provides a conservative basis for analysis. Of the 2,500 maximum daily users passing a restroom, it is assumed that approximately 25% (625) of Link users passing a restroom will use these facilities. The use of ultra-low flush toilets that use 1.28 gallons per flush[20] and drinking fountain demand of 0.32 gallons per user is also assumed.

[20] Alliance for Water Efficiency. 2016.

Maximum water supplied to the rest stops for toilet and drinking water is estimated to be approximately 4.48 acre feet per year. Therefore, operational water demand (landscaping, restrooms, and drinking fountains) associated with the CV Link project will be approximately 17.34 acre-feet per year.

Placing CV Link operational water demand in context helps to understand the relative significance of this demand. For 2015, the Coachella Valley Integrated Water Management Plan projects valley-wide water demand of 689,753 acre-feet. If water agency demand is limited to just those purveyors within the project planning area, the projected 2015 demand was estimated to be 667,253 acre-feet.[21] CV Link's modest demand of 17.34 acre-feet per year constitutes a 0.0024% increase in demand. Therefore, the water demand associated with both construction and operation of CV Link will be very limited and any impacts to groundwater will be less than significant.

c) *Will the Project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner, which would result in substantial erosion or siltation on- or offsite?*

d) *Will the Project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate of surface runoff in a manner, which would result in flooding on- or off-site?*

CV Link Effects on Major Drainages

The hydraulic analysis conducted for CV Link was performed using Army Corps of Engineers (ACOE) Hydraulic Engineering Center River Analysis System (HEC-RAS), which allows one-dimensional steady and unsteady flow river hydraulics to calculate 100-year flood risk. It uses channel cross-section data, a given flow rate, and boundary conditions to compute flow depths and velocities along the analysis reach. The analysis was modeled as a subcritical channel, and was analyzed for the 100-year storm peak flow for Tahquitz Channel. The Standard Project Flood (SPF) peak flow, which is CVWD's design standard for the Whitewater River Storm Channel, was used for the remaining drainage segments of the alignment.

The hydraulic analyses indicate that all Link segments occurring within the subject channels will have a less than significant impact to the 100-year Water Surface Elevation (WSE) and SPF WSE, except for limited reaches in Tahquitz Channel, and on the WWR Channel at Frank Sinatra Drive and Miles Avenue, which are further discussed below.

The three reaches along Tahquitz Channel affecting the 100-year WSE in this drainage include stations from 175+00 to 174+00, 169+00 to 163+00, and a 24+00 to 122+00. In the first reach (175+00 to 174+00), CV Link improvements would increase the WSE by 0.51 and 0.29 feet, respectively. The WSE would increase by 0.1 and 0.42 feet at the second reach. The third reach is located along upstream of Sunrise Way Bridge, and the project increases the WSE by 0.2 to 0.31 feet at this location. These potential impacts do not compromise channel capacity or required freeboard and are considered to be less than significant.

The two locations along the Whitewater Channel include one located just upstream of the Frank Sinatra Drive channel crossing (Station 1864+82 and Station 1856+07), where the proposed Link path alignment would increase the WSE at these stations by 0.52 and 0.88 feet, respectively. It is noted in the hydrology analysis that a comparable path already exists at this location. Also, Rancho Mirage is designing and has secured funding for an

[21] "Coachella Valley Integrated Water Management Plan", prepared by Coachella Valley Regional Water Management Group. 2010.

all-weather bridge across the channel at Sinatra Drive, which is expected to also include some channel improvements. CV Link construction may nonetheless require some elevation of the south (right) bank of the channel to compensate for the loss of freeboard.

The second Whitewater Channel location where CV Link effects are noteworthy are immediately upstream and downstream of the Miles Avenue Bridge (Station 1420+87, Station 1411+98 and Station 1406+82), where the WSE would increase by 0.30, 0.81 and 0.83 feet, respectively. CV Link construction may nonetheless require some elevation of the south (right) bank of the channel to compensate for the loss of freeboard. It should also be noted, however, that the hydraulic analysis was for the existing condition at Miles Avenue bridge, and CVWD and the US Army Corps of Engineers have approved substantial channel modifications at this location, which will provide a narrower but deeper channel with adequate capacity, including requisite freeboard.[22] These improvements have not yet been constructed but the relocated channel maintenance road would also be the adjusted location for this CV Link alignment if these improvements are constructed. Therefore, the CV Link alignment in this area can be constructed along the modified channel and maintenance road, with comparable or less impact, if the approved channel modifications are carried out.

CV Link Effects on Drainages Facilities and Management

The following further analyses the potential effects of the CV Link alignments on the major drainages that will host this facility. The discussion is generally jurisdictional and is largely from west to east along the CV Link Route.

Whitewater Floodplain Levee

CV Link will access this floodplain levee immediately east of Highway 111/North Palm Canyon Drive in Palm Springs and proceed atop the levee to just east of Sunrise Way (extended), where one of three alignment variations would be located at the bottom of and immediately adjacent to the levee slope protection and in the floodplain. The second alignment at this location would place the Route atop the levee, and the third would be located between the levee and residential rear yards. Hydrological and water quality issues associated with these alignments include encroachment into the floodplain, including into waters of the State and US. Other issues include management of surface runoff and on-going access to the levee slope for regular maintenance and emergency storm response. The hydraulic analysis conducted for this portion of the project within the channel indicates that the facility will not have a significant impact on floodwater elevations in this area because storm flows are across a broad flood plain rather than being channelized flows. Therefore, the essentially at-grade Link path would have no impact on the floodplain's capacity or the effectiveness of the subject levee. However, this in-channel alignment results in potentially significant impacts to waters of the State and US, which can be mitigated by merging the in-channel alignment with the top of levee alignment in the vicinity of the Desert Water Agency well site to the south (APN: 669-590-064), which will greatly reduce the impacts to these jurisdictional waters (see mitigation measure HYD-11, below). The Link alignment atop the levee can be constructed consistent with guidance provided by Riverside County Flood Control, which is responsible for managing and maintaining flood control facilities in this area of the CV Link Route. The design of Link flatwork and vertical elements will conform to County Flood guidance and potential conflicts between CV Link and flood control facilities and management will be less than significant.

Farther east and at the easterly extension of San Rafael Drive, at a point of local stormwater discharge into the Whitewater Floodplain, CV Link provides an overcrossing. Upstream of this location, the three parallel link alignments consolidate into a single alignment, which then crosses the side-channel. Two permanent channel access ramps have been constructed north and south of the local side channel, which can provide temporary or permanent Link connection at this location with an at-grade path at or near the existing slope protection. An at-

[22] "Miles Crossing Flood Control Improvement Plan – Whitewater River", prepared by Dudek, Inc. for the Coachella Valley Water District. 2010.

grade channel bottom crossing at this location will not impede side channel or floodplain flows, or have a significant impact on floodwater elevations in this area. The alignment atop the levee can be constructed consistent with guidance provided by Riverside County Flood Control. The design and location of Link flatwork and vertical elements have been developed in consultation with the two flood control agencies and have resulted in the establishment of minimum equipment clearances needed for these agencies to access and effectively manage and maintain drainage facilities. CVAG shall continue to coordinate with and must secure approvals from RCFCWCD and CVWD before work can proceed on their lands or facilities. With adherence to flood control agency design guidance, potential conflicts between CV Link and flood control facilities and management will be less than significant.

Tahquitz Creek Drainage

One of the two western termini of CV Link in Palm Springs is at the east side of South Palm Canyon Drive, from which the CV Link alignment proceeds east along the north (left) bank of the Tahquitz Creek Channel. This Link segment will be co-terminus with and an expansion of an existing path constructed between and parallel to Riverside Drive and the channel. There will be no impact to channel facilities nor will the project affect local hydrology along this segment because the path will not occur in the channel. At Sunrise Way, one CV Link alignment would descend into the channel bottom and pass under Sunrise Way and back out at or just beyond the existing concrete apron providing scour protection under the bridge. The channel would be accessed via a ramp starting a short distance west of Sunrise Way. Detailed ramp and channel bottom design will be coordinated with and approved by Riverside County Flood Control to ensure that CV Link facilities do not adversely affect channel capacity, maintenance or access. CVAG shall continue to coordinate with and must secure approvals from RCFCWCD before work can proceed on their lands or facilities. With adherence to flood control agency design guidance, potential conflicts between CV Link and flood control facilities and management will be less than significant. This segment will have a less than significant impact on these Tahquitz Channel facilities.

East of Sunrise Way, CV Link's Tahquitz Creek alignment eventually returns to follow the channel along south (right) bank west of El Cielo Road, crosses to lands north of the channel at this location, and proceeds in places along the north (left) bank of the channel, much of which has been developed as golf course and public open space. There will be no encroachment into the channel along these reaches of the channel. The design and location of CV Link flatwork and vertical elements have been developed in consultation with RCFCWCD and have resulted in the establishment of minimum equipment clearances needed for this agency to access and effectively manage and maintain drainage facilities. CVAG shall continue to coordinate with and must secure approvals from RCFCWCD before work can proceed on their lands or facilities. With adherence to flood control agency design guidance, potential conflicts between CV Link and flood control facilities and management will be less than significant.

Whitewater Stormwater Channel-Central Cathedral City Reach

The north reach of CV Link proceeds southeast of Gene Autry Trail atop the west (right) bank of the Whitewater Channel with one alignment taking the Route under the future Vista Chino bridge. South of Vista Chino, a side channel conveying local runoff into the Whitewater Channel pushes the path farther south. Channel modifications in the vicinity of Vista Chino may be needed to accommodate the future bridge and its effects on channel flows, as well as those associated with the aforementioned side channel. Given the substantial channel width at this location, the District has indicated that the subject channel alignment under the bridge will not have a significant impact on channel functions or conditions, and any necessary alignment refinements shall be addressed during the 90% phase of design of this alignment.

Farther south CV Link will leave the top of levee and pass beneath the Ramon Road bridge, and return to the top of levee to proceed south. This routing was also considered as a part of the recently approved Ramon Road bridge widening project. The hydraulic analysis conducted for the bridge also informed the CV Link hydrology analysis, which indicates that this undercrossing will not have a significant effect on the 100-year or SPF WSE or otherwise have an adverse effect on channel capacity, facilities or maintenance.

The last encounter between the Whitewater Stormwater channel cross-section and CV Link is the alignment farther south that carries the Link under the existing Dinah Shore Drive bridge. Ramps will be constructed to provide undercrossing ingress and egress. The alignment then continues south on atop the levee until it enters and crosses Tahquitz Creek at its confluence with the Whitewater Channel, where an at-grade in channel crossing will connect this alignment with the Tahquitz Creek alignment. The hydraulic analysis conducted for the bridge undercrossing and the Tahquitz Channel crossing indicates that these CV Link facilities will not substantially raise the 100-year or SPF storm WSE, nor will these two channel encroachments have a significant adverse effect on channel capacity, facilities or maintenance

Whitewater Stormwater Channel-South Cathedral City Reach

At Golf Club Drive, CV Link turns south and crosses the channel within the road right of way, then east crossing the road and proceeding east along the south (right) bank of the channel to its confluence with the Whitewater Stormwater Channel. Within the Whitewater Channel, the Link splits into two alignments with one branch crossing the channel and continuing east on the north (left) bank, along with the continuation of the south (right) bank alignment to the west end of the future Cathedral Canyon Drive bridge. The north (left) bank alignment turns south just west of the bridge and crosses the channel to rejoin the south channel alignment. The hydraulic analysis conducted for these CV Link facilities includes analysis of the approved bridge and channel improvement plans for the bridge and the CV Link 30% plans at this location. The analysis concludes that the Link channel crossing at the confluence of the two drainages and at the bridge will not significantly affect the flood water surface elevations along the channel and will not significantly impact channel capacity, maintenance or emergency access.

East of Cathedral Canyon Drive, CV Link continues southeast atop the south (right) bank levee to Date Palm Drive bridge, where the alignment continues southeast under the bridge and returns to the top of levee, then bears south across a peninsula of land and the West Cathedral Canyon Channel just upstream of its confluence with the Whitewater Channel. The West Cathedral Canyon Channel bridge would include two 4.5-foot diameter in-channel piers within the 225±-foot wide channel. At the proposed location of this bridge the channel cross section is approximately four times wider than it upstream reach that passes under Date Palm Drive. The WSEs at this and other side channel locations are controlled by WSEs in the Whitewater Stormwater Channel. RCFCWCD will review and approve final bridge designs for this location, which will further ensure that channel function and capacity are not adversely affected. Therefore, with this excess channel capacity at this location this bridge will have a less than significant impact on the channel's hydraulic function and freeboard requirement.

The alignment then continues southeast along the south (right) bank of the West Cathedral Canyon Channel and bridges the outlet of the East Cathedral Canyon Channel into the Whitewater Channel. The East Cathedral Canyon Channel bridge would include one 4.5-foot diameter in-channel pier, which will provide substantially less effect on channel flows and capacity compared to the multiple pylon Highway 111 bridge located a short distance upstream in a comparable channel cross section. It is also important to note that WSEs at this and other side channel locations are ultimately controlled by WSEs in the Whitewater Stormwater Channel into which it discharges. RCFCWCD will review and approve final bridge designs for this location, which will further ensure that channel function and capacity are not adversely affected. Therefore, construction of this bridge would have a less than significant impact on the channels hydraulic function and freeboard requirement.

CV Link southeast continues atop the Whitewater Channel to two points of terminus, one (Terminus A) being off-channel at Buddy Rogers Drive. The second prospective terminus (B) is located at the northwest corner of DaVall Drive and Frank Sinatra Drive adjacent to the channel and discussed briefly below. CV Link improvements along this reach upstream of Frank Sinatra Drive will include single piles and bridging over the West and East Cathedral Canyon Channels near their points of discharge in to the Whitewater Channel. Final design of the Date Palm Drive undercrossing, as well as the two bridges, flatwork and vertical elements will conform to County Flood guidance. Hydraulic modeling of these CV Link channel segments indicate that CV Link improvements will have a less than significant impact of channel hydraulics and flood control facilities and management in this area.

Whitewater Stormwater Channel-West Rancho Mirage Reach

The City of Rancho Mirage is not a part of CV Link under the Proposed Project scenario. However, as discussed throughout this EIR, two prospective West-End termini have been developed for analysis. Terminus B would be at the northwest corner of Da Vall and Frank Sinatra Drives, adjacent to the channel and within the Rancho Mirage city limits. The alignment between the aforementioned terminus A and B would be atop the south (right) channel bank in Cathedral City and Rancho Mirage, and would connect to the existing (or comparable) channel bottom crossing, which extends east, parallel to and just north of Frank Sinatra Drive.

As noted above, at this location the proposed Link path alignment would increase the WSE at these stations by 0.52 to 0.88 feet. Due to an existing lack of adequate channel freeboard in the reach just upstream of Frank Sinatra Drive, the project hydrology analysis indicates that a portion of the west (right) bank must be elevated to ensure adequate freeboard at this location regardless of whether CV Link is constructed. Therefore, the potential of CV Link to raise the WSE by up to 0.88 feet at this location would be a significant impact if not mitigated. Mitigation Measures HYD-4 below ensures that any necessary raising of the channel embankment at this location shall be completed prior to or concurrent with completion of this segment of CV Link. As noted above, the City of Rancho Mirage and Caltrans are processing a new all-weather bridge at this location, which will also enhance existing channel capacity and may address the lack of adequate freeboard.

Whitewater Stormwater Channel-East Palm Desert Reach

CV Link follows the Whitewater Channel beginning at the north end of Deep Canyon Drive in Palm Desert and proceeds southeast atop the south bank maintenance road to Cook Street where a bridge over this roadway is planned. An off-channel at-grade crossing is also planned at the signal just south of this location. Details of the planned bridge are shown on the following exhibit and indicate that pylons carrying suspension cables may be anchored at or below the 100-year storm WSE.

As presently designed, the potential exists for one of the two CV Link Cook Street bridge supports to encroach into the requisite freeboard portion of the channel cross-section. The Cook Street bridge design is at 30% and future refinements will ensure that the bridge does not impact channel function at this location or requisite freeboard. As set forth in the mitigation measures below (including HYD-2), prior to the completion of 60% plans for the Cook Street bridge, the project designers shall ensure that bridge supports do not impact requisite stormwater channel freeboard at these locations and shall secure CVWD concurrence before final design engineering is completed. Mitigation measures set forth below, including HYD-2, will ensure that the Cook Street bridge does not alter the local drainage pattern, generate significant additional runoff or result in on-site or off-site flooding.

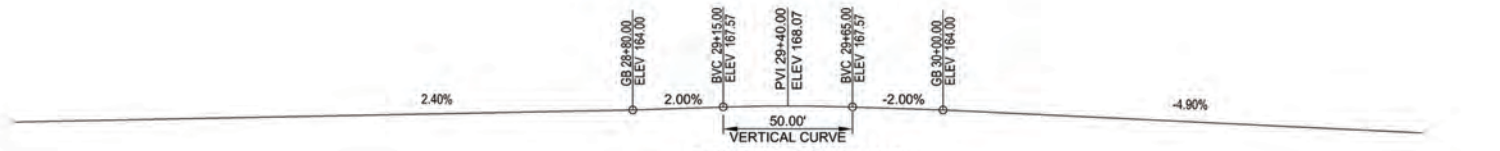
East of Cook Street, the Link alignment continues along the south (right) channel bank for approximately 1,400 feet, at which point the alignment splits with one proceeding north and directly across the channel while the south bank alignment continues to Fred Waring Drive (see discussion of the Indian Wells reach below). Once across the channel, the northerly split proceeds southeast both atop the channel embankment and in the channel bottom adjacent to the channel side slope protection. Ramps into and out of the channel will be needed, and as designed elsewhere in the channel the path across the channel bottom shall be designed and constructed at-grade to avoid significantly altering the 100-year WSE in this reach of the channel.

Therefore, CV Link improvements along this channel reach will not alter drainage patterns or significantly affect channel capacity. The design and location of these and other segments have been developed in consultation with the flood control agency and has resulted in the establishment of minimum equipment clearances and other design parameters needed for these agencies to access and effectively manage and maintain drainage facilities. CVAG shall continue to coordinate with and must secure approvals from CVWD before work can proceed on these Route segments. With adherence to flood control agency design guidance, potential conflicts between CV Link and flood control facilities and management will be less than significant.

Whitewater Stormwater Channel-West Indian Wells Reach

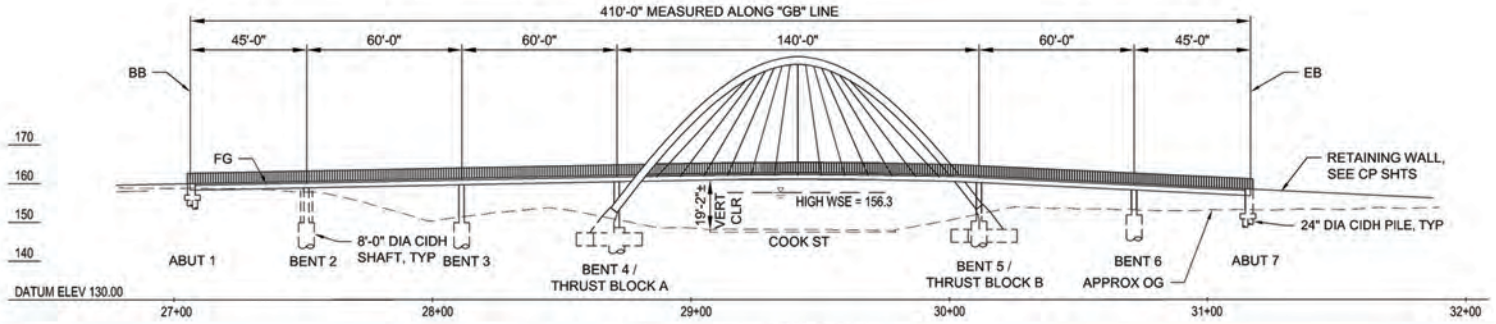
On the west end of Indian Wells, CV Link would enter the city limits northwest of Fred Waring Drive on both the north and south banks of the channel. Immediately north of Fred Waring Drive, the Link would provide a cross-channel connector between the north and south bank alignments. The south (right) bank alignment would also continue southeast under the future Fred Waring bridge to the existing Eldorado Drive bridge, where it would pass under and ramp out of the channel and onto the Eldorado Drive right of way. The bridge undercrossing will require channel access ramps and channel bottom path design that avoid impacts to channel capacity at these locations. The hydraulic analysis included the effects of the roadway undercrossings based upon comparable channel conditions and CV Link 30% level grading plans provided by the project designers for similar channel crossings. As elsewhere along the CV Link channel encroachments and crossings, both the 100-year storm and standard project flood (SPF) were modeled in the existing and proposed condition. It should also be noted that final design of the channel access ramp and bridge undercrossing, as well as all related flatwork and vertical elements, shall be reviewed and approved by CVWD. Potential conflicts between CV Link and flood control facilities and management at this location will be less than significant.

The north (left) bank Link alignment exits the channel at Fred Waring Drive and conveys Link travelers east along the existing sidewalk on the north side of Fred Waring Drive to Eldorado Drive, where two at-grade intersection crossings on both the east and west side of Eldorado Drive are planned. The west side Waring crossing proceeds south and swings under the channel bridge to emerge on the east atop the channel levee, joining the east Fred Waring Drive crossing and proceeding southeast along the top of the channel embankment. The hydraulic analysis included the effects of the roadway undercrossings based on CV Link 30% level grading plans for these channel encroachments and crossings. As elsewhere along the CV Link channel encroachments and crossings, both the 100-year storm and standard project flood (SPF) were modeled in the existing and proposed condition. As with other CV Link components encroaching into flood control agency rights-of-way and/or facilities, final design of the channel encroachments, as well as all related flatwork and vertical elements, shall be reviewed and approved by CVWD. Potential conflicts between CV Link and flood control facilities and management at this location will be less than significant.

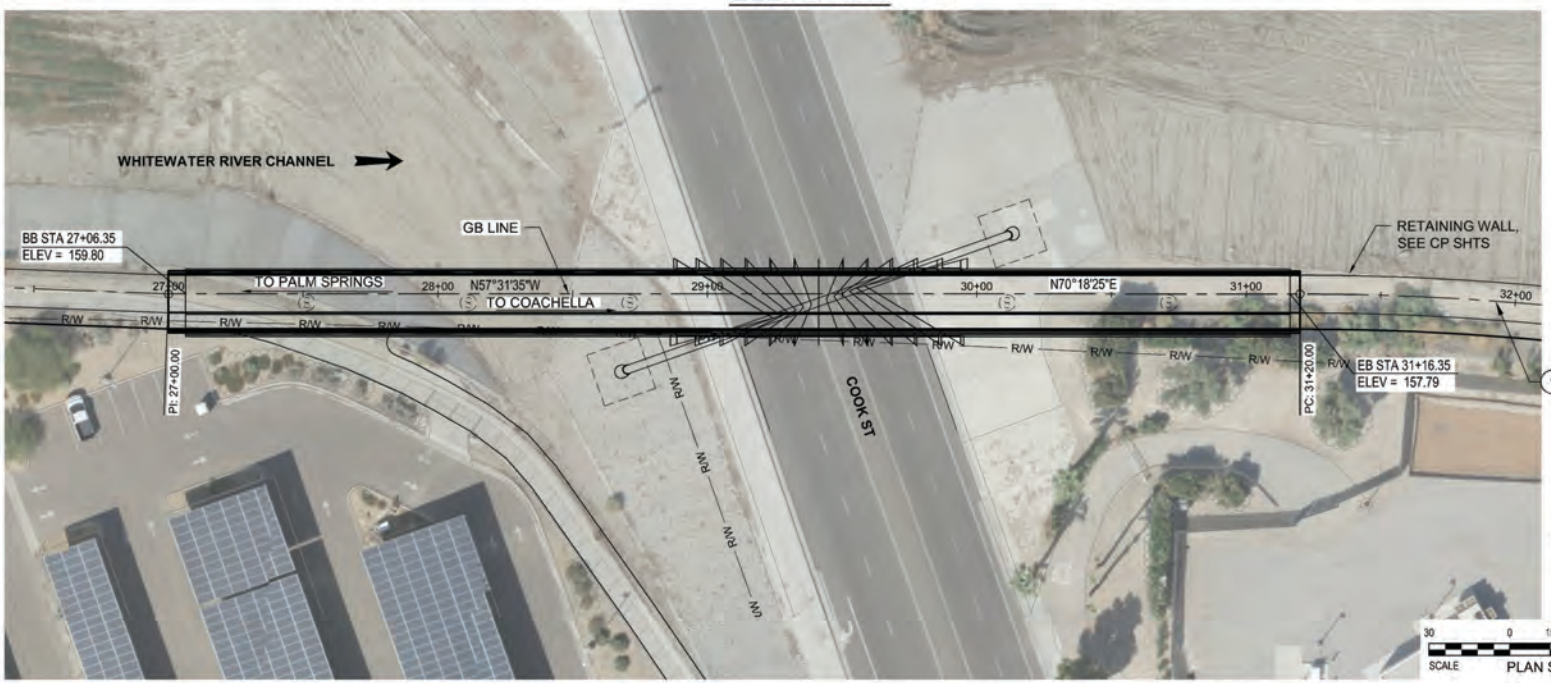


PROFILE GRADE

NO SCALE



ELEVATION



Source: Alta Planning + Design, 2016

09.09.16

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CV Link Project
Cook Street Overcrossing
Coachella Valley Association of Governments

CV LINK
CONNECTING THE COACHELLA VALLEY

CVAG

Exhibit
4.9-1

Whitewater Stormwater Channel-Middle Indian Wells Reach

East of Eldorado Drive and opposite the Indian Wells Golf Resort complex, the Link would split to cross the channel on the existing (or a modified or replaced) bridge, that directly connects the golf course to the hotel complex on the south side of the channel, and proceed east along the south (right) channel embankment. At the east end of the hotel complex, CV Link provides another cross-channel connection to the north bank alignment, following the existing golf cart path and channel low flow crossing. No significant changes to this second channel crossing are planned.

The design of the possible replacement bridge is included in the CV Link 30% plans, and the effects of this possible new five-pier structure were modeled in the project hydraulic analysis. The analysis indicates that the replacement bridge would not significantly affect channel hydraulics at this location. Nonetheless, it is expected that any modifications to the existing bridge or paths, such as widening or structural changes, will require refined hydraulic analysis and approval of improvements by CVWD, which will ensure that any impacts to the channel's function will be less than significant. Therefore, the proposed channel encroachments and crossings in the middle Indian Wells reach will not have a significant adverse effect on channel functions or capacity in this reach.

At the Miles Avenue bridge over the Whitewater Stormwater Channel, the two north and south bank channel alignments enter the channel and pass under the bridge, ramping back out of the channel on the east side, where only the south (right) bank alignment continues east along and atop the channel service road. An at-grade channel crossing is also planned immediately west of the bridge. As noted above, upstream and downstream of Miles Avenue Bridge (Station 1420+87, Station 1411+98 and Station 1406+82) the construction of CV Link improvements would increase the 100-year WSE by 0.30, 0.81 and 0.83 feet, respectively. The hydraulic analysis included the effects of the channel encroachments and bridge undercrossings, based on CV Link 30% level grading plans for these channel encroachments. The hydraulic analyses of existing channel conditions indicates excess capacity and freeboard, and that the channel can accommodate the change in WSE associated with the proposed channel encroachments in the vicinity of the Miles Avenue bridge.

As elsewhere along the CV Link channel encroachments and crossings, both the 100-year storm and standard project flood (SPF) were modeled in the existing and proposed condition. As with other CV Link components encroaching into flood control agency rights-of-way and/or facilities, final design of the channel encroachments, as well as all related flatwork and vertical elements, shall be reviewed and approved by CVWD. Potential conflicts between CV Link and flood control facilities and management at this location will be less than significant.

Whitewater Stormwater Channel-East Indian Wells Reach

East of the Miles Avenue bridge and immediately west of the Washington Street bridge, there are three channel encroachments associated with the CV Link project: (1) the Deep Canyon Channel bridge, the (2) Point Happy bridge, and (3) the Washington Street channel crossing, which includes both bridge and channel bottom alignments.

The Deep Canyon Channel bridge is a continuation of the south (right) bank channel CV Link alignment and crosses the mouth of this channel where it discharges into the Whitewater Channel. It will be constructed with one 4.5-foot diameter pier anchored in the center of the channel with two additional supports embedded in the existing side slope protection. The channel cross section at this location is 235± feet wide, whereas the channel width is only 140± feet wide at the upstream Highway 111 bridge that crosses this drainage 450 feet from the proposed Deep Canyon bridge. The WSEs at this and other side channel locations are controlled by WSEs in the Whitewater Stormwater Channel. Final bridge design, as well as all related flatwork and vertical elements, will conform to CVWD requirements for at minimum 100-year design standards. Final CVWD review and approval of final design and hydraulic analysis at this location will ensure that potential conflicts between CV Link and Deep

Canyon and Whitewater drainage facilities and management at this location will be less than significant. Therefore, this bridge will not affect the local drainage pattern, generate significant additional runoff, or result in on-site or off-site flooding. The implementation of mitigation measure HYD-2 and others set forth below will ensure that impacts are less than significant.

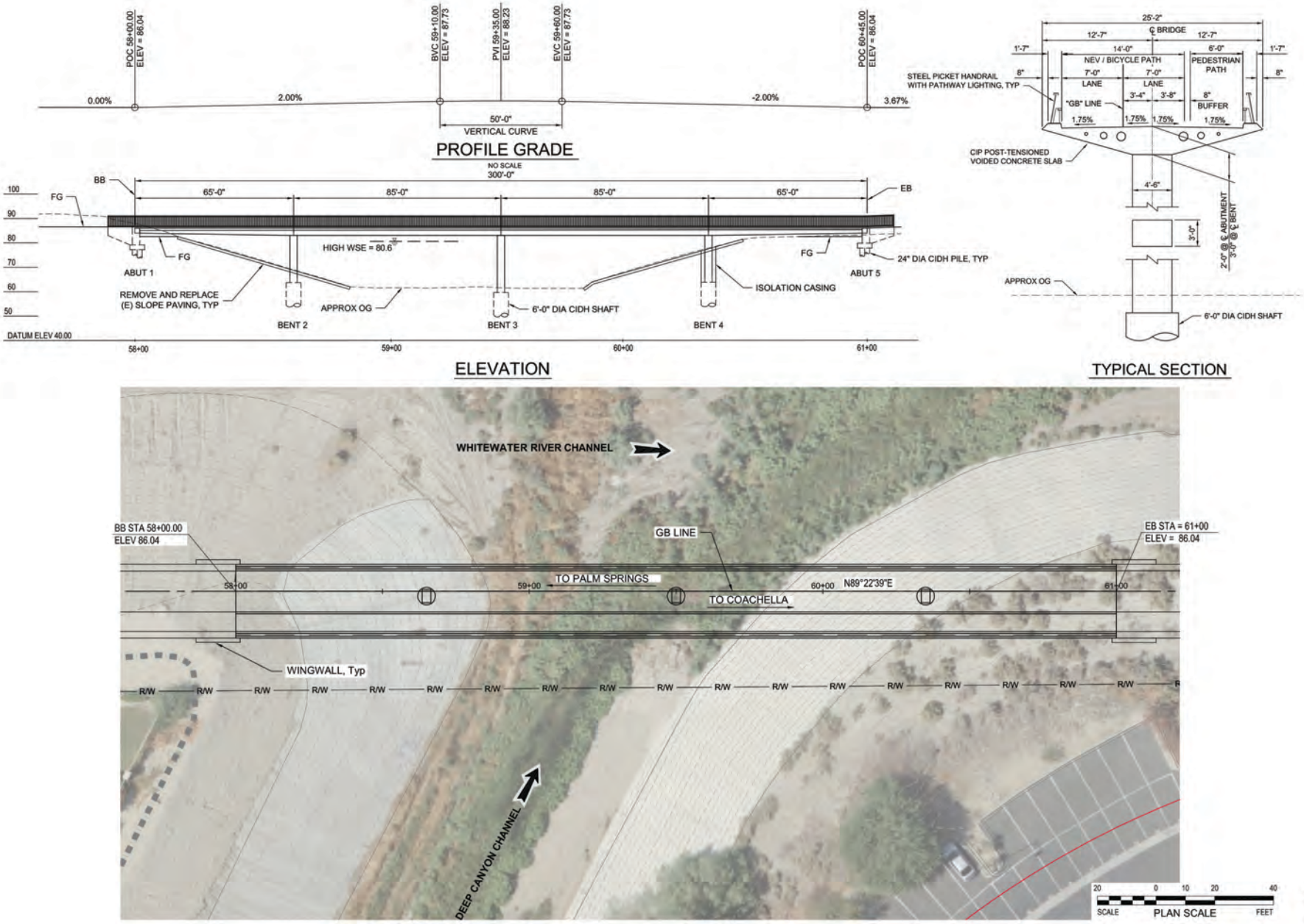
The Point Happy bridge is designed to swing the alignment around a spur of rock that juts out into the Whitewater Channel and blocks the pathway. Details of the planned bridge are shown on the following exhibit and indicate that pylons carrying suspension cables may be anchored at or near the 100-year storm WSE. As presently designed, the potential exists for the two CV Link Point Happy bridge supports to encroach into the requisite freeboard portion of the channel cross-section. The Point Happy bridge design is at 30% and future refinements will ensure that the bridge does not impact channel function at this location or requisite freeboard. As set forth in the mitigation measures below, prior to the completion of 60% plans for the Point Happy bridge, the project designers shall ensure that bridge supports do not impact requisite stormwater channel freeboard at this location and shall secure CVWD concurrence before final design engineering is completed. Final Point Happy bridge design, as well as all related flatwork and vertical elements, will conform to CVWD requirements for at minimum 100-year design standards. Adherence to mitigation measure HYD-2 and other measures requiring CVWD review and approval of final design and hydraulic analysis at this and other locations will ensure that potential conflicts between CV Link and Deep Canyon and Whitewater drainage facilities and management at this location will be less than significant.

Just west of the existing Washington Street bridge, CV Link calls for both a cross-channel bridged and at-grade channel bottom crossing that have the potential to affect the capacity and hydraulic function of the channel at this location. For the channel bottom alignment access ramps will be needed, while for the bridge five 4.5-foot diameter piers would carry the bridge across the channel to landings atop the channel maintenance roads. The hydraulic analysis conducted at this location for the subject bridge and in-channel crossing indicates that these facilities will alter the SPF WSE by 0 to 0.03 feet, and therefore will not have a significant adverse effect on channel functions or capacity in this reach.

For both the channel bottom and bridge crossing alignments, final bridge and path designs will require refined hydraulic analysis and approval of improvements by CVWD, which will ensure that any impacts to the channel's function will be less than significant.

Coachella Valley Stormwater Channel-La Quinta Reach

East of the Washington Street bridge, CV Link continues east along the south (right) bank of the channel and will be accommodated by undercrossings at Adams Street (existing) and Dune Palms Road, as well as at Jefferson Street. The existing Adams Street and the designed Dune Palms Road undercrossing have been reviewed by CVWD, which has included detailed analyses of the hydraulic effects of these undercrossings on channel capacity. These analyses have determined that this design can be accomplished without having a significant adverse effect on channel capacity or channel maintenance. The Jefferson Street bridge undercrossing will require comparable channel access ramps and path design that avoids, as with the built and comparable Adams Street undercrossing, impacts to channel capacity at this location. Final design of the bridge undercrossing, as well as all related flatwork and vertical elements, will be reviewed and approved by CVWD. Therefore, with the implementation of mitigation measure HYD-1 and others set forth below, potential conflicts between CV Link and flood control facilities and management at this location will be less than significant.



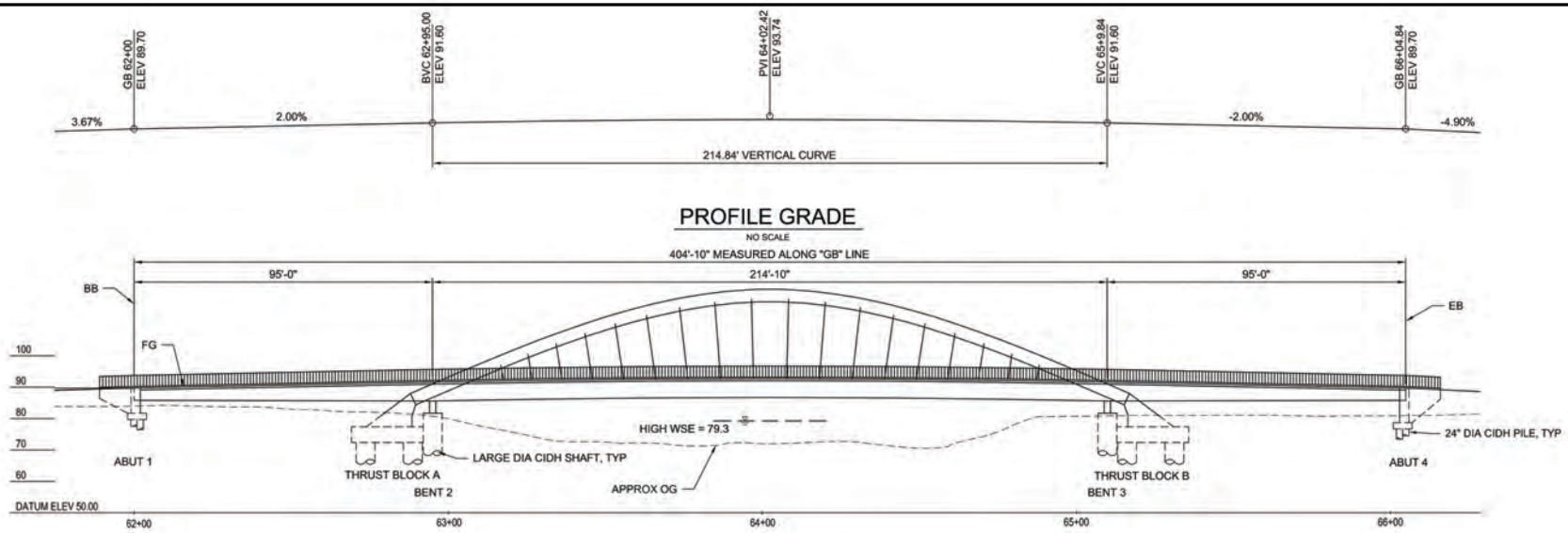
Source: Alta Planning + Design, 2016

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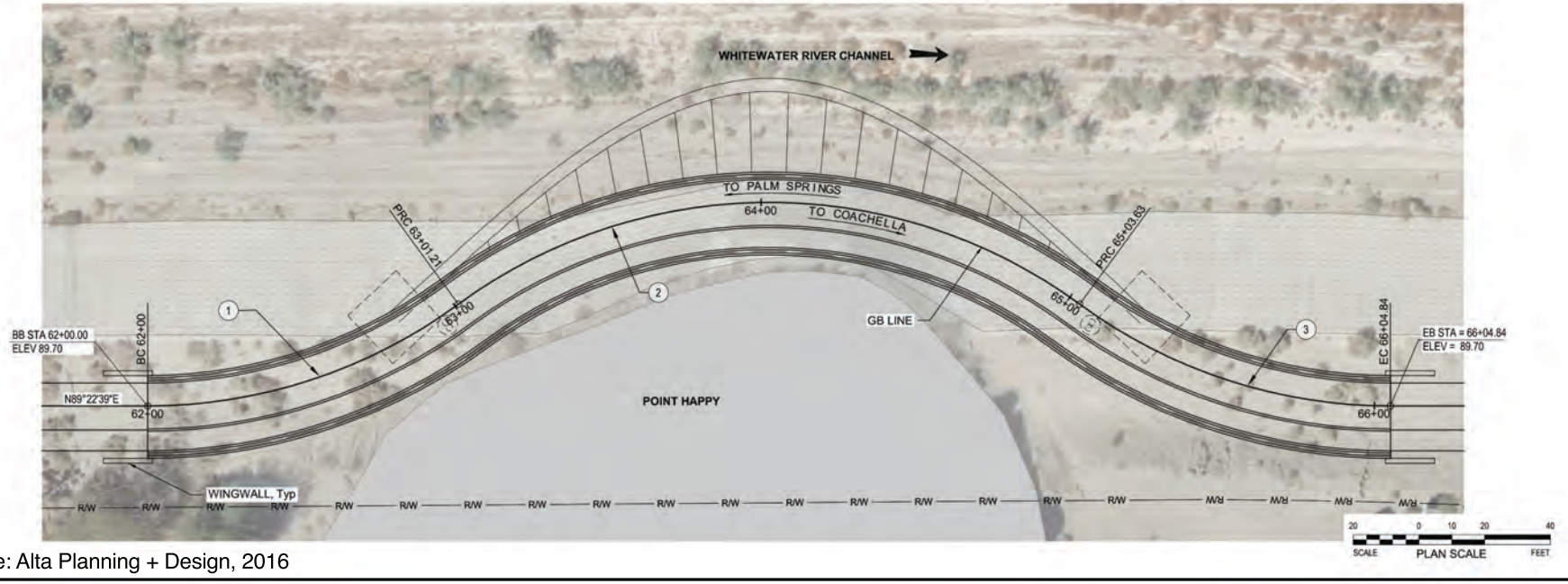
CV Link Project
Deep Canyon Channel Bridge General Plan
Coachella Valley Association of Governments

CV LINK
CONNECTING THE COACHELLA VALLEY
CVAG

Exhibit
4.9-2



ELEVATION



09.09.16

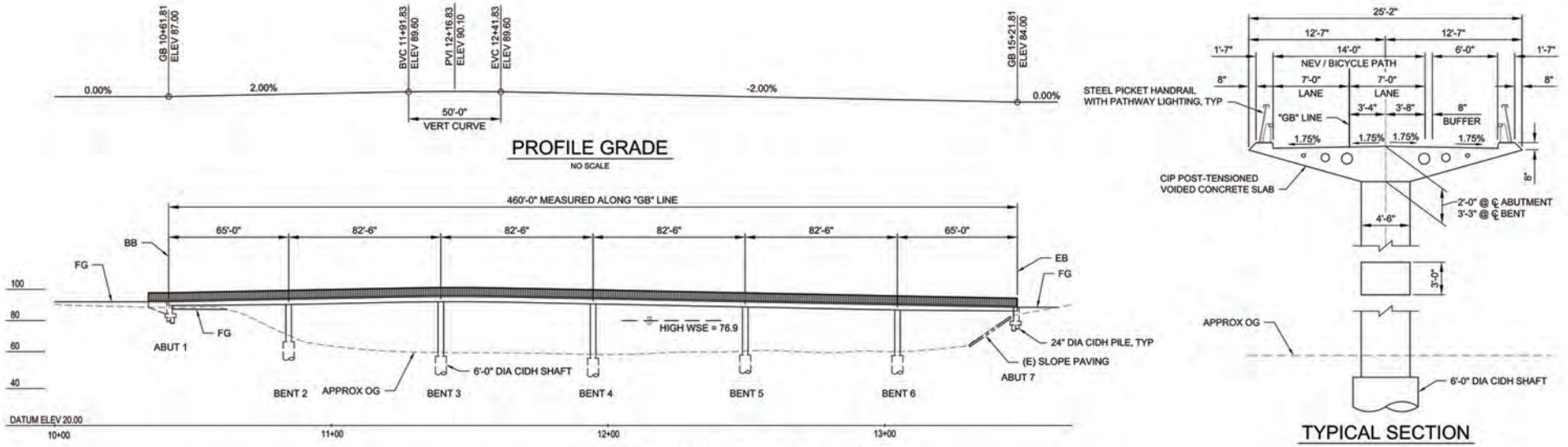
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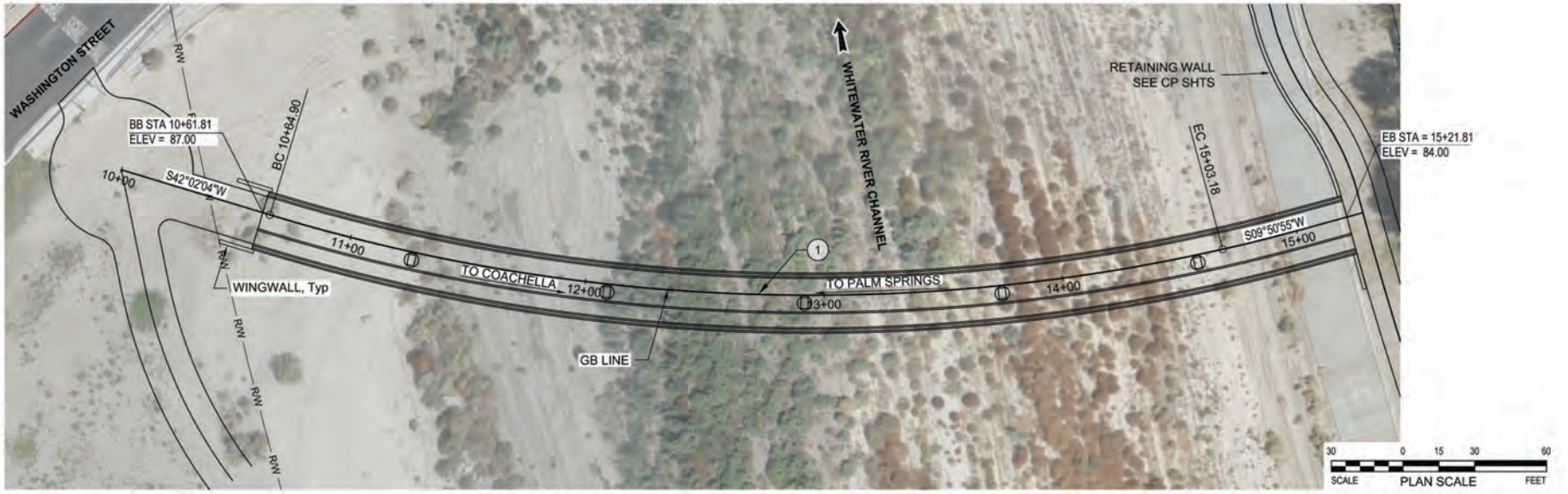
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CV Link Project
Point Happy Bridge General Plan
Coachella Valley Association of Governments

CV LINK
CONNECTING THE COACHELLA VALLEY
CVAG

Exhibit
4.9-3





09.09.16

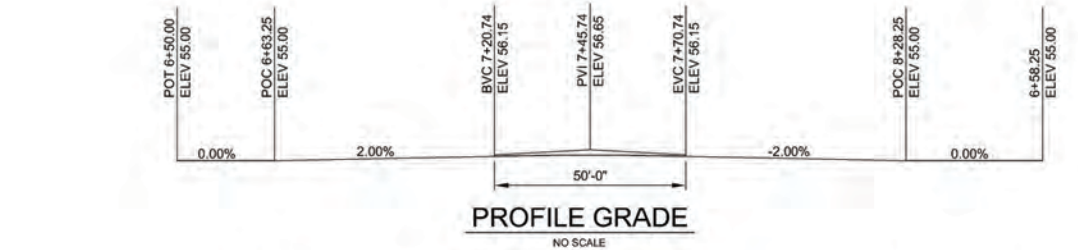
Source: Alta Planning + Design, 2016

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CV Link Project
Washington Street Cross Channel Bridge General Plan
Coachella Valley Association of Governments

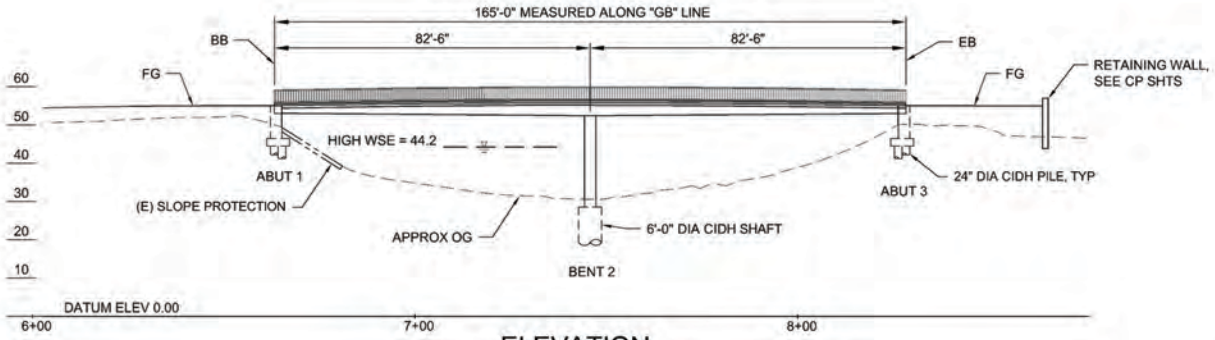
CV LINK
CONNECTING THE COACHELLA VALLEY
CVAG

Exhibit
4.9-4

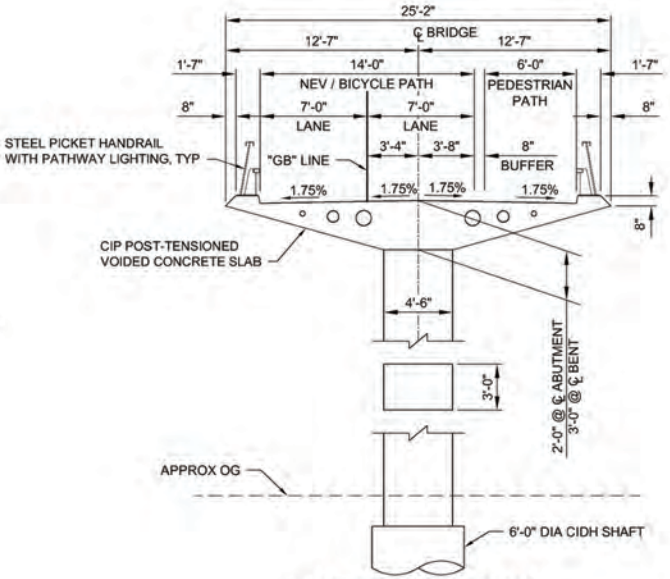


PROFILE GRADE

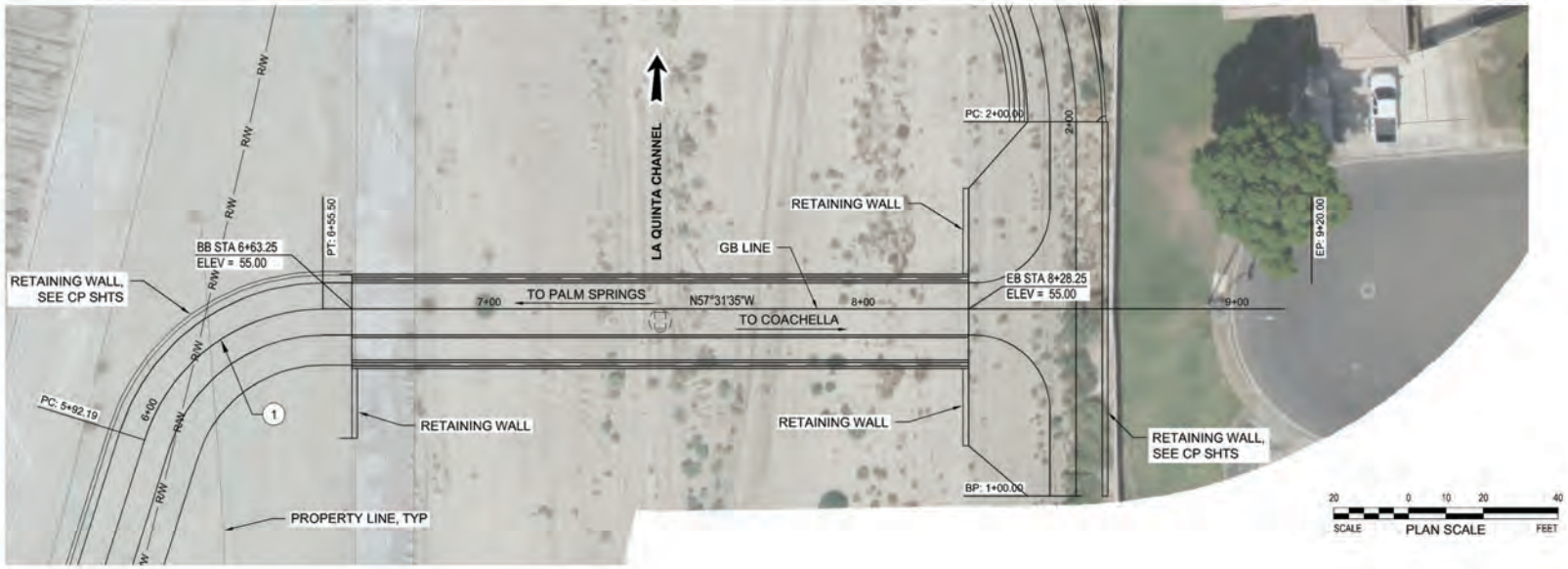
NO SCALE



ELEVATION



TYPICAL SECTION



09.09.16

Source: Alta Planning + Design, 2016

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CV Link Project
La Quinta Channel Bridge General Plan
Coachella Valley Association of Governments

CV LINK
CONNECTING THE COACHELLA VALLEY
CVAG

Exhibit
4.9-5

Coachella Valley Stormwater Channel-Indio Reach

From Jefferson Street, the CV Link alignment proceeds northeast approximately 1,450 feet along the right channel bank to its confluence with the La Quinta Evacuation Channel at the La Quinta/Indio city limits. The alignment then bridges across the evacuation channel and proceeds northeast along and atop the right channel embankment. Bridging the evacuation channel will be accomplished using a single center channel pier, as shown on Exhibit 4.9-5, above. The hydraulic analysis conducted for the bridge indicates that this single, mid-channel bridge support will not have a significant adverse effect on channel capacity, hydraulic function, facilities or maintenance. Final designs shall be conducted in close coordination with CVWD and will be required to ensure that impacts to the channel's hydraulic function at this location are less than significant.

Farther northeast, the Link alignment would pass under existing bridges at Fred Waring Drive, Indio Boulevard and Union Pacific Railroad, Monroe Street, Jackson Street, Avenue 44, and Golf Center Drive. In each case, ramps into and out of the channel at these locations will be needed and the path paralleling the channel bottom must be designed flush with the existing channel contour to not significantly alter the 100-year WSE in this reach of the channel. The hydraulic analysis conducted for these ramps and undercrossings indicates that they will not have a significant adverse effect on channel capacity, hydraulic function, or facilities or maintenance because they will be designed to CVWD standards. Final designs shall be conducted in close coordination with CVWD will be required to ensure that impacts to the channel's hydraulic function at this location are less than significant. Final design of the channel access ramps and crossing, as well as flatwork and vertical elements, will conform to CVWD guidance. Potential conflicts between CV Link and flood control facilities and management will be less than significant.

Coachella Valley Stormwater Coachella Reach

The Coachella reach of CV Link runs along the south (right) bank of the channel to its termination at Avenue 56 (Airport Boulevard). Along this portion of the Route, the Link alignment provides for long-term undercrossings of bridges at Dillon Road, and Avenues 50 and 52. The CV Link hydrology analysis indicates that CV Link improvements at these locations will affect 100-year WSEs by 0.0 to 0.1 feet, which is a less than significant impacts along this reach. In each case, ramps into and out of the channel at these locations will be needed and the path paralleling the channel bottom and are designed to not significantly alter the 100-year WSE in this reach of the channel, as indicated by the project hydrology analysis. Final design of the channel access ramps and crossing, as well as flatwork and vertical elements, will conform to CVWD guidance, which will further ensure that impacts associated with the 100-year storm remain less than significant. With adherence to HYD-2 and other mitigation measures set forth below, potential conflicts between CV Link and flood control facilities and management will be less than significant.

Summary of Impacts

As discussed above, a wide range of resources were reviewed as a part of this analysis to assess the existing regional and local hydrological conditions in potentially affected drainages and to determine whether and to what extent the project could adversely affect area hydrology and flood control facilities. Studies prepared for CV Link include a hydrology and hydraulic report[23], a hydraulic impact analysis summary[24], summary floodplain encroachment report[25], CV Link Stormwater Design Report[26] and other analyses.

[23] "CV Link Hydrology and Hydraulic Report", prepared by Stantec Consulting Services, Inc. July 2016.
[24] "CV Link – Hydraulic Impact Analysis Summary", prepared by Stantec Consulting Services, Inc. March 2016.
[25] " Summary Floodplain Encroachment Report – CV Link Project", prepared by Stantec Consulting Services, Inc. July 2016.
[26] "CV Link Stormwater Design Report, prepared by Stantec Consulting Services, Inc. August 2016.

The areas where CV Link crosses or encroaches into potentially affected drainages have been analyzed through hydraulic and other analysis to determine whether and to what extent project improvements will alter the drainage patterns in these facilities. These analyses evaluated the potential of CV Link facilities, including pathways, bridges and associated piers, and channel access ramps, to change the flood water surface elevations. A variety of channel and facility analyses conducted by the CVWD and RCFCWCD have also been used to analyze the potential impacts of CV Link on flood control facilities and water quality. The project hydrology analysis identified two locations along the Route, one just north of Frank Sinatra Drive and in the vicinity of the Miles Avenue bridge, could increase the 100-year storm WSE by up to 0.88 feet. At Sinatra Drive this requires that a segment of the west (right) bank be raised to ensure adequate freeboard. The impacts to the Miles Avenue reach do not require mitigation due to the substantial excess channel and freeboard capacity along this reach of the channel.

The project jurisdictional delineation identified one location (Whitewater Floodplain) where a potentially significant encroachment into waters of the State and US could occur. Specific mitigation (HYD-11) has been set forth below, which will ensure that impacts to jurisdictional waters at this location are less than significant.

Both CVWD and the RCFCWCD have been consulted during the design phase of the project and their recommendations have been incorporated into the overall project design. Considerations required by the flood control agencies include the width of overhead clear areas and setbacks along channel maintenance roads, Link alignment drainage management, pathway engineering especially at locations where CVWD and RCFCWCD equipment may need to use, safety barriers and facilities maintenance.

In accordance with the Colorado River Basin Region NPDES Permit (NPDES No. CAS617002), the pathway is not a Priority Development project. Therefore, no post-construction Best Management Practices (BMPs) are required. Construction BMPs include establishing limits of construction and the use of silt berms and fences, earth dikes, drainage swales, sediment traps, check dams, reinforced soil retaining systems, temporary sediment basins and flow diversion. See specific mitigation measure below.

The potential for the development of CV Link to result in substantial erosion and/or siltation of receiving waters is considered to be low. Almost all of the Link alignments occur on previously disturbed lands and streets, including the channel service and maintenance roads CV Link will share. The hydraulic analysis conducted for the CV Link project indicates that, while subsequent review of Link improvements by the flood control agencies will be required, there are no unmitigated or immitigable alterations to project drainages. The potential for the project to result in substantial erosion or siltation is low and less than significant, and will be further reduced with the application of standard Best Management Practices (BMPs), which are set forth in the mitigation discussion below.

As described elsewhere in this EIR and in the CV Link Conceptual Master Plan documents, the Link path construction will be a combination of concrete for bicycles and LSEVs and decomposed granite for pedestrian paths. The impermeable portions of the path are limited in width and linear in layout, thereby limiting the amount of runoff that can be generated. The Link's pedestrian paths will be permeable and will further reduce Link runoff. Based upon the hydrology analyses prepared for this project, there will be no substantial increase in the rate of surface runoff nor will CV Link runoff result in flooding on- or off-site. Therefore, impacts in this regard will be less than significant.

e) Will it create or contribute runoff water, which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?

As noted in the WQAR prepared for this project, CV Link runoff will discharge to adjoining receiving waters, including the Whitewater Floodplain, Tahquitz Creek Channel, Tahquitz Creek, Palm Canyon Channel, East and West Cathedral Canyon Channels, and the Whitewater and Coachella Valley Stormwater Channels, all of which

ultimately discharge to the Salton Sea. The total disturbed surface area of the Proposed Project is approximately 279.37 acres, with 69% imperviousness and 31% perviousness. It should also be noted that there is only approximately 2 to 6 inches of annual precipitation on the Valley floor, which would mean that there is little to no baseflow in the study area. Given the very limited potential for CV Link-generated stormwater runoff and the Link's proximity to drainage channels and public streets, the project will make a less than significant contribution to runoff and will not significantly contribute to an exceedance of existing or planned channel capacity in the project area, nor will the project make a substantial contribution to existing sources of polluted runoff. Nonetheless, a range of construction BMPs that will be implemented during project construction include establishing access routes and limits of construction, and the use of silt berms and fences, earth dikes, drainage swales, sediment traps, check dams, reinforced soil retaining systems, temporary sediment basins and flow diversion. These practices will further ensure that the project does not generate substantial additional polluted runoff. Therefore, with the implementation of BMPs and adherence to mitigation measures (including HYD-6, 7 and 8) set forth below, the project will not create or make a significant contribution to runoff, exceedance of channel capacity or substantial additional polluted runoff.

f) Will the Project otherwise substantially degrade water quality.

As discussed above, there is a less than significant potential for the CV Link project to substantially degrade water quality. CV Link development will occur almost entirely on previously disturbed land and roadways, which will limit the extent of site disturbance and the potential for contaminated runoff. Work within stormwater channel rights of way will be primarily outside the channel area and atop channel embankment and levee service roads. The nature of the construction materials, which are primarily aggregate, concrete, decomposed granite, are relatively inert and not polluting. The use of the Link facilities will be limited to pedestrians, bicyclists and LSEV, and the contamination associated with motor vehicles will not occur along the CV Link alignments. While project impacts to water quality will be insignificant, mitigation measures HYD-6, 7 and 8 require the implementation of BMPs, including establishing access routes and limits of construction, and the use of silt berms and fences, earth dikes, drainage swales, sediment traps, check dams, reinforced soil retaining systems, temporary sediment basins and flow diversion during and following project construction. Therefore, the CV Link project will not substantially degrade local surface or groundwater.

g) Will the Project place housing within a 100-year flood hazard area as mapped on a federal Flood Hazards Boundary or Flood Insurance Road Map or other flood hazard delineation map?

The CV Link project will not place housing or other structures for human habitation within a 100-year flood hazard area. No housing is proposed as part of this project. Therefore, the CV Link project will have no impact in this regard.

h) Will the Project place within a 100-year flood hazard area structures, which would impede or redirect flood flow?

As noted above, there are locations in the planning area designated as "A" and "AO" zones (100-year flood areas) into which CV Link improvements would encroach. These areas of encroachment include channel encroachments and crossings, and bridge undercrossings. Specifically, CV Link improvements that encroach into stormwater channels include the following alignments:

- within the Whitewater Floodplain east of Sunrise Way in Palm Springs,
- within Tahquitz Creek Channel as it passes under Sunrise Way,
- undercrossings at Vista Chino, Ramon Road and Dinah Shore Drive bridges,
- channel crossings at and adjacent to the Cathedral Canyon golf course and future Cathedral Canyon Drive bridge
- Date Palm Drive bridge undercrossing

- bridging of the East and West Cathedral Canyon washes,
- channel crossing just north of Frank Sinatra Drive,
- Cook Street bridge, and channel crossing and in-channel parallel alignments east of Cook Street,
- undercrossings of Eldorado Drive bridge and channel crossings within the Indian Wells Golf Resort
- Miles Avenue bridge undercrossings, Deep Canyon Channel bridging
- Point Happy bridge west of Washington Street
- Washington Street bridge and channel crossing
- Dune Palms Road undercrossing
- Jefferson Street undercrossing
- La Quinta Evacuation Channel bridging
- Miles Avenue undercrossing (Indio)
- Fred Waring Drive undercrossing (Indio)
- Indio Boulevard/Union Pacific Railroad undercrossing
- Monroe Street undercrossing
- Jackson Street undercrossing
- Golf Center Dive undercrossing
- Dillon Road undercrossing
- Avenue 50 undercrossing
- Avenue 52 undercrossing

As discussed above, CV Link improvements that have the potential to encroach into the 100-year flood zone of major Valley drainages, including those in the vicinity of Chino Canyon Channel, the Whitewater Floodplain, Tahquitz Creek Channel and the Whitewater/Coachella Valley Stormwater Channels, have been analysed in the hydraulic analysis conducted for this project. Only two locations have been identified where CV Link facilities have the potential to substantially increase the 100-year water surface elevation, and only one location (at Frank Sinatra Drive) where additional freeboard is needed to meet CVWD 100-year design standards. The need to raise the embankment just north of Frank Sinatra Drive currently exists and is not CV Link-dependent, although the project does contribute to future 100-year WSEs. Mitigation Measure HYD-4 below ensures that any necessary raising of the channel embankment in the vicinity of Frank Sinatra Drive shall be completed prior to or concurrent with completion of this segment of CV Link. Nonetheless, nowhere along the CV Link Route do channel encroachments result in the significant impediment or redirection of channel flows. While final plans must be developed and will necessarily be approved by either CVWD or RCFCWDC, the hydraulic analysis for CV Link indicates that none of the CV Link encroachments into the 100-year floodplain will significantly impede or redirect flood flow in any of the various project drainage. Therefore, impacts to these drainages in this regard will be less than significant.

i) Will the Project expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of a levee or dam?

j) Will the Project expose people or structures to inundation by seiche, tsunami, or mudflow?

The CV Link project will introduce pathway flatwork (pavement, et al.) in project drainages, and will facilitate travelers' access into the channel at various locations along the Route. Improvements are limited to inert paving materials, the loss of which from a large storm can be cost-effectively restored. Human access into the channels during periods of storms and potential flooding shall be restricted with the use of barriers and signage to ensure that there is no significant risk of injury or death. Mitigation measures to affect the subject access closures are set forth below.

The CV Link's potential to expose people or structures to flooding-related hazards, including injury or death, resulting from a levee or dam failure, or from seiches, tsunamis or mudflows, is less than significant. The project's modest contribution to the need to raise the embankment just north of Frank Sinatra Drive is a currently

existing condition and is not CV Link-dependent. Mitigation Measure HYD-4, below, ensures that any necessary raising of the channel embankment in the vicinity of Frank Sinatra Drive shall be completed prior to or concurrent with completion of this segment of CV Link.

There are no dams or levees actively impounding water, nor are there upslope water storage tanks or other bodies of water along the Route that could rupture during a major seismic event or from other causes that would result in injury or death, or damage to structures.

4.9.6. Mitigation Measures

The CV Link design process has taken into consideration the relationship to and potential impacts on the various drainages that CV Link will utilize. Construction-related ground disturbance is minimized and essentially inert paving materials will be used for the travelway. Also, travelway profiles within drainages are designed to have a limited and essentially less than significant impact on the drainage patterns and capacities of these drainages. The landscape plans for CV Link rely on native and other drought-tolerant planting materials that limit water use to the lowest degree practicable. Overall, the project will have a less than significant impact on area drainages, and on water quality and supplies with the application of standard dust control and runoff management practices. The following measures are set forth to further ensure that project impacts are kept below levels of significance.

HYD-1 Prior to finaling design and engineering plans for all CV Link facilities that are located atop, within or adjacent to CVWD and/or RCFCWCD facilities and drainages, said plans shall be reviewed and approved by the responsible flood control agency to ensure that these improvements do not interfere with or adversely affect channel capacity or the ability of the flood control agencies to manage and maintain these facilities.

HYD-2 Prior to the completion of 60% plans for the Cook Street and Point Happy bridges, the project designers shall ensure that bridge supports do not impact requisite stormwater channel freeboard at these locations and shall secure CVWD concurrence before final design engineering is completed.

HYD-3 The Proposed Project shall comply with the requirements of the National Pollution Discharge Elimination System (NPDES).

HYD-4 As applicable, CV Link construction shall follow the design and development standards and guidelines promulgated by CVWD and RCFCWCD, including but not limited to the *Riverside County Whitewater River Region Stormwater Quality Best Management Practice Design Handbook for Low Impact Development* (RCFCWCD, 2014) and the CVWD *Development Design Manual* (CVWD, 2013).

HYD-5 At sections of the WWRSC/CVSC that do not meet requisite 100-year freeboard standards, the responsible flood control agencies shall ensure that necessary embankment or levee adjustments are accomplished before or concurrent with construction of CV Link improvements. Any CV Link-related improvements, including but not limited to levee modifications, shall be submitted to and approved by the responsible flood control agency.

HYD-6 The implementation of BMPs during construction activities shall ensure that erosion and siltation from earthmoving and other construction activities is limited. Exposed soil from excavated areas, stockpiles, and other areas where ground cover is removed shall be stabilized by wetting or other approved means to avoid or minimize the inadvertent transport by wind or water. The project is subject to NPDES Construction General Permit requirements. Project implementation of a Stormwater Pollution Prevention Plan shall be required to ensure that erosion, siltation and runoff do not result in flooding on or off the project sites, and that impacts are less than significant.

HYD-7 A Stormwater Pollution Prevention Plan (SWPPP) shall be prepared and implemented during construction of the Proposed Project. The SWPPP shall identify specific best management practices (BMPs) that will be implemented during project construction. BMPs implemented as a part of the project will ensure that the project meets the requirements of the California State Water Resources Control Board (SWRCB) NPDES Construction General Permit and the Caltrans NPDES Permit. BMPs appropriate for and applicable to the CV Link project include the following.

Construction-related erosion and sediment controls, including any necessary stabilization practices or structural controls, shall be implemented at and in all potentially affected drainages. General structural practices may include, but are not limited to, silt fences, earth dikes, drainage swales, sediment traps, check dams, reinforced soil retaining systems, temporary or permanent sediment basins and flow diversion. Temporary erosion and sediment control measures shall be installed during or immediately after initial disturbance of the soil, maintained throughout construction (on a daily basis), and reinstalled until replaced by permanent erosion control structures or restoration of the construction right-of-way is complete. In addition, the following specific actions shall be taken to ensure that impacts are less than significant.

a. CV Link construction shall be avoided within the limits of identified waterways as depicted on the Jurisdictional Delineation Report prepared for this EIR, except where authorized by federal, state or local permits.
b. Protect inlets and outlets of culverts from construction material intrusions using temporary berms to prevent channel incision, erosion, and sedimentation.
c. Erosion control measures appropriate for on-the-ground conditions, including percent slope, length of slope, and soil type and erosive factor, shall be implemented.
d. Temporary erosion controls such as straw bales and tubes, geotextiles and other appropriate diversion and impounding materials and facilities shall be properly maintained throughout construction (on a daily basis) and reinstalled (such as after backfilling) until replaced with permanent erosion controls or restoration is complete.
e. Where jurisdictional waters are adjacent to the construction right-of-way, the contractor shall install sediment barriers along the edge of the construction right-of-way to contain spoil and sediment within the construction right-of-way.
f. Ensure that all employees and contractors are properly informed and trained on how to properly install and maintain erosion control BMPs. Contractors shall require all employees and contractors responsible for supervising the installation and maintenance of BMPs and those responsible for the actual installation and maintenance to receive training in proper installation and maintenance techniques.
g. Project scheduling will include efficient staging of CV Link construction that minimizes the extent of disturbed and destabilized work area, and reduces the amount of soil exposed and the duration of its exposure to wind, rain, and vehicle tracking.
h. The use of a schedule or flow chart will be incorporated to lay out the construction plan and will allow Link construction to proceed in a manner that keep water quality control measures synchronized with site disturbance, paving and other construction activities.
i. The sequencing and time frame for the initiation and completion of tasks, such as site clearing, grading, excavation, path construction, and reclamation, shall be planned in advance to ensure minimization of potential impacts.
j. Erosion and sediment control BMPs shall be incorporated into travelway construction plans.

HYD-8 To prevent petroleum products from contaminating soils and water bodies, the following BMPs shall be implemented:

a. Construction equipment and vehicles shall be properly maintained to prevent leakage of petroleum products.
b. Herbicides, fertilizers, vehicle maintenance fluids, petroleum products shall be stored, and/or changed in staging areas established at least 100 feet from delineated streams and other drainages. These products must be discarded at disposal sites in accordance with state and federal laws, rules, and regulations.
c. Drip pans and tarps or other containment systems shall be used when changing oil or other vehicle/equipment fluids.
d. Areas where discharge material, overburden, fuel, and equipment are stored shall be designed and established at least 100 vegetated (permeable) feet from the edge of delineated streams.
e. Any contaminated soils or materials will be disposed of off-site in proper receptacles at an approved disposal facility.
f. All erosion control measures shall be inspected and repaired after each rainfall event that results in overland runoff. The project contractor and CVAG shall be prepared year round to deploy and maintain erosion control BMPs associated with CV Link.
g. Existing culverts shall be carefully maintained in place in order to ensure that they function properly. Considerations include: maintenance of inlet and outlet elevations, grade, adequate compacted material cover, and inlet/outlet protection.

HYD-9 Restoration involves restoring the right-of-way to pre-construction conditions by final grading, installation of permanent erosion control measures such as slope breaks and retaining walls at appropriate distances to prevent rill (channel) formation between slope breaks, and re-establishing vegetation where it has been removed to facilitate construction.

a. Cleanup operations shall commence immediately following backfill operations on slopes approaching delineated streams and other drainages.
b. Final grading to restore pre-construction contours shall be completed and soil left in pre-existing condition within 7 days after backfilling the trench.
c. Restoration crew shall follow construction crews as they work systematically from one end to the other end of each Link alignment. If crews cannot work systematically from one end to the other, then erosion control BMPs shall be maintained on all slopes approaching a delineated stream and adjacent to these sensitive areas. If seasonal or other weather related conditions prevent compliance with these time frames, erosion control BMPs shall be maintained until conditions allow completion of cleanup.

HYD-10 Human access into the channels during periods of storms and potential flooding shall be restricted by barriers and noticed by signage to ensure that there is no significant risk of injury or death.

HYD-11 In order to reduce impacts to waters of the State and US in the Whitewater Floodplain in the vicinity of the Four Seasons development, the in-channel alignment shall be reduced to 14 feet in width from the DWA well site (APN: 669-590-064) to the San Rafael discharge channel.

4.9.7. Significance After Mitigation

While project impacts on hydrology and water quality are expected to be low, mitigation measures set forth above ensure that impacts will be less than significant. As indicated above, the CV Link project will generate a limited and less than demand for groundwater resources for both construction and operation, and its impact on these resources would be de minimis. Neither will any part of the Proposed Project substantially alter existing drainage patterns or alter the course of a stream or river, nor would the project result in substantial erosion of siltation. The project's contribution to stormwater runoff will be limited and will not result in an exceedance of channel capacity, be a substantial source of polluted runoff or otherwise substantially degrade water quality. The project will not place housing or any structure that would impede or redirect flows within a 100-year floodplain. During storm events, access to stormwater channel will be restricted. There are no flooding hazards associated with the failure of a levee, dam or from other causes. Through required on-going consultation and plan approval process with CVWD and RCFCWCD, as well as the implementation of the above cited mitigation measures, potential impacts to hydrology, hydraulic conditions, flood control facilities and water quality will be reduced to a less than significant level.

4.9.8. Cumulative Impacts

The geographic scope for the analysis of cumulative surface water hydrology and water quality/resources impacts consists of the individual CV Link sites and their adjacent surface drainages. The scope of analysis also includes and takes into consideration the effects of other development on the subject flood control facilities, including development along all areas tributary to these drainages. The various stormwater management plans implemented by CVWD and the RCFCWCD include requirements of all new development to detain or retain stormwater it generates, and to implement control measures that protect both surface and groundwater quality.

This analysis was performed using the growth projection approach pursuant to State CEQA Guidelines Section 15130(b)(1)(B) and secured from various public regulatory and planning documents. Due to the nature of the project, this analysis relies on activities that involve ground-disturbance, the placement of fill or structures within the 100-year flood zone, and an increase in impervious surfaces that could be occurring concurrently with construction of the project.

For CV Link, sediments, trash and debris, oil and grease, fuels, lubricants, concrete waste, sanitary waste and chemicals are pollutants of concern that could be discharged during construction activities. During grading and excavation, soil surface would be exposed and will be susceptible to soil erosion and sediment transport downstream. Construction BMPs set forth above and as required by local and regional agencies, will also be implemented to minimize the polluted included into the drainages.

Concrete and/or asphalt applications could also be a source of fine sediment, metals and chemicals that could change the pH levels in water bodies. Oil, grease, fuels and lubricants from construction equipment that may be leaking could affect receiving waters during construction activities. Temporary or portable sanitary facilities provided for construction workers could be a source of sanitary waste. Construction BMPs shall be implemented during construction activities to reduce any pollutants of concern that may enter nearby receiving waters, which would help reduce short term water quality impacts caused by the construction of the Proposed Project.

Completion of the CV Link project and its on-going operation and maintenance will ensure that project impacts to local drainages will be less than significant and, in fact, may facilitate or accelerate the correction of existing levee and bank elevation deficiencies. In this context and in light of the very limited impacts associated with CV Link, the project will have a less than cumulatively substantial impact on area drainages and water quality.

4.10. Land Use/Planning

4.10.1. Introduction

This section describes the existing land uses at and in the vicinity of the project planning area, and evaluates the compatibility of and potential impacts on those land uses from the Proposed Project. Land use regulations that address land use planning in the study area are provided for evaluation of land use compatibility. Potential land use impacts from project construction and operation are evaluated. Design elements that serve to avoid or minimize impacts are described, as are mitigation measures that would avoid or reduce impacts. This section includes a discussion of a potentially affected Conservation Area established by the Coachella Valley Multiple Species Habitat Conservation Plan (MSHCP). Please refer to Section 4.5 Biological Resources for a comprehensive resource-based discussion of the CV Link project's potential effects on species and habitats covered by the MSHCP. Agricultural land use is discussed in Section 4.3: Agricultural Resources.

4.10.2. Thresholds of Significance

The thresholds of significance analyzed herein have been taken from Appendix G of the State CEQA Guidelines. For purposes of this EIR, the proposed CV Link Proposed Project would have a significant effect on existing and planned land use if it were to:

a) Physically divide an established community.

b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect.

c) Conflict with any applicable habitat conservation plan or natural community conservation plan.

4.10.3. Regulatory Framework

There are a limited number of federal or state land use regulatory plans that are relevant to the subject CV Link project. These include regional habitat conservation plans and lands designated as a part of the Santa Rosa and San Jacinto Mountains National Monument (SRSJMNM). The Coachella Valley Multiple Species Habitat Conservation Plan is a federal, state and local habitat management plan, which also regulates or can affect certain land use determinations in the CV Link planning area. Finally, county and local General Plans and implementing documents also established and regulate the land use pattern on non-federal lands. These plans are briefly discussed below.

Federal

The federal government (US Fish and Wildlife Service) has issued an "incidental take" permit pursuant to Section 10(a) of the federal Endangered Species Act (ESA) for species covered under the Coachella Valley Multiple Species Habitat Conservation Plan. There is one segment of the CV Link project that interfaces with conservation lands managed under this plan.

State

The State of California is also a participating agency under the Coachella Valley Multiple Species Habitat Conservation Plan, and has approved and has a role in regulating land use based upon a Natural Communities Conservation Plan (NCCP) as a part of the overall MSHCP. The state has other regulatory roles associated with

the protection of water quality and jurisdictional waters of the state. These resources and potential CV Link impacts are discussed in Section 4.10: Hydrology and Water Quality of this EIR.

Regional/Local

The various community General Plans, including that of Riverside County, are the primary local planning documents regulating land uses on non-federal lands in the Coachella Valley. The following sets forth goals, policies and programs from each jurisdiction's General Plans that are relevant to the CV Link project.

City of Palm Springs

Circulation Element Policies

CR6.1 Adopt a program of nonmotorized transportation facilities, including those for bicycles and pedestrians.

CR6.3 Establish access to public trails and trailheads as part of new development applications proposed in the Chino Cone.

CR6.4 Utilize bicycle and hiking trails as a means of providing recreational and educational experiences by connecting to various parks and public facilities throughout the City.

CR6.8 Encourage proper design and maintenance of facilities and appropriate signing to ensure the safe uses of bikeway and trail systems.

Community Design Element Policies

CD15.5 Encourage the use of permeable paving materials to increase onsite percolation and reduce stormwater runoff.

Land Use Element Policies

LU1.12 Ensure that land uses maintain and expand parks, recreational trails, bikeways, and pedestrian corridors and linkages throughout the City and between Palm Springs and adjacent municipalities

LU9.11 Promote recreational use through the development of a system of trails. Pursue easements or other mechanisms to ensure long-term viability and access to existing trails and trailheads.

Noise Element Policies

NS2.25 Encourage and facilitate the development of alternative transportation modes that minimize noise within residential areas such as bicycle and pedestrian pathways.

Recreation, Open Space, Conservation Element Policies

RC1.1 Develop high-quality park, trail, and recreational facilities that meet the varied needs of children, adults, seniors, and people with disabilities.

RC8.3 Encourage and support the incorporation of energy efficiency and conservation practices in land use, transportation demand management, subdivision, and building design.

RC8.13 Make the maximum use of solar electric capabilities on an individual and community wide basis.

City of Cathedral City

Circulation Element Policies

Goal 2 Policy 2 Transit stops and pedestrian and bicycle paths should be sited in the a manner which encourages the use of alternatives modes of transportation and provides safe, convenient access to commercial and employment centers, as well as institutional and recreational uses.

Goal 3 Policy 7 The City shall develop and maintain a master trails plan that guides the securing of right-of-way, improvements and development fees and provides a comprehensive trails systems that interconnects with trails of adjoining jurisdictions and regional trail systems.

Policy 5 The City shall support alternative fuel sources and modes of transportation as a means of reducing transportation related energy demand.

Parks and Recreation Element

Goal 3 A comprehensive bikeway and walking path system which connects homes to work places, commercial venues and recreational facilities, as well as other cities in the Valley.

Policy 1 The City circulation system shall be planned and developed to assure the provision of safe and efficient vehicular, pedestrian and bicycle access to all parts of the community, effectively linking residents and visitors to the full range of residential, employment, shopping, and recreational land uses.

Policy 2 Transit stops and pedestrian and bicycle paths should be sited in a manner which encourages the use of alternatives modes of transportation and provides safe, convenient access to commercial and employment centers, as well as institutional and recreational uses.

Program 7.A The City shall develop a master plan of public bicycle, hiking and equestrian trails, which identifies functional and recreational land uses, attracts the use of alternative modes of transportation, and assures safe and efficient connections to City-wide and regional trail systems.

Policy 4 The design of City parks and trails shall accommodate the special needs of the disabled and senior population in the Cathedral City.

Program 10.C Aggressively pursue all funding sources available for parks and trails, including grants, developer contributions, donations and dedications.

Policy 11 The City shall develop and implement plans for a coordinated and connected bicycle lane network in the community that allows for safe use of bicycles on City streets.

Program 11.E The City shall continue to work with Coachella Valley Association of Governments, the Agua Caliente Band of Indians and its neighboring cities to create a valley wide bicycle and pedestrian network.

Policy 12 Where feasible, the City shall pursue opportunities to acquire public use privileges that permit access to multi-use trail corridors along the Whitewater and Palm Canyon Washes, or require new development to provide access easements to these facilities.

Program 12.A Evaluate the practicality of utilizing flood control channels for multi-use trails, where flooding and safety issues can be accommodated and negotiated inter-agency agreement with the Coachella Valley Water District and Riverside County Flood Control for this purpose.

City of Rancho Mirage

Circulation Element Polices

Policy 7 The City shall develop a system of continuous and convenient bicycle routes and multi-use trails to places of employment, shopping centers, schools and other high activity areas; as well as a golf cart transportation program.

Program7.B Maintain and expand a golf cart transportation program that will provide a safe and convenient means of golf cart access to golf course and neighboring uses within the City of Rancho Mirage.

City of Palm Desert

Biological Resources Element Policies

Policy 5 The City shall encourage and cooperate in the establishment of multiple use corridors that use drainage channels and utility easements to provide wildlife corridors and public access interconnections between open space areas in the community and vicinity.

Parks and Recreation Element Policies

Goal 2 A comprehensive urban and open space trails network to meet the hiking, biking and equestrian needs of the City's residents and visitors.

Policy 11 The City shall provide open space trails that provide City residents and visitors access to undisturbed desert and mountain environments, while preserving these resources, including sensitive plant and animal species, in their natural environments.

City of Indian Wells

Circulation Element Policies

IIC2.4 Encourage new development to provide internal bike paths and pedestrian ways where feasible and where natural features make paths desirable. Require that such paths link with the citywide path system.

IIC2.5 Work with neighboring jurisdictions to provide pedestrian ways, bikeways, and golf paths that connect to the City's adopted sidewalk, bikeway and golf path locations.

IIC3.3 Improve pedestrian, golf cart and bicycle connections from residential neighborhoods to retail centers, hotels, and schools.

Conservation and Open Space Element

IIIA 11.2 Encourage the use of active or passive solar design whenever feasible. Permit the use of solar panels to maximize energy efficiency provided the panels are in accordance with the City's/State's design guidelines contained in the Zoning Code.

IIIA 11.6 Develop alternative transportation and destination connectivity routes for golf carts.

IIIA 11.8 Encourage use of solar collectors on public buildings or City projects.

IIC1.3 Coordinate with other government entities, including Caltrans, Coachella Valley Association of Government (CVAG), LAFCO, Southern California Association of Governments (SCAG), Riverside County Transportation Commission (RCTC), Riverside County and adjacent communities, in implementation of the City's Circulation Plan and Coachella Valley-wide circulation improvements.

Goal IIC2 Travel Modes: Provide Indian Wells' residents with a choice of travel modes

Policy IIC2.4 Encourage new development to provide internal bike paths and pedestrian ways where feasible and where natural features make paths desirable. Require that such paths link with the citywide path system.

Policy IIC2.5 Work with neighboring jurisdictions to provide an interconnected system of pedestrian ways, bikeways, and golf paths.

Policy IIC3.4 Encourage the use of alternatives modes of transportation including public transit, ride sharing, golf carts, and walking.

Policy IIC3.S Improve pedestrian, golf cart and bicycle connections from residential neighborhoods to retail centers, hotels, and schools.

City of La Quinta

Land Use Element Policy

Policy LU3.3a Provides incentives in the Zoning Ordinance for creative and high quality development; projects that reduce the dependence on automobiles; projects that incorporate trails and paths for pedestrians and bicycles; projects that incorporate transit and alternative transportation facilities into their designs.

Circulation Element Polices

Goal CIR2 A circulation system that promotes and enhances transit alternative vehicles, bicycles, and pedestrian networks.

Policy CIR2.2 Encourage reduction of greenhouse gas (GHG) emissions by reducing vehicles miles traveled and vehicle hours of delay by increasing or encouraging the use of alternatives modes of transportation technologies, and implement and manage a hierarchy of Complete Street multimodal transportation infrastructure and programs to deliver improved mobility and reduce GHG emissions.

Policy CIR2.3 Develop and encourage the use of continuous and convenient pedestrian and bicycle routes and multi-use paths to places of employment, recreation, shopping, schools, and other high activity areas with potential for increased pedestrian, bicycle, golf cart/NEV modes of travel.

Parks, Recreation and Trails Element Policies

Policy PR-1.6 Encourage patterns of development that promote safe pedestrian and bicycle access to schools, public parks, and recreation areas.

Policy PR-1.7 Identify opportunities to integrate public health concerns into parks and trails planning.

Water Resource Element Policies

Policy WR-1.5 Development within drainage areas and stormwater facilities shall be limited to recreational uses such as golf courses, lakes, sports or play fields and similar uses.

Open Space Element Policies

OS-1.2.a: Coordinate with, and obtain approval from, local utility providers, including the Coachella Valley Water District, to use flood control and utility easements as a trails network which links open space and recreation areas.

OS-1.2.c: Explore opportunities for additional trails connectivity adjacent to and along watercourses, irrigation canals, and flood control improvements

City of Indio

Goal CIR-2: Accommodate alternatives to private automobile transportation that meet the needs of all City residents.

Goal PR-1: Provide a variety of recreational opportunities to serve the needs of all segments of the population.

City of Coachella

Circulation Element Polices

Policy 2.8 Renewable energy–open space areas. Allow the installation of renewable energy systems in areas zoned for open space.

Policy 3.7 Neighborhood connectivity. Create bicycle and pedestrian connections through existing residential neighborhoods, providing access to adjacent neighborhoods and external bicycle/pedestrian facilities.

Goals 4. Bicycle Trail Network. A bicycle and multi-use trail network that facilitates bicycling for commuting, schools, and shopping and recreational trips.

Riverside County

Land Use Element Policies

LU 3.1 Accommodate land use development in accordance with the patterns and distribution of use and density depicted on the General Plan Land Use Maps (Figure LU-1) and the Area Plan Land Use Maps in accordance with the following concepts:

d. Create street and trail networks that directly connect local destinations, and that are friendly to pedestrians, equestrians, bicyclists, and others using non-motorized forms of transportation.

g. Provide the opportunity to link communities through access to multi-modal transportation systems.

LU 11.4 Provide alternative options to automobile transportation in communities, such as transit, bicycle and pedestrian trails, to help improve air quality.

LU 13.4 Incorporate safe and direct multi-modal linkages in the design and development of projects, as appropriate.

LU 14.2 Incorporate riding, hiking, and bicycle trails and others compatible public recreational facilities within scenic corridors.

Circulation Element Policies

C15.1 Implement a two-tiered system of trails, and later expand it into an effective non-motorized transportation system.

C 15.4 Periodically review and update the Trails and Bikeways Plan ([General Plan] Figure C-7) in accordance with the review procedures and schedule of the General Plan, in order to ensure its compatibility with the other components of the Riverside County General Plan, and with the similar plans of agencies such as Western Riverside County Transportation Commission (RCTC), Regional Conservation Authority, Riverside County Habitat Conservation Agency and all jurisdictions within and abutting Riverside County. This shall include consistency with the WRCOG and CVAG non-motorized planning documents.

Noise Element Policies

N-10.2 Encourage the use of quieter electric-powered vehicles.

N-10.3 Encourage the development and use of alternative transportation modes including bicycle paths and pedestrian walkways to minimize vehicular noise within sensitive receptor areas.

Riverside County Eastern Coachella Valley Area Plan

ECVAP 14.1 Implement the Trails and Bikeways System, as discussed in the Non-motorized Transportation section of the General Plan Circulation Element.

ECVAP 14.3 A resources permit consideration should be given to the placement of signs along those public rights-of-way identified as regional or community trail alignments alerting motorists to the possible presence of equestrian, bicycle and pedestrian (i.e., non-motorized) traffic.

Coachella Valley Multiple Species Habitat Conservation Plan (MSHCP)

The project area of CV Link is located within the planning area for the Coachella Valley Multiple Species Habitat Conservation Plan (MSHCP). The MSCHP is a regional conservation plan coordinated by the Coachella Valley Association of Governments through Coachella Valley Conservation Commission (CVCC) in cooperation with its member jurisdictions and several state and federal agencies. The latter include the California Department of Fish and Wildlife (CDFW), U.S. Fish and Wildlife Service (USFWS), the National Park Service (NPS), Bureau of Land Management (BLM), and U.S. Forest Service (USFS). The MSHCP planning area is comprised of approximately 1.1 million acres in the Coachella Valley, including the project planning area.

Native American Lands

The CV Link Route Map Book (see Appendix B) that delineates the Proposed Project Route and its alignment variations also identifies lands which are under the jurisdiction of one of three Native American Tribes: the Agua Caliente Band, the 29-Palms Band and the Cabazon Band. Within their respective reservation boundaries, properties are designated as "Trust" or "Tribal", "Allottee", or "Fee". Fee lands are those parcels owned in fee simple by non-Indians; Allotted lands are parcels owned by Tribal members either in trust or in fee; and Tribal parcels are owned by the Tribe as a government, corporation, or organization, and held either in trust by the United States or in fee ("Tribal Lands"). The Tribes have entered into a land use contract with the cities and county for certain Tribal lands located within it jurisdictional boundaries. In many instances, Tribal authorities are also assisted by the US Bureau of Indian Affairs in the review and approval of leases, easements and similar permitting, and environmental processing and clearances.

4.10.4. Existing Conditions

The CV Link Route largely follows the levees of the region's principal watercourses, including the Whitewater River floodplain, Tahquitz Creek, the Whitewater River Stormwater Channel and the Coachella Valley Stormwater Channel. In some locations, CV Link will share rights-of-way with public roads thus providing direct access to key commercial districts, employment centers and recreational and institutional venues.

Single and multi-family residential, retail commercial, professional offices, a mix of industrial uses, and golf course and other open space lands are the assortment of land uses that surround the CV Link alignment. In the west and central Valley, the proposed Route will largely border residential developments and public streets. While residential developments continue to be a prominent land use in the eastern Valley, light industrial, wastewater facilities and agricultural lands occur along the Route.

Table 4.10-1
Existing Land Uses - CV Link Route Vicinity

Jurisdiction	Summary of Surrounding Land Uses	Applicable Land Use Plan
Palm Springs, Cathedral City and Agua Caliente Band of Cahuilla Indians	<u>North Palm Springs Segment</u> Northwest terminus at the Palm Springs Visitor Center is generally bound by vacant lands/open space lands and residential development. Link follows the levee service road and the south/right bank of the Whitewater River Stormwater Channel east and southeast. Conservation lands (CVMSHCP) are located north of the levee and in the wash. Other land uses in this area include a city park, single-family subdivisions, a defunct golf course, and drainage facilities. Alignment variations in this area also connect the levee alignment following San Rafael (extended) and Sunrise Way. East of Gene Autry Trail, the Route passes near light industrial lands and flood control facilities. South of Vista Chino and along the channel the Route passes the Escena golf club community, the Dream Homes community, and the Cimarron golf course. South of Ramon Road to the confluence with Tahquitz Creek, the Link passes through and along vacant ACBCI lands, single-family development and the northern portions of the Cathedral Canyon golf course in the wash. (See Map Book Segments 1-1 to 23-1 in Appendix B of this EIR) In Palm Springs, the west end of the south segment ends at South Palm Canyon Drive and is generally surrounded by retail commercial, service industrial, residential development and the Tahquitz Creek. East of Sunrise Way, the Link generally follows or passes near the Tahquitz Creek Channel, Mesquite Country Club and Tahquitz Creek golf club, recharge basins, a water park, condominiums, and the Tahquitz Creek stormwater channel. This south segment terminates at the Whitewater River. (See Map Book Segments 16-1 to 23-3 in Appendix B of this EIR) <u>Tahquitz Creek Segment</u> At the confluence of Tahquitz Creek and the Whitewater River the Link offers two separate alignments east and southeast. These alignment variations border or pass through the Cathedral Canyon golf course north and south of the wash. Adjoining land uses include the golf course, wash, multi-family residential and resort. The two golf course/wash alignments continue through the Cathedral City's urban core, characterized by commercial and office/professional land uses. These alignments also rejoin just east of Date Palm Drive and continue east along the south/right bank of the Whitewater River proceeding the city limits. (See Map Book Segments 23-4 to 27-5 in Appendix B of this EIR)	Palm Springs General Plan; Cathedral City General Plan; Agua Caliente Band of Cahuilla Indian Land Use Ordinance; Coachella Valley MSHCP

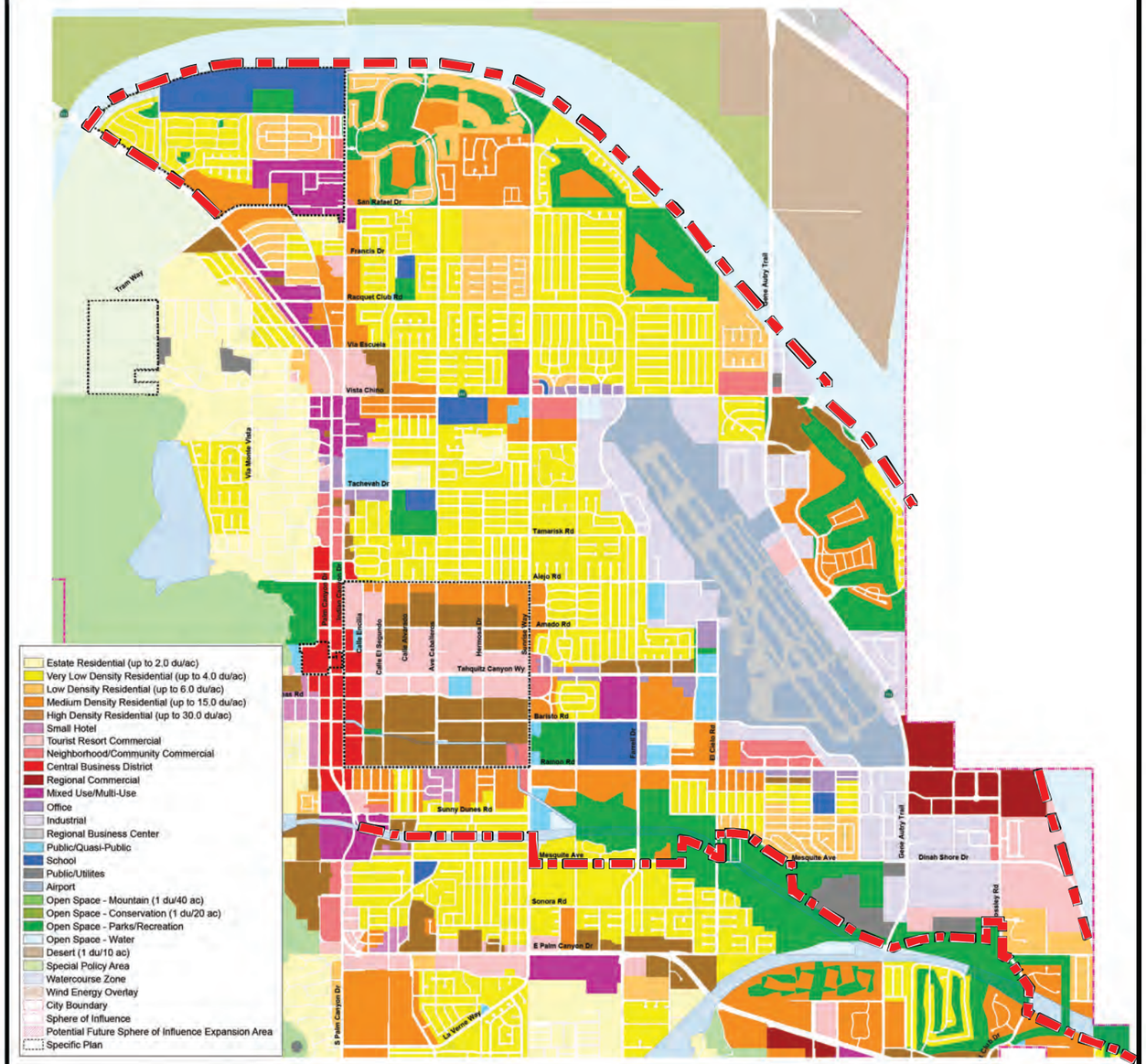
Table 4.10-1
Existing Land Uses - CV Link Route Vicinity

Jurisdiction	Summary of Surrounding Land Uses	Applicable Land Use Plan
Rancho Mirage East and West Termini	The CV Link Proposed Project does not include the City of Rancho Mirage, although Section 5 does analyze an alternative project that includes Rancho Mirage. In the vicinity of the two prospective West Termini, land uses are limited to commercial and stormwater channel, with the exception of the attached single-family development at the northwest corner of Da Vall Drive and Frank Sinatra Drive, which back onto the stormwater channel. The Wolfson Park is located at the southeast corner of these two streets. The one East Terminus is proposed at the intersection of Highway 111 and Parkview Drive, where surrounding lands are fully developed with regional and community commercial services in both Rancho Mirage and Palm Desert.	Rancho Mirage General Plan
Palm Desert	The Park View Drive alignment is generally surrounded by residential general commercial and professional land uses. The Link extends east to the College of the Desert campus. It continues through the campus and also extends an alignment north along Monterey Ave to Magnesia Falls Dr. and thence east along gated golf course residential on the north and college and public open space lands to the south. Magnesia Falls land uses include mobilehome parks, and elementary school and multi- and single-family neighborhoods. Magnesia Falls eventually connects to the Whitewater River where the Link will continue along the southern bank towards Palm Desert High School. The Link continues along the southern bank of the Whitewater River to the city limits, passing residential development and the wash. (See Map Book Segments 34-6 to 40-6 in Appendix B of this EIR)	Palm Desert General Plan
Indian Wells	In Indian Wells, the Link continues along the south bank of the Whitewater River, crosses the wash north of Fred Waring Drive to Eldorado Dr, passing residential lands and an IID substation. The Route splits south of Eldorado Dr to continue east along the north bank of the wash, past the Indian Wells Golf Resort; and also south to Highway 111 and east along the highway and past resort hotels to Miles Ave., where it jogs north to the wash. Two alignment variations continue east along the south side of Miles Ave and homes, Tennis Garden and vacant lands. The second alignment continues along the south bank of the WWR wash, passing nearby residential and commercial uses to Washington Street. Miles Avenue intersects with Washington Street. Please see pages 41 through 47 of Appendix B.	Indian Wells General Plan
La Quinta	The majority of the La Quinta Link is located along the south bank of the Coachella Valley Stormwater Channel and is bordered by a mix of predominantly commercial uses on the west and residential land uses on the eastern portion of the Route.	La Quinta Genera Plan
Indio	All of the Indio Link is located along the south (right) bank of the Coachella Valley Stormwater Channel and is bordered by a mix of single-family residential with limited service commercial and light industrial along the western portion of the Route. Land uses along and near the eastern portion of the Indio Route include single-family, parklands, ag-industrial, high school, service industrial and water treatment facilities, and vacant agricultural lands.	Indio General Plan

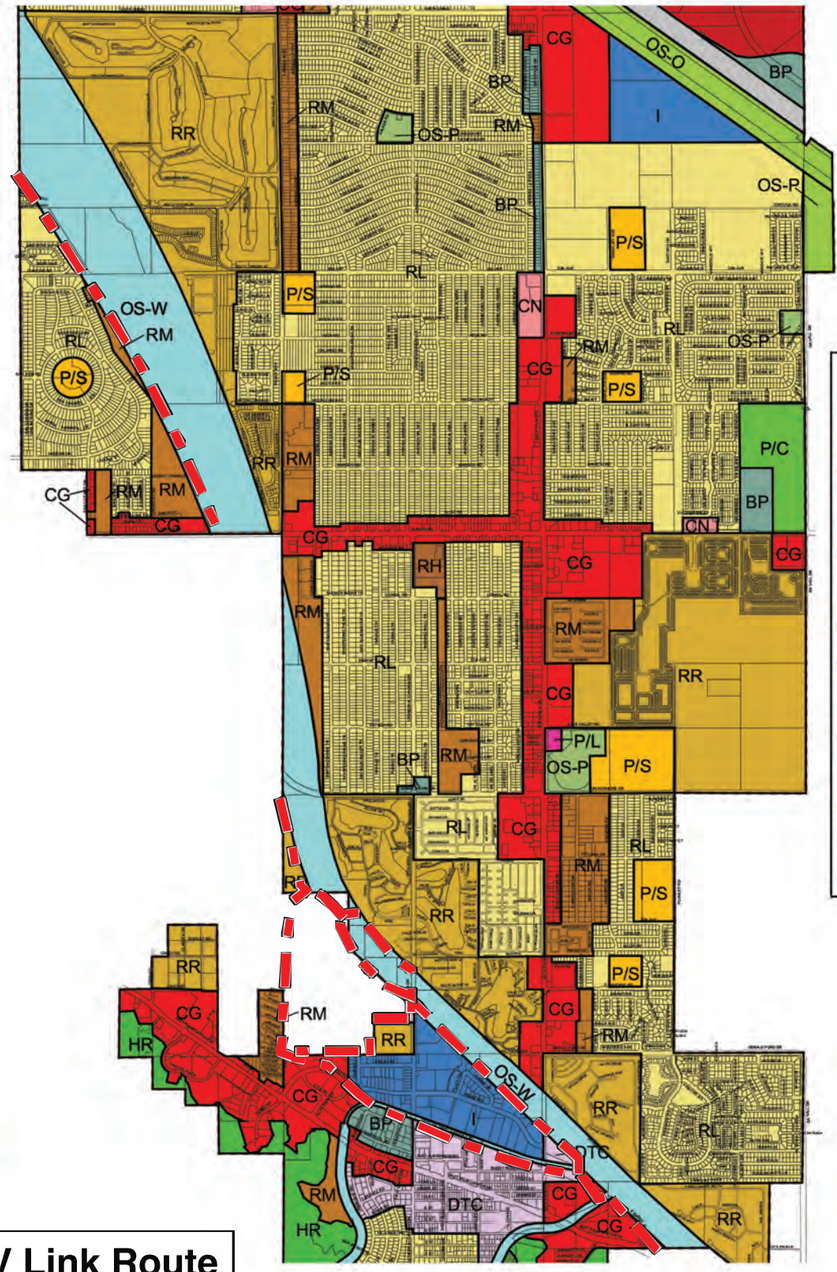
Table 4.10-1
Existing Land Uses - CV Link Route Vicinity

Jurisdiction	Summary of Surrounding Land Uses	Applicable Land Use Plan
Coachella, Riverside County, Cabazon Band of Mission Indians, and Twenty-nine Palms Band of Mission Indians	The majority of the this Link is located along the Coachella Valley Stormwater Channel straddling the Indio and Coachella city limits, and in this area bordered by a mix of service industrial and fallow agricultural lands. South of Dillon Road to Avenue 56, the Route passes agricultural lands, an auto wrecking yard, scattered single-family ag-industrial, water treatment facilities and vacant and active agricultural lands. The subject alignment terminates at Airport Boulevard.	Coachella and County General Plans; Applicable Cabazon Band of Mission Indians, and Twenty-nine Palms Band of Mission Indians Land Use Ordinances

PALM SPRINGS



CATHEDRAL CITY



CV Link Route

N

07.26.16

Sources: Palm Springs General Plan, (year); Cathedral City General Plan (year)

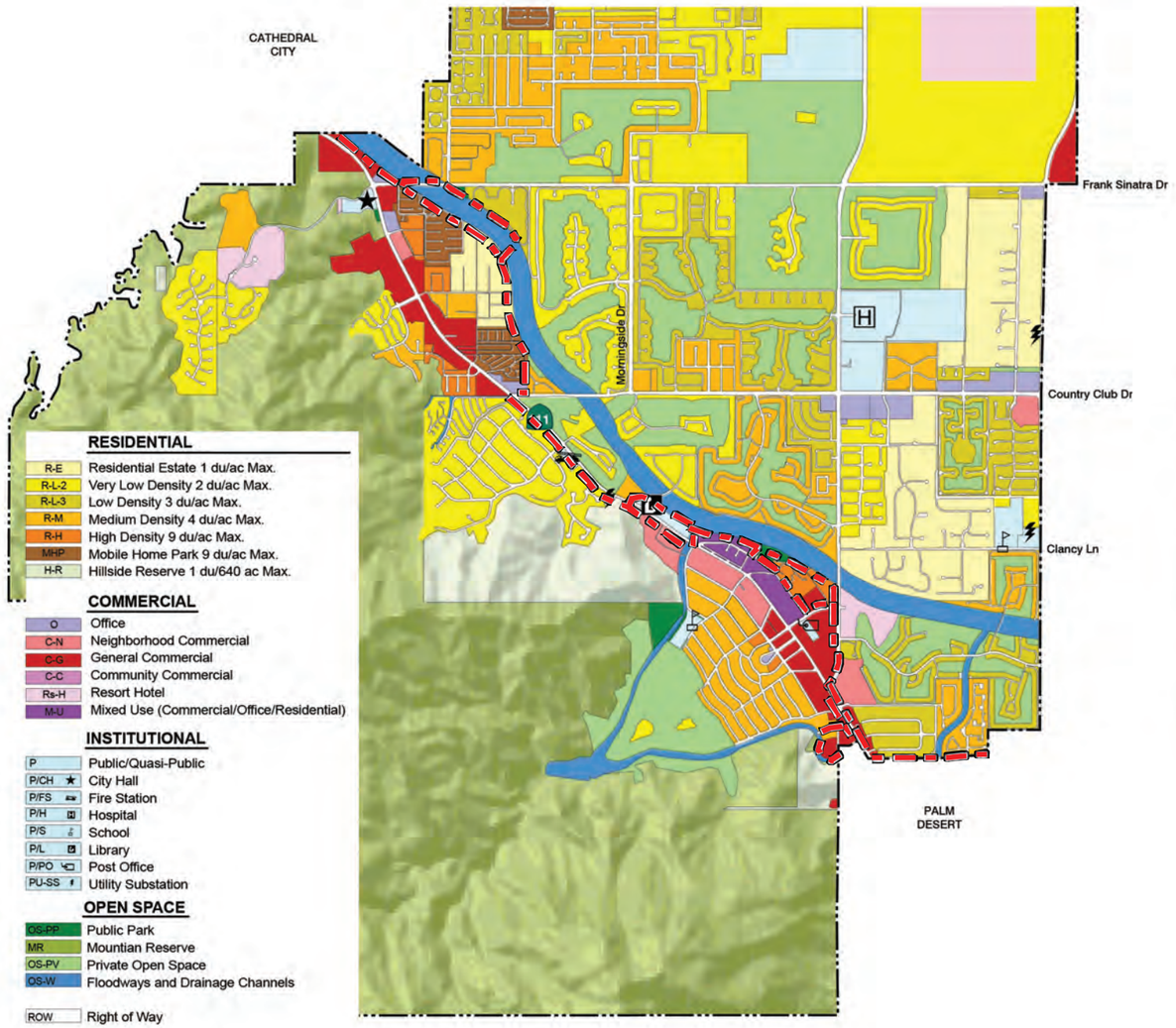
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CV Link Project
Land Use Maps - Palm Springs & Cathedral City
Coachella Valley Association of Governments

CV LINK
CONNECTING THE COACHELLA VALLEY
CVAG

Exhibit
4.10-A

RANCHO MIRAGE



RESIDENTIAL

R-E	Residential Estate 1 du/ac Max.
R-L-2	Very Low Density 2 du/ac Max.
R-L-3	Low Density 3 du/ac Max.
R-M	Medium Density 4 du/ac Max.
R-H	High Density 9 du/ac Max.
MHP	Mobile Home Park 9 du/ac Max.
H-R	Hillside Reserve 1 du/640 ac Max.

COMMERCIAL

O	Office
C-N	Neighborhood Commercial
C-G	General Commercial
C-C	Community Commercial
Rs-H	Resort Hotel
M-U	Mixed Use (Commercial/Office/Residential)

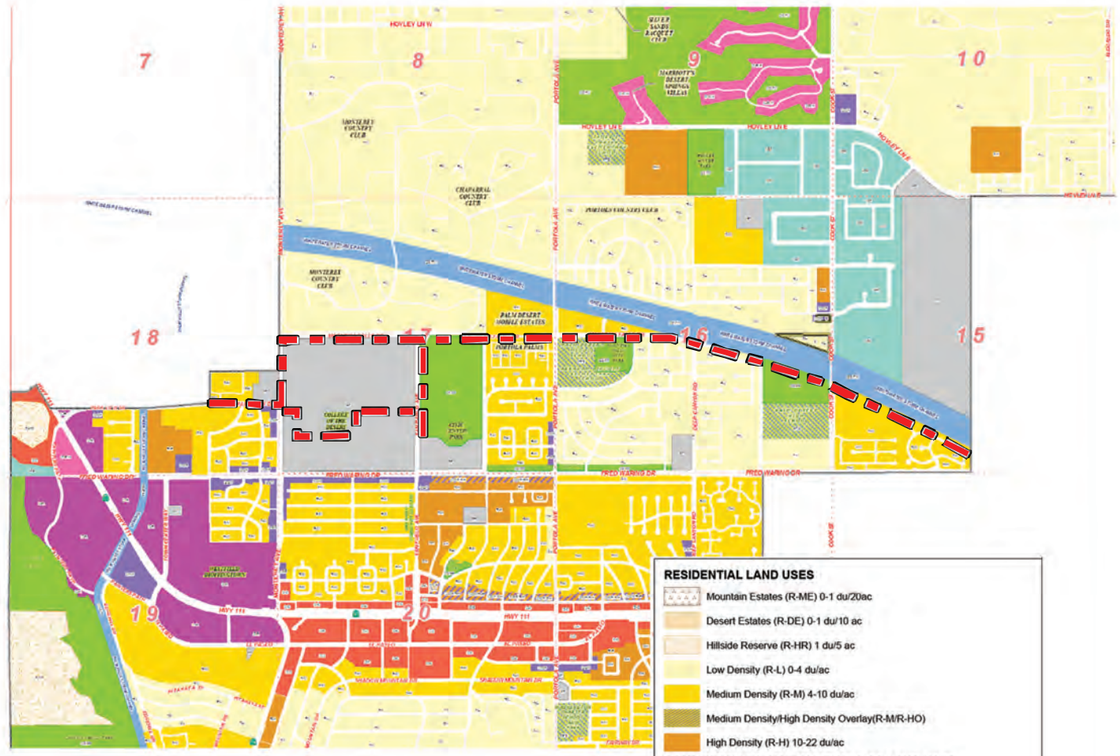
INSTITUTIONAL

P	Public/Quasi-Public
P/CH	City Hall
P/FS	Fire Station
P/H	Hospital
P/S	School
P/L	Library
P/PO	Post Office
PU-SS	Utility Substation

OPEN SPACE

OS-PP	Public Park
MR	Mountian Reserve
OS-PV	Private Open Space
OS-W	Floodways and Drainage Channels
ROW	Right of Way

PALM DESERT



RESIDENTIAL LAND USES

- Mountain Estates (R-ME) 0-1 du/20ac
- Desert Estates (R-DE) 0-1 du/10 ac
- Hillside Reserve (R-HR) 1 du/5 ac
- Low Density (R-L) 0-4 du/ac
- Medium Density (R-M) 4-10 du/ac
- Medium Density/High Density Overlay(R-M/R-HO)
- High Density (R-H) 10-22 du/ac

COMMERCIAL/INDUSTRIAL/BUSINESS LAND USES

- Regional Commercial (C-R)
- Community Commercial (C-C)
- Resort/Hotel Commercial (C-R/H)
- Mixed Use (MU) - Commercial / High Density (R-H) 10-22 du/ac
- Office Professional (C-OP)
- Office Professional (C-OP) / Medium Density (R-M) 4-10 du/ac
- Office Professional (C-OP) / High Density (R-H) 10-22 du/ac
- Industrial - Business Park (I-BP)
- Industrial - Light (I-L)

OTHER LAND USES

- Public/Quasi-Public Facilities (PF)
- Public Facility/School (PF/S)
- Public Facility/University (PF/U)
- Open Space - Parks (OS/PP)
- Open Space - Public Reserves (OS/PR)
- Open Space - Private (OS/PV)
- Open Space - Waterway (OS/FW)
- Freeway (FWY)
- Study Zone (S)
- City Boundary

CV Link Route

N

07.27.16

Sources: Rancho Mirage General Plan, (2005); Palm Desert General Plan (2008)

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CV Link Project
Land Use Maps - Rancho Mirage & Palm Desert
Coachella Valley Association of Governments

CV LINK
CONNECTING THE COACHELLA VALLEY
CVAG

Exhibit
4.10-B

INDIAN WELLS



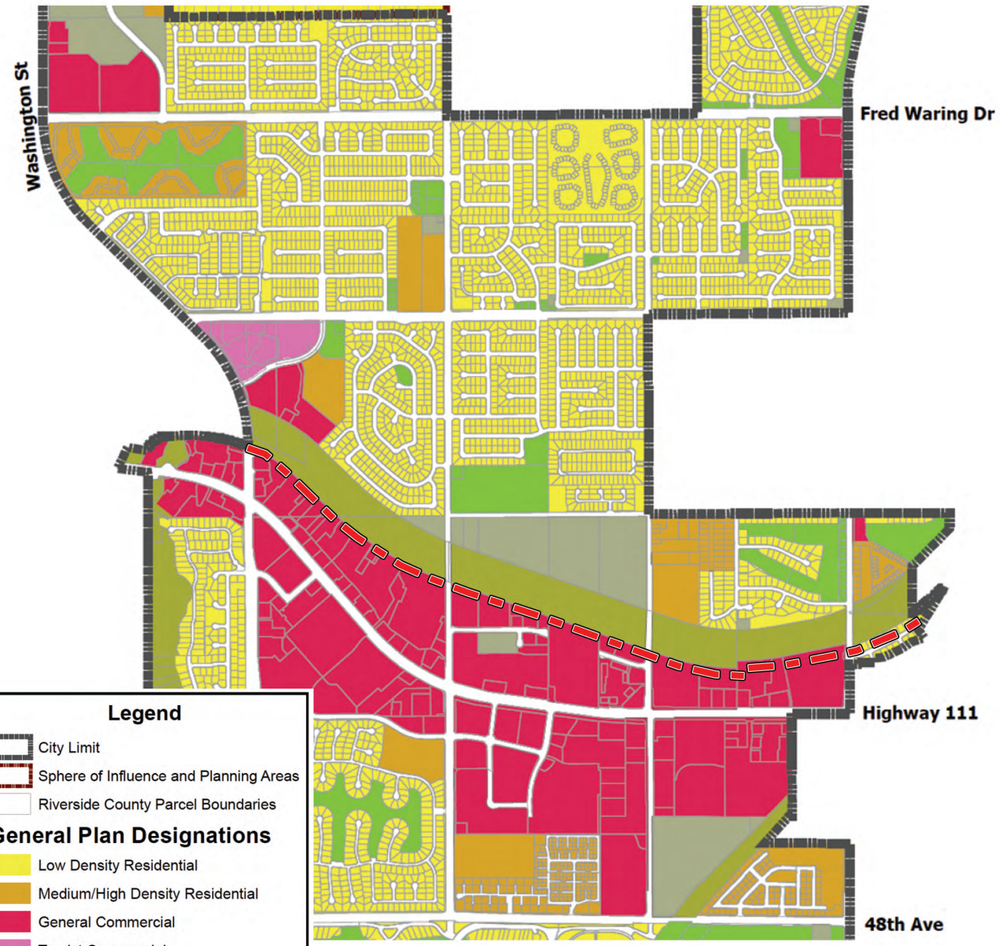
RESIDENTIAL
- VERY LOW DENSITY
- LOW DENSITY
- MEDIUM DENSITY
- MEDIUM HIGH DENSITY

COMMERCIAL
- PROFESSIONAL OFFICE
- COMMUNITY COMMERCIAL
- RESORT COMMERCIAL
- SPORTS COMPLEX

OPEN SPACE
- GOLF AND RECREATION
- NATURAL PRESERVE
- PUBLIC PARK
- WATERCOURSE
- OPEN SPACE

CIVIC
- PUBLIC FACILITY

LA QUINTA



Legend

- City Limit
- Sphere of Influence and Planning Areas
- Riverside County Parcel Boundaries

General Plan Designations

- Low Density Residential
- Medium/High Density Residential
- General Commercial
- Tourist Commercial
- Village Commercial
- Industrial/Light Manufacturing
- Major Community Facilities
- Open Space - Natural
- Open Space - Recreation
- Street Rights of Way

CV Link Route

N

07.27.16

Sources: Indian Wells General Plan, (2012); La Quinta General Plan (2013)

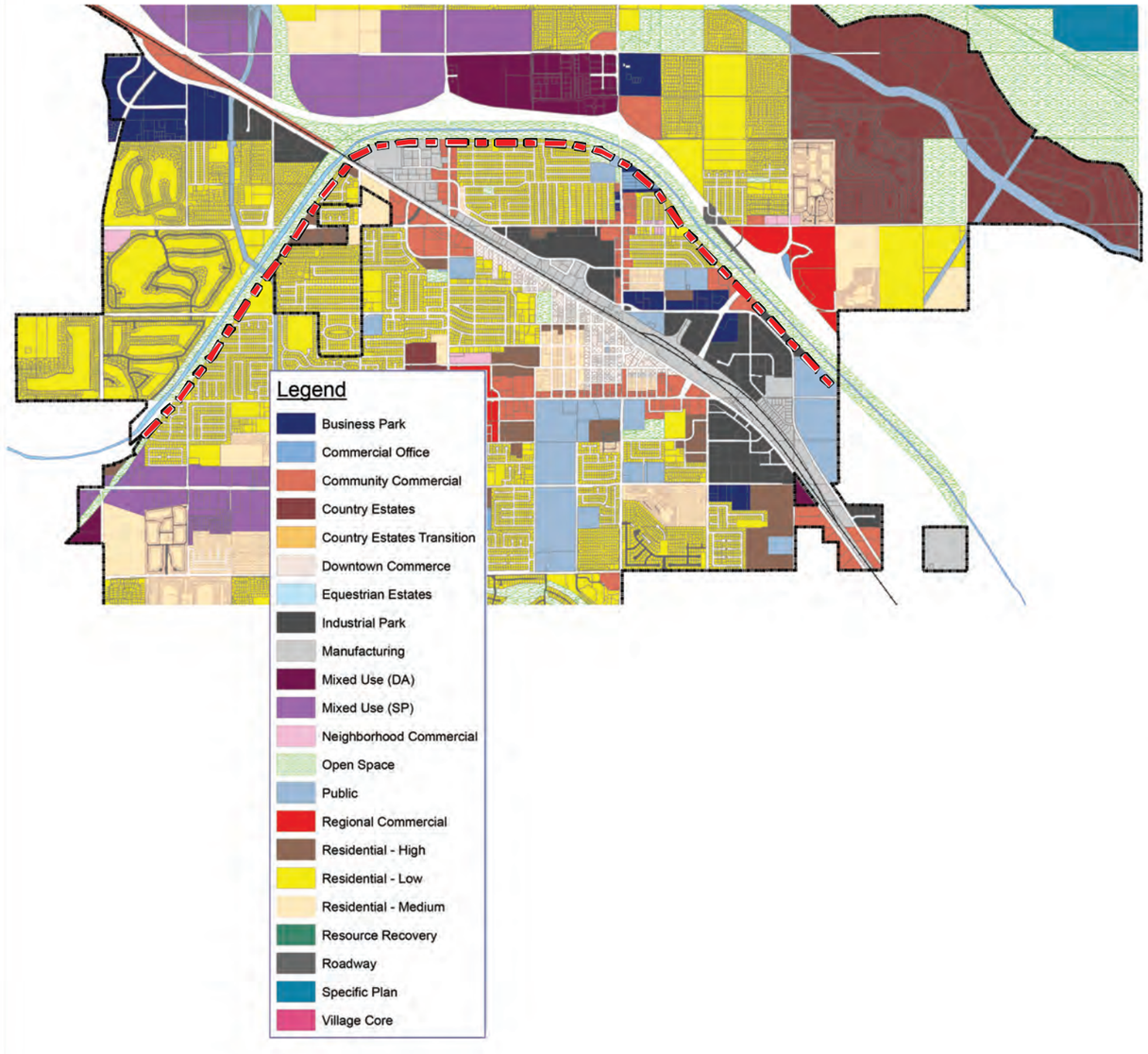
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CV Link Project
Land Use Maps - Indian Wells & La Quinta
Coachella Valley Association of Governments

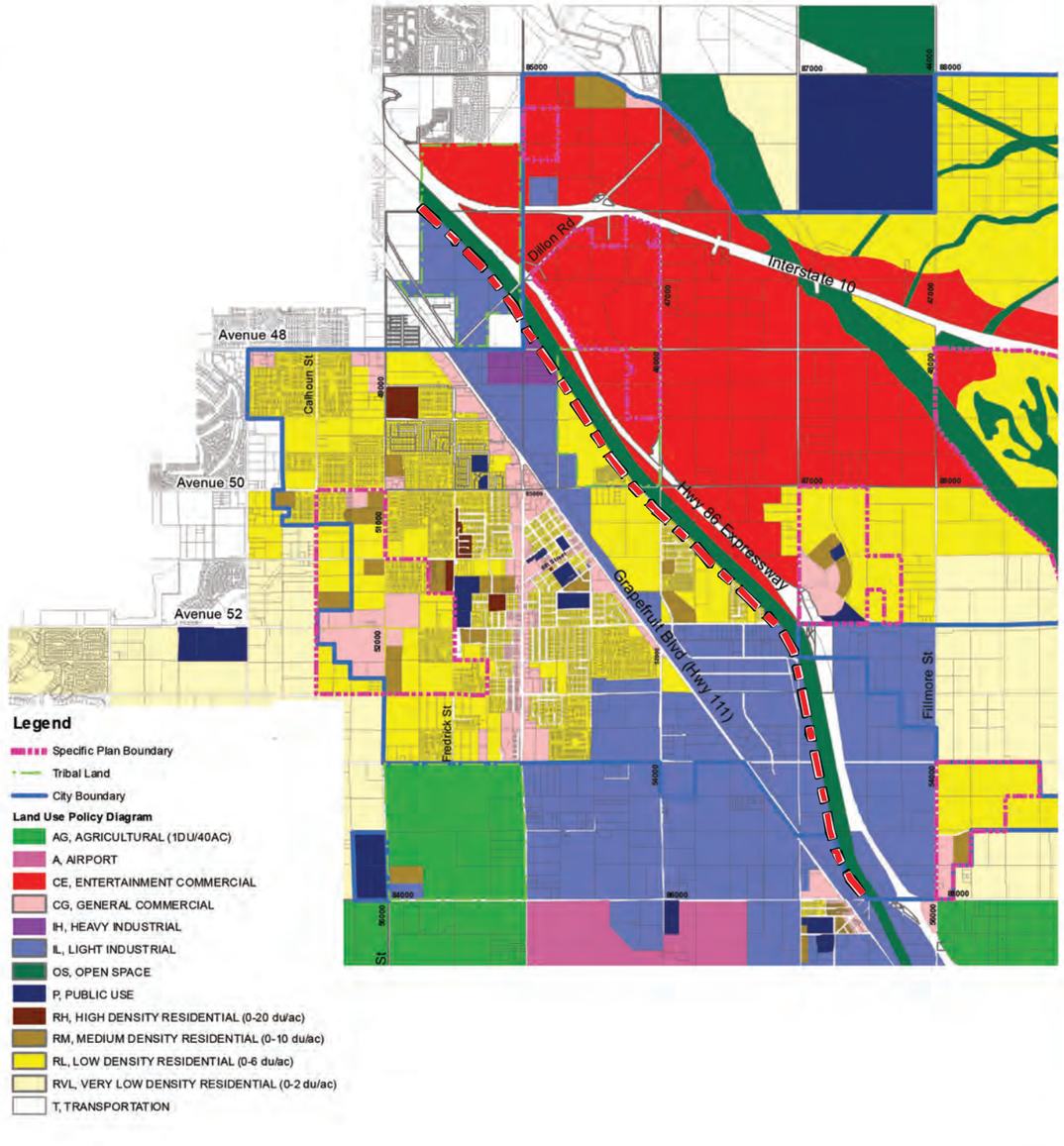
CV LINK
CONNECTING THE COACHELLA VALLEY
CVAG

Exhibit 4.10-C

INDIO



COACHELLA



CV Link Route

N

07.28.16

Sources: Indio General Plan, (2007); Coachella General Plan (2013)

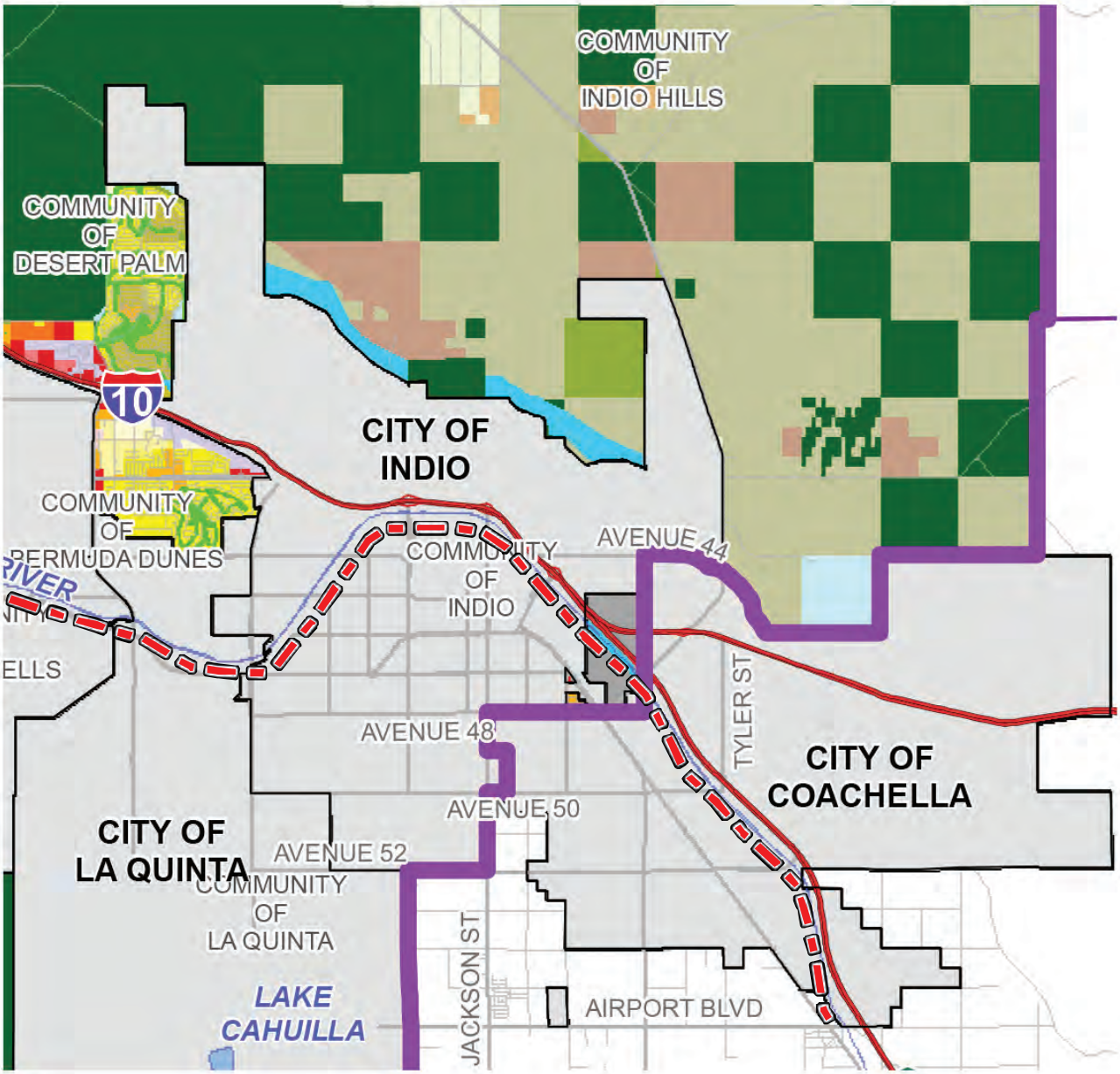
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CV Link Project
Land Use Maps - Indio & Coachella
Coachella Valley Association of Governments

CV LINK
CONNECTING THE COACHELLA VALLEY

CVAG

Exhibit
4.10-D



CV Link Route

Legend

- Estate Density Residential
- Very Low Density Residential
- Low Density Residential
- Medium Density Residential
- Medium High Density Residential
- High Density Residential
- Very High Density Residential
- Commercial Retail
- Commercial Tourist
- Commercial Office
- Light Industrial
- Heavy Industrial
- Business Park
- Public Facilities
- Mixed Use Planning Area

RURAL COMMUNITY
- Rural Community - Estate Density Residential
- Rural Community - Very Low Density Residential

RURAL
- Rural Residential
- Rural Mountainous

AGRICULTURE
- Agriculture

OPEN SPACE
- Conservation
- Conservation Habitat
- Open Space Recreation
- Open Space Rural
- Mineral Resources
- Water

MISCELLANEOUS
- Tribal Lands

- Highways
- Area Plan Boundary
- City Boundary
- Waterbodies

N

08.05.16

Source: Riverside County Planning Department - Western Coachella Valley Land Use Map 2015

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CV Link Project
Land Use Map - Riverside County
Coachella Valley
Association of Governments

CV LINK CONNECTING THE COACHELLA VALLEY
CVAG

Exhibit
4.10-E

4.10.5. Project Impacts

This analysis evaluates the potential for land use impacts, including short-term impacts on existing land uses that could result from temporary construction activities, and long-term impacts that could result from the construction, operation, and maintenance of CV Link. This section analyzes the relationship between CV Link and the land use conditions of each segment of the Route during construction and operation, as well as the project's consistency with local planning documents. Local planning documents and maps, described above, were reviewed and site surveys were conducted to characterize existing land uses on and adjacent to the project area. Applicable plans and policies were reviewed to determine their applicability to the project and whether the proposed Route would be inconsistent with the relevant policy, plan, or regulation.

CEQA requires an analysis of the potential of the conflict between the project and an applicable land use plan, policy or regulation of an agency with jurisdiction over the project that has been adopted for the purpose of avoiding or mitigating an environmental effect. There are several land use plans relevant to the proposed Route. These are considered and evaluated below.

CV Link Impacts and Thresholds of Significance
The following discusses the CV Link project in the context of applicable thresholds of significance. The responses to these threshold questions are based in part upon the CV Link Master Plan and extensive analysis of existing and planned land uses. It is also based upon the project description, assessments of existing conditions and the above analysis of potential impacts. In this regard, will the Proposed Project:

a) Physically divide an established community?

The CV Link Proposed Project will be constructed atop existing flood control, channel maintenance roads. These channels already serve to divide communities to some degree. Other CV Link alignments are planned on or adjacent to existing streets and will have no further effect of dividing an established community. Nonetheless, during the construction phase, access to neighborhoods, commercial areas, schools and adjacent parks could be temporarily disrupted by the Route construction and lane closures or detours. The location of CV Link will not be detrimental to existing neighborhoods given that it will not create an additional division within the community, instead it will provide connectivity between communities. CV Link is an expansive project, which connects Palm Springs to Coachella; it occurs on existing constructed facilities, including levee tops, park and golf course paths and city streets, and it does not create new separations between existing neighborhoods. Due to the scope, scale and location of the proposed Link alignments there is no potential for the construction of the project to divide or isolate parts of an established community. Any impacts would be short-term. The CV Link alignments do not traverse or physically divide an established community; on the contrary CV Link will provide alternative multi-modal routes that will serve to better connect surrounding communities. Impacts would be less than significant.

b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?

Total length of the CV Link Proposed Project is approximately 44± miles. The Route contains alignments and alignment variations that could result in 57.62± total miles of pathway in the project area. Along the Route, pathway widths will vary based upon the availability of right of way and other physical constraints and opportunities. The pathway width will range from 15 feet to 30 feet. The pathway will pass in proximity to lands that are developed and/or designated for residential uses. It should also be noted that transportation is also integral to a functioning land use pattern. Therefore, the relationship between CV Link and surrounding land uses and land use plans and regulations is ideally complimentary. The following discussion reviews land uses and plans that may be affected by the operation of CV Link.

City of Palm Springs

The City of Palm Springs General Plan and Zoning Ordinance support the integration of multi-modal paths within the existing street rights of way wherever possible. Portions of CV Link will also be located within the Watercourse (W) Zone, within which the City allows the construction and operation of recreational facilities with an approval agreement of the City. This ensures that the Proposed Project does not conflict with the flood control functions of these lands. In a few cases, a CV Link alignment variation may pass in proximity to residences, where buffers consisting of landscaping screens, decorative block walls, and flood control levees serve to further minimize impacts.

In North Palm Springs, the Route will follow the edge of the Whitewater River floodplain, passing residential development on the south side of the levee. In this area, the path occurs both on top of the levee and at its base. The path in this area will consist of primarily hardscape. At its location adjacent to the Four Seasons community, three Whitewater River alignment variations are proposed: one on the top of the levee, one in the 10 to 15 foot area between the top of the levee and the Four Seasons property line, and one at the base of the levee in the channel bottom. The first alignment variation on top of the levee would result in CV Link users having views into the rear yards of the residents, because the elevation of the levee is above the elevation of the homes. The second alignment variation in the intervening land between the levee and the Four Seasons property line would occur at the same elevation as the homes, and CV Link users would be blocked from view by the existing perimeter walls. The third alignment variation on the channel bottom would be on the north side of the levee, and would not be proximate to, or visible to Four Seasons residents. This location has been proposed to address privacy concerns from that community. The location of the path in the floodplain will also assure that the views from the Four Seasons community of the surrounding mountains will remain as they are currently.

Along the Tahquitz Creek alignment, CV Link will be located adjacent to residential development at the same elevation as the homes. Screening will be comprised of decorative block walls and/or landscaping to further minimize the overall impacts to the residents.

The implementation of the Proposed Project supports General Plan policies relating to non-vehicular transportation and connectivity, as provided in Policies CR6.1, CR6.3, and CR6.4; LU1.12 and LU9.11; NS2.25. The Proposed Project will improve access to existing trails, including those in the Chino Cone and Tahquitz Canyon areas; and will connect existing and future development throughout the City with an alternative means of transportation. The Proposed Project will also include educational kiosks and displays at various locations, including along the Palm Springs wash to educate users on Casey's June Beetle recovery efforts. Finally, the Proposed Project will be maintained in perpetuity to assure safety on the pathway, as required in Policy 6.8.

As described above, in Palm Springs the Proposed Project has the potential to impact privacy at the Four Seasons project if the alignment were to occur on top of the levee. As this would result in a potentially significant impact, mitigation measure LU-1 is included below, should this alignment variation be selected. With implementation of privacy screening which would block the view of CV Link users into Four Seasons back yards, impacts of this alignment variation would be less than significant.

City of Cathedral City

In the City of Cathedral City the CV Link Route is primarily located in the Open Space-Water (OS-W) Zone. A recreational facility is permitted with a Conditional Use Permit. Segments paralleling the stormwater channel will pass condominiums and resort hotel rooms within the Cathedral Canyon Country Club. CV Link will be enhancing an existing pathway system that is located adjacent to the residential properties. Currently, recreational users use the existing pathway system; although CV Link will generate an increase of users the distance between the residences and the existing landscaped features will eliminate impacts to the residents. In Cathedral City, segments also follow several smaller drainage facilities, which occur primarily in areas with commercial and light industrial land uses.

The operation of CV Link will support the City of Cathedral City in implementing Circulation Element Goal 3, and its supporting Policies, which are meant to "develop and maintain a master trails plan … provides a comprehensive trails systems that interconnects with trails of adjoining jurisdictions and regional trail system." As previously stated, CV Link will follow the region's flood control channel ways, complementing Parks and Recreation Element Policy 12 which aims to "acquire public use privileges that permit access to multi-use trail corridors along the Whitewater and Palm Canyon Washes." Thus, CV Link will result in not only land use compatibility but also provide the City with a way to implement a variety of its goals and policies.

No significant land use incompatibilities or conflicts with any applicable land use plan, policy will result in Cathedral City from project development. Therefore, within Cathedral City, impacts will be less than significant.

City of Rancho Mirage

As noted above, the CV Link Proposed Project does not traverse the City of Rancho Mirage, but Section 5 does analyze a project alternative that does include this city. For the Proposed Project and in the vicinity of the two prospective West Termini, land uses are limited to commercial and stormwater channel, with the exception of the attached single-family development at the northwest corner of Da Vall Drive and Frank Sinatra Drive, which backs onto the stormwater channel. Wolfson Park is located at the southeast corner of these two streets. The one East Terminus is proposed at the intersection of Highway 111 and Parkview Drive, where surrounding lands are fully developed with regional and community commercial services in both Rancho Mirage and Palm Desert.

The implementation of the Proposed Project would limit the City of Rancho Mirage's ability to effectively implement the General Plan's Circulation Element Policy 7, which requires the development of a "a system of continuous and convenient bicycle routes and multi-use trails to places of employment, shopping centers, schools and other high activity areas." The exclusion of the City would also limit the implementation of Program 7.B, by not expanding the City's golf cart transportation program. Even so, the City of Rancho Mirage may meet these goals by providing alternatives to CV Link.

No significant land use incompatibilities or conflicts with any applicable land use plan, policy will result in Rancho Mirage from project development. Therefore, within the City of Rancho Mirage, impacts will be less than significant.

City of Palm Desert

In Palm Desert, the Route will utilize existing roadways and associated parkways along Parkview Drive, Monterey Avenue, and Magnesia Falls Drive that are designated as Class I and Class II bicycle routes and will benefit from CV Link. An alignment variation will also pass through the College of the Desert main campus on or along the existing campus ring road and connect the college to the Palm Desert Civic Center Park. These areas are zoned as Public/Institutional (P) and the proposed facility is consistent with both of these institutional uses given that CV Link is a public recreational facility and will provide alternative modes of transportation to schools and parks, thus complementing the existing land use. East of Portola Avenue, the Link path will be within the Magnesia Falls Drive right of way and will pass by and serve the Lincoln Elementary School and Palm Desert Community Park. As the Route moves east of Deep Canyon Drive (extended) it will be located in the Open Space-Waterway (OS/FW) District. Recreational facilities are a permitted use within this district and as such CV Link will not conflict with any land use regulations of the City of Palm Desert.

Moreover, CV Link will aid in fulfilling the City of Palm Desert General Plan Parks and Recreation Element Goal 2 and Policy 11, which dictate that the City should provide a "comprehensive urban and open space trails network to meet the hiking, biking and equestrian needs of the City's residents and visitors." Given that CV Link is a multi-modal network that will provide the City's residents and visitors with a recreational outlet, it supports the implementation of this Goal and Policy.

No significant land use incompatibilities or conflicts with any applicable land use plan, policy will result in Palm Desert or on the College of the Desert campus from project development. Therefore, within the City of Palm Desert, impacts will be less than significant.

City of Indian Wells

The CV Link Proposed Project would place Link improvements within and along the Whitewater River Stormwater Channel. Land uses along and adjacent to the channel alignments include Watercourse (W), Open Space-Golf/Recreation (OS), Resort Commercial (RC), Community Commercial (CC) and Medium Density Residential (R-MD). Other alignments are primarily on-street, including along Eldorado Drive, Highway 111, Miles Avenue and Washington Street, which are designated as Class II and Class III bikeways in the City's General Plan. Recreational uses are permitted and have been developed within the channel right of way with City and CVWD approvals. In the Resort Commercial Zone, a recreational facility can be approved with the issuance of a Conditional Use Permit. The CV Link Route has been selected to avoid conflicts with play on the City's municipal golf course and, as elsewhere, takes advantage of the channel service road east of the Miles Avenue bridge and the existing buffers of block walls, landscaping and distance. No significant land use incompatibilities or conflicts with any applicable land use plan, policy will result in Indian Wells from project development. Therefore, within the City of Indian Wells, impacts will be less than significant.

The Proposed Project would result in the City of Indian Wells' ability to implement its General Plan Circulation Element Goal IIC2, providing their residents a "choice of travel modes." It would also support Policy IIC2.5 and IIC3.5, insofar as it would add alternative modes of transportation to connect neighborhoods to retail, resort and school uses.

In November 2016, "Measure H" passed with majority vote (68%) requiring majority approval for installation of any portion of the CV Link within the City of Indian Wells. Therefore, the residents of Indian Wells would need to approve CV Link via majority vote prior to approval of CV Link project plans.

City of La Quinta

In the City of La Quinta the CV Link Proposed Project Route will be located primarily along and adjacent to the Coachella Valley Stormwater Channel, with a portion of the Route located within or adjacent to the borders of Community Commercial land uses. A recreational facility is a permitted use in a Floodplain Zone. Remaining vacant lands adjacent to the Route are also designated for commercial development, which (as now) will back onto the stormwater channel. There are no land use conflicts associated with the development of the CV Link project in La Quinta.

In addition, the Proposed Project would assist the City of La Quinta in effectively implementing its General Plan Circulation Element Policy CIR2.3 to "develop and encourage the use of continuous and convenient pedestrian and bicycle routes and multi-use paths" since CV Link is a transportation corridor that provides a continuous and convenient multi-modal pathway. The Proposed Project will also occur in proximity to the City's Highway 111 corridor, which is subject to detailed attention in its General Plan Land Use Element, as detailed in Policy LU 3.3a, which supports creative design and connectivity. Finally, the City's Parks, Recreation and Trails Element supports the development of alternative transportation routes through Policies PR-1.6 and 1.7; and its Open Space Element Policies OS-1.2a and 1.2c, which encourage the use of the Channel levee for trail use. For these reasons, CV Link will complement existing land uses and further fulfill the City vision.

No significant land use incompatibilities or conflicts with any applicable land use plan, policy will result in La Quinta from project development. Therefore, within the City of La Quinta, impacts will be less than significant.

City of Indio

The CV Link alignments for the Proposed Project continues to follow the right bank of the stormwater channel and the rear yards, walls and fences of predominantly single family homes, most of which are at an elevation lower than the top of levee where much of the Link Route would occur. While the Proposed Project is compatible with and complimentary to these residential uses, at some locations screening will be required to assure that privacy of adjacent residents is preserved (please also see Section 4.2, Aesthetics). Mitigation measure LU-1 is included below, which would block the view of CV Link users into adjacent back yards, thereby reducing impacts of this alignment to less than significant levels. In Indio, CV Link will also cross over the Coachella Branch Canal and under Union Pacific Railroad lines and Indio Boulevard.

Adjoining land uses in the northern portion of the City include industrial and business park development, which is compatible with the project. Farther east and continuing along the channel, additional single-family development backs onto the stormwater channel and the proposed future CV Link Route. Here too, the Proposed Project is compatible with and complimentary to these residential uses; however, at some locations screening will be required to assure that privacy of adjacent residents is preserved (please also see Section 4.2, Aesthetics). Mitigation measure LU-1 is included below, which would block the view of CV Link users into adjacent back yards, thereby reducing impacts of this alignment to less than significant levels. The proposed Route will also connect with the Jackson Park; this will be a complementary use to the park's recreational uses.

CV Link is meant to be a multi-modal transportation corridor that will support the City of Indio's General Plan Circulation Goal 2, which stipulates the construction of "alternatives to private automobile transportation that meet the needs of all City residents." In addition, Parks and Recreation Goal PR-1, which requires the provision of recreational opportunities for residents will be implemented through the Proposed Project. CV Link will thus complement and support the land use plans of the City.

No significant land use incompatibilities or conflicts with any applicable land use plan, policy will result in Indio from project development. Therefore, within the City of Indio, impacts will be less than significant.

City of Coachella

The CV Link Proposed Project is located almost entirely on the right bank service road of the Coachella Valley Stormwater Channel. There are areas of single-family development and residentially designated vacant lands that are generally north of Avenue 52 and that back onto the channel levee. As with other portions of the channel, it is in a levee condition and the top of levee is higher than residential rear yards in these areas. While the Proposed Project is compatible with and complementary to these residential uses, at some locations screening will be required to assure that privacy of adjacent residents is preserved (please also see Section 4.2, Aesthetics).. No significant land use compatibilities or conflicts with any applicable land use plan, policy will result in Coachella from project development.

Furthermore, the Proposed Project would provide the City of Coachella the ability to implement its General Plan Policy 3.7: "multi-use trail network that facilitates bicycling for commuting, schools, and shopping and recreational trips." Given that an integral element of CV Link is to provide a multi-use network to Coachella Valley residents, the implementation of CV Link aids the City in meeting this policy. The Proposed Project also supports the implementation of Circulation Element policies relating to the use of open space areas for renewable energy, insofar as the Proposed Project will include solar panels and generate more than 89% of its energy needs; and Goal 4 which requires the implementation of a bicycle and multi-use trail system.

Therefore, within the City of Coachella, impacts will be less than significant.

County of Riverside

The CV Link Route passes through unincorporated Riverside County lands in the vicinity of the Indio/Coachella city limits. These lands are reservation lands of the Twenty-Nine Palms and the Cabazon Tribes. The County General Plan designates these lands as "Tribal Lands" and provides land use management services to the Tribe. The Twenty-Nine Palms Tribe indicated that it has no specific land use assignments on undeveloped portions of the reservation. The Route also passes through a very small piece of county land just south of Avenue 52, which is within the right of way of the Coachella Valley Stormwater Channel and is designated Watercourse (W-1). So long as compatible with flood control facilities, paths and bikeways are a permitted use on W-1 lands. The proposed Route will be located within the Watercourse (W-1) Zone, where recreational facility is a permitted use.

The implementation of CV Link on County lands supports the County's General Plan Land Use Element Policies LU 3.1, 11.4, 13.4 and 14.2, which encourage the development of alternative modes of transportation and associated pathways for their use in a safe and healthful environment. The Proposed Project will also support the implementation of the Circulation Element, which requires the development of transportation routes for alternative transportation which are separate from the vehicular roadway system. Finally, the County's Noise Element supports the expansion of bicycle ways and electrical vehicle use to reduce noise to sensitive receptors.

CV Link will not conflict with any applicable land use plan, policies, or regulations of the County of Riverside and impacts are less than significant.

Agua Caliente Band of Cahuilla Indians (ACBCI)

The Agua Caliente Band of Cahuilla Indians has entered into land use contracts with the cities of Palm Springs, Cathedral City, and Rancho Mirage where in most instances land use proposals are processed through the municipality's planning and hearing process. Nonetheless, the Tribe also directly regulates land uses within the reservation through Specific Plans, Tribal Enterprise Plans and other planning documents. Development on the Agua Caliente Reservation over which the Tribe assumes regulatory authority is managed in accordance with the Tribe's Land Use Ordinance.[1]

ACBCI lands that would be crossed by the CV Link facility include those within the Whitewater River flood plain and channel north of Vista Chino and west and east of Gene Autry Trail, as well as lands just outside the wash in the vicinity of Via Escuela (at Gene Autry Trail), which includes a small parcel designated for industrial use and currently hosting a billboard sign. The Proposed Project includes an overcrossing of Gene Autry Trail, as well as an at-grade crossing at Via Escuela. As can be seen in the visual simulations in Section 4.2 (Aesthetics) prepared for this structure, the overcrossing embankment will have a modest impact on the visibility of this signage and only for southbound travelers. Other ACBCI lands in this area north of Vista Chino and the Escena development are crossed by the CV Link Route but all are atop existing flood control facilities and will not adversely affect those ACBCI lands located away from the channel and other flood control facilities. Please see CV Link Alignments Map Book pages 8 and 9 in Appendix B of this EIR.

The CV Link alignment south of Ramon Road will continue atop the right bank of the stormwater channel and within ACBCI lands designated OS-W, and extending south to the Dinah Shore bridge and again a short distance south of the bridge to the confluence of the Whitewater with the Tahquitz Creek channel. At and north of the confluence, the path would pass through a sliver of vacant land designated Resort Residential on the Cathedral City General Plan.

Along Tahquitz Creek and east of Farrell Drive in Palm Springs, a portion of the CV Link Route passes through lands that were once developed as the Bel Air Country Club, a portion of which lying within the Tahquitz Creek flood plain. The Route would pass north along the west edge of this property and turn southeast along the right bank of the channel. The Link facility can be incorporated into future development of this property without having a significant adverse impact on land uses there.

[1] "Agua Caliente Band of Cahuilla Indians Land Use Ordinance, 2009. Amended 2013.

In Cathedral City, CV Link alignments pass through ACBCI lands that have been developed as flood control channel, condominiums and resort, and golf course. Alignment variations are planned on both the left and right banks of the channel as far as Cathedral Canyon Drive on ACBCI and also private lands. Coordination with the golf course leasee will be necessary to ensure that CV Link does not conflict with golf play, please see Section 4.15.6 for a detailed description of this coordination.

East of Cathedral Canyon Drive and continuing southeast into Rancho Mirage, CV Link alignments cross ACBCI lands in areas largely limited to existing stormwater facilities, where the Link poses few potential land use conflicts. ACBCI lands end at Frank Sinatra Drive in Rancho Mirage, where the West End Terminus B is planned in the subject Proposed Project.

In summary, potential land use conflicts between CV Link alignments and lands of the ACBCI are expected to be modest and less than significant. Most of the alignments are within and along the rights of way of the Whitewater River and Tahquitz Creek drainages, with other crossed ACBCI lands being developed or constrained. On-going coordination with the ACBCI will ensure that potential conflicts with these lands will be less than significant. Therefore, CV Link will not result in a significant conflict with any applicable ACBCI or other land use plan, policy, or regulation. Impacts would be less than significant.

Twenty-Nine Palms Band of Mission Indians

As indicated above regarding County lands in the CV Link planning area, the Link Route passes through unincorporated Riverside County lands within the reservations of the Twenty-Nine Palms and the Cabazon Tribes. The County General Plan designates these lands as “Tribal Lands” and provides land use management services to the Tribe. The Twenty-Nine Palms Tribe indicated that it has no specific land use assignments on undeveloped portions of the reservation. Therefore, CV Link will not result in a significant conflict with any Twenty-Nine Palms Tribe or other applicable land use plan, policy, or regulation. Impacts would be less than significant.

Cabazon Band of Mission Indians

The Cabazon Band directly regulates land uses on the reservation for both Tribal and allottee-owned lands, which are located within the municipal boundaries of Indio and Coachella, as well as within unincorporated Riverside County. The Tribe is guided by the Tribal Code of 1990, which addresses land use, construction and development standards, and other regulatory codes. The Tribe has not assigned land uses to vacant reservation lands. CV Link facilities cross Cabazon lands only along and atop the service road of the Coachella Valley Stormwater Channel, and along a short stretch that leads to the Wild Bird Center south of the Valley Sanitary District wastewater treatment plans. Therefore, CV Link will not result in a significant conflict with any Cabazon Tribe or other applicable land use plan, policy, or regulation. Impacts would be less than significant.

c) Conflict with any applicable habitat conservation plan or natural community conservation plan?

Most of the CV Link Proposed Project alignments are located outside of designated MSHCP conservation areas. (See Figure 2 of the CV Link Biological Resource Assessment in Appendix F of this EIR). However, alignments do occur within and/or immediately adjacent to the MSHCP Whitewater Floodplain Conservation Area, which occurs immediately north of the Whitewater floodplain flood control levee and extends west from Highway 111 to just west of Gene Autry Trail. The Whitewater Floodplain Conservation Area, which encompasses approximately 7,400 acres, provides core habitat for several species, including the iconic Coachella Valley fringe-toed lizard.

The Coachella Valley MSHCP includes land use and development regulations and guidelines applicable to lands within and in proximity to a Conservation Area. These include Land Use Adjacency Guidelines that are designed to minimize impacts to protected species and their habitat. In this area, the CV Link alignments include one within the floodplain but at the very toe of the concrete-lined side levee slope protection. With adherence of CV Link development to the MSHCP guidelines, impacts to MSHCP-managed lands will be less than significant. Potential impacts to resources in the Whitewater Floodplain Conservation Area and other biological resources are discussed in detail in Section 4.4 of this EIR.

4.10.6. Mitigation Measures

LU-1 Where CV Link alignments abut residential land uses, and has the potential to affect their privacy, structural and landscape screening as provided in the Conceptual Master Plan standards and guidelines shall be applied.

Issues associated with potential conflicts with existing recreational facilities are addressed in Section 4.15, Recreation.

4.10.7. Significance After Mitigation

With the implementation of the mitigation measure above, impacts associated with land use will be less than significant, because the potential for CV Link users to have views into private back yards would be eliminated.

4.10.8. Cumulative Impacts

As described herein, the majority of the proposed CV Link Route will be on top of existing flood control levee service roads, and in some places along existing street rights-of-way. Any cumulative project related to land use would be typical of the land uses in the cumulative study area and would have a long-term or permanent effect on the character of the vicinity given their nature. The geographic scope for the analysis of cumulative impacts on land use consists of each project area and the immediate vicinity around each of these sites where adverse land use impacts could occur. Potential project conflicts or inconsistencies with applicable adopted plans, policies and regulations would be specific to an individual project component, and would not combine to result in a substantial cumulative impact. Given the physical extent nature of the project, construction will be carried out in stages and its effects will be short-lived. During the operation of the proposed CV Link facility, the surrounding land uses will benefit and in many cases will be enhanced by the project. In the overall, there will be a less than cumulatively substantial effect on existing and planned land uses generated by this project.

4.11. Energy and Mineral Resources

4.11.1. Introduction

One of the important components of CV Link with respect to utility and services systems is solar (photovoltaic or PV) energy production, which is an integral part of CV Link. Multiple installations of PV solar panels will be integrated with rest stop shade structures and EV charging stations at different locations along the CV Link Route. Battery storage is not contemplated and the project's power generation would be fed into the local grid or to adjacent businesses tied directly to the solar supply. Project electricity demand would be generated by CV Link's high efficiency (LED) pathway lighting, embedded barrier lighting, kiosk and ambient rest area lighting, and energy demand associated with access points and restroom facilities. A project goal is to maximize the generation of renewably based electricity and minimize the use of carbon-based energy sources to the greatest extent practicable. The inclusion of solar panels will significantly minimize CV Link's need for electricity from utility providers. It is estimated that local electric providers will only be required to provide 10.21% (83,687 kWh) of the Proposed Project's electricity need.

The region is important in terms of both construction-related mineral resources and in the production of energy from renewable resources. Mineral resources are largely associated with fluvial deposits in the Indio Hills, Mecca Hills and foothills of the Little San Bernardino Mountains. The Proposed Project will depend on aggregate for its construction, insofar as much of the pathway will be constructed with cement or similar products.

4.11.2. Thresholds of Significance

The following analysis criteria and thresholds are based on Appendix G and derived from Appendix F of State CEQA Guidelines, a project would have a significant impact relating to energy and mineral resources if it would:

a) Use large or excessive amounts of fuel or energy in an unnecessary, wasteful, or inefficient manner.

b) Constrain local or regional energy supplies, require additional capacity, or substantially affect peak and base periods of electrical demand.

c) Require or result in the construction or expansion of new electrical generation and/or transmission facilities, the construction of which could cause significant environmental effects.

d) Conflict with existing energy standards, including standards for energy conservation.

e) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state.

f) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan.

4.11.3. Regulatory Framework

Federal

National Energy Policy Act of 2005

The National Energy Policy Act of 2005 sets equipment energy-efficiency standards, seeks to reduce reliance on nonrenewable energy resources, and provides incentives to reduce current demand on these resources. For

example, the Act included $2.3 billion in incentives for high-efficiency (including electric) vehicles, new and existing homes, commercial buildings, and for manufacturers of high-efficiency appliances. Additionally, the Act addresses combined heat and power, appliance labeling, research and development, efficiency in federal and public facilities, building energy codes, public housing, and other efficiency topics. The Act is essentially supportive of and complements the goals of CV Link.

State

Surface Mining and Reclamation Act of 1975

The Surface Mining and Reclamation Act (SMARA) was enacted in 1975 in response to land use conflicts between urban growth and essential mineral production. In accordance with SMARA and as discussed above in Section 4.10.4, the State has established the Mineral Land Classification System to help identify and protect mineral resources in areas that are subject to urban expansion or other irreversible land uses that would preclude mineral extraction. Protected mineral resources include construction materials, industrial and chemical mineral materials, metallic and rare minerals, and non-fluid mineral fuels.

2005 California Energy Action Plan II and 2008 Update

The Energy Action Plan II, and subsequent update in 2008, is the State's principal energy planning and policy document (CEC and CPUC 2005, 2008). The plan continues the goals of the original Energy Action Plan, describes a coordinated implementation plan for State energy policies, and identifies specific action areas to ensure that California's energy is adequate, affordable, technologically advanced, and environmentally sound. In accordance with this plan, the first-priority actions to address California's increasing energy demands are energy efficiency and demand response (i.e., reduction of customer energy usage during peak periods in order to address system reliability and support the best use of energy infrastructure). Additional priorities include the use of renewable sources of power and distributed generation (i.e., the use of relatively small power plants near or at centers of high demand).

California Code of Regulations

The 2013 California Green Building Standards Code (CALGreen) is a code with mandatory and voluntary requirements for new residential and nonresidential buildings (including buildings for retail, office, public schools and hospitals) throughout California. As of July 1, 2012, some mandatory requirements were extended to certain nonresidential additions and alterations. CALGreen is Part 11 of the California Building Standards Code in Title 24 of the California Code of Regulations (CCR) and is also known as the CALGreen Code. In short, CALGreen was established to reduce construction waste, make buildings more efficient in the use of materials and energy, and reduce environmental impact during and after construction.

Building Energy Efficiency Standards

The Energy Efficiency Standards for Residential and Nonresidential Buildings, as specified in Title 24, Part 6, of the CCR, were established in 1978 in response to a legislative mandate to reduce California's energy consumption. The standards are updated periodically to allow consideration and possible incorporation of new energy efficiency technologies and methods. The California Energy Commission (CEC) adopted the 2008 Standards on April 23, 2008, and the Building Standards Commission approved them for publication on September 11, 2008. The 2008 Non-Residential Compliance Manual was adopted January 14, 2009. The 2009 standards went into effect January 1, 2010. The Building Energy Efficiency Standards are updated on an approximate three-year cycle. The current standards have improved upon the 2008 Standards and went into effect July 1, 2014.

Regional and Local

Riverside County Eligible Renewable Energy Resource Development (eRED) Planning Program
The eRED was initiated in July 2014 by the County of Riverside to coordinate and encourage eligible renewable energy resource development in the county at the General Plan level. The eRED program was a two-year grant program funded by the California Energy Commission. This program was designed to provide a robust framework of policies and data addressing renewable energy resources throughout the county, particularly supporting the development and expansion of geothermal resources in the Salton Sea region.[1]

Regional and local maps and data were generated during the eRED program to address the potential for development of eligible renewable energy projects in Riverside County, which are now available for the public to use. Within the program, an emphasis was placed on the development and expansion of geothermal resources in the Salton Sea region and the coordination of solar resources in the far-eastern desert portion of Riverside County, which are still working with various organizations in updating the maps and data. CVAG is not a direct participant in the eRED program. As a regional governmental agency, CVAG may support data and other requests for the program.

Municipal Climate Action and Sustainability Plans
Many of the local municipalities, Riverside County and Native American Tribes have adopted strategic plans that quantify the current level of GHG emissions in their respective communities and the approach and programs that will be pursued to reduce GHG emission in the long-term. The goals and policies of these various jurisdictions, which have take the form of Climate Action Plans (CAPs) and Community Sustainability Plans (CSPs), are also incorporated in this analysis by reference.

4.11.4. Existing Conditions

The CV Link planning area is an important region in terms of both construction-related mineral resources and in the production of energy from renewable resources. Mineral resources are largely associated with fluvial deposits in the Indio Hills, Mecca Hills and foothills of the Little San Bernardino Mountains. Energy resources are widely distributed in the Valley, with wind turbine development focused in the San Gorgonio Pass area and geothermal at the south end of the Salton Sea. Solar photovoltaic systems have been and are continuing to be developed throughout the Valley on various scales from individual residential to utility-scale systems. The following summarizes the existing conditions with regard to energy and mineral resources.

Mineral Resources
The Santa Rosa and San Jacinto Mountains have a history of mining that dates back to the late 1800s. Mines in the Santa Rosa and San Jacinto National Monument have produced gold, asbestos, beryllium, limestone, tungsten, copper, tourmaline, and garnet. With the exception of limestone, however, these mineral deposits have not been extensively mined, are limited, or are not precisely known.

Mountain ranges and eroding hills surrounding the Coachella Valley have filled the Valley with significant amounts of sand and gravel, known collectively as aggregate. Aggregate is used for asphalt, concrete, road base, stucco, plaster, and other similar construction materials. The Palm Springs Production-Consumption (P-C) Region is a 631 square mile area in the Coachella Valley that is heavily mined for aggregate. [2,3,4] This region covers the

1 Califonria Energy Commision; http://www.energy.ca.gov/title24/2013standards/; Accessed on 09.30.2016.
2 "Draft Environmental Impact Statement for the California Desert Conservation Area Plan Amendment for the Coachella Valley," prepared by the U.S. Department of the Interior Bureau of Land Management, June 2002. Figure 2-7 Windparks and Sand and Gravel Mining.
3 "Mineral Land Classification: Aggregate Materials in the Palm Springs Production-Consumption Region," prepared by the California Department of Conservation Division of Mines and Geology, 1988.

area east of Cabazon, south of Morongo Valley and Joshua Tree National Park, west of the Mecca Hills, and north of the community of Mecca and the San Jacinto Mountains. According to California Geological Survey, the Palm Springs P-C Region has 30,072 acres classified as land where significant mineral deposits are present, or where it is judged that a high likelihood for their presence exists. The Palm Springs region contains 3.2± billion tons of aggregate resources.

Lands within the CV Link planning area are classified as MRZ-1, -2 and -3. These include limited MRZ-2 lands in the Whitewater River floodplain, the balance of the planning area having resources designated MRZ-1 or -3. The Coachella Valley has nearly a dozen permitted aggregate operations, which contain approximately 272 million tons of mineable aggregate. These reserves are expected to meet the demand and provide adequate supply at current rates of consumption for approximately 130 years.

The Coachella Valley Multiple Species Habitat Conservation Plan (CVMSHCP) identifies nine permitted aggregate operations within its boundaries, which contain approximately 272 million tons of aggregate.[5] These reserves are expected to meet the demand and provide adequate supply at current rates of consumption for approximately 130 years.

Existing permitted sand and gravel operations located in the vicinity of the subject property include the following:

Indio Quarry/Indio Hills Fan: Sand and gravel is the mineral commodity excavated from the Indio Quarry. The subject resource area consists of a moderate sized deposit that is located within 750 acres of an alluvial fan adjacent to and immediately south of the Indio Hills. It is located in the Indio Hills Palms Conservation Area. The deposit contains approximately 73 million tons of aggregate resource to an average depth of approximately 200 feet. The deposit includes aggregate meeting the specifications for making Portland cement concrete-grade aggregate. The Indio quarry is the largest producer of Portland cement concrete (PCC)-grade aggregate material in the Palm Springs Production-Consumption (P-C) Region. Mining has been on going at this site since the late 1940s.

Thermal Area 1: In the Thermal area 1 are deposits on an alluvial fan and wash near the mouth of an unnamed canyon about three miles east of the community of Thermal. The area is located adjacent to the Mecca Hills/Orocopia Mountains Conservation Area. PCC-grade aggregate is produced in the upper and lower portions of this deposit. These lesser-quality deposits have a relative high (65%) ratio of sand to gravel. The deposit is crossed by the Coachella Branch of the All-American Canal, and the southwesterly deposit is now inactive.

Thermal Area 2: Another approved and active quarry in this area encompasses 120± acres and is a source of PCC-grade aggregate and clay deposits occurring on adjoining alluvium. Permitted in 1995-96, this site is located within the Mecca Hills/Orocopia Mountains Conservation Area and is east of the Coachella Branch Canal and the mining area described immediately above.

Energy Resources

The following discussion considers production and transmission facilities for each of the major energy sectors associated with and having facilities in the region. Energy sectors in the region include those associated with the movement of petroleum products, natural gas and electricity from their points of production to those of use.

Electrical Power: In the Coachella Valley, Southern California Edison (SCE) and the Imperial Irrigation District (IID) provide electric power services. SCE provides electric power services to lands in the western portion of the planning area, while IID serves those portions of the Valley generally east of Washington Street. Both SCE and IID utilize a combination of coal, natural gas, wind, hydroelectric, and geothermal power sources, most of which are located outside the Valley.

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[4] The Palm Springs Production-Consumption Region generally extends from Cabazon on the west to Mecca on the east.

[5] Ibid.

Natural Gas: Natural gas is found in association with petroleum deposits. It is generally considered a clean and efficient fuel. The region contains no retrievable sources of natural gas. The Southern California Gas Company (Sempra Energy) provides natural gas service to much of the Coachella Valley, including the CV Link planning area. Natural gas supplies are transported from Texas to the Coachella Valley through three east-west trending gas lines, which cross the Valley near and parallel to Interstate-10, and continue west to Los Angeles.

Solar Energy: The Coachella Valley region is a growing source of electricity from solar photovoltaic systems, which are being developed on residential rooftops, commercial and industrial buildings, institutional uses and a wide array of covered parking structures. Stand-along industrial-scale development of PV systems has been somewhat limited, but has been integrated to some degree with wind turbine development. Land reclamation associated with remediation of the shrinking Salton Sea could see the future emergence of large-scale solar PV in this area of the Valley, where geothermal-based electricity generation is already operating at an industrial scale.

Wind Energy: The region has been a major developer in wind energy and is known internationally for the scale of wind resource development. The western Coachella Valley is a proven viable wind resource area, where strong and sustained winds are channeled through the San Gorgonio Pass and cross the Valley in a southeasterly direction. Wind turbines currently being installed in the Coachella Valley are typically rated at between 750 kilowatts and 1.25 megawatts, and wind turbines of up to 2.5 megawatts have been approved and/or constructed. Most turbines are three-blade, horizontal axis machines with galvanized steel or painted towers; larger turbines exceed 300 feet in overall height. The CV Link alignments are not within the mapped Valley wind resource area.

Geothermal Energy: The northwestern portion of the Coachella Valley contains limited geothermal resources, including hot springs in Palm Springs and Desert Hot Springs. These hot water areas result from faults, are primarily focused along the Mission Creek fault but also along the Palm Canyon fault. The geothermal energy produced in Palm Springs and Desert Hot Springs is generally used for commercial spas and therapeutic pools. These resources are limited, are located on private lands and are not used for energy production. Geothermal energy on a utility scale has been found and developed at the south end of the Salton Sea in Imperial County, where more than 500 megawatts of geothermal electric power have been developed.

4.11.5. Project Impacts

Construction Energy Demand

Construction related energy demand comes from the operation of construction equipment and the manufacture of construction materials. While it is difficult to calculate actual energy demand for construction equipment operations, it is possible to calculate the embodied energy in the concrete that will be needed for this project.

The embodied energy of concrete is dominated by production of Portland cement, which involves calcium (usually limestone) and silicon (such as clay or sand). The important part of this process is to convert calcium carbonate into calcium oxide. Calcium carbonate is heated at high temperature (900-1650^{0}C) to allow the release of a carbon dioxide molecule from the calcium carbonate forming calcium oxide, which is mixed with other materials to form clinker. This is then combined with gypsum to create cement. Other individual components of concrete production, such as mixing and processing, consume much less energy than cement production.

Much like asphalt, the embodied energy of concrete includes the extraction, crushing, and stockpiling of aggregate. However, concrete production does not require aggregates to be dried prior to mixing. Estimates of embodied energy for concrete are typically around one mega joule per kilogram of concrete produced. Typical

electrical energy consumption is of the order of 40-45 kWh per ton of cement produced[6], with two tons per cubic yard yields a power demand of approximately 80 to 90 kwh per cubic yard of concrete.

According to the CV Link Conceptual Master Plan, the project will require up to 1,062,095 cubic yards of concrete, which implies a potential energy demand ranging from 84.96 million kwh to 95.58 million kwh. This is a very conservative estimate and assumes an extensive use of retaining walls that design refinements have greatly reduced. It should also be noted[7]that the method of concrete manufacturing can greatly reduce the embodied energy in concrete, including the use of recycled concrete.

Operational Energy Demand

CV Link's proposed low-maintenance energy-efficient lighting will provide for user guidance, wayfinding and navigation and personal security, and while minimizing light spillover into homes and the night sky. Solar panels will be mounted to the top of each shade structure so that energy for site lighting may be passively harvested and fed into the local electric grid. Electrical components of the project include shade structure lighting, EV charging stations, bollard and tube lighting, and trash management system. Table 4.11-1, below, identifies CV Link's electric power demand by project component.[8] The estimated potential annual operational power demand of the project is approximately 819,527 kwh, with the two largest demand components being tube lights and trash management system. Solar panels will generate approximately 735,840 kWh. Based on this, approximately 89.79% of CV Link's electric need will be generated through 42 solar panels. Therefore, SCE and IID will provide only 10.21% (83,678 kWh) of the Proposed Project's electricity.

6 US Concrete. 2016. Slag cement requires nearly 90 percent less energy to produce than an equivalent amount of Portland cement. Reducing the use of Portland cement in concrete by substituting a portion of it with slag reduces the embodied energy in a cubic yard of concrete by 30 to 48 percent. Concrete containing ground granulated slag develops strength over a longer period, leading to reduced permeability and more durability properties. Since the unit volume of Portland cement will also be reduced, concrete is less vulnerable to alkali-silica and sulfate attack.

7 Ibid.

8 CV Link Conceptual Master Plan - CV Link Master Plan Appendices, Vol.2. December 2015.

Table 4.11-1
Annual Operational Electrical Demand
(Assumes All Alignments - Includes Rancho Mirage)

Description	Quantity		Electrical Power		
	Number	Unit	kW Load	Total kW Load	Total kWh
Shade structure lighting	42	ea.	0.15	6.30	18,396
Shade structure power	42	ea.	0.18	7.56	22,075
8 kW solar system / shade structures	42	ea.			
Device charging receptacles	42	ea.	0.18	7.56	22,075
Wifi equipment / shade structures	42	ea.	0.05	2.10	6,132
Security camera / shade structures	42	ea.	0.05	2.10	6,132
240V cart charging station / shade structures	42	ea.	1.00	42.00	122,640
Big belly trash system	200	ea.	0.50	100.00	292,000
Bollard lighting	200	ea.	0.04	7.00	20,440
Light tubes	200	ea.	0.50	100.00	292,000
In-ground traffic counters	42	ea.	0.10	4.20	12,264
Traffic volume display poles	2	ea.	0.20	0.40	1,168
Restroom building lighting & dryers	4	ea.	0.36	1.44	4,205
Electrical meter pedestals	42	ea.			
Lighting control system	42	ea.			
Sub-total			**3.31**	**280.66**	**819,527**
			kW Load	**Total kWh Load**	**Total kWh**
					819,527
2 kW solar system energy production	42	ea.	8	336	735,840
Project Net Annual Demand					**83,687 kwh**
Source: CV Link Conceptual Master Plan Appendices, Vol. 2. December 2015. Note: Assumes full PV system and CV Link buildout.					

a) Use large or excessive amounts of fuel or energy in an unnecessary, wasteful, or inefficient manner.

Project electricity demand is associated with LED pathway lighting, embedded barrier lighting, kiosk and ambient rest area lighting, and that associated with access points and restroom facilities. A project goal is to maximize the generation of renewably based electricity and minimize the use of carbon-based energy sources to the greatest extent practicable. The application of solar panels will significantly minimize CV Link's need for electricity from utility providers. Demand for the Proposed Project, without Rancho Mirage, is approximately 734,296 kwh per year. The CV Link Conceptual Master Plan estimates that local electric providers (SCE and IID) will be required to provide 10.23% (75,118 kWh) of the Proposed Project's electricity need upon project buildout. Not only will the project generate a low demand for energy, it also provides substantial long-term energy benefits, with the potential to reduce motor vehicle fuel consumption by approximately 151,244± gallons per year by 2040.[9] This assumption was based on 49 miles per gallon for 7,410,993 miles saved by the Proposed Project per year.

[9] Annual Energy Outlook 2016 with projections to 2040; http://www.eia.gov/forecasts/aeo/pdf/0383(2016).pdf.

b) Constrain local or regional energy supplies, require additional capacity, or substantially affect peak and base periods of electrical demand.

CV Link will not significantly constrain local or regional energy supplies, nor will its modest net annual electricity demand require additional capacity or substantially affect peak and base periods of electrical demand. Link PV power systems will be generating electricity during the highest demand period of the day at the same time as the lowest Link project demand. This complementary match of period of generation and demand ensured that the project would have modest adverse effects and substantial beneficial effects on load management and power generation. Therefore, project impacts in this regard will be less than significant.

c) Require or result in the construction or expansion of new electrical generation and/or transmission facilities, the construction of which could cause significant environmental effects.

As noted above, the construction and operation of CV Link will include integrated solar PV that will generate nearly 90% of the electricity demand of the project. The operation of CV Link will result in a modest and less than significant increase in demand for electrical power. The project is located within and adjacent to urban infrastructure, including electric power distribution lines and should be able to integrate Link PV systems into the local grid without causing significant environmental effects.

d) Conflict with existing energy standards, including standards for energy conservation.

CV Link serves to implement energy conservation and GHG reduction plans and strategies that have been adopted by all of the participating entities. The project's high reliance on renewable energy sources and the use of high efficiency lighting (LEDs) also helps to ensure that the project is consistent with current energy standards and conservation goals.

e) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state.

The construction of the Proposed Project would require approximately 98,763 cy of aggregate, as well as approximately 368,220 cy of concrete, of which approximately 60 to 75% (220,932 to 276,165 cy) is comprised of aggregate. Therefore, total aggregate demand for the overall CV Link project is approximately 319,695 to 374,928 cy or 0.15% of permitted aggregate at all operating mining operations in the Valley. Therefore, the aggregate demand for all CV Link alternatives represents a fraction of permitted resources and will have a less than significant impact on these mineral resources.

The impact of CV Link on the availability of the sand and gravel resource would not be significant because the volume of material already permitted for mineral extraction in the planning area is sufficient to meet demand for approximately 130 years at current rates of consumption, and land planned for CV Link use does not physically affect these mineral resources. The California Department of Conservation's regulations state that recreational open space uses are compatible with mining and, thus, do not threaten future potential to extract mineral (California Code of Regulations, Title 14, section 3675).

f) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan.

CV Link would be located away from identified and/or actively mined sand and gravel resource, the only locally-important mineral resource in the planning area. The CV Link alignments occur within and along the urbanized portions of the Valley, which precludes the mining of such resources by virtue of the incompatibility of sand and gravel mining with urban land uses. The project does not affect important mineral resource recovery sites delineated on a local general plan, specific plan or other land use plan, and will have no impacts in this regard.

4.11.6. Mitigation Measures

As described above, implementation of the Proposed Project would not result in significant impacts related to energy or mineral resources. Therefore, no mitigation measures related to this resource are required.

4.11.7. Significance After Mitigation

No mitigation program is required.

4.11.8. Cumulative Impacts

As the Coachella Valley continues to grow, cumulative demand for energy resources will also continue to increase. The demand for energy at the completion of the Proposed Project would not trigger the need for new electrical or natural gas generation facilities, as it will generate approximately 89.79% of its need through solar panels. The project's contribution to a cumulative impact on energy resources would not be cumulatively considerable. Buildout of CV Link would not directly or indirectly induce growth in the project area or the region, which might increase energy use in the long-term, because it will not result in additional residential units, businesses or increased population. Rather, the project has a demonstrated net positive effect on energy resources when transportation energy offsets associated with the project are considered. The electrical demand required for the proposed project will, when combined with the demand from future homes and businesses, will result in additional cumulative demand for energy. However, when compared to the electricity required for these homes and businesses, the project's impacts will not be cumulatively considerable.

As the cities of the Valley continue to expand, the demand for mineral resources will also continue to expand. The Proposed Project will result in a demand for 0.15% of the total permitted aggregate currently available in the Coachella Valley. Other construction projects, particularly those which require foundations, concrete and stucco for structures such as homes and commercial buildings, will collectively result in a much higher demand for aggregate than that created by the Proposed Project. Although the aggregate required for the Proposed Project will contribute to the continued reduction in this material, the Proposed Project will not be cumulatively considerable.

4.12. Noise

4.12.1. Introduction

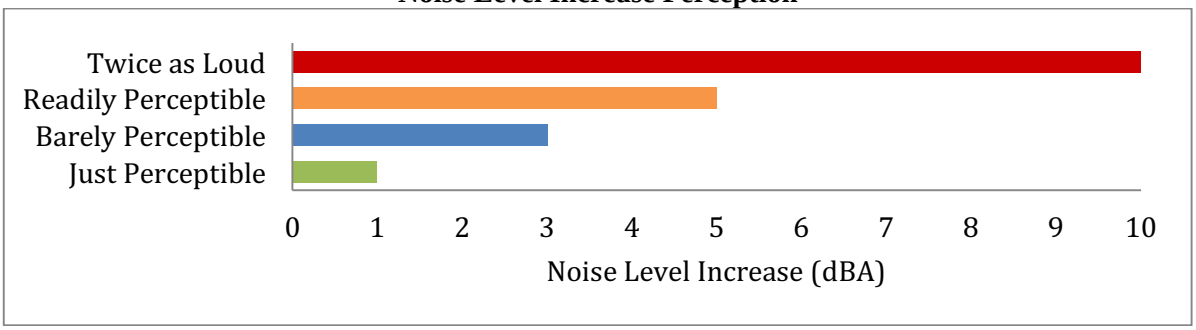
The CV Link project is expected to generate both operational and construction noise level impacts on the land uses located near the multi-modal transportation facility, including established noise sensitive residential communities. The Project related operational noise levels will include a variety of activities associated with bicycles, pedestrians and low-speed electric vehicles. While these activities on their own may not represent substantial noise generators, along some alignments CV Link would be located adjacent to noise-sensitive land uses, such as the outdoor living areas (backyards) of single-family and multi-family residences, and therefore must be evaluated to assess the potential noise impacts. In addition, construction of the CV Link alignments will take place adjacent to noise-sensitive land uses and, therefore represents a temporary, short-term noise level increase on the existing ambient noise environment. This section is supported by a project specific Noise Impact Analysis, which is provided in Appendix O.

Noise Fundamentals

The discussion in this Section is based on technical terminology associated with noise measurements, which is a complicated field. The following discussion provides fundamental definitions and descriptions of noise terminology used in this Section.

Noise is measured on a logarithmic scale of sound pressure level known as a decibel (dB). A-weighted decibels (dBA) approximate the subjective response of the human ear to broad frequency noise source by discriminating against very low and very high frequencies of the audible spectrum. Since the range of intensities that the human ear can detect is so large, the scale frequently used to measure intensity is a scale based on multiples of 10. The scale for measuring intensity is the decibel scale. Each interval of 10 decibels indicates a sound energy ten times greater than before, which is perceived by the human ear as being roughly twice as loud. The most common sounds vary between 40 dBA (very quiet) to 100 dBA (very loud). Normal conversation at three feet is roughly at 60 dBA, while loud jet engine noises equate to 110 dBA at approximately 100 feet, which can cause serious discomfort. An increase or decrease of 1 dBA cannot be perceived except in carefully controlled laboratory experiments, a change of 3 dBA are considered barely perceptible, and changes of 5 dBA are considered readily perceptible[1].

Noise Level Increase Perception



Another important aspect of noise is the duration of the sound and the way it is described and distributed in time. To describe the time-varying character of environmental noise, the statistical or percentile noise descriptors $L_{50,}$ $L_{25,}$ L_8 and L_2, are commonly used. The percentile noise descriptors are the noise levels equaled or exceeded

[1] U.S. Department of Transportation, Federal Highway Administration, Office of Environment and Planning, Noise and Air Quality Branch, June, 1995

during 50 percent, 25 percent, 8 percent and 2 percent of a stated time. Sound levels associated with the L_2 and L_8 typically describe transient or short-term events, while levels associated with the L_{50} describe the steady state (or median) noise conditions. Some City Municipal Codes of the Coachella Valley and the County of Riverside rely on percentile noise levels to describe the stationary source noise level limits. While the L_{50} describes the mean noise levels occurring 50 percent of the time, the Leq accounts for the total energy (average) observed for the entire hour. Therefore, the Leq noise descriptor is generally 1-2 dBA higher than the L_{50} noise level.

Peak hour or average noise levels, while useful, do not completely describe a given noise environment. Noise levels lower than peak hour may be disturbing if they occur during times when quiet is most desirable, namely evening and nighttime (sleeping) hours. To account for this, the Community Noise Equivalent Level (CNEL), representing a composite 24- hour noise level is utilized. The CNEL is the weighted average of the intensity of a sound, with corrections for time of day, and averaged over 24 hours. The time of day corrections require the addition of 5 decibels to dBA Leq sound levels in the evening from 7:00 p.m. to 10:00 p.m., and the addition of 10 decibels to dBA Leq sound levels at night between 10:00 p.m. and 7:00 a.m. These additions are made to account for the noise sensitive time periods during the evening and night hours when sound appears louder. CNEL does not represent the actual sound level heard at any particular time, but rather represents the total sound exposure. The Cities and County rely on the 24-hour CNEL level to assess land use compatibility with transportation related noise sources.

4.12.2. Thresholds of Significance

Standards and guidelines establishing thresholds of significance have been taken from Appendix G: of the California Environmental Quality Act (CEQA). The following factors have been considered in analyzing potential noise-related impacts that can result from the implementation and construction of CV Link.
Project impacts associated with noise are considered significant if the project would result in:

a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.

b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels.

c) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project.

d) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project.

e) For a project within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, exposure of people residing or working in the project area to excessive noise levels.

f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?

4.12.3. Regulatory Framework

The State of California, the County and a majority of municipalities have standards and ordinances to control noise. The primary form of noise in most areas is created by vehicular traffic. Traffic activity produces an average sound level that will remain fairly constant with time. The regulation of environmental noise is divided by federal, state, and local agencies.

Federal

There are no federal regulations that apply to the Proposed Project.

State

General Plan Noise Elements
State law requires that all counties and cities develop, in their General Plan, a Noise Element that effectively limits the exposure of sensitive receptors to excessive noise levels.

California Department of Transportation Requirements
The California Department of Transportation (Caltrans) "Traffic Noise Analysis Protocol for New Highway Construction, Reconstruction, and Retrofit Barrier Projects" provides the Caltrans policy for implementing Federal Regulation 23 CFR 772 in California. The Protocol outlines the requirements for preparing Noise Study Reports (NSRs) for the analysis of highway traffic noise. Caltrans' "Technical Noise Supplement" provides detailed technical guidance for the evaluation of highway traffic noise, including field measurement methods, noise modeling methods, and report preparation guidance.

Caltrans Construction Noise Standards
The Caltrans Standard Specifications Section 14-8.02 Noise Control, establishes noise level standards for construction activity. The construction noise standards of the Standard Specifications are included under Federal contract with Caltrans unless specified otherwise. Section 14-8.02 of the Standard Specifications states that construction noise levels shall not exceed 86 dBA at 50 feet from the job site activities from 9:00 p.m. to 6:00 a.m.

Caltrans Vibration Standards
The Caltrans Transportation and Construction Vibration Guidance Manual vibration level standards are used to determine the potential for building damage and human annoyance due to construction activity, in compliance with the Federal funding requirements of the Proposed Project. Table 4.12-4 sets forth the vibration standards, even so the more conservative Caltrans vibration level standards for building damage, 0.12 in/sec PPV are used in this analysis to evaluate the potential impacts due to the Proposed Project construction.

Regional/Local

Local Noise Standards
Table 4.12-1 presents the exterior noise level standards for each jurisdiction, based on their General Plans and Municipal Codes. Some jurisdictions' Municipal Codes include adjustments to their exterior noise level limits if the existing ambient noise levels exceed the exterior noise level standards. Table 4.12-2 details the adjustments to the noise level standards for the applicable jurisdictions.

Table 4.12-1
Base Operational Noise Level Standards

Jurisdiction	Land Use	Time Period	Exterior Noise Level Standards[1]							
			Leq (Hourly)	L_{50} (30 mins)	L_{25} (15 mins)	L_{17} (10 mins)	L_8 (5 mins)	L_3 (2 min)	L_2 (1 min)	L_{max} (<1 min)
County of Riverside[2]	Residential	7:00 a.m. to 10:00 p.m.	65	-	-	-	-	-	-	-
		10:00 p.m. to 7:00 a.m.	45	-	-	-	-	-	-	-
Palm Springs[3]	Residential (Low Density)	7:00 a.m. to 6:00 p.m.	50	53	56	58	61	65	68	71
		6:00 p.m. to 10:00 p.m.	45	-	-	-	-	-	-	-
		10:00 p.m. to 7:00 a.m.	40	-	-	-	-	-	-	-
	Residential (High Density)	7:00 a.m. to 6:00 p.m.	60	63	66	68	71	75	78	81
		6:00 p.m. to 10:00 p.m.	55	-	-	-	-	-	-	-
		10:00 p.m. to 7:00 a.m.	50	-	-	-	-	-	-	-
Cathedral City[4]	Residential	Any Time	55	-	-	-	-	-	-	-
Rancho Mirage[5]	Residential (Low Density)	7:00 a.m. to 6:00 p.m.	-	55	58	60	65	-	70	75
		6:00 p.m. to 10:00 p.m.	-	50	53	55	60	-	65	70
		10:00 p.m. to 7:00 a.m.	-	45	48	50	55	-	60	65
	Residential (Medium, High Density, Hospital, Open Space)	7:00 a.m. to 6:00 p.m.	-	60	63	65	70	-	75	80
		6:00 p.m. to 10:00 p.m.	-	55	58	60	65	-	70	75
		10:00 p.m. to 7:00 a.m.	-	50	53	55	60	-	65	70
Palm Desert[6]	Residential (All Zones)	7:00 a.m. to 10:00 p.m.	55	-	-	-	-	-	-	-
		10:00 p.m. to 7:00 a.m.	45	-	-	-	-	-	-	-

Table 4.12-1
Base Operational Noise Level Standards

Jurisdiction	Land Use	Time Period	Exterior Noise Level Standards[1]							
			Leq (Hourly)	L_{50} (30 mins)	L_{25} (15 mins)	L_{17} (10 mins)	L_8 (5 mins)	L_3 (2 min)	L_2 (1 min)	L_{max} (<1 min)
Indian Wells[7]	Residential	7:01 a.m. to 10:00 p.m.	55	58	60	-	65	-	70	75
		10:01 p.m. to 7:00 a.m.	50	53	55	-	60	-	65	70
La Quinta[8]	Residential, Schools, Hospitals & Churches	7:00 a.m. to 10:00 p.m.	-	60	65	-	70	-	75	80
		10:00 p.m. to 7:00 a.m.	-	50	55	-	60	-	65	70
Indio[9]	Any Other Property	Permitted Hours[10]	65	-	-	-	-	-	-	-
		Any Other Time	45	-	-	-	-	-	-	-
Coachella[11]	Residential	6:00 a.m. to 10:00 p.m.	55	-	-	-	-	-	-	-
		10:00 p.m. to 6:00 a.m.	45	-	-	-	-	-	-	-

[1] Leq represents a steady state sound level containing the same total energy as a time varying signal over a given sample period. The percent noise level is the level exceeded "n" percent of the time during the measurement period. L25 is the noise level exceeded 25% of the time.
[2] Source: County of Riverside General Plan Noise Element, Table N-2.
[3] Source: City of Palm Springs Municipal Code, Section 11.74.031. The up to 15 seconds per hour duration allowance of +24 dBA is not shown. Instead, the more conservative up to 30 seconds per hour duration +21 dBA allowance is used for Lmax noise levels occurring for a duration of less than one minute. Palm Springs is the only jurisdiction that utilizes the more lenient 15 seconds per hour duration. The Proposed Project will not exceed this threshold under both the more conservative and the standard regulation.
[4] Source: City of Cathedral City General Plan Noise Element, Page V-43.
[5] Source: City of Rancho Mirage Municipal Code, Section 8.45.030 (A) & (B).
[6] Source: City of Palm Desert Municipal Code, Section 9.24.030 (A).
[7] Source: City of Indian Wells Municipal Code, Section 9.06.040.
[8] Source: City of La Quinta Municipal Code, Section 9.100.210 (B) & (C).
[9] Source: City of Indio Municipal Code, Section 159.107 (H) (1).
[10] City of Indio permitted operation hours for Pacific Standard Time: Monday to Friday 7:00 a.m. to 6:00 p.m., Saturday 8:00 a.m. to 6:00 p.m., Sunday 9:00 a.m. to 5:00 p.m.; for Pacific Daylight Time: Monday to Friday 6:00 a.m. to 6:00 p.m., Saturday 7:00 a.m. to 6:00 p.m., Sunday 9:00 a.m. to 5:00 p.m.; for Government Holidays: 9:00 a.m. to 5:00 p.m.
[11] Source: City of Coachella Municipal Code, Section 7.04.030 (A).

Table 4.12-2
Ambient Adjustments to the Operational Noise Standards

Jurisdiction	Ambient Adjustment if Noise Level Standards Exceeded[1]
Palm Springs[2]	Ambient shall be the standard.
Rancho Mirage[3]	+ 5dBA; ambient Lmax shall be the standard.
Palm Desert[4]	Ambient shall be the standard.
Indian Wells[5]	+ 5dBA; ambient Lmax shall be the standard.
La Quinta[6]	Ambient shall be the standard.
Coachella[7]	Ambient shall be the standard.

[1] Based on the Municipal Code standards for each jurisdiction when the existing ambient noise levels exceed the exterior noise level standards.
[2] Source: City of Palm Springs Municipal Code, Section 11.74.031.
[3] Source: City of Rancho Mirage Municipal Code, Section 8.45.030 (C).
[4] Source: City of Palm Desert Municipal Code, Section 9.24.030 (B).
[5] Source: City of Indian Wells Municipal Code, Section 9.06.040 (a) (3).
[6] Source: City of La Quinta Municipal Code, Section 9.100.210 (D).
[7] Source: City of Coachella Municipal Code, Section 7.04.030 (B).

Local jurisdictions also apply restrictions to construction hours, which has a direct relationship to the noise generation of construction activities. Each jurisdiction's construction hour restrictions are shown in Table 4.12-3

Table 4.12-3
Construction Noise Standards

Jurisdiction	Municipal Code Section(s)	Permitted Hours of Construction Activity		Construction Activity Exempt from Noise Standards?	Construction Noise Level Standards
County of Riverside	9.52.020	6:00 a.m. to 6:00 p.m. June to September; 7:00 a.m. to 6:00 p.m. October to May		Yes	n/a
Palm Springs	8.04.220	7:00 a.m. to 7:00 p.m. on weekdays; 8:00 a.m. to 5:00p.m. on Saturdays; no activity on Sundays and holidays		Yes	n/a
Cathedral City	11.96.070	**October 1st to April 30th** 7:00 a.m. to 5:30 p.m. Mondays to Fridays	**May 1st to September 30th** 6:00 a.m. to 7:00 p.m. Mondays to Fridays	Yes	n/a
		All Year 8:00 a.m. to 5:00 p.m. Saturdays; no activity Sundays and holidays			
Rancho Mirage	8.45.050; 15.04.030	7:00 a.m. to 7:00 p.m. Mondays to Saturdays; no activity on Sundays and holidays		Yes	n/a

Table 4.12-3
Construction Noise Standards

Jurisdiction	Municipal Code Section(s)	Permitted Hours of Construction Activity		Construction Activity Exempt from Noise Standards?	Construction Noise Level Standards
Palm Desert	9.24.070	**October 1st to April 30th** 7:00 a.m. to 5:30 p.m. Mondays to Fridays	**May 1st to September 30th** 6:00 a.m. to 7:00 p.m. Mondays to Fridays	Yes	n/a
		All Year 8:00 a.m. to 5:00 p.m. Saturdays; no activity Sundays and holidays			
Indian Wells	9.06.047	7:00 a.m. to 5:00 p.m. Mondays to Fridays; 8:00 a.m. to 5:00 p.m. Saturdays; no activity on Sundays or holidays		Yes	n/a
La Quinta	6.08.050	**October 1st to April 30th** 7:00 a.m. to 5:30 p.m. Mondays to Fridays	**May 1st to September 30th** 6:00 a.m. to 7:00 p.m. Mondays to Fridays	Yes	n/a
		All Year 8:00 a.m. to 5:00 p.m. Saturdays; no activity Sundays and holidays			
Indio	95C.08	**Pacific Standard Time** 7:00 a.m. to 6:00 p.m. Mondays to Fridays; 8:00 a.m. to 6:00 p.m. Saturdays	**Pacific Daylight Time** 6:00 a.m. to 6:00 p.m. Mondays to Fridays; 7:00 a.m. to 6:00 p.m. Saturdays	Yes	n/a
		Prohibited 9:00 a.m. to 5:00 p.m. Sundays and holidays			
Coachella	7.04.070	**October 1st to April 30th** 6:00 a.m. to 5:30 p.m. Mondays to Fridays	**May 1st to September 30th** 5:00 a.m. to 7:00 p.m. Mondays to Fridays	Yes	n/a
		Prohibited 8:00 a.m. to 5:00 p.m. Saturdays, Sundays, and holidays			

"n/a" = Jurisdiction's municipal code does not specify specific construction noise level standards.

Riverside County Airport Land Use Compatibility Plans

Portions of the Route are located less than 2 miles from the Palm Springs International Airport, Bermuda Dunes Airport, and Jacqueline Cochrane Regional Airport. The airports are under the jurisdiction of the County's Airport Land Use Commission, which has adopted standards for acceptable noise levels associated with aircraft noise. For recreational land uses, including parks and playgrounds, "clearly acceptable" exterior noise levels are those below 55 dBA CNEL, "normally acceptable exterior noise levels are up to 65 dBA CNEL, and "marginally acceptable" exterior noise levels are those between 65 to 70 dBA CNEL due to aircraft noise. Exhibit 4.12-1 shows the relationship between the Route and the three airports' CNEL contours.

Vibration

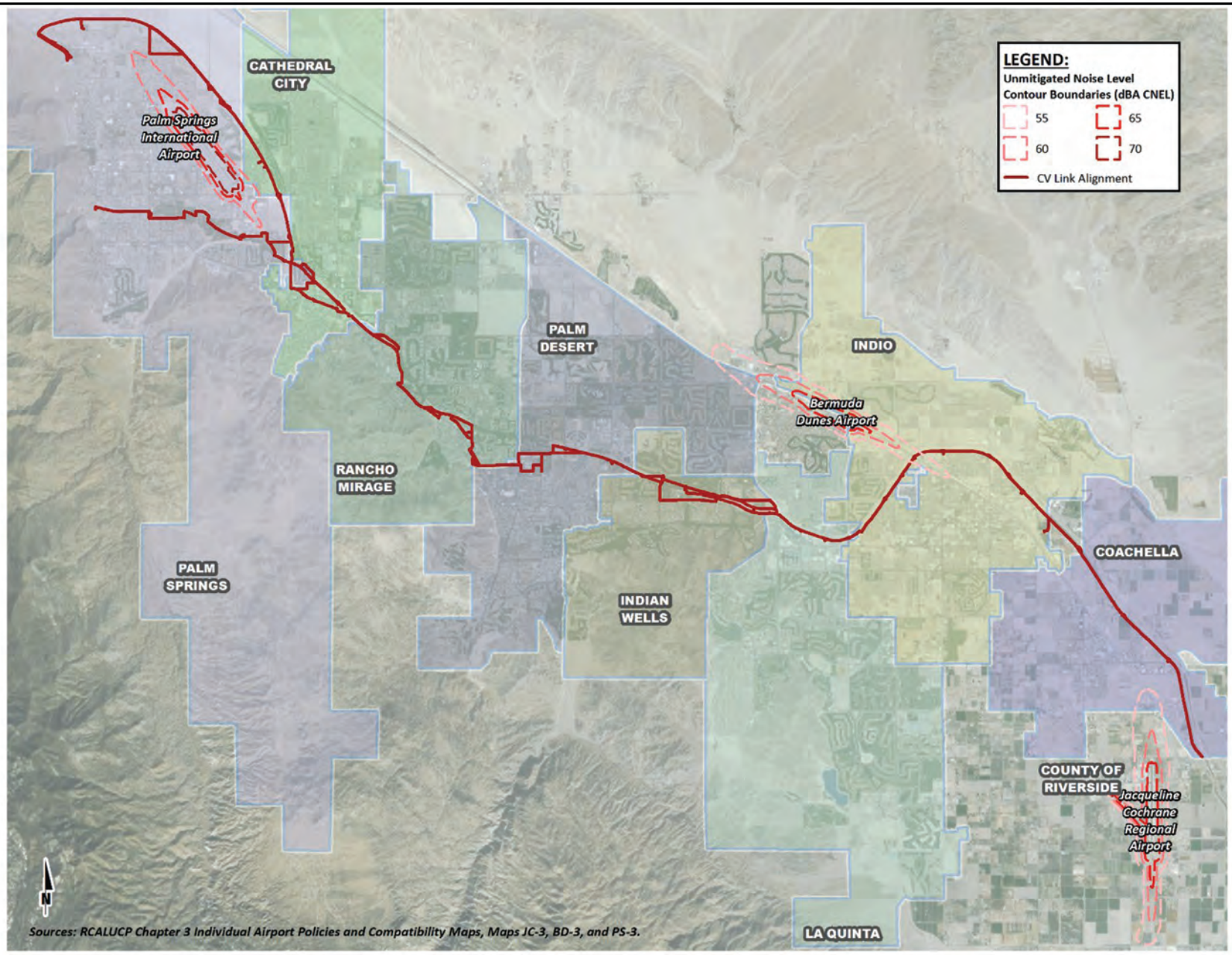
In addition to elevated noise levels, construction activities can also result in higher levels of vibration. Vibration is defined as the periodic movement of mass over time, and is described in units of velocity (inches per second). It is discussed in decibel (dB) units in order to compress the range of numbers required to describe vibration. The

human threshold of perception for vibration is 65 Vdb, or 0.0018 inches/second, and is not usually significant until 70 Vdb, or 0.0031 inches/second. Typical levels of ground vibration range between 50 Vdb and 100 Vdb. Vibration caused by bus and heavy truck traffic, for example, is generally around 65 Vdb. In comparison, construction related vibration can range between 90 Vdb and 100 Vdb. The effects of ground-borne vibration generally include movement of building floors, rattling of windows, and rumbling sounds. Ground-borne vibrations associated with construction and traffic attenuate rapidly as one moves away from the source. According to Caltrans, vibration caused by truck traffic attenuates to below perception levels at distances greater than 130 feet. The County and the City of Palm Desert have specific standards for construction vibrations, but the other jurisdictions in the project area do not. Table 4.12.4 provides a summary of these standards, and also includes the CalTrans standard for reference and comparison.

Table 4.12-4
Construction Vibration Standards

Jurisdiction	Municipal Code Section(s)	Construction Vibration Standards
Caltrans	Transportation- and Construction-Induced Vibration Guidance Manual	**Building Damage:** 0.12 in/sec PPV **Human Annoyance:** 0.01 in/sec PPV
County of Riverside	County of Riverside General Plan Noise Element, Policy 16.3	0.01 in/sec RMS
Palm Springs	11.74.020	0.01 in/sec RMS
Cathedral City	n/a	n/a
Rancho Mirage	n/a	n/a
Palm Desert	n/a	n/a
Indian Wells	n/a	n/a
La Quinta	n/a	n/a
Indio	n/a	n/a
Coachella	n/a	n/a

"PPV" = Peak Particle Velocity; "RMS" = Root-Mean-Square; "n/a" = Jurisdiction's municipal code does not specify specific construction noise level standards.



Source: Urban Crossroads, 2016

09.07.16

TERRA NOVA®
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CV Link Project
Airport Noise Level Contours Boundaries
Coachella Valley Association of Governments

CV LINK
CONNECTING THE COACHELLA VALLEY

CVAG

Exhibit
4.12-1

4.12.4. Existing Conditions

Characteristics of Noise

Noise is simply defined as "unwanted sound". When sound interferes with normal activities and causes actual physical harm, or when it has adverse effects on human health, it becomes classified as unwanted. A decibel (dB) is a logarithmic scale of sound pressure level that is utilized to measure noise. A-weighted decibels (dBA) approximate the subjective response of the human ear to broad frequency noise sources by discriminating against very low and very high frequencies of the audible spectrum. These measurements are adjusted to show only those frequencies which are perceivable to the human ear. A sound that is 10 decibels louder than another means that the sound energy is ten times greater, which is perceived by the human ear as being roughly twice as loud. Common sounds vary from 40 dBA (very quiet) to 100 dBA (very loud, with normal conversation at three feet registering at roughly 60 dBA, and loud jet engine noises registering at 110 dBA at approximately 100 feet.

Frequency

The number of fluctuations of the pressure wave made by sound per second is the frequency of sound. The Hertz (Hz) is the unit of frequency, where one Hz equals one cycle per second. The human ear is not equally sensitive to sound of different frequencies. The human ear has more sensitivity to sound in the higher portion of this range than the lower, and sound waves below 16 Hz or above 20,000 Hz cannot be perceived.

Sensitive Noise Receptors

The project planning area includes noise-sensitive land uses located adjacent to the proposed Route that have the potential to be impacted by noise. This section identifies those noise sensitive land uses. People in surrounding residential, and recreational developments are typically more sensitive to noise than people in commercial or industrial developments. Active parks, golf courses, playgrounds are not subjected to the same level of sensitivity as residences, schools, or cemeteries because ambient noise at these site are elevated due to active recreational and sports uses.

As part of the analysis for this EIR, the Noise Impact Analysis included noise measurements at a number of locations, shown in Exhibit 4.12-2. Table 4.12.5 shows the measurements at each measured location, and the corresponding CNEL for that measurement location. Table 4.12-6 provides all the measurement locations, and whether those noise levels currently exceed the applicable jurisdiction's noise standard.

Table 4.12-5
24-Hour Ambient Noise Level Measurements

ID[1]	Date	Distance To CV Link	City	Description	Energy Average Hourly Noise Level (dBA Leq)[2]			CNEL
					Daytime	Evening	Nighttime	
L1	3/23/2016	115'	Palm Springs	Located south of the alignment on Indian Canyon Drive near future residential land use.	67.4	66.0	65.7	72.6
L2	3/23/2016	25'	Palm Springs	Located adjacent to the alignment on Sunrise Way near existing residential homes.	52.9	51.7	48.9	56.5
L3	3/23/2016	130'	Palm Springs	Located adjacent to the alignment at the northwest corner of Gene Autry Trail and Via Escuela.	67.9	66.9	63.8	71.4
L4	3/23/2016	185'	Cathedral City	Located west of the alignment and access point on San Gabriel Circle near the Agua Caliente Elementary School and existing residential homes.	55.0	n/a	49.8	57.9
L5	3/23/2016	32'	Palm Springs	Located adjacent to the alignment on Riverside Drive near existing residential homes.	61.1	59.4	55.4	63.5
L6	3/23/2016	42'	Palm Springs	Located adjacent to the alignment in Delmuth Park near existing residential homes.	55.4	55.3	49.3	57.8
L7	3/23/2016	0'	Palm Springs	Located on 34th Avenue near existing residential homes and the future alignment of CV Link.	55.6	52.6	49.5	57.6
L8	3/23/2016	23'	Cathedral City	Located on Cathedral Canyon Drive near existing residential homes in a commercial parking lot.	60.5	n/a	56.6	64.3
L9	3/23/2016	34'	Rancho Mirage	Located adjacent to the alignment on Frank Sinatra Drive near existing residential homes and a bike path.	61.0	60.0	56.5	64.2
L10	3/23/2016	702'	Rancho Mirage	Located on Peterson Avenue south of the future alignment of CV Link near existing residential homes.	47.7	48.9	45.6	53.0
L11	3/23/2016	21'	Rancho Mirage	Located in the parking lot of the Rancho Mirage Library near existing residential homes.	58.9	59.1	54.8	62.6
L12	3/23/2016	19'	Rancho Mirage	Located adjacent to the future alignment in the Rancho Mirage Community Park.	45.6	44.9	44.9	51.6
L13	3/23/2016	72'	Palm Desert	Located on the south side of Park View Drive near existing residential homes, a church, and the College of the Desert.	65.2	n/a	58.6	67.1
L14	3/23/2016	184'	Palm Desert	Located east of the alignment on San Pablo Avenue near the existing Palm Desert Civic Center Park.	53.2	n/a	49.3	56.9
L15	3/30/2016	154'	Palm Desert	Located south of Magnesia Falls Drive at the Palm Desert Charter Middle School south of the CV Link alignment.	55.5	n/a	49.2	57.6
L16	3/23/2016	14'	Palm Desert	Located on Columbine Drive near existing residential homes and south of an existing bike path and future CV Link alignment.	48.4	n/a	46.8	53.7

Table 4.12-5
24-Hour Ambient Noise Level Measurements

ID[1]	Date	Distance To CV Link	City	Description	Energy Average Hourly Noise Level (dBA Leq)[2]			CNEL
					Daytime	Evening	Nighttime	
L17	3/30/2016	18'	Indian Wells	Located north of Fred Waring Drive near existing residential homes and a future access point to the CV Link Project.	52.3	n/a	50.6	57.6
L18	3/30/2016	0'	Indian Wells	Located at the future CV Link alignment on Miles Avenue near existing residential homes.	62.1	n/a	56.3	64.7
L19	3/30/2016	240'	Indian Wells	Located north of Highway 111 near existing residential homes, south of the CV Link alignment.	60.9	n/a	56.8	64.4
L20	3/30/2016	541'	Indio	Located on Suncastle Road in an existing residential neighborhood east of the CV Link alignment.	53.5	n/a	50.1	57.6
L21	3/30/2016	618'	Indio	Located east of the CV Link alignment near existing residential homes on Villanova Street.	55.9	n/a	51.2	59.0
L22	3/30/2016	537'	Indio	Located on Fred Waring Drive near existing residential homes, east of the future CV Link alignment.	61.3	n/a	59.1	66.3
L23	3/30/2016	202'	Indio	Located south of the future CV Link Alignment on Jonquil Avenue near existing residential homes.	62.0	n/a	61.4	68.2
L24	3/30/2016	360'	Indio	Located south of the CV Link Project on Jackson Street near the Andrew Jackson Elementary School.	59.3	n/a	56.7	64.1
L25	3/30/2016	286'	Indio	Located adjacent to the Amistad Continuation High School on Dillon Avenue south of the CV Link Project.	57.1	n/a	56.1	63.0
L26	3/30/2016	904'	Indio	Located west of the future CV Link alignment on Van Buren Street near the Coachella Valley Wild Bird Center.	62.3	n/a	60.6	67.5
L27	3/30/2016	547'	Coachella	Located east of the future CV Link Project on 50th Avenue.	67.8	n/a	63.2	72.1
L28	3/30/2016	42'	Coachella	Located south of the CV Link alignment on Tyler Street at the Sierra Vista Park.	63.0	n/a	58.9	67.5
L29	3/30/2016	250'	Coachella	Located near a future access point to the CV Link alignment on 52nd Avenue and existing residential homes.	70.1	n/a	65.2	74.9
L30	3/30/2016	787'	Coachella	Located near a future access point to the CV Link alignment on 52nd Avenue and existing residential homes.	58.3	n/a	54.4	63.0

[1] See Appendix O for the noise level measurement locations.
[2] The long-term 24-hour measurement worksheets are included in Appendix O.
"Day" = Daytime; "Eve." = Evening; "Night" = Nighttime hours based on the municipal code of each jurisdiction (generally 10 PM to 7 AM) Please see Table 3-1 of Appendix O

Table 4.12-6
Existing Ambient Noise Levels and Exceedances

Meas. Location[1]	Jurisdiction[9]	Land Use[2]	Energy Average Hourly Noise Level (dBA Leq)[3]			Base Exterior Noise Level Limits (dBA Leq)[4]			Ambient Exceeds Standards?[5]			Exterior Noise Level Limits After Ambient Adjustment (dBA Leq)[6]		
			Day	Eve.	Night	Day	Eve.	Night	Day	Eve.	Night	Day	Eve.	Night
L1	Palm Springs	Low Dens. Res.	67.4	66.0	65.7	50	45	40	**Yes**	**Yes**	**Yes**	67	66	66
L2	Palm Springs	CV Link	52.9	51.7	48.9	60	55	50	No	No	No	60	55	50
L3	Palm Springs	Low Dens. Res.	67.9	66.9	63.8	50	45	40	**Yes**	**Yes**	**Yes**	68	67	64
L4	Cathedral City	Residential	55.0	-[7]	49.8	55	55	55	No	-[7]	No	55	-[7]	55
L5	Palm Springs	CV Link	61.1	59.4	55.4	-[8]	-[8]	-[8]	No	No	No	-[8]	-[8]	-[8]
L6	Palm Springs	CV Link	55.4	55.3	49.3	-[8]	-[8]	-[8]	No	No	No	-[8]	-[8]	-[8]
L7	Palm Springs	CV Link	55.6	52.6	49.5	-[8]	-[8]	-[8]	No	No	No	-[8]	-[8]	-[8]
L8	Cathedral City	CV Link	60.5	-[7]	56.6	-[8]	-[8]	-[8]	No	-[7]	No	-[8]	-[8]	-[8]
L13	Palm Desert	Residential	65.2	-[7]	58.6	55	-[7]	45	**Yes**	-[7]	**Yes**	65	-[7]	59
L14	Palm Desert	Park	53.2	-[7]	49.3	55	-[7]	45	No	-[7]	**Yes**	55	-[7]	49
L15	Palm Desert	School	55.5	-[7]	49.2	55	-[7]	45	**Yes**	-[7]	**Yes**	56	-[7]	49
L16	Palm Desert	CV Link	48.4	-[7]	46.8	-[8]	-[8]	-[8]	No	-[7]	No	-[8]	-[8]	-[8]
L17	Indian Wells	CV Link	52.3	-[7]	50.6	-[8]	-[8]	-[8]	No	-[7]	No	-[8]	-[8]	-[8]
L18	Indian Wells	CV Link	62.1	-[7]	56.3	-[8]	-[8]	-[8]	No	-[7]	No	-[8]	-[8]	-[8]
L19	Indian Wells	Residential	60.9	-[7]	56.8	55	-[7]	50	**Yes**	-[7]	**Yes**	65	-[7]	60
L20	Indio	Residential	53.5	-[7]	50.1	65	-[7]	45	No	-[7]	**Yes**	65	-[7]	45
L21	Indio	Residential	55.9	-[7]	51.2	65	-[7]	45	No	-[7]	**Yes**	65	-[7]	45
L22	Indio	Residential	61.3	-[7]	59.1	65	-[7]	45	No	-[7]	**Yes**	65	-[7]	45
L23	Indio	Residential	62.0	-[7]	61.4	65	-[7]	45	No	-[7]	**Yes**	65	-[7]	45
L24	Indio	School	59.3	-[7]	56.7	65	-[7]	45	No	-[7]	**Yes**	65	-[7]	45
L25	Indio	School	57.1	-[7]	56.1	65	-[7]	45	No	-[7]	**Yes**	65	-[7]	45
L26	Indio	Commercial	62.3	-[7]	60.6	65	-[7]	45	No	-[7]	**Yes**	65	-[7]	45
L27	Coachella	Open Space	67.8	-[7]	63.2	55	-[7]	45	**Yes**	-[7]	**Yes**	68	-[7]	63
L28	Coachella	Park	63.0	-[7]	58.9	55	-[7]	45	**Yes**	-[7]	**Yes**	63	-[7]	59
L29	Coachella	Residential	70.1	-[7]	65.2	55	-[7]	45	**Yes**	-[7]	**Yes**	70	-[7]	65
L30	Coachella	Residential	58.3	-[7]	54.4	55	-[7]	45	**Yes**	-[7]	**Yes**	58	-[7]	54

Table 4.12-6
Existing Ambient Noise Levels and Exceedances

Meas. Location[1]	Jurisdiction[9]	Land Use[2]	Energy Average Hourly Noise Level (dBA Leq)[3]	Base Exterior Noise Level Limits (dBA Leq)[4]	Ambient Exceeds Standards?[5]	Exterior Noise Level Limits After Ambient Adjustment (dBA Leq)[6]

[1] See Exhibit 5-A and Appendices 5.1 and 7.1 of Appendix O for the noise level measurement locations.
[2] Based on the General Plan land use maps of each jurisdiction.
[3] Existing ambient noise levels as shown on Table 5-1 of Appendix O.
[4] As previously shown on Table 3-1 of Appendix O for each jurisdiction. For the purposes of this analysis, the L_{50} noise level standards of the Cities of Rancho Mirage and La Quinta are evaluated based on the Leq hourly noise levels to evaluate the potential worst-case hourly noise levels due to the operation of the Project.
[5] The exterior noise level limits are adjusted based on each jurisdictions' criteria indicated on Table 4.12-2.
[6] The table does not include measurements for Rancho Mirage because it is not part of the Proposed Project
[7] The jurisdiction's Municipal Code does not include evening hours.
"Day" = Daytime; "Eve." = Evening; "Night" = Nighttime hours based on the municipal code of each jurisdiction (generally 10 PM to 7 AM) Please see Table 3-1 of Appendix O
[8] The measurement location represents the future CV Link alignment, and therefore, no exterior noise standards are identified since the land use is not noise-sensitive.
[9] The entire length of the Route was inspected for sensitive receptors occurring adjacent to it. The table does not include measurements for La Quinta or the County of Riverside because the Route does not traverse through sensitive receptors in these jurisdictions (see Section 4.10 for a description of the land uses adjacent to these jurisdictions).

4.12.5. Project Impacts

The CV Link project has the potential to impact the noise environment during construction and operational phases. Short term construction noise and its associated vibration can be expected along one or more portions of the Route over the build out period, from 2018 to 2021. The Proposed Project will also introduce or increase the number pedestrians, bicyclists, and LSEVs occurring on the proposed Route. Because the Proposed Project occurs on existing levee tops, roads and recreational facilities, noise is already generated by existing use, however limited or extensive it currently is. This analysis focuses on the current conditions shown in Table 4.12-5, and the increase in noise or vibration from the Proposed Project.

A project-specific Noise Study was conducted to evaluate short-term impacts associated with construction and the long-term operational and use impacts of the proposed CV Link, and is provided in Appendix O. As part of the analysis, a noise prediction model using the CadnaA (Computer Aided Noise Abatement) computer program was developed. CadnaA has the ability to analyze the noise level of multiple types of noise sources and calculate the noise levels at any location using spatially accurate Project Keyhole Markup Language Zipped (KMZ) files. The program has the ability to analyze the noise level of multiple types of noise sources and to calculate the effects of topography, buildings and multiple barriers to predict outdoor noise impacts. Using the spatially accurate project KMZ files, a CadnaA noise prediction model of the project area was developed, which provides a spatially accurate three dimensional representation of the planning area.

The following discussion analyzes whether project will result in substantial increases in ambient noise level in the vicinity of project planning area. Additionally, this assessment utilizes local noise standards and applicable daytime exceptions as the significance thresholds for noise impacts. The assessment of vibration impacts was conducted using information on anticipated vibration during construction and operation of the project planning area.

For analysis purposes, periodic is defined as intermittent or short-term and only construction activities are consistent with this definition. Operation and use of the proposed Route is considered to result in a permanent increase in ambient noise levels; operation and use is not considered as a periodic increase in noise.

Potential impacts related to construction noise were analyzed using a variety of factors, including the distance between project-related noise sources to noise-sensitive land uses, typical noise levels associated with construction equipment, the potential for construction noise levels associated with construction equipment, the potential for construction time limits or noise limits established in local ordinance. Operational noise is evaluated by the noise generation from the use of the proposed Route, proximity of sensitive receptors would be affected, and the potential noise to remain within established local noise ordinances limits at the nearest receptors. Each impact discussion analyzes impacts on sensitive receptors nearest the project planning area.

a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

b) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?

In order to determine the project's impacts on noise levels, short-term noise reference level measurements of similar activities were collected at comparable recreational facilities. These included bicycling, hiking and dog walking, and golf cart operations. The reference measurements included Coachella Valley locations and other areas in southern California, in order to analyze the most comprehensive range of noise levels that could be experienced at the Proposed Project.

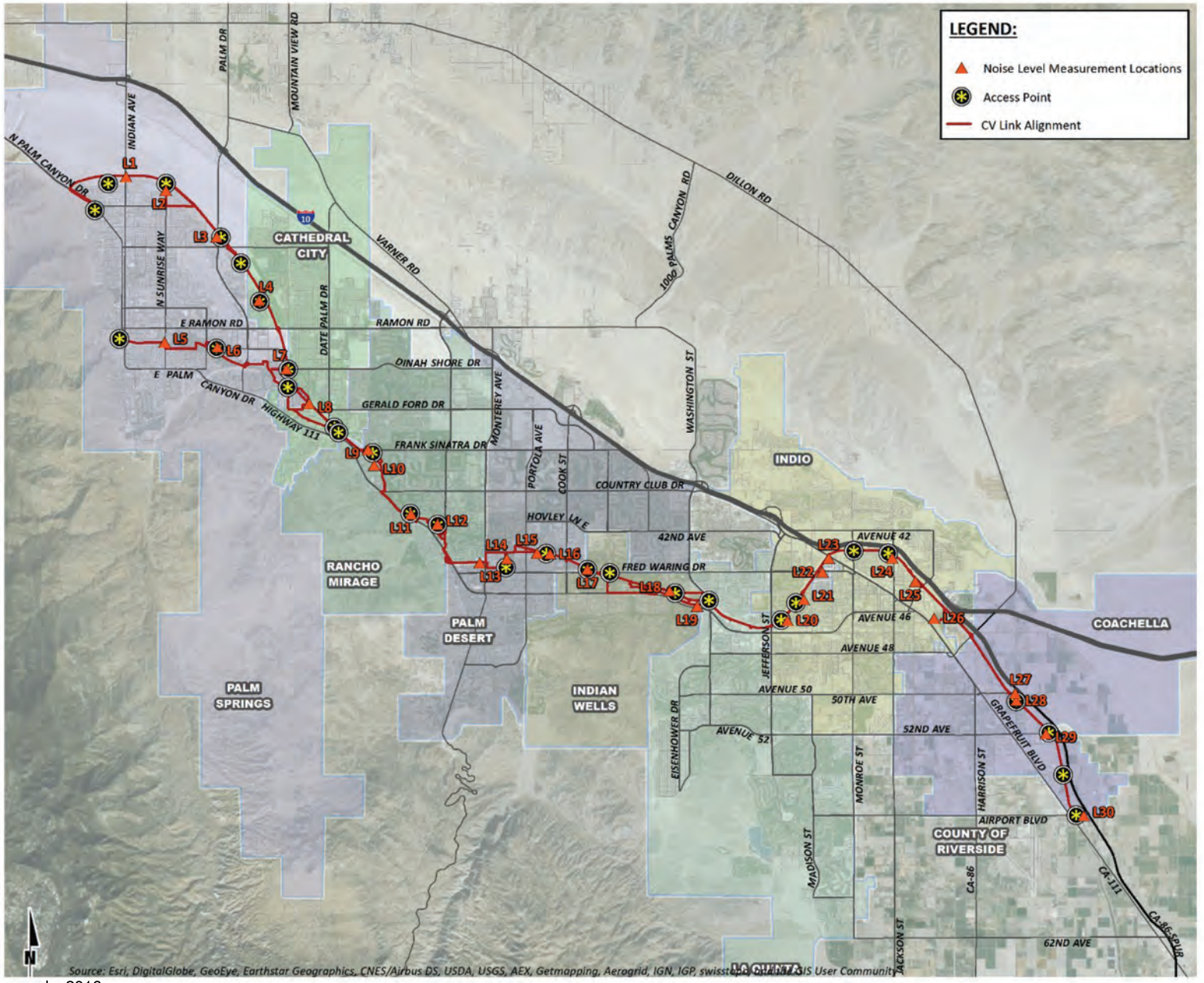
Table 4.12-7
Reference Noise Measurements

Noise Source	Jurisdiction(s)	Duration (mm:ss)	Dist. From Source (Feet)	Noise Source Height (Feet)	Noise Level (dBA Leq)		Sound Power Level (PWL)[13]
					@ Ref. Distance	@ 50 Feet	
Bike & Pedestrian Activities				***Peak Reference Noise Levels:***		47.6	82.2
Bike and Pedestrian Activities[1]	South El Monte & Irwindale	00:21	10'	5'	58.1	47.6	82.2
Bike and Pedestrian Trail Activities[2]	Rancho Santa Margarita	02:30	10'	5'	57.7	47.2	81.8
Pedestrian, Bike, and Sports Activities[3]	Palm Springs	09:28	10'	5'	54.4	40.4	75.0
Pedestrian, Bike, and Dog Walking Activities[4]	Palm Springs	01:15	5'	5'	52.4	37.4	72.0
Pedestrian, Bike, and Sports Activities[5]	La Quinta	05:16	20'	5'	48.8	42.8	77.4
Pedestrian & Golf Cart Activities				***Peak Reference Noise Levels:***		50.3	84.9
Pedestrian and Golf Cart Activities[6]	Palm Springs	01:44	20'	5'	56.3	50.3	84.9
Park and Golf Cart Activities[7]	Palm Desert	05:45	10'	5'	59.4	48.9	83.5
Hiking Activities				***Peak Reference Noise Levels:***		40.5	75.1
Hiking and Dog Walking Activities[8]	Palm Springs	05:00	5'	5'	55.3	40.3	74.9
Hiking Activities[9]	Rancho Mirage	07:31	5'	5'	55.5	40.5	75.1
Specialty Park/Sports Activities				***Peak Reference Noise Levels:***		63.2	97.8
Skate Park Activity[10]	Palm Desert	05:17	10'	5'	60.3	49.8	84.4
Dog Park Activity[11]	Palm Desert	09:17	10'	5'	73.7	63.2	97.8
Golf Game and Cart Activities[12]	Cathedral City	01:33	20'	5'	57.4	51.4	86.0

[1] As measured by Urban Crossroads on 4/12 and 4/14/16 at the Whitter Narrows and Santa Fe Dam Recreation Areas in South El Monte and Irwindale, respectively.
[2] As measured by Urban Crossroads on 4/13/16 at the Rancho Santa Margarita Lake.
[3] As measured by Entech Northwest on behalf of Urban Crossroads on 3/29/16 at Ruth Hardy Park in the City of Palm Springs.
[4] As measured by Entech Northwest on behalf of Urban Crossroads on 3/29/16 at the North Riverside Trail in the City of Palm Springs.
[5] As measured by Entech Northwest on behalf of Urban Crossroads on 3/30/16 at the Lake Cahuila Recreation Area in the City of La Quinta.
[6] As measured by Entech Northwest on behalf of Urban Crossroads on 3/30/16 at the Mesquite Golf Course in Palm Springs.
[7] As measured by Entech Northwest on behalf of Urban Crossroads on 3/30/16 at the Lake Cahuila Recreation Area in the City of La Quinta.
[8] As measured by Entech Northwest on behalf of Urban Crossroads on 3/30/16 at the Lykken Trail in the City of Palm Springs.
[9] As measured by Entech Northwest on behalf of Urban Crossroads on 3/30/16 at the Mike Schuler Trail in the City of Rancho Mirage.
[10] As measured by Entech Northwest on behalf of Urban Crossroads on 3/30/16 at the Civic Center Skate Park in the City of Palm Desert.
[11] As measured by Entech Northwest on behalf of Urban Crossroads on 3/30/16 at the Civic Center Dog Park in the City of Palm Desert.
[12] As measured by Entech Northwest on behalf of Urban Crossroads on 3/30/16 at the Cathedral Canyon Golf Club in Cathedral City.
[13] Sound pressure levels are converted into sound power levels for use in the CadnaA noise prediction model based on the distance to the reference noise source.

The Pedestrian and Golf Cart Activities measurement was utilized as the reference since it would be the most similar to the activities on CV Link. It is assumed that activities that will occur on CV Link would have a peak noise level of 50.3 dBA Leq at a distance of 50 feet as is shown on Table 4.12-7. Since the activities on CV Link will not include the specialty park/sports activities aspect described in Table 4.12-7 as Specialty Park/Sports Activities, the 50.3 dBA Leq is used in this analysis to accurately describe the noise sources associated with the Proposed Project. It is also important to note that the project-related noise sources are anticipated to consist of mobile point sources (e.g. line sources) moving on the CV Link pathway, such that each source will create noise only for a few seconds at any one location. Stationary noise sources are not anticipated. As a worst-case assumption, the analysis in the Table also assumed that project-related operational noise will occur 24 hours per day, seven days per week. Since in reality activity levels will be dependent on a number of factors, including time of day, weather and tourism seasons, the noise levels assumed are conservative.

As shown in Table 4.12-6, above, noise levels adjacent to the CV Link Route are, in a number of locations, elevated under existing conditions. Using these same locations, which are representative of all areas of the Proposed Project, the noise prediction model calculated the noise that would result from full implementation of the Proposed Project. The results of that analysis are shown in Table 4.12-8. The Table describes the noise levels allowed at each location, based on each jurisdiction's Municipal Code Standards, as described in Tables 4.12-1 and 4.12-2 and the accompanying text above. Unlike most development projects, the Proposed Project will not add a permanent, stationary source of noise to the environment, but rather a mobile, intermittent source. As a result, the analysis of whether the Proposed Project's noise will exceed Municipal Code noise occurrence standards was conducted. As shown in Table 4.12-8, the Proposed Project's operational noise will not, where it occurs adjacent to a sensitive receptor, exceed the noise standards established by each jurisdiction, and will therefore not result in significant increases in ambient noise levels.



Source: Urban Crossroads, 2016

09.07.16

TERRA NOVA® PLANNING & RESEARCH, INC.

CV Link Project
Noise Measurement Locations Overview
Coachella Valley Association of Governments

CV LINK CONNECTING THE COACHELLA VALLEY

CVAG

Exhibit 4.12-2

Table 4.12-8
CV Link Operation Noise Levels

Meas. Location[1]	Jurisdiction	Land Use[2]	Exterior Noise Level Limits After Ambient Adjustment (dBA Leq)[3]			Project Noise Levels (dBA Leq)[4&9]	Threshold Exceeded?[5]			Significant Impact?
			Daytime	Evening	Nighttime		Daytime	Evening	Nighttime	
L1	Palm Springs	Low Dens. Res.	67	66	66	48.5	No	No	No	No
L2	Palm Springs	CV Link	60	55	50	46.2	No	No	No	No
L3	Palm Springs	Low Dens. Res.	68	67	64	47.4	No	No	No	No
L4	Cathedral City	Residential	55	-[7]	55	37.8	No	-[7]	No	No
L5	Palm Springs	CV Link	-[8]	-[8]	-[8]	59.5	No	No	No	No[6]
L6	Palm Springs	CV Link	-[8]	-[8]	-[8]	54.5	No	No	No	No[6]
L7	Palm Springs	CV Link	-[8]	-[8]	-[8]	72.2	No	No	No	No[6]
L8	Cathedral City	CV Link	-[8]	-[8]	-[8]	60.6	No	-[7]	No	No[6]
L13	Palm Desert	Residential	65	-[7]	59	57.4	No	-[7]	No	No
L14	Palm Desert	Park	55	-[7]	49	46.5	No	-[7]	No	No
L15	Palm Desert	School	56	-[7]	49	44.4	No	-[7]	No	No
L16	Palm Desert	CV Link	-[8]	-[8]	-[8]	63.8	No	-[7]	No	No[6]
L17	Indian Wells	CV Link	-[8]	-[8]	-[8]	63.6	No	-[7]	No	No[6]
L18	Indian Wells	CV Link	-[8]	-[8]	-[8]	65.4	No	-[7]	No	No[6]
L19	Indian Wells	Residential	65	-[7]	60	44.9	No	-[7]	No	No
L20	Indio	Residential	65	-[7]	45	34.7	No	-[7]	No	No
L21	Indio	Residential	65	-[7]	45	39.6	No	-[7]	No	No
L22	Indio	Residential	65	-[7]	45	38.6	No	-[7]	No	No
L23	Indio	Residential	65	-[7]	45	41.3	No	-[7]	No	No
L24	Indio	School	65	-[7]	45	42.7	No	-[7]	No	No
L25	Indio	School	65	-[7]	45	43.7	No	-[7]	No	No
L26	Indio	Commercial	65	-[7]	45	33.7	No	-[7]	No	No
L27	Coachella	Open Space	68	-[7]	63	40.8	No	-[7]	No	No
L28	Coachella	Park	63	-[7]	59	55.5	No	-[7]	No	No
L29	Coachella	Residential	70	-[7]	65	43.5	No	-[7]	No	No
L30	Coachella	Residential	58	-[7]	54	31.4	No	-[7]	No	No

Table 4.12-8
CV Link Operation Noise Levels

Meas. Location[1]	Jurisdiction	Land Use[2]	Exterior Noise Level Limits After Ambient Adjustment (dBA Leq)[3]			Project Noise Levels (dBA Leq)[4&9]	Threshold Exceeded?[5]			Significant Impact?
			Daytime	Evening	Nighttime		Daytime	Evening	Nighttime	

[1] See Exhibit 4.12-2.
[2] Based on the General Plan land use maps of each jurisdiction.
[3] These levels represent the highest allowable noise level in each jurisdiction for a use or activity adjacent to a sensitive receptor. Not all portions of CV Link are adjacent to sensitive receptors, and thus each jurisdiction's standards may not apply in all locations. The exterior noise level limits are adjusted based on each jurisdictions' criteria indicated on Table 4.12-2.
[4] Project-only operational noise levels are calculated in the CadnaA noise prediction model and provided in Appendix 7.2 of the Noise Impact Analysis.
[5] Do the Project-only operational noise levels at each measurement location exceed the ambient adjusted exterior noise level limits for the given jurisdiction
[6] The measurement location is located at the proposed CV Link alignment and does not represent sensitive land uses which would be impacted by the Project-related operational noise levels.
[7] The jurisdiction's Municipal Code does not include evening hours.
[8] The measurement location represents the future CV Link alignment, and therefore, no exterior noise standards are identified since the land use is not noise-sensitive. "Daytime," "Evening," and "Nighttime" hours are based on the municipal code of each jurisdiction as previously shown on Table 4.12.1.
[9] The Proposed Project's operational noise levels are less than the allowable noise levels. For this reason there is no significant impact as a result of CV Link operation.

In addition, an analysis was conducted to determine if the noise generated by the Proposed Project, when added to the ambient noise conditions at each of the monitoring location, would result in impacts to adjacent receptors. The Federal Interagency Committee on Noise (FICON) developed guidance to be used for the assessment of project-generated increases in noise levels that consider the ambient noise level. The FICON recommendations were specifically developed to assess aircraft noise impacts, but FICON guidance specifically defines the equivalent average noise level (Leq) as a noise metric for evaluating project-related noise level increases, and therefore, represents an appropriate threshold for evaluating the significance of the hourly operational activities of the Proposed Project (i.e., Leq).

Based on FICON guidance, if the ambient noise environment is quiet (<60 dBA) and the new noise source greatly increases the noise levels, an impact may occur even if the noise level criteria is not exceeded. FICON identifies a readily perceptible 5 dBA or greater project related noise level increase as a significant impact when the noise criteria for a given land use is exceeded. In areas where the without project noise levels range from 60 to 65 dBA, a 3 dBA barely perceptible noise level increase appears to be appropriate for most people. When the without project noise levels already exceed 65 dBA, any increase in community noise louder than 1.5 dBA or greater is considered a significant impact if the noise criteria for a given land use is exceeded, since it likely contributes to an existing noise exposure exceedance. Table 4.12-9 below provides a summary of the potential noise impact significance criteria, based on guidance from FICON.

Table 4.12-9
Significance of Noise Impacts at Noise-Sensitive Receivers

Without Project Noise Level	Potential Significant Impact
< 60 dBA	5 dBA or more
60 - 65 dBA	3 dBA or more
> 65 dBA	1.5 dBA or more

Using these criteria, the Proposed Project was analyzed in relation to the ambient noise environment during the daytime, evening and nighttime periods. As shown in Table 4.12-10, below, the Proposed Project will increase ambient noise levels up to 1.7 dBA Leq during the daytime hours. During the evening, Proposed Project operational noise level increases will approach 2.0 dBA Leq, as shown in Table 4.12-11, and nighttime noise level increases with the Proposed Project will be up to 3.7 dBA Leq, as shown in Table 4.12-12. Project-related operational noise level contributions will be below the FICON significance thresholds described in Table 4.12-9 (Significance of Noise Impacts at Noise Sensitive Receivers) based on existing ambient noise levels below 60 dBA Leq, between 60 to 65 dBA Leq, and already exceeding 65 dBA Leq. Therefore, the increases at the sensitive receiver locations will be less than significant. On this basis, Project operational stationary-source noise would not result in a substantial temporary/periodic, or permanent increase in ambient noise levels in the Project vicinity above levels existing without the Project, and impacts in these regards will be less than significant.

Table 4.12-10
Daytime Operational Noise Level Contributions (dBA LEq)

Receiver Location[1]	Total Project Operational Noise Level[2]	Measurement Location[3]	Reference Ambient Noise Levels[4]	Combined Project and Ambient[5]	Project Contribution[6]	Threshold Exceeded?[7]
L1	48.5	L1	67.4	67.5	0.1	No
L2	46.2	L2	52.9	53.7	0.8	No
L3	47.4	L3	67.9	67.9	0.0	No
L4	37.8	L4	55.0	55.1	0.1	No
L5	59.5	L5	-[8]	-[8]	-[8]	-[8]
L6	54.5	L6	-[8]	-[8]	-[8]	-[8]
L7	72.2	L7	-[8]	-[8]	-[8]	-[8]
L8	60.6	L8	-[8]	-[8]	-[8]	-[8]
L13	57.4	L13	65.2	65.9	0.7	No
L14	46.5	L14	53.2	54.0	0.8	No
L15	44.4	L15	55.5	55.8	0.3	No
L16	63.8	L16	-[8]	-[8]	-[8]	-[8]
L17	63.6	L17	-[8]	-[8]	-[8]	-[8]
L18	65.4	L18	-[8]	-[8]	-[8]	-[8]
L19	44.9	L19	60.9	61.0	0.1	No
L20	34.7	L20	53.5	53.6	0.1	No
L21	39.6	L21	55.9	56.0	0.1	No
L22	38.6	L22	61.3	61.3	0.0	No
L23	41.3	L23	62.0	62.0	0.0	No
L24	42.7	L24	59.3	59.4	0.1	No
L25	43.7	L25	57.1	57.3	0.2	No
L26	33.7	L26	62.3	62.3	0.0	No
L27	40.8	L27	67.8	67.8	0.0	No
L28	55.5	L28	63.0	63.7	0.7	No
L29	43.5	L29	70.1	70.1	0.0	No
L30	31.4	L30	58.3	58.3	0.0	No

[1] See Exhibit 4.12-2 for the sensitive receiver locations.
[2] Total Project operational noise levels as shown on Table 4.12-8.
[3] Reference noise level measurement locations as shown on Exhibit 4.12-2.
[4] Observed daytime ambient noise levels as shown on Table 4.12-6.
[5] Represents the combined ambient conditions plus the Project activities.
[6] The noise level increase expected with the addition of the proposed Project activities.
[7] Significance Criteria as defined by FICON.
[8] The measurement location represents the future CV Link alignment, and therefore, the land use is not noise-sensitive.
"n/a" = The jurisdiction's Municipal Code does not include evening hours.

Table 4.12-11
Evening Operational Noise Level Contributions (dBA LEq)

Receiver Location[1]	Total Project Operational Noise Level[2]	Measurement Location[3]	Reference Ambient Noise Levels[4]	Combined Project and Ambient[5]	Project Contribution[6]	Threshold Exceeded?[7]
L1	48.5	L1	66.0	66.1	0.1	No
L2	46.2	L2	51.7	52.8	1.1	No
L3	47.4	L3	66.9	66.9	0.0	No
L4	37.8	L4	n/a	n/a	n/a	n/a
L5	59.5	L5	-[8]	-[8]	-[8]	-[8]
L6	54.5	L6	-[8]	-[8]	-[8]	-[8]
L7	72.2	L7	-[8]	-[8]	-[8]	-[8]
L8	60.6	L8	-[8]	-[8]	-[8]	-[8]
L13	57.4	L13	n/a	n/a	n/a	n/a
L14	46.5	L14	n/a	n/a	n/a	n/a
L15	44.4	L15	n/a	n/a	n/a	n/a
L16	63.8	L16	-[8]	-[8]	-[8]	-[8]
L17	63.6	L17	-[8]	-[8]	-[8]	-[8]
L18	65.4	L18	-[8]	-[8]	-[8]	-[8]
L19	44.9	L19	n/a	n/a	n/a	n/a
L20	34.7	L20	n/a	n/a	n/a	n/a
L21	39.6	L21	n/a	n/a	n/a	n/a
L22	38.6	L22	n/a	n/a	n/a	n/a
L23	41.3	L23	n/a	n/a	n/a	n/a
L24	42.7	L24	n/a	n/a	n/a	n/a
L25	43.7	L25	n/a	n/a	n/a	n/a
L26	33.7	L26	n/a	n/a	n/a	n/a
L27	40.8	L27	n/a	n/a	n/a	n/a
L28	55.5	L28	n/a	n/a	n/a	n/a
L29	43.5	L29	n/a	n/a	n/a	n/a
L30	31.4	L30	n/a	n/a	n/a	n/a

[1] See Exhibit 4.12-2 for the sensitive receiver locations.
[2] Total Project operational noise levels as shown on Table 4.12-8.
[3] Reference noise level measurement locations as shown on Exhibit 4.12-2.
[4] Observed evening ambient noise levels as shown on Table 4.12-6.
[5] Represents the combined ambient conditions plus the Project activities.
[6] The noise level increase expected with the addition of the proposed Project activities.
[7] Significance Criteria as defined by FICON.
[8] The measurement location represents the future CV Link alignment, and therefore, the land use is not noise-sensitive.
"n/a" = The jurisdiction's Municipal Code does not include evening hours.

Table 4.12-12
Nighttime Operational Noise Level Contributions (dBA LEq)

Receiver Location[1]	Total Project Operational Noise Level[2]	Measurement Location[3]	Reference Ambient Noise Levels[4]	Combined Project and Ambient[5]	Project Contribution[6]	Threshold Exceeded?[7]
L1	48.5	L1	65.7	65.8	0.1	No
L2	46.2	L2	48.9	50.8	1.9	No
L3	47.4	L3	63.8	63.9	0.1	No
L4	37.8	L4	49.8	50.1	0.3	No
L5	59.5	L5	-[8]	-[8]	-[8]	-[8]
L6	54.5	L6	-[8]	-[8]	-[8]	-[8]
L7	72.2	L7	-[8]	-[8]	-[8]	-[8]
L8	60.6	L8	-[8]	-[8]	-[8]	-[8]
L13	57.4	L13	58.6	61.1	2.5	No
L14	46.5	L14	49.3	51.1	1.8	No
L15	44.4	L15	49.2	50.4	1.2	No
L16	63.8	L16	-[8]	-[8]	-[8]	-[8]
L17	63.6	L17	-[8]	-[8]	-[8]	-[8]
L18	65.4	L18	-[8]	-[8]	-[8]	-[8]
L19	44.9	L19	56.8	57.1	0.3	No
L20	34.7	L20	50.1	50.2	0.1	No
L21	39.6	L21	51.2	51.5	0.3	No
L22	38.6	L22	59.1	59.1	0.0	No
L23	41.3	L23	61.4	61.4	0.0	No
L24	42.7	L24	56.7	56.9	0.2	No
L25	43.7	L25	56.1	56.3	0.2	No
L26	33.7	L26	60.6	60.6	0.0	No
L27	40.8	L27	63.2	63.2	0.0	No
L28	55.5	L28	58.9	60.5	1.6	No
L29	43.5	L29	65.2	65.2	0.0	No
L30	31.4	L30	54.4	54.4	0.0	No

[1] See Exhibit 4.12-2 for the sensitive receiver locations.
[2] Total Project operational noise levels as shown on Table 4.12-8.
[3] Reference noise level measurement locations as shown on Exhibit 4.12-2.
[4] Observed nightime ambient noise levels as shown on Table 4.12-6.
[5] Represents the combined ambient conditions plus the Project activities.
[6] The noise level increase expected with the addition of the proposed Project activities.
[7] Significance Criteria as defined by FICON.
[8] The measurement location represents the future CV Link alignment, and therefore, the land use is not noise-sensitive.
"n/a" = The jurisdiction's Municipal Code does not include evening hours.

c) Exposure of persons to or generations of excessive groundborne vibration or goundborne noise levels?

Table 4.12-4, provided above, lists the vibration standards for the County and the City of Palm Desert, the only two jurisdictions to have codified vibration standards. The Table also shows the CalTrans standard, which is more conservative, given that the City of Palm Desert municipal code utilizes RMS (Root-Mean-Square) which measures vibration mean versus the Caltrans standard which measures in PPV (Peak Particle Velocity) which measures the highest disturbance. In order to assure a conservative determination in its analysis, the Noise Impact

Analysis used the CalTrans standard to determine the level of impact likely from vibration during construction of the Proposed Project.

CV Link will be constructed in sections, over a four year period. As a result, it is expected that ground-borne vibration from construction would cause intermittent, localized intrusion into the noise environment. Grading activities, construction equipment and trucks hauling project materials would have the potential to generate low levels of ground-borne vibration within the Project. Table 4.12-13 provides vibration levels construction equipment.

Table 4.12-13
Construction Equipment Vibration Levels

Equipment	PPV (in/sec) at 25 feet
Small bulldozer	0.003
Jackhammer	0.035
Loaded Trucks	0.076
Large bulldozer	0.089

Source: Federal Transit Administration, Transit Noise and Vibration Impact Assessment, May 2006.

As shown in the above table, a large bulldozer would generate a peak source of vibration with a reference velocity of 0.089 in/sec PPV at a distance of 25 feet. The noise analysis used these reference measurements, and the anticipated equipment proposed for the project's construction (as detailed in the Air Quality Report provided in Appendix E) to determine vibration levels during project construction. These are summarized in Table 4.12-14.

Table 4.12-14
Project Vibration Levels

Distance to Const. Activity (Feet)	Receiver PPV Levels (in/sec)[1]					Threshold Exceeded?[2]
	Small Bulldozer	Jack-hammer	Loaded Trucks	Large Bulldozer	Peak Vibration	
25'	0.003	0.035	0.076	0.089	0.089	Yes
50'	0.001	0.012	0.027	0.031	0.031	Yes
100'	0.000	0.004	0.010	0.011	0.011	Yes
125'	0.000	0.003	0.007	0.008	0.008	No

[1] Based on the Vibration Source Levels of Construction Equipment included on Table 4.12-13.
[2] Does the peak vibration exceed the maximum acceptable vibration threshold of 0.01 in/sec PPV?

As shown in above table, at distances ranging from 25 to 125 feet from the project site, construction vibration velocity levels are expected to range from 0.008 in/sec PPV at 25 feet to 0.089 in/sec PPV at 125 feet. Using the Caltrans construction vibration standard for human annoyance, the Proposed Project construction activities will exceed the vibration standard of 0.01 in/sec PPV at receiver locations within 100 feet of large bulldozers during construction. If used as part of the project, large bulldozers within 100 feet of nearby sensitive residential or school land uses would be represent a significant impact. Mitigation measures N-1 and N-4 are provided below to reduce construction vibration levels to the greatest extent possible, however, large bulldozers could operate within proximity to residences. As a result, impacts associated with groundborne vibration during construction will remain significant and unavoidable.

Pile Driving Impacts

The CV Link project includes the construction of several bridges, with which pile driving may be associated, although drilled piles are also under consideration. A vibratory impact analysis was prepared to supplement the project noise impact study and evaluate potential impacts from this construction technique. To control vibration impacts associated with the construction of the CV Link project, some jurisdictions in the project study area have identified specific vibration level standards. The CV Link noise analysis identifies the vibration standards for each jurisdiction, including the Caltrans vibration level standards for building damage and human annoyance, in compliance with the Federal funding requirements of the project.

Based on the noise study comparison of the vibration standards of each local jurisdiction, the most conservative (worst-case) regulations are established by Caltrans, which also include a significance threshold for building damage of 0.12 in/sec peak-particle-velocity (PPV), and a *barely perceptible* human annoyance significance threshold of 0.01 in/sec PPV. Therefore, the more conservative Caltrans vibration level thresholds are used in this analysis to evaluate the potential impacts due to Project pile driving activities at the planned 13 bridge locations.

For purposes of analysis it is assumed that the pile driving methods will be used at all bridge locations. The noise levels used in the pile driving noise analysis are in Lmax based on the impulsive nature of pile driver activities, and the Caltrans Lmax noise level standards for construction noise during the nighttime hours of 9:00 p.m. and 6:00 a.m. The pile driving noise analysis relies on the Roadway Construction Noise Model (RCNM) published by the Federal Highway Administration (FHWA) that includes a national database of construction equipment reference noise emission levels. The noise model provides a spatially accurate three-dimensional representation of the Project study area using a variety key data inputs The RCNM reference noise level for an impact pile driver is used to assess the potential noise impacts from the pile driving methods planned at each bridge location. Table 4.12-15 shows the RCNM dBA Lmax reference noise level for an impact pile driver at 50 feet, and the sound power level (PWL) calibrated in a CadnaA (Computer Aided Noise Abatement) noise prediction model used in this analysis.

Table 4.12-15
Reference Pile Driving Equipment Noise Levels

Reference Noise Source for the Planned Pile Driving Methods[1]	Dist. From Source (Feet)	Noise Source Height (Feet)	Reference Noise Level @ 50 Feet (dBA Lmax)	Calibrated Sound Power Level (PWL)[2]
Impact Pile Driver	50'	6'	101.0	132.7

[1] Source: FHWA's Roadway Construction Noise Model, January 2006.
[2] Calculated using the CadnaA noise model at the reference distance to the noise source. Hard site conditions are used in the CadnaA noise prediction model, which result in noise levels that attenuate (or decrease) at a rate of 6 dBA for each doubling of distance from a point source. The basic noise attenuation equation used to calculate the resulting noise level (SPL2) at a given distance (D1) distance attenuation based on a reference noise level (SPL1) at the reference distance (D2) is as follows: SPL2 = SPL1 - 20log(D2/D1).

Noise generating construction activities shall be restricted to each jurisdictions' established limits to the hours of operation. In effect, if the construction activities comply with the permitted hours of each jurisdiction and the nighttime noise level standards identified by Caltrans of 86 dBA Lmax at 50 feet, the construction noise levels associated with CV Link are considered exempt from the noise standards of the ordinance. Based on the reference noise level for an impact pile driver 101.0 dBA Lmax at 50 feet, the construction of CV Link bridges will exceed the 86 dBA Lmax threshold at 50 feet identified by Caltrans during the nighttime hours of 9:00 p.m. to 6:00 a.m. However, no nighttime construction is planned, which would require compliance with the Caltrans 86 dBA Lmax at 50 feet nighttime noise level threshold.

The pile driving noise prediction model indicates that the noise levels at nearby sensitive receiver locations will approach up to 90 dBA Lmax. It is important to note that the pile driving noise level contour boundaries represent worst-case conditions since they are based on the simultaneous operation of an impact pile driver at each pile location. In reality, the impact activities at each pile location are not anticipated to occur at the same time. Therefore, since the construction activities will be limited to the permitted hours and will not operate at night or generate noise levels above the nighttime 86 dBA Lmax Caltrans threshold at 50 feet, this demonstrates that the construction of all 13 bridges will be compliant with the Caltrans noise standards for construction.

Tolerance of construction noise levels by nearby homeowners has been shown to greatly increase when informed that construction noise is temporary and that the contractor is taking steps to reduce the construction noise levels. Furthermore, periodic exposure to high noise levels in short duration, such as project-related construction noise, is typically considered an annoyance and not impactful to human health.

The results of this impact pile driving vibration analysis indicate that the vibration levels due to pile driving will exceed the Caltrans 0.12 in/sec PPV building damage threshold at up to two locations, at the Deep Canyon bridge in Indian Wells and the Thunderbird Channel bridge on Highway 111 in Rancho Mirage, and represent *potentially significant* vibration impacts. Additionally, vibration levels exceeding the Caltrans *barely perceptible* human annoyance threshold of 0.01 in/sec PPV will occur at sensitive receiver locations within a 400-foot radius of the pile locations, and result in potentially significant vibration levels at up to 55 receiver locations along the CV Link Route. Therefore, if pile driving is selected as the means of constructing bridge piles, mitigation measure N-6 is required to reduce the vibration levels at nearby sensitive receiver locations.

Table 4.12-16
Impact and CIDH Piling Equipment Vibration Levels

Distance to Construction Activity (Feet)	Vibration Levels (in/sec)[1]		Threshold Exceeded?[2]			
			Building Damage Threshold (0.12 in/sec)		Barely Perceptible Human Annoyance Threshold (0.01 in/sec)	
	Pile Driver (Impact)	CIDH Pile Auger Drill	Pile Driver (Impact)	CIDH Pile Auger Drill	Pile Driver (Impact)	CIDH Pile Auger Drill
25'	0.640	0.089	Yes	No	Yes	Yes
50'	0.226	0.031	Yes	No	Yes	Yes
76'	**0.121**	0.017	**Yes**	No	Yes	Yes
100'	0.080	**0.010**	No	No	Yes	**Yes**
125'	0.057	0.008	No	No	Yes	No
400'	**0.010**	0.001	No	No	**Yes**	No

[1] Source: Federal Transit Administration, Transit Noise and Vibration Impact Assessment, May 2006.
[2] Does the peak vibration exceed the building damage vibration threshold of 0.12 in/sec PPV or the barely perceptible human annoyance vibration threshold of 0.01 in/sec PPV at the given distance?
"CIDH" = Cast-In-Drilled-Hole
Bold text indicates distances to the extent of the significance thresholds using impact pile driving methods.

Finally, the Proposed Project's construction will be restricted to daytime hours, as required by each jurisdiction's Municipal Code. As a result, impacts will be limited to the less sensitive daytime hours.

d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above level existing without the project?

As described above, CV Link will be constructed in sections over a multi-year time frame. Noise from construction activities will intermittently impact the noise environment in the immediate area of each phase of construction. Project construction could generate short term noise impacts from vehicle trips associated with construction crew commuting and materials deliveries; and from the use of heavy equipment for the construction process itself. Total noise exposure would vary by location, with most areas (such as those where basic paving is required) experiencing noise only for a period of a few days and other areas (such as where overcrossings are to be constructed) experiencing noise for periods of up to several weeks.

Construction crew commuting may marginally increase roadway noise on surrounding streets for short periods, but this increase would not be perceptible in the existing noise environment of urbanized city streets. The delivery of heavy equipment to an area of the path being constructed could result in heavy trucks passing sensitive receptors within as close as 50 feet. These deliveries could result in high, single-event noise levels to nearby sensitive receiver receptors. However, the construction traffic will be substantial, and will be of short duration, similar to construction traffic on its way to any construction site. The impact will be short-term and will not represent a long-term perceptible increase in noise levels surrounding the project area. Increases to the noise environment as a result of short-term construction are determined to be significant and unavoidable impacts. The mitigation measures in Section 4.12.6 shall be implemented to reduce the impacts.

In order to assess the noise impacts associated with the use of construction equipment on the Route, the Noise Impact Analysis used the Roadway Construction Noise Model (RCNM)[2] noise prediction model to calculate the worst-case noise levels from the mobile and stationary equipment during construction activities (including over/under pass construction). The analysis was conducted for site preparation, grading, and paving activities. Using the equipment assumptions contained in the Air Quality Analysis (Appendix E), the noise model determined that the noise levels during site preparation would be 84.2 dBA Lmax (maximum hourly noise level) at a distance of 50 feet; that the grading activities would generate a noise level of 89.7 dBA Lmax (maximum hourly noise level) at a distance of 50 feet; and that the paving phase of construction would result in a noise level of 82.8 dBA Lmax (maximum hourly noise level) at a distance of 50 feet. Therefore, the loudest construction period can be expected to be the grading phase.

Noise levels decrease at a rate of 6 dBA for each doubling of distance from construction equipment. Therefore, the noise levels of 89.7 dBA generated during the grading phase and measured at 50 feet would be reduced to 83.7 dBA at 100 feet, and 77.7 dBA at 200 feet from the source to the receiver.

In addition to the noise generated by mobile construction equipment, noise will also be generated from stationary source equipment at staging areas. These areas are identified in the project design plans, and occur at multiple locations along the Route. Specifically 61 staging areas have been identified along the Route (please see Appendix B - Alignments Map Book). The closest distance between a sensitive receptor to a staging area will be 30 feet. Each area would be used during a portion of construction occurring nearest its location, and not for the entire construction period. Noise from these areas is considered stationary source (as opposed to mobile source) noise, and was estimated to have the potential to generate noise levels of up to 80.0 dBA Lmax (maximum hourly noise level) at a distance of 50 feet.

[2] The intended use for the FHWA RCNM is as a construction noise screening tool. It is based on the CA/T prediction spreadsheet, not on the FHWA Traffic Noise Model® (FHWA TNM) or the FHWA Highway Construction Noise Computer Program (HICNOM, developed in 1982). The FHWA RCNM predicts noise from highway construction operations based on a compilation of empirical data and the application of acoustical propagation formulas. It enables the calculation of construction noise levels in more detail than manual methods while avoiding the need to collect extensive amounts of project-specific input data (as is required by HICNOM, a data-intensive and more comprehensive method for construction noise prediction).

Therefore, the worst-case noise levels expected during the construction of the Proposed Project would by 89.7 dBA Lmax at a distance of 50 feet. These noise levels, however, do not consider the attenuation provided by existing or proposed sound barriers, such as walls, differences in topography or similar factors that serve to reduce noise levels. As a result, the analysis is conservative. The Proposed Project will be constructed only during the prescribed construction hours of each jurisdiction, and will therefore occur during daytime hours, not during the more sensitive evening and nighttime hours. The construction of CV Link will create substantial noise increases to sensitive uses along the Route. Implementation of the mitigation measures detailed in Section 4.12.6 would reduce noise impacts during construction to the extent feasible by requiring that activities be limited to the hours of the participating jurisdictions' municipal codes and that stationary equipment will be far from sensitive receptors. However, although construction hours exempt construction activities from violating noise standards, noise levels during construction will exceed local jurisdiction standards at locations immediately adjacent to sensitive receptors along the Route – potentially including areas within neighboring jurisdictions nearby construction activities, even if construction does not occur within those jurisdictions. There is no additional feasible mitigation for these noise levels, and construction noise will be significant and unavoidable.

e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?

As shown on Exhibit 4.12.1, the CV Link alignments are located outside of the 60 dBA CNEL noise contour boundary of the Palm Springs International Airport. They are also outside the 55 dBA CNEL noise contour boundary of the Jacqueline Cochrane Regional Airport, and within the 55 dBA CNEL noise level contour boundary of the Bermuda Dunes airport. As determined by the County's airport noise standards, no exterior noise mitigation is required because the proposed CV Link will occur in areas with acceptable noise levels generated by each airport. Therefore, there will be no impact associated with airport noise levels as they relate to CV Link.

4.12.6. Mitigation Measures

As described in Section 4.12.5, the Proposed Project could have significant construction-related noise and vibration impacts, which require mitigation. The Noise Impact Analysis included the following mitigation measures.

N-1 Project construction activities shall only occur between the permitted hours of each local jurisdiction's Municipal Code. The project construction supervisor shall ensure compliance.

N-2 During all project site construction, all construction equipment, fixed or mobile, shall be equipped with properly operating and maintained mufflers, consistent with manufacturers' standards. The construction supervisor shall place all stationary construction equipment so that emitted noise is directed away from the noise-sensitive receivers nearest the Project site.

N-3 The construction supervisor shall locate equipment staging in areas that will create the greatest distance between construction-related noise sources and noise-sensitive receivers nearest the project site (i.e., at the planned staging areas or farther from nearby sensitive receiver locations if possible) during all Project construction. 61 staging areas have been determined along the Route, please see Appendix B (Alignments Map Book). The closest distance between a sensitive receptor to a staging area will be 30 feet.

N-4 The use of large bulldozers within 100 feet of nearby sensitive land uses (e.g. residential, school, etc.) shall be minimized and avoided if possible.

N-5 The construction supervisor shall limit haul truck deliveries to the same hours specified for construction equipment by each local jurisdiction's Municipal Code.

N-6 Alternative piling methods shall be used to reduce the potential impacts at nearby sensitive receiver locations as follows:

a. No impact pile driving devices and CIDH piling methods shall be used within 76 feet of sensitive receiver locations near the Thunderbird Channel and Deep Canyon Channel Bridge (as indicated on Table 4.12-17). Alternative piling methods are required to reduce the vibration levels at these locations. Based on an evaluation by Caltrans an alternative method, such as Tubex piles, which can produce lower vibration levels of 0.05 in/sec PPV at 25 feet during installation shall be used. Other pile driving alternatives capable of producing equal or lower vibration levels are acceptable.

b. Cast-In-Drilled-Hole (CIDH) piling methods, or alternatives capable of producing equal or lower vibration levels, shall be used for the following bridge locations as an alternative to impact pile driving activities planned within 400 feet of sensitive receiver locations (as indicated on Table 4.12-17, below):

- Highway 111 Overcrossing
- West Magnesia Canyon Channel Bridge at Highway 111
- West Magnesia Canyon Channel Bridge at Library
- Cook Street Overcrossing
- La Quinta Channel Bridge

N-7 Residences and other sensitive land uses within 400 feet of the planned pile locations shall be notified of the construction in writing. The notification shall describe the activities anticipated, provide dates and hours, and provide contact information with a description of a noise and vibration complaint and response procedure.

Table 4.12-17
Pile Driving Vibration Mitigation Measures
Required to Reduce Impacts to Less Than Significant Levels

Bridge Name	Threshold Exceeded?		Mitigation to Satisfy Threshold	
	4.12.7. Vibration Level Threshold (PPV)			
	Building Damage (0.12 in/sec)	Human Annoyance (0.01 in/sec)	Building Damage (0.12 in/sec)	Human Annoyance (0.01 in/sec)
Highway 111 Overcrossing	No	Yes	n/a	CIDH Piling
Boardwalk Over Lake Bridge	No	No	n/a	n/a
Cathedral Canyon Channel West Bridge	No	No	n/a	n/a
Cathedral Canyon Channel East Bridge	No	No	n/a	n/a
Thunderbird Channel Bridge	Yes	Yes	CIDH Piling	Alternative
West Magnesia Canyon Channel Bridge at Hwy 111	No	Yes	n/a	CIDH Piling
West Magnesia Canyon Channel Bridge at Library	No	Yes	n/a	CIDH Piling
Cook Street Overcrossing	No	Yes	n/a	CIDH Piling
Hyatt Regency Bridge	No	No	n/a	n/a
Deep Canyon Channel Bridge	Yes	Yes	CIDH Piling	Alternative
Point Happy Bridge	No	No	n/a	n/a
Washington Street Cross Channel Bridge	No	No	n/a	n/a
La Quinta Channel Bridge	No	Yes	n/a	CIDH Piling

"CIDH" = Cast-In-Drilled-Hole; "n/a" = No mitigation required to satisfy the threshold; "Alternative" = An alternative mitigation measure for pile driving capable of lower vibration levels than those generated by impact devices or CIDH drilling methods.

Mitigation Summary

With the mitigation measures set forth above, construction-related project vibration and other noise impacts at nearby sensitive receiver locations represent less than significant impacts during the worst-case pile driving activities at 13 bridge locations. Further, the impacts at the site of the closest sensitive receivers are unlikely to be sustained during the entire construction period, but will occur rather only during the times that pile driving activities are scheduled. CV Link construction will be restricted to daytime hours consistent with local jurisdiction and Caltrans requirements thereby eliminating potential vibration impacts during the sensitive nighttime hours. With the implementation of these mitigation and minimization measures, construction and operational noise impacts will be less than significant.

4.12.7. Significance After Mitigation

Operation of the Proposed Project will not exceed noise standards, and impacts will be less than significant. However, the construction of CV Link may create substantial noise increases, and cause perceptible vibration if large bulldozers are used in proximity to sensitive uses along the Route. Implementation of the mitigation measures detailed in Section 4.12.6 would reduce noise impacts during construction to the extent feasible by requiring that activities be limited to the hours of the participating jurisdictions' municipal codes and that stationary equipment will be far from sensitive receptors. However, although construction hours exempt construction activities from noise standards, noise levels during construction will exceed local jurisdiction standards at locations immediately adjacent to sensitive receptors along CV Link alignments. There is no feasible mitigation for these noise levels, and construction noise will be significant and unavoidable.

4.12.8. Cumulative Impacts

As described above, the Proposed Project will not result in a permanent stationary noise source. The proposed CV Link is expected to operate at noise levels that are essentially the same as current conditions. The noise source will be mobile, and will come and go as users move down the pathway. Unmitigated noise levels will not exceed 65 dBA Leq at 25 feet from the project planning area for any sensitive receptor except within the allowable hours of 7 a.m. and 5 p.m. for construction-related noise, which would be within the site boundaries of project planning area. Operational noise levels resulting from the Proposed Project would not exceed city or county standards for sensitive receptors, nor would they result in substantial permanent increases in ambient noise levels in the project vicinity above levels existing without the project. Cumulative noise impacts occur when multiple sources of noise, though individually not substantial, combine to result in excessive, cumulative noise exposure at noise sensitive areas. Noise generated from use of CV Link will be transient in nature, and will not exposed sensitive receptors for a substantial amount of time. Therefore, noise impacts associated with operation of the Proposed Project would not be cumulatively considerable.

Construction noise generated by the project could be significant adjacent to sensitive receptors. However, construction noise will occur for short periods at locations where the Proposed Project is being built, and move on to another location at a rate of approximately one mile per month. There are no other known projects planned for construction on or adjacent to the Proposed Project Route which could increase those temporary noise levels. As a result, impacts associated with construction noise at the Proposed Project and other construction activities will not be cumulatively considerable.

4.13. Population and Housing

4.13.1. Introduction

The following discussion addresses the potential impacts of CV Link on population growth and housing.

4.13.2. Thresholds of Significance

The following thresholds or criteria are not strictly those recommended in Section 15064 of CEQA. Rather, they are derived from Appendix G of the CEQA Statute and Guidelines, which is used to determine the level of potential effect, as well as whether a Negative Declaration, Mitigated Negative Declaration, or Environmental Impact Report is to be prepared. According to Appendix G, the project would have a significant environmental impact if it:

a) Induces substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?

b) Displaces substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?

c) Displaces substantial numbers of people, necessitating the construction of replacement housing elsewhere?

4.13.3. Regulatory Framework

Federal

There are no federal regulations that apply to population growth or the provision of housing.

State

General Plan Housing Elements

The Housing Element is one of the General Plan elements mandated by the State of California. Sections 65580 to 65589.8 of the California Government Code contain the legislative mandate for the housing element. State law requires that a city's housing element consist of "identification and analysis of existing and projected housing needs and a statement of goals, policies, quantified objectives, financial resources, and scheduled programs for the preservation, improvement and development of housing." State law also requires that cities and counties evaluate their housing elements approximately every eight years to determine their effectiveness in achieving city and statewide housing goals and objectives.

Regional/Local

Each jurisdiction in the project area has adopted a General Plan that identifies a variety of goals and policies pertaining to population and housing issues.

4.13.4. Existing Conditions

Population

CV Link spans eight incorporated cities and unincorporated land in the Thermal area of the Coachella Valley. The following table describes population, median age, and average household size in the project area in 2010 and

2014. Jurisdictions are listed from west to east. Data for Riverside County as a whole and California are provided for comparison.

Throughout this section of the EIR, demographic and socio-economic data are included for the City of Rancho Mirage. Although the Proposed Project will not go through the city, Rancho Mirage residents live in close proximity to multiple CV Link access points, may access the Route, impact its levels of use, and benefit from the connectivity and recreational benefits outside the city. Therefore, Rancho Mirage residents are considered part of the project area, and city-specific data are included in this analysis.

Table 4.13-1
Regional Demographic Profile
for the Project Area, 2010 and 2014

Jurisdiction	Population		Median Age (years)		Average Household Size (persons/household)	
	2010	2014	2010	2014	2010	2014[1]
Incorporated Cities:						
Palm Springs	44,552	45,827	51.6	52.5	1.93	1.99
Cathedral City	51,200	52,550	36.0	34.8	2.99	3.17
Rancho Mirage	17,218	17,634	62.3	62.0	1.94	2.02
Palm Desert	48,445	49,953	54.6	50.8	2.08	2.13
Indian Wells	4,958	5,089	66.7	68.9	1.80	1.78
La Quinta	37,467	38,774	45.6	45.3	2.52	2.70
Indio	76,036	82,539	32.2	33.2	3.21	3.30
Coachella	40,704	42,576	24.5	26.3	4.52	4.43
Unincorporated:						
Thermal	2,865	3,570	25.9	25.3	4.19	3.58
TOTAL:	**323,445**	**338,512**	**---**	**---**	**---**	**---**
Riverside County	2,189,641	2,266,899	33.7	34.2	3.14	3.26
California	37,253,956	38,066,920	35.2	35.6	2.90	2.95

Source: 2010 U.S. Census; 2010-2014 American Community Survey 5-Year Estimates.
[1] Average of "average household size of owner-occupied units" and "average household size of renter-occupied units," as provided in 2010-2014 American Community Survey 5-Year Estimates.

As shown, in 2014, the CV Link project area contained an estimated 338,512 residents, which was 14.9% of the total Riverside County population. The median age of residents ranged from approximately 25.3 years in Thermal to 68.9 years in Indian Wells. Younger residents and families generally lived in the eastern communities of Indio, Coachella, and Thermal, and older residents and retirees lived in the central communities of Rancho Mirage, Palm Desert, and Indian Wells. Average household sizes ranged from 1.78 persons per household in Indian Wells to 4.43 in Coachella, with smaller households generally located in Indian Wells, Palm Springs, and Rancho Mirage, and larger families located in Indio, Coachella, and Thermal.

More recent population estimates provided by the California Department of Finance are shown in the following table. No data were reported for unincorporated communities, such as Thermal. An estimate for Thermal has been calculated based on the 2014-16 growth rates of the other eight communities. The lowest of all the positive growth rates (1.8%) was used to provide a conservative estimate.

The data show that every jurisdiction in the project area experienced positive population growth between 2014 and 2016, with the exception of Palm Desert, which experienced a negative growth rate of -1.2%. This may be due to differences in data collection and methodologies used by the American Community Survey (2014 data) and

California Department of Finance (2016 data). Indio and Coachella grew at the highest rates (6.7% and 6.6%, respectively). The total 2016 population in the project area was approximately 350,808 residents, which represents an increase of 3.6% between 2014 and 2016.

Table 4.13-2
2016 Population Estimates
for the Project Area

Jurisdiction	Population[1]	% Change 2014-2016[2]
Incorporated Cities:		
Palm Springs	46,654	1.8%
Cathedral City	54,261	3.3%
Rancho Mirage	18,070	2.5%
Palm Desert	49,335	-1.2%
Indian Wells	5,412	6.3%
La Quinta	39,977	3.1%
Indio	88,058	6.7%
Coachella	45,407	6.6%
Unincorporated:		
Thermal	3,634[3]	1.8%[3]
TOTAL:	**350,808**	**3.6%**
Riverside County	2,347,828	7.2%
California	39,225,883	5.3%

[1] Total population, January 1, 2016.
[2] Comparison of 2014 population in Table 4.13-1 and 2016 population in this table.
[3] Dept. of Finance did not report a 2016 population estimate for Thermal. An estimate is provided here using the lowest positive growth rate of the surrounding communities (1.8%) to provide a conservative estimate.
Source: Table E-1, City/County Population Estimates with Annual Percent Change, January 1, 2015 and 2016, California Department of Finance.

Population and Housing Immediately Adjacent to CV Link

A substantial effort was undertaken to identify the number of existing residential properties immediately adjacent to CV Link. Based on analysis of project mapping and aerial photography, it was estimated that approximately 310 single- and multi-family residential units are immediately adjacent to the proposed alignment, with little to no buffer space between them and CV Link. Many are single-family units with a rear property boundary that abuts the proposed path. Others are multi-family apartments or multi-plex units. The table below summarizes the general locations and approximate number of these units. They are geographically spread along the entire CV Link alignment. Numerous other residences are also in proximity to the alignment, but they are buffered by neighboring properties, landscape corridors, streets, or other spaces that provide some separation from the pathway.

Table 4.13-3
Existing Residential Properties Immediately Adjacent to CV Link

Jurisdiction	Neighborhood and/or Street Name	General Location	# Dwelling Units Affected (approx.)
Palm Springs	Four Seasons: Savannah Way, Fan Palm Way	adjacent to Chino Wash	53
	El Dorado: Calle Verde, Calle del Callado	adjacent to Tahquitz Creek	7
Cathedral City	Dream Homes: Mission Dr.	adjacent to Whitewater River and Cimarron Golf Course	3
Palm Desert	Lavender Way	adjacent to Whitewater River near Cook Sports Complex	2
	Palm Lake: Palm Lake Dr.	adjacent to Whitewater River	32
	Desert Rose: Wildflower La., Kelsey Cir., Kelsey Ct.	adjacent to Whitewater River	26
Indian Wells	Mountain View Villas	adjacent to Whitewater River south of IW Tennis Garden	40
Indio	Cortez La.	adjacent to north side of CVSC	5
	Moonshadow Dr., Windsong Way, Sabita Dr., Sunstone Ct., Sandscript Ct.	adjacent to CVSC	10
	Auburn Ct., Harvard Ct., Lafayette Ct., Dartmouth Ct., Columbia Ave., Brown Ave., Bryn Mawr Ct., Amherst Ave.	adjacent to CVSC	18
	Avenida Suarez, Calle Luna	adjacent to CVSC	20
	Indigo Views	adjacent to CVSC at Fred Waring Dr.	32
	Wild Rose St.	adjacent to CVSC near Indio Blvd.	18
Coachella	Calle Mendoza	adjacent to CVSC near Sierra Vista Park	18
	Hernandez St.	adjacent to CVSC near Avenue 52	26
		TOTAL RESIDENTIAL UNITS:	**310**

Source: Map pages 1-69, "CV Link 10% Schematic Designs," ALTA Planning & Design, Inc.; GoogleEarth.

Based on the household sizes listed in Table 4.13-1, the average household size in the project area is 2.80 persons per household. Multiplying this by the 310 residential units listed in the table above, there are an estimated 868 persons living immediately adjacent to the proposed CV Link alignment. This is a rough estimate; actual population counts are difficult to calculate as they depend on a wide range of variables, including the actual number of units present, household sizes, vacancy rates, and other characteristics of housing adjacent to the alignment. Nonetheless, it offers an estimate of the population in the immediate project area.

The immediate project area could contain individual housing units that accommodate special populations, such as seniors, individuals with disabilities, or low income residents. In Palm Desert, the Desert Rose development is an affordable ownership housing project managed by the Palm Desert Housing Authority. In Indian Wells, the Mountain View Villas project is an affordable rental project for seniors. These two projects have 66 units in total adjacent to the pathway. Affordable housing units are likely to be scattered throughout the project area.

4.13.5. Project Impacts

The following analysis considers potential project-related impacts in terms of the CEQA Appendix G questions for Population/Housing.

a) *Will the project induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?*

The project will not directly induce substantial population growth in the area. It does not propose new homes or businesses, and will not directly attract permanent residents to the area.

The project will require water and sewer connections for restrooms, and electricity connections for lighting. However, much of the proposed alignment is adjacent to urban development, and utilities are already available in close proximity to the pathway. Longer extensions may be required in the eastern portion of the project area (Coachella and Thermal), where development is more sparse near the proposed alignment.

The project will result in new alternative transportation infrastructure across 44± miles. However, much of the pathway will be built along existing right-of-way, including channel levees, trails, and roadways. New infrastructure will largely include pavement, landscaping improvements, over- and underpasses, and ancillary features (restrooms, informational kiosks, street furniture, etc.). Pathway traffic will be restricted to foot traffic, bicycles, and LSEVs. Vacant parcels in close proximity to the pathway may be more appealing to future developers due to enhanced accessibility. However, the project itself will have no direct impact on land use designations, development proposals, or building densities.

Construction and long-term maintenance and operation of the project will create new jobs, including work for surveyors, engineers, heavy machine operators, landscapers, and security and law enforcement, among others. It is anticipated that the local and regional work force will fill most of these jobs. Workers from outside the Coachella Valley may visit or reside temporarily in the area during construction, but are not expected to stay permanently as a result of the project.

Project-related impacts associated with population growth will be less than significant.

b) *Will the project displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?*

The project will not result in demolition, relocation, acquisition, or other alterations to existing housing. No new housing is proposed, and none will be required as a result of the project. No impact will occur.

c) *Will the project displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?*

The project will not displace any residents and will not require the construction of replacement housing. No impact will occur.

4.13.6. Mitigation Measures

No significant adverse impacts will occur as a result of the Proposed Project. Therefore, no mitigation measures are necessary.

4.13.7. Significance After Mitigation

No mitigation measures are required. No significant impacts will occur.

4.13.8. Cumulative Impacts

Vacant land in close proximity to CV Link could be developed in the future, adding new housing and hotels and providing new residents with access to CV Link.

Construction of the Proposed Project has the potential to attract workers and crew members to the area for a temporary construction opportunity. The project may result in some increase in indirect employment, as the Proposed Project will add an attraction for tourism in the Valley, which could result in an added economic multiplier. However, tourism remains one of the largest economic sectors in the region, and will remain so with or without the Proposed Project.

The Southern California Association of Governments predicts moderate to strong population growth in the Coachella Valley in the future, and these new residents will require employment. The 2016 SCAG projection for the incorporated cities of the Coachella Valley within the Route is that they will have a population of 536,200, or an increase of 197,688 people over 2014 conditions.

It is expected that CV Link will continue to accommodate additional residents and visitors in the project area and provide multi-modal connections between existing and planned land uses. CV Link itself will not add new residential units or population to the project area. It is proposed along largely existing right-of-way such that no significant impacts to housing or population, such as displacement or relocation, will occur. No cumulative impacts will occur.

4.14. Public Services

4.14.1. Introduction

This section details potential impact on public services that could occur as a result of implementing the Proposed Project and examines the level of impact the project will have on public services. Public services discussed in this section include law enforcement services, fire protection services, educational services, parks and other governmental services.

CV Link Public Service Impact Analysis
The public services analysis evaluates the existing public services and their capacities along CV Link where law enforcement services, fire protection services, educational services, parks and other public related services may be required, and how those public services and their operations may be impacted. The public services analysis focuses on the refinement of analysis criteria and methodologies, review of project plans, compilation of existing infrastructures and their capacities from the cities' general plans, general plan EIRs, and online databases. Public services including law enforcement services, fire protection services, educational services, parks and other public related services, facilities and demand estimates were then evaluated for CV Link construction and operational (e.g. maintenance, users and visitors) phases using information derived from the CV Link Conceptual Master Plan. Finally, an evaluation of public services issues and safety considerations associated with the planned CV Link facility, particularly focusing on at-grade crossings and users, was undertaken.

4.14.2. Thresholds of Significance

Using CEQA Guidelines' Appendix G, the proposed CV Link would have a significant effect on public services, if:

a) The project would result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:

- Fire Protection
- Police Protection
- Schools
- Parks
- Other Public Facilities

4.14.3. Regulatory Framework

Federal

There are no federal regulations governing public services that apply to the proposed CV Link project.

State

There are no state regulations governing public services that apply to the proposed CV Link project.

Regional and Local

No regional or local regulations regarding public services are applicable to the proposed CV Link project.

4.14.4. Existing Conditions

Law Enforcement Services

Riverside County Sheriff's Department (RCSD) provides several law enforcement services (such as general community policing as well as the operation and maintenance of several correctional facilities) to areas under its jurisdiction. The RCSD has 2,720 employees, which includes 1,330 sworn personnel, to provide community policing services.[1] The RCSD is a "demand response" agency that maintains limited patrol services throughout the County of Riverside.[2] The RCSD has established the following criteria for its staffing requirements in unincorporated areas of the County: one sworn officer per 1,000 population; one supervisor and one support staff employee per seven officers; one patrol vehicle per three sworn officers; and one school resource officer per school.

The RCSD will have direct responsibility for police services for that portion of CV Link within the unincorporated community of Thermal. The RCSD also provides law enforcement services under contract to several cities within the CV Link project area, including Palm Desert, Rancho Mirage, Indian Wells, La Quinta and Coachella. Palm Springs, Cathedral City and Indio operate their own local Police Departments with mutual aid agreements with the Riverside County Sheriff's Department.

Agua Caliente Band of Cahuilla Indians lands are provided police protection service by the Palm Springs, Cathedral City and Rancho Mirage police departments, based on the location of the land. The Cabazon Band of Mission Indians and Twentynine Palms Band of Mission Indians lands are located in the cities of Indio and Coachella and provided law enforcement service by those cities. The Proposed Project is located within the service boundaries of the following law enforcement services providers:

City of Palm Springs:	City of Palm Springs Police Department 200 South Civic Drive Palm Springs, CA 92262
Cathedral City:	Cathedral City Police Department 68-700 Avenida Lalo Guerrero Cathedral City, CA 92234
City of Rancho Mirage:	Rancho Mirage/County Sheriff's Department 73-705 Gerald Ford Drive Palm Desert, CA 92211
City of Palm Desert:	Palm Desert/County Sheriff's Department 73-520 Fred Waring Drive Palm Desert, CA 92260
City of Indian Wells:	Indian Wells/Riverside County Sheriff's Department 44850 E Eldorado Drive Indian Wells, CA 92210

[1] Riverside County Integrated Project (RCIP), 2002. General Plan Final Program Environmental Impact Report. State Clearinghouse No. 2002051143.

[2] Ibid.

City of La Quinta:	La Quinta/Riverside County Sheriff's Department Civic Center Community Policing Office 78-495 Calle Tampico La Quinta, CA 92253
City of Indio:	Indio Police Department 46800 Jackson Street Indio, CA 92201
City of Coachella:	Coachella/Riverside County Sheriff's Department 86625 Airport Boulevard Thermal, CA 92274
County of Riverside:	County Sheriff's Department 73-705 Gerald Ford Drive Palm Desert, CA 92211 86625 Airport Boulevard Thermal, CA 92274

The County serves its contract cities from Rancho Mirage to Indian Wells, and unincorporated communities from Sky Valley to Thousand Palms from its Palm Desert station. Cities and unincorporated communities from La Quinta to Thermal are served by the Thermal station.

Fire Protection Services

Riverside County Fire Department (RCFD) is one of the largest regional fire service organizations in California. The RCFD operates 95 fire stations, in 17 battalions. Services provided by the RCFD include fire suppression, emergency medical, rescue, and fire prevention services. The RCFD is staffed with approximately 952 career and 1,100 volunteer personnel, and currently serves approximately two million residents in an area of 7,004 square miles. The RCFD service area consists of all unincorporated areas in Riverside County, 18 contract cities, and one Community Service District (CSD).

Under contract with the California Department of Forestry and Fire Protection (CAL FIRE), the RCFD is the Operational Area Coordinator for the California Fire and Rescue Mutual Aid System for all fire service jurisdictions in the County of Riverside. As such, RCFD has also been given the authority to enter into several automatic aid agreements with city jurisdictions, as well as with adjacent National Forests. In terms of CV Link, the cities of interest currently under contract with the RCFD include the cities of Rancho Mirage, Palm Desert, Indian Wells, La Quinta and Coachella. The cities of Palm Springs, Cathedral City and Indio have municipal fire departments.

Fire protection services will be provided to the CV Link project area by local fire stations. CV Link alignments are located within the service boundaries of the following fire protection service providers:

City of Palm Springs:	City of Palm Springs Fire Department Station 1 (441) 277 N Indian Canyon Drive Palm Springs, CA 92262

	Station 2 (442) 300 N. El Cielo Road Palm Springs, CA 92262
	Station 3 (443) 590 E Racquet Club Road Palm Springs, CA 92262
	Station 4 (444) 1300 S La Verne Way Palm Springs, CA 92264
	Station 5 (445) 5800 Bolero Road Palm Springs, CA 92264
Cathedral City:	Cathedral City Fire Department 36913 Date Palm Drive Cathedral City, CA 92234
	32-100 Desert Vista Road Cathedral City, CA 92234
	27610 Landau Boulevard Cathedral City, CA 92234
City of Rancho Mirage:	Fire Station South (Station 50) 70-801 Highway 111 Rancho Mirage, CA 92270
	Fire Station North (Station 69) 71-751 Gerald Ford Drive Rancho Mirage, CA 92270
City of Palm Desert:	Fire Station No. 33 (Central Palm Desert) 44400 Town Center Way Palm Desert, CA 92260
	Fire Station No. 67 (South Palm Desert) 73200 Mesa View Drive Palm Desert, CA 92260
	Fire Station No. 71 (North Palm Desert) 73995 Country Club Drive Palm Desert, CA 92260
City of Indian Wells:	44900 Eldorado Drive Indian Wells, CA 92210

City of La Quinta:

Station 32 (Village/Cove area)
78111 Avenue 52
La Quinta, CA 92253

Station 70 (PGA West)
54001 Madison Street
La Quinta, CA 92253

Station 93 (North La Quinta)
44555 Adams Street
La Quinta, CA 92253

City of Indio:

Indio Fire Department
Station #1
46990 Jackson Street
Indio, CA 92201

Station #3
46621 Madison Street
Indio, CA 92201

Station #4
81-025 Avenue 40
Indio, CA 92203

Station #5
42-900 Golf Center Parkway
Indio, CA 92201

City of Coachella:

1377 Sixth Street
Coachella, CA 92236

Seventeen fire stations are within 1.5 miles of the Route, as shown in Table 4.14-1.

Table 4.14-1
Fire Stations within 1 ½ mile of CV Link

CV Link Segment	Fire Station Address	Distance	City
1	590 East Racquet Club Road, Palm Springs, CA 92262	1.2	Palm Springs
2A	277 N Indian Canyon Drive Palm Springs, CA 92262	1.1	Palm Springs
2A	300 N. El Cielo Road Palm Springs, CA 92262	1.12	Palm Springs
2A	1300 S La Verne Way Palm Springs, CA 92264	0.8	Palm Springs

Table 4.14-1
Fire Stations within 1 ½ mile of CV Link

CV Link Segment	Fire Station Address	Distance	City
2A	5800 Bolero Road Palm Springs, CA 92264	0.22	Palm Springs
3	36913 Date Palm Drive Cathedral City, CA 92234	0.15	Cathedral City
3	32-100 Desert Vista Road Cathedral City, CA 92234	0.99	Cathedral City
3	27610 Landau Boulevard Cathedral City, CA 92234	1.27	Cathedral City
4	70-801 Highway 111 Rancho Mirage, CA 92270	0.19	Rancho Mirage
5	44400 Town Center Way Palm Desert, CA 92260	0.4	Palm Desert
6	44900 Eldorado Drive Indian Wells, CA 92210	0.58	Indian Wells
7	44555 Adams Street La Quinta, CA 92253	0.83	La Quinta
8	46990 Jackson Street Indio, CA 92201	1.26	Indio
8	46621 Madison Street Indio, CA 92201	0.72	Indio
8	81-025 Avenue 40 Indio, CA 92203	1.29	Indio
8	42-900 Golf Center Parkway Indio, CA 92201	0.26	Indio
10	1377 Sixth Street Coachella, CA 92236	0.88	Coachella

Source: CV Link Conceptual Master Plan (2016), Cities' General Plans, and Google Earth Pro 7.1.5.1557

Education

School districts that serve the project area include the Palm Springs Unified School District (PSUSD), Desert Sands Unified School District (DSUSD), and the Coachella Valley Unified School District (CVUSD). In addition, higher education is available through the College of the Desert, the University of California, Riverside, and California State University, San Bernardino. All three college programs are located in Palm Desert.

PSUSD consists sixteen elementary schools, five middle schools, three comprehensive high schools, and one continuation high school.[3] It serves the areas surrounding those portions of CV Link that will be located in the cities of Palm Springs, Cathedral City, those areas of Rancho Mirage west of Bob Hope Drive and north of Frank Sinatra Drive, and those areas of Palm Desert located north of Frank Sinatra Drive.

DSUSD consists of 19 elementary schools, one charter elementary school, six middle schools, one charter middle school, four comprehensive high schools, two continuation high schools, one alternative education school, and one preschool.[4] DSUSD serves the areas surrounding those portions of CV Link that will be located in those portions of Palm Desert located south of Frank Sinatra Drive, Indian Wells, those portions of La Quinta located west of Jefferson Street and those areas north of Avenue 48, and Indio, except a small area south of Avenue 48.

CVUSD consists of 14 elementary schools, three middle schools, four high schools, and one adult education school.[5] CVUSD serves those areas of La Quinta east of Jefferson Street and south of Avenue 48, a small portion of Indio south of Avenue 48 and east of Jefferson Street, and all of Coachella and the community of Thermal.

College of the Desert (COD) is the community college in the Coachella Valley, opened in Palm Desert in September 1962. The COD main campus is located on Monterey Avenue in the City of Palm Desert. Satellite campuses are located in Thermal/Mecca and Indio, and one is planned for Palm Springs. COD is a two-year community college with an average enrollment of 10,000 students each semester. COD offers a wide range of vocational and technical programs, including nursing and health sciences, digital design and production, turf grass management and ornamental horticulture, advanced transportation technologies, and a full range of administration of justice courses.[6]

The University of California-Riverside/Palm Desert (UCR Palm Desert) is an extension of University of California-Riverside (UCR), opened in 2005. UCR Palm Desert's campus is located on Cook Street in the City of Palm Desert. The UCR Palm Desert campus offers a graduate degree program in Fine Arts and a Future Physicians Leaders Program. The UCR Palm Desert campus also offers several research programs including the region's natural biodiversity, population biology of the Coachella Valley fringe-toed lizard (Uma inornata), and health and demography of the peninsular bighorn sheep (Ovis canadensis cremnobates). Additionally, more than 90 certificate programs and enrichment courses are offered through the UCR Extension Program.[7]

The California State University - San Bernardino Palm Desert Campus (CSUSB Palm Desert) is an extension of California State University - San Bernardino, opened in 2012. CSUSB Palm Desert is located on Cook Street just south of Interstate-10. The CSUSB Palm Desert Campus offers several academic programs including bachelor's degree programs, graduate degree programs, and certificate and credential programs. More than 4,000 students have been graduated from this campus.[8]

[3] Palm Springs Unified School District; http://oldsite.psusd.us/index.aspx?page=1
[4] Desert Sands Unified School District; https://www.dsusd.us
[5] Coachella Valley Unified School District; http://www.cvusd.us/pages/Coachella_Valley_USD
[6] College of Desert; http://collegeofthedesert.edu/aboutus/Pages/default.aspx
[7] UCR Palm Desert; http://palmdesert.ucr.edu
[8] CSUSB Palm Desert Campus; https://pdc.csusb.edu/aboutPDC.html

Numerous private and vocational schools are also located throughout the desert communities. Six schools are immediately adjacent to CV Link, while another 18 schools are within one-half mile of the Route (Table 4.14-2 and 4.14-3). There would be over 40,700 students attending public schools within one mile of CV Link, representing 54% of all public school students in the Coachella Valley.[9]

CV Link is proposed adjacent to two of the largest schools in the Coachella Valley: College of the Desert and Palm Desert High School.

Table 4.14-2
Schools with Frontage or Direct Access to CV Link

CV Link Segment	School Name	City
5	College of the Desert	Palm Desert
5	Palm Desert High School	Palm Desert
5	Abraham Lincoln Elementary School	Palm Desert
5	Palm Desert Middle School	Palm Desert
8	Andrew Jackson Elementary	Indio
8	Amistad Continuation High School	Indio

Source: CV Link Conceptual Master Plan (2016), Page 26

Table 4.14-3
Schools within ½ mile of CV Link

CV Link Segment	School Name	City
2A	Palm Springs High School	Palm Springs
2A	Cielo Vista Elementary	Palm Springs
2	Aqua Caliente Elementary	Cathedral City
2	Landau Elementary	Cathedral City
2	Mt San Jacinto Continuation High School	Cathedral City
3	Cathedral City Elementary	Cathedral City
4	Rancho Mirage Elementary	Rancho Mirage
4	Gerald R Ford Elementary	Indian Wells
7	La Quinta High School	La Quinta
7	Indio Middle School	Indio

[9] CV Link Conceptual Master Plan (2016), Page 25

Table 4.14-3
Schools within ½ mile of CV Link

CV Link Segment	School Name	City
7	John F Kennedy Elementary	Indio
7	John Glen Middle Elementary	Indio
8	Carillo Ranch School	Indio
8	Lyndon B Johnson School	Indio
8	Dwight Eisenhower Elementary	Indio
10	Valle Del Sol Elementary	Coachella
10	John Kelley Elementary	Thermal
10	La Familia High School	Thermal

Source: CV Link Conceptual Master Plan (2016), Page 26

Parks

Each city within the CV Link project area operates and maintains local parks and golf courses. The cities of Palm Springs, Cathedral City, Rancho Mirage, Palm Desert, Indian Wells, La Quinta, Indio, and Coachella, have designated land for parks and recreation in their General Plans. Each city within the CV Link planning area has lands designated for parks and open space as follows:

City of Palm Springs: Approximately 1,581 acres are dedicated for public parks, trails, and public and private golf courses

Cathedral City: Approximately 28 acres were dedicated for public parks however the City is constantly increasing its parkland

City of Rancho Mirage: Approximately 54 acres are dedicated for public parks

City of Palm Desert: Approximately 911 acres are dedicated for parks

City of Indian Wells: Approximately 6 acres are dedicated for public parks

City of La Quinta: Approximately 218.75 acres are dedicated for public parks

City of Indio: Approximately 1,926 acres are dedicated for open space and recreation

City of Coachella: Approximately 60.2 areas of land are designated for parks

Eight existing parks are immediately adjacent to CV Link and are listed in Table 4.14-4 below.

Table 4.14-4
Parks Adjacent to CV Link

CV Link Segment	Park Name	City
1	Desert Highland Park	Palm Springs
2A	Demuth Park	Palm Springs
3	Wolfsan Park	Rancho Mirage
4	Rancho Mirage Community Park	Rancho Mirage
5	Palm Desert Civic Center Park	Palm Desert
5	Palm Desert Community Park	Palm Desert
8	Jackson Park	Indio
10	Sierra Vista Park	Coachella

Source: CV Link Master Plan (2016)

Other Public Facilities
Other public facilities in the cities within the CV Link project area include city halls, public libraries, museums, and medical/emergency facilities. The cities each operate a city hall and public library. However, Indian Wells presently participates in the Riverside County Free Library System and residents can access four nearby libraries, Palm Desert, La Quinta, and Indio libraries.[10]

Medical/Emergency Services
The Coachella Valley is served by three major medical facilities, as well as smaller clinics and physicians' offices. The major medical centers are Desert Regional Medical Center in Palm Springs, Eisenhower Medical Center in Rancho Mirage, and John F. Kennedy Memorial Hospital in Indio. In addition, there are numerous clinics, urgent care and similar facilities located throughout the Valley. Some are privately operated, and some are operated by the three hospitals.

4.14.5. Project Impacts

This analysis evaluates the potential for CV Link to directly affect public services during construction and operational phases. The analysis considers whether construction and/or operation of the project would affect the ability of police, fire, and school service providers to maintain acceptable service or other performance objectives, resulting in the need for new or expanded facilities.

[10] Ibid.

Law Enforcement Services

CV Link construction may require police services due to possible theft of construction equipment and/or vandalism that might occur during the construction period. In case of any emergency situation (theft and/or vandalism) during construction, the local law enforcement agencies will provide police protection services. The demand on these services will be reduced to less than significant levels if equipment, construction supplies and tools are secured at the end of each work day. In order to assure that impacts during construction are less than significant, Mitigation Measure PS-1 has been provided below, and requires that construction staging areas be fenced and locked. With the implementation of this mitigation measure, the project related impact would be less than significant.

CV Link construction may, at times, require temporary partial closure of adjacent roadways, requiring traffic control measures, or safety measures that would typically be coordinated with local police. Several private and public roadways, including but not limited to Palm Canyon Drive, North Indian Canyon Drive, North Sunrise way, East Vista Chino, North Gene Autry Trail, Mesquite Avenue, Kirkwood Drive, Cathedral Canyon Drive, Date Palm Drive, Frank Sinatra Drive, Country Club Drive, Highway 111, Parkview Drive, Fred Waring Drive, Cook Street, Miles Avenue, Washington Street, Adam Street, Dune Palms Road, Jefferson Street, Monroe Street, Jackson Street, Avenue 44, Golf Center Parkway, Dillon Road, Avenue 50, and Avenue 52 that would support or be crossed by the CV Link alignments could need to be temporarily partly closed during construction. CVAG will require encroachment permits from each affected city for work on public roadways. Further, since the project will be constructed over a four-year period, the affected roadways would be impacted at different times, not all at once. Construction of CV Link would not significantly affect police protection response times or create higher demand for police protection services, since lane closures would be known in advance, and would affect only part of any given roadway. Therefore, at no time would construction activities associated with CV Link result in substantial adverse physical impacts associated with the provision of, or the need for, new or physically altered police facilities, or affect acceptable service ratios, response times, or other performance objectives for police protection. Construction-related activities are temporary and will end once development of the project is complete. However, the potential temporary road or lane closures would not be expected to exceed the capacity and service times of local law enforcement agencies.

At buildout, due to the nature of the project, the proposed CV Link project would not result in a permanent increase in the local population. CV Link will be used for transportation purposes by local residents and visitors, with an estimated daily activity rate of approximately 2,500 per day. These users will be using CV Link at different times and places. Since this is an insignificant amount of users with respect to the length of the project, there will not be any substantial increases in the demand for law enforcement services.

Operation of the Proposed Project would not result in an increase in criminal activity. The potential for a need for police response will be equivalent to that of existing trails, sidewalks and parks now operating in the Valley. CVAG will work in cooperation with project area police chiefs to develop and implement a safety and security plan for CV Link.[11] Therefore, no operational impacts related to public law enforcement services would occur. Police services would only be required in case of a crime within the project area. The already existing police services in the respective cities that the CV Link Route goes through would be sufficient. CV Link would have a less than significant impact on police protection services. No mitigation is required for the operational phase of the Proposed Project.

Fire Protection Services

The increase in long-term demand for fire protection services is typically associated with substantial increases in population and the construction of flammable structures. Construction activities in the project area are expected to begin in mid-2017 and would conclude by mid-2021. The combined number of construction workers that would be required to construct CV Link and other associated components (e.g. access points, rest areas with benches,

[11] CV Link Conceptual Master Plan (2016), Enforcement, Safety and Security

restrooms, shade structures, and charging stations) would be approximately 100 to 200 crew members and contracted construction personnel. CV Link construction activities would be temporary, and therefore would not result in any direct growth-inducing impacts, or result in any significant increase in local population. CV Link will include paved pathways, access points and rest areas with benches, restrooms and similar facilities, and shade structures and charging stations. Shade structures will be constructed of metal and will include solar panels. Therefore, the potential for fire hazard on CV Link would not pose long-term impacts related to fire protection services.

As discussed above, construction activities associated with CV Link would not unduly burden local fire services, although emergency response services may be needed in the unlikely event of worker injury or other accidental conditions. The potential for these occurrences is consistent with that of any construction site. However, construction activities would be temporary, commencing in mid-2017 and concluding by mid-2021.

As shown in Table 4.14-1, 17 fire stations are located within 1.5 miles of the Route along its entire length. At that distance, fire and emergency medical assistance can reach the Route within the cities' established response times. Further, because the cities have mutual aid agreements in place, multiple engines from multiple stations will be available in the event that the station closest to an incident is not available.

At buildout, CV Link would not result in a permanent increase in the local population. The operation and post-construction maintenance activities would not result in substantial increases in the demand for fire protection services. The path will be built with access for maintenance, or will occur in existing streets, parks and golf courses, where access is available. Therefore, no operational impacts related to fire protection would occur.

Education

The proposed CV Link project would not result in a permanent increase in the local population and would not result in substantial increases in the demand for school services. Construction and operations of the proposed CV Link project would not require the provision of new or additional school facilities, nor would it affect the enrollment or capacity of the schools within the surrounding area. No project-related impacts would occur to public school services.

Six schools are immediately adjacent to CV Link, including College of the Desert, Abraham Lincoln Elementary School, Palm Desert High School, Palm Desert Charter Middle School, Andrew Jackson Elementary, and Amistad Continuation High School.

College of the Desert (COD)

The College of the Desert is located on Monterey Avenue in Palm Desert. CV Link passes adjacent to COD on Monterey Avenue and Magnesia Falls Drive before reaching the right bank of the Whitewater River to Fred Waring Drive. CV Link also provides a direct path to the college from Parkview Drive and San Pablo Avenue.

Abraham Lincoln Elementary School

Abraham Lincoln Elementary School is located on Rutledge Way in Palm Desert. CV Link runs along the northern boundary of the school on Magnesia Falls Drive. The school has access points on Magnesia Falls Drive, Portola Avenue, and Rutledge Way. Children can use CV Link to access the school directly from Magnesia Falls Drive.

Palm Desert Charter Middle School

Palm Desert Charter Middle School is located on Rutledge Way in Palm Desert. CV Link runs along the northern boundary of the middle school on Magnesia Falls Drive. The school has access points on Magnesia Falls Drive, and Rutledge Way. Children can use CV Link to access the school directly from Magnesia Falls Drive.

Palm Desert High School
Palm Desert High School is located on Aztec Road in Palm Desert. CV Link runs along the northern boundary of the school near Cook Street. One entrance to the school is on Cook Street. Students can access the school from the alignment.

Andrew Jackson Elementary School
Andrew Jackson Elementary School is located on Kenner Avenue in Indio. CV Link runs along the northern boundary of the school near Jackson Street. Segment 55-2 passes through the northwestern portion Andrew Jackson Elementary, which is a direct access point to the school. Segment 55-2 passes through the northeastern portion of the school, which can be used to access the school.

Amistad Continuation High School
Amistad Continuation High School is located on Dillon Avenue in Indio. CV Link runs along the northwestern portion of the school near Golf Center Parkway. The school can be accessed through off-road access point at Golf Center Parkway.

These schools will benefit from direct access to the Route, providing a safe, well defined path for students to and from the school.

Parks
At buildout, people may visit local parks using CV Link, which might increase the use of the parks and their facilities. The path could increase the number of the visitors but would not result in a permanent increase in the local population For this reason, CV Link will not result in the substantial deterioration or require the construction of new or expansion of existing parks or other recreational facilities. Therefore, operational impacts related to public and/or private parks would be less than significant.

CV Link passes through and/or runs in close proximity to several parks along its route, including Desert Highland Park, Demuth Park, Palm Desert Civic Center Park, Jackson Park, and Sierra Vista Park.

Desert Highland Park
Desert Highland Park will be provided with direct access to the main Link segment (3-2) planned on the adjacent Whitewater Floodplain levee. This park includes the James O. Jessie (JOJ) Unity Center, which offers a variety of recreational and education programs to the community. Park facilities include ball fields and multi-use fields, basketball courts, and playgrounds, indoor gymnasium and children's education center and meeting rooms. CV Link users will have access from the levee into the park.

Demuth Park
Development of CV Link improvements at DeMuth Park will occur along existing roads and paved paths, as well as along and atop the Tahquitz Creek flood control levee. This park has several ball fields, soccer fields, tennis courts, and other amenities. CV Link users will have direct access to park facilities.

Palm Desert Civic Center Park
CV Link passes along the western boundary of the Palm Desert Civic Center Park on San Pablo Avenue, and past the Palm Desert Aquatic Center and the Palm Desert Community Park, both of which are located on Magnesia Falls Drive. CV Link will facilitate access to these facilities for multi-modal travelers, which could result in a limited increase in their use.

Palm Desert Community Park
CV Link runs along the northern boundary of the park near Magnesia Falls Drive. Palm Desert Community Park is located adjacent to the Abraham Lincoln Elementary School. This park provides neighborhood-serving recreational amenities to both the adjacent school and nearby community, including ball fields, tennis and basketball courts, as well as playground equipment. CV Link users will have direct access to the park.

Jackson Park
CV Link runs along the northern boundary of the park near Jackson Street. North Jackson Park provides neighborhood-serving recreational amenities, including ball fields, tennis and basketball courts, as well as playground equipment. CV Link users will have direct access to the park.

Sierra Vista Park
CV Link runs along the northern boundary of the park near Tyler Street. This park has a baseball field, basketball courts, playgrounds, and open grass, which will be accessible to the CV Link users.

As described above, CV Link will provide increased connectivity to local parks for users. Although the implementation of the Route could result in increased park use through the increased number of visitors, it is more likely that CV Link will provide an alternative, well-delineated off-street path for existing and future users of the path.

Other Public Facilities
At buildout, there will be no impacts to the city halls or public libraries. CV Link will require city-issued encroachment permits where the Route occurs on public city streets, but the level of work involved in preparing these encroachment permits will not significantly increase workloads for City staff members. Land uses that are within 1/2 mile of CV Link include 27 schools, 30 golf courses, 27 parks, 13 medical facilities, and numerous commercial and civic centers. Procedures for handling medical emergencies will be developed as part of the project's implementation planning.[12] The same access available to maintenance, public safety and fire protection vehicles will be available for ambulances, where the path occurs off city streets and on the top of levees. Project related impacts will be less than significant. No mitigation is required.

4.14.6. Mitigation Measures

PS-1 Construction staging and storage areas shall be fenced and locked. All equipment shall be returned to staging and storage areas at the end of each work day.

4.14.7. Significance After Mitigation

With implementation of the mitigation measure, the Proposed Project's impacts on police protection services would be reduced to less than significant levels.

4.14.8. Cumulative Impacts

The geographic scope of cumulative impacts related to public services includes the cities of Palm Springs, City of Cathedral, Palm Desert, Indian Wells, La Quinta, Indio, and Coachella, and the unincorporated community of Thermal. As discussed above, construction of the Proposed Project would require fire and police protection and emergency medical services in case of emergency situations. However, that demand would not result in a need for expansion of fire and police service facilities and emergency medical service facilities. Recommended mitigation measures will secure the construction equipment and staging areas and further reduce the project related impacts to police protection services during construction phase. At buildout, the Proposed Project's demand for fire and

[12] CV Link Conceptual Master Plan (2016), Risk Management

police protection services would be inconsequential. When considered with the growth expected in the Coachella Valley by 2040, the Proposed Project's need for emergency services will be minimal, and will not substantially increase the demand for these services. Therefore, cumulative impacts will be less than significant.

At buildout, CV Link is expected to increase the number of visitors to parks and recreational facilities in the project area, but will not increase the permanent local population. When compared to the population growth anticipated in the Valley, the demand for park services from existing residents and visitors using CV Link will be marginal compared to the demand for parks created by new residential development and its associated population increases. Therefore, cumulative impacts to parks and recreational facilities will be less than significant.

4.15. Recreational Resources

4.15.1. Introduction

This section describes the existing recreational resources at and in proximity to the CV Link project planning area, and evaluates potential impacts on those recreational resources from the Proposed Project. It analyzes potential project-related impacts and sets forth mitigation measures, where necessary, to ensure that impacts to recreational resources are less than significant.

4.15.2. Thresholds of Significance

The thresholds of significance analyzed herein have been taken from Appendix G: Environmental Checklist of the State CEQA Guidelines. For purposes of this EIR, the proposed CV Link would have a significant impact on recreation if it were to:

a) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated.

b) Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment.

4.15.3. Regulatory Framework

The regulatory framework associated with the CV Link project is largely limited to the land use authority of the CVAG members, including the incorporated cities, Riverside County, and the Agua Caliente and Cabazon Bands. Recreational resources in the vicinity of the project Route are located within incorporated cities.

Federal

The U.S. Department of Transportation Act of 1966, Section 4(f), establishes the requirement for the consideration of park and recreational lands, wildlife and waterfowl refuges, and historic sites in transportation project development. The Federal Highway Administration (FHWA) implements the law. Prior to the approval of a project that utilizes Section 4(f) property, FHWA must either determine that the impacts are de minimis or undertake a Section 4(f) Evaluation. A de minimis determination is made when the publicly owned public parks, recreation areas, and wildlife and waterfowl refuges will not adversely affected the activities, features, or attributes of the property. The Proposed Project is receiving a de minimis determination.

State

No state regulations regarding recreational resources or their management are applicable to the proposed CV Link.

Regional/Local

No regional or local regulations regarding recreation resources or their management are applicable to the proposed CV Link.

4.15.4. Existing Conditions

Recreational resources in proximity to the proposed CV Link are discussed below on a geographical basis generally proceeding from west to east. The discussion begins in the North Palm Springs segment area and

proceeds southeast along the proposed CV Link Route to the project's eastern terminus at Airport Boulevard (Avenue 56) at the Coachella Valley Stormwater Channel (CVSC). As with the other sub-sections describing the environmental setting, the discussion follows each jurisdiction's segments described in Table 2-1 in Section 2 and as shown on Exhibits 4.15-1 through 4.15-3, below. The following sections describe recreational resources within each city and community located in proximity to and potentially affected by the proposed Route. Exhibits 4.15-1 through 3 show the recreational resources along CV Link.

City of Palm Springs

There are a variety of recreational resources located in Palm Springs and in the vicinity of the CV Link project Route, including three *Community Parks*, two *Neighborhood Parks*, three *Specialty Parks*, and two *Local Parks*.

- Local parks are typically intended to serve the needs of residents living within an immediate ¼ to ½ mile radius of the parks.
- Neighborhood parks are intended to provide non-programmed recreational services to residents in nearby neighborhoods.
- Community parks serve a greater area and have onsite facilities that further supplement the recreational needs of the residents, such as ball fields.
- A specialty parks is designed to supplement the tourist industry, preserve unique cultural and historic traditions, and/or enhance environmental resources.

City trails include the Bud Furer, Tahquitz Creek, and Jenkins Trails. Other recreational amenities in proximity to CV Link include the Palm Springs Aerial Tramway, the Tahquitz Creek public golf course and the Wet 'n' Wild Water Park. Also in proximity to CV Link users are the Agua Caliente Visitors Center at the mouth of Tahquitz Canyon.

City of Cathedral City

Cathedral City has a variety of recreational facilities and lands, including several parks and trails, and public golf courses. Resources in proximity to CV Link include the Agua Caliente Park, Second Street Park, Cimarron Golf Course, Desert Princess Golf Course, Cathedral Canyon Golf Course, and Date Palm Country Club and Golf Course. The City also provides a variety of trails, which would be incorporated in the CV Link pathway, and access to southerly mountain trails available for hiking and mountain biking. Bike paths include the recently approved Whitewater River bike path, which will extend from Ramon Road to Vista Chino.

City of Rancho Mirage

Rancho Mirage has parks and other recreational resources in proximity to the proposed CV Link West-End and East End Termini. These include the Michael Wolfson Park located across Frank Sinatra Drive from West-End Terminus B proposed at the intersection of Sinatra Drive and Da Vall Drive and adjacent to the Whitewater River Channel and close to the Butler-Abrams Trail.

Rancho Mirage is also home to the Richard and Annette Bloch Cancer Survivors Park, located just east of City Hall along Highway 111 and a short distance from both Rancho Mirage West-End termini. It features a pyramid kiosk, tiled benches, inspirational plaques, sculptures, ponds and a hillside waterfall. The Rancho Mirage Community Park (aka Whitewater Park) is located along the Whitewater River Channel and near the City Library, approximately 2.5 miles southeast of the West-End Termini.

City of Palm Desert and College of the Desert

The City of Palm Desert has a wide array of parks and other recreational amenities, including many that are in proximity to the proposed CV Link Route. These include the 70-acre Civic Center Park located along CV Link and immediately east of College of the Desert. The Palm Desert Aquatic Center is also along the Route, as is the Palm Desert Community Park adjacent to the Lincoln Elementary School.

CV Link would also pass through the Palm Desert campus of College of the Desert. COD athletic facilities include ball fields, football field and tennis courts, which are not open to the general public. The southeast quadrant of the campus hosts the COD Golf Academy, which is a privately leased and operated pay-to-play driving range in golf instruction studio.

City of Indian Wells

The City of Indian Wells provides recreational amenities in the form of private open space in golf course residential communities scattered throughout the city. These include the Indian Wells Golf Resort, which is a municipally owned facility open to the public. The CV Link Route would pass through and provide direct access to this public golf course and adjacent resort hotels. Indian Wells is also home to and CV Link would pass by the Indian Wells Tennis Garden, which in addition to being the home to the PNB Parisbas Tennis Tournament is also a major public tennis venue available for fee-based play and instruction.

City La Quinta

The City of La Quinta currently operates 11 city parks, the Civic Center Campus, and three nature preserve areas available for public recreation, including trails for hiking and bicycling. All city parks, with the exception of the Civic Center Campus, provide a children's playground facility. The only city park in proximity to the proposed CV Link project is Pioneer Park located on the east side of Washington Street and a short distance north of the stormwater channel. La Quinta is also home to one public and 22 privately owned and operated golf courses; Indian Springs Golf Course located near the CV Link Route, is open to the public.

City of Indio

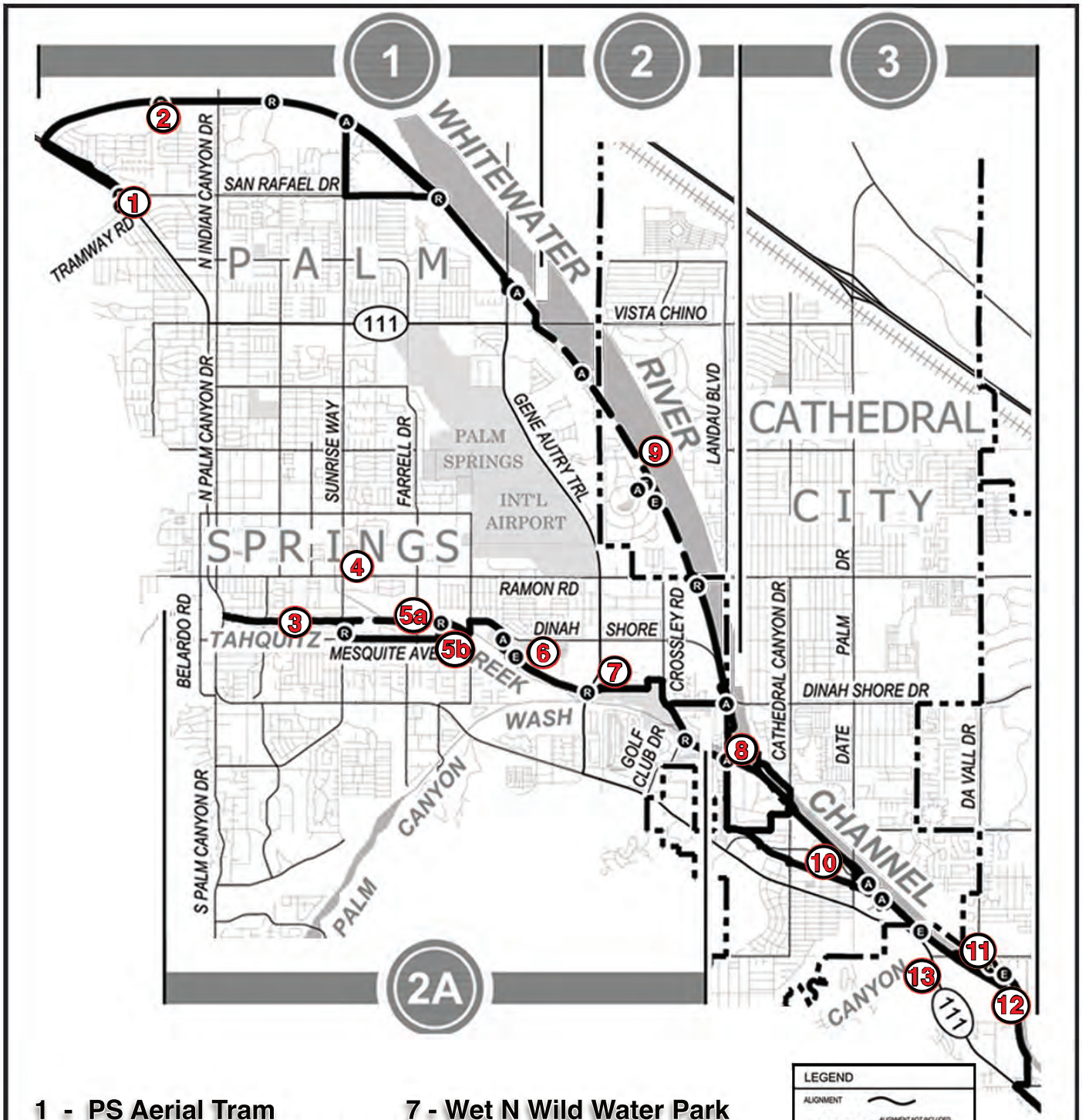
The City of Indio operates 11 parks located throughout the City. The Desert Recreation District also provides recreational services, these are a combination of classes and programs. CV Link will connect to or pass near public parks and recreational facilities, including North Jackson Park, Yucca Park, and the Indio Municipal Golf Course.

City of Coachella

In the City of Coachella, CV Link will connect to the Sierra Vista Park and will also provide indirect access to other recreational resources in the city, including Del Oro Park and the 46-acre Bagdouma Park that includes the Coachella Valley Boxing Club, a swimming pool and tennis courts both accessible via CV Link.

Riverside County and Native American Tribes

There are no recreational facilities or amenities of any Native American Tribe or of Riverside County that are located in proximity to the CV Link Proposed Project Route.



1 - PS Aerial Tram
2 - Desert Highland Park
3 - Bud Furer Trail
4 - Sunrise Park
5a - Tahquitz Creek Trail
5b - Tahquitz Creek GC
6 - Demuth Park
7 - Wet N Wild Water Park
8 - Jenkins Trail
9 - Cathedral City Bike Path
10 - Second Street Park
11 - Wolfson Park
12 - Butler-Abrams Trail
13 - Cancer Survivors Park

LEGEND
ALIGNMENT
ALIGNMENT NOT INCLUDED IN PLAN SET, SEE NOTES
FUTURE ALIGNMENT
CITY BOUNDARY
ACCESS POINT, REST STOP, ENTRY POINT
SEGMENT NUMBER
RECREATION AREAS

N
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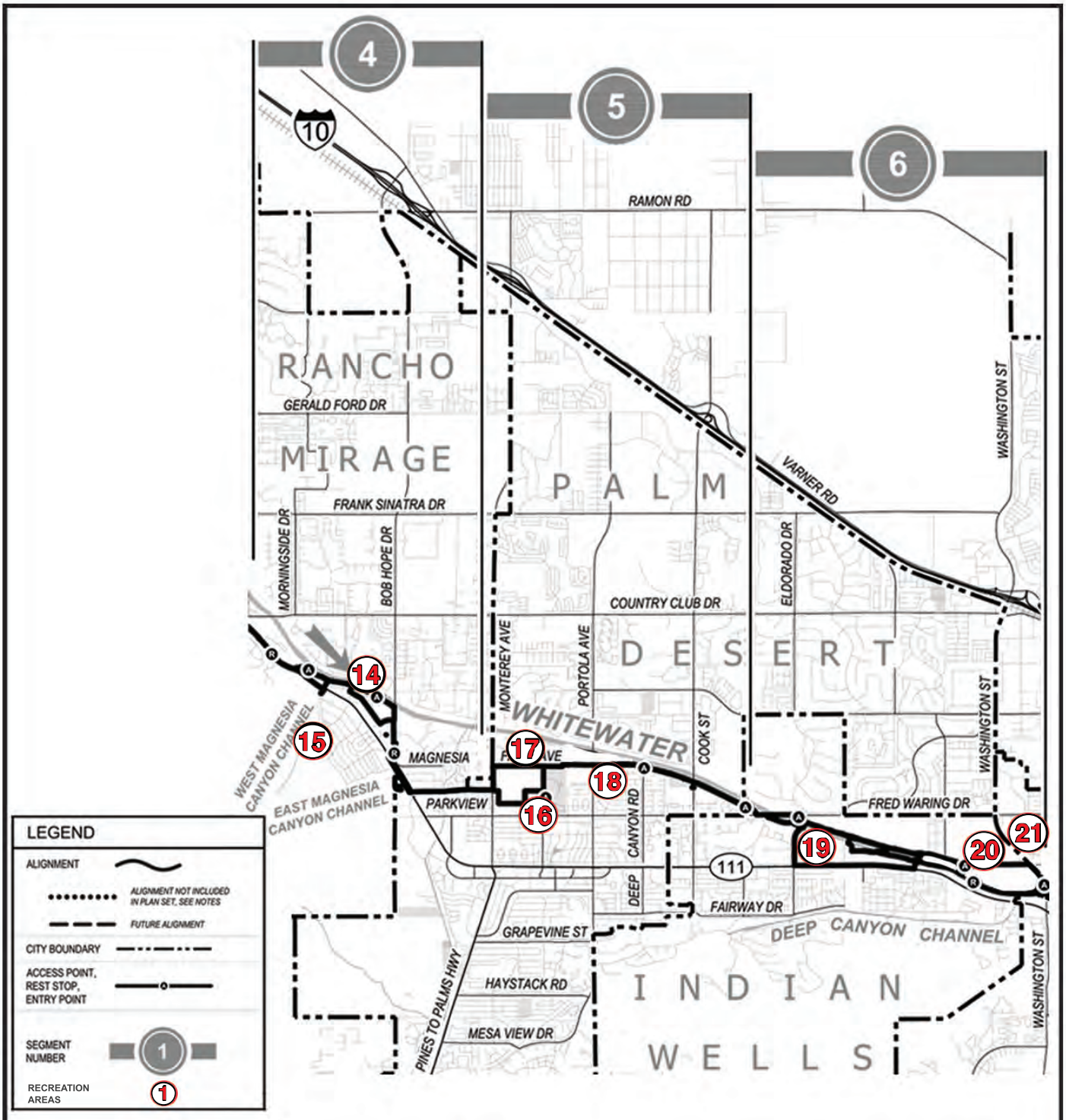
Source: Alta Planning + Design, 2016

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CV Link Project
Recreation - West Valley
Coachella Valley, California

CV/LINK
CONNECTING THE COACHELLA VALLEY
CVAG

Exhibit
4.15-1



14 - Rancho Mirage Community Park
15 - Blixseth Park
16 - COD Golf Center/Driving Range
17 - Civic Center Park
18 - Palm Desert Communty Park
19 - Indian Wells Golf Course
20 - Indian Wells Tennis Gardens
21 - Pioneer Park

N

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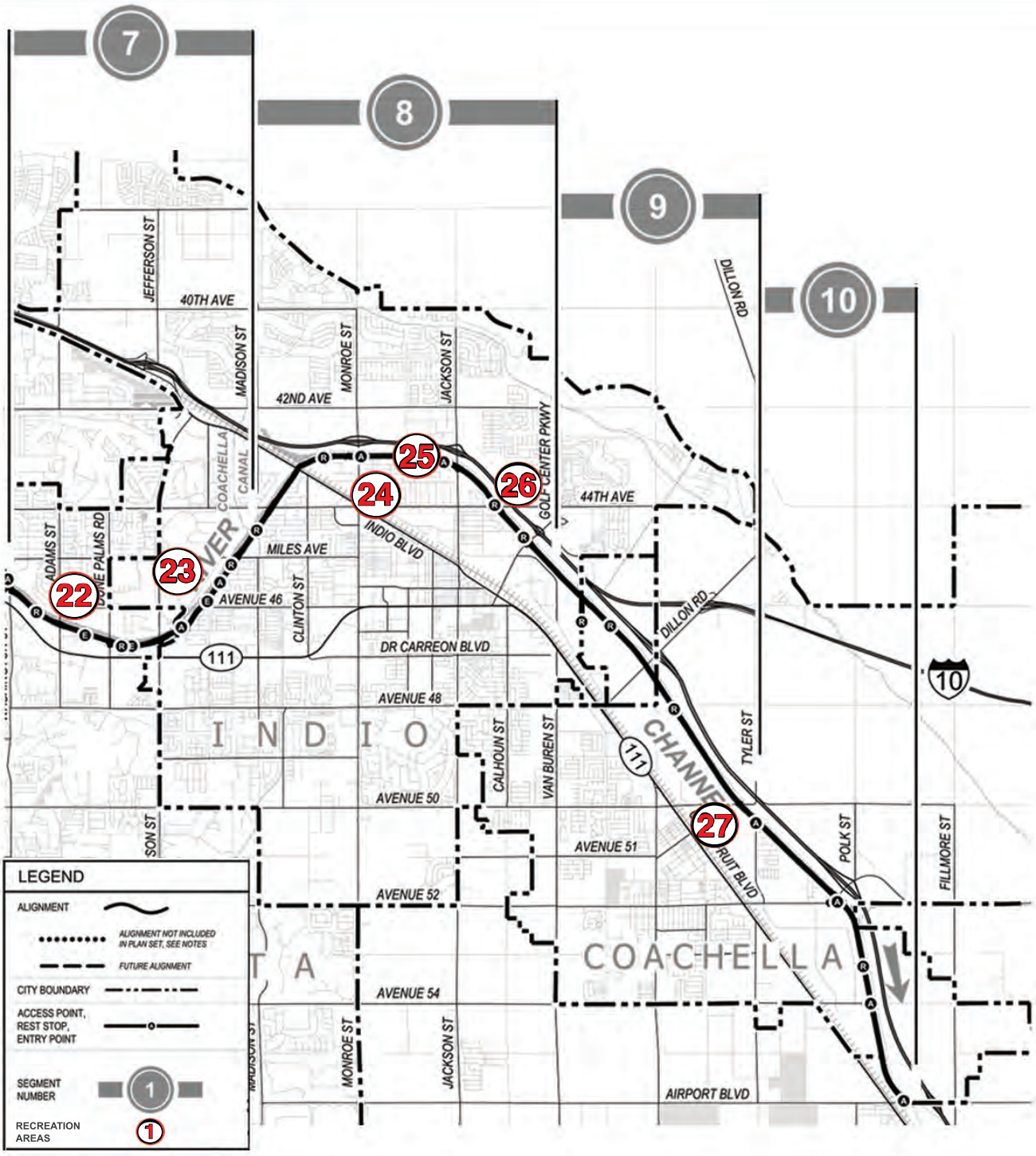
Source: Alta Planning + Design, 2016

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CV Link Project
Recreation - Central Valley
Coachella Valley, California

CV/LINK
CONNECTING THE COACHELLA VALLEY
CVAG

Exhibit
4.15-2



22 - La Quinta Park
23 - Indian Springs Golf Course
24 - Yucca Park
25 - Jackson Park
26 - Indio Terrace Park
27 - Sierra Vista Park

N

08.10.16

Source: Alta Planning + Design, 2016

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CV Link Project
Recreation - East Valley
Coachella Valley, California

CV/LINK
CONNECTING THE COACHELLA VALLEY
CVAG

Exhibit
4.15-3

4.15.5. Project Impacts

Impacts to recreational resources were analyzed using the significance criteria set forth in Appendix G of the State CEQA Guidelines. The analysis considers potential impacts from both the construction and operation of the proposed CV Link on recreational facilities and resources. The proposed CV Link would be a new transportation and recreational facility, which will serve to connect existing residential and resort neighborhoods to other recreation facilities and destinations in proximity to the proposed CV Link Route. As a part of this EIR analysis, analysts contacted and consulted with the managers of the various recreational resources in proximity to CV Link. Impacts to recreational resources associated with the implementation of the proposed CV Link were also analyzed based on local planning documents, site surveys, and resource mapping. The approach to analysis for impact to recreational resources in the project planning area is described for each jurisdiction. CV Link would have a significant impact on recreational resources if it would:

a) *Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facilities would occur or accelerated.*

b) *Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment.*

The analysis below addresses the potential for CV Link to induce an increase in park use to a level that could result in a degradation of these resources, and also evaluates whether and to what extent CV Link will require the construction or expansion of recreational facilities that could result in adverse environmental effects. Potential impacts are discussed on a jurisdictional basis.

<u>City of Palm Springs</u>

Desert Highland Park: As noted in Section 4.15.4, there are several recreational resources in proximity to CV Link that could see increased use and might be affected by Link construction and operation. These include the Desert Highland Park, an 18-acre park which will be provided with direct access to the main Link segment planned on the adjacent Whitewater Floodplain levee. This park includes the James O. Jessie (JOJ) Unity Center, which offers a variety of recreational and education programs to the community. Park facilities include ball fields and multi-use fields, basketball courts, and playgrounds, indoor gymnasium and children's education center and meeting rooms. This park is expected to be a regular stop for CV Link users, most of which in this area are expected to be Palm Springs residents and visitors, to break in a park setting and take in the tremendous mountain and desert views. As a community park, Desert Highland Park is meant to provide services for great numbers of residents. CV Link, at this northern alignment, is likely to increase use of the park. However, since that use is expected to include residents and visitors who currently occur within the area, the increase is not anticipated to be significant.

Most of the CV Link construction in this area will be outside the park and only the terminus at the park will disturb adjoining lands; however this construction will not disturb or impede access to existing park improvements. Therefore, the CV Link project will not result in the substantial deterioration of or require the construction of new or expansion of existing park facilities.

DeMuth Park: Development of CV Link improvements at DeMuth Park, a 61-acre park, will occur along existing roads and paved paths, as well as along and atop the soon to be rebuilt Tahquitz Creek flood control levee. DeMuth Park has several ball fields, soccer fields, tennis courts, and other amenities. This popular park is expected to be a regular stop for CV Link users to break in a park setting and take in the views. Most CV Link users in this area are expected to be city residents and visitors. DeMuth Park is a community park; the Palm Springs General Plan indicates that this type of park is designed to provide recreational services to a regional level of users. Additional park use may be induced by CV Link users but these impacts are expected to be less than

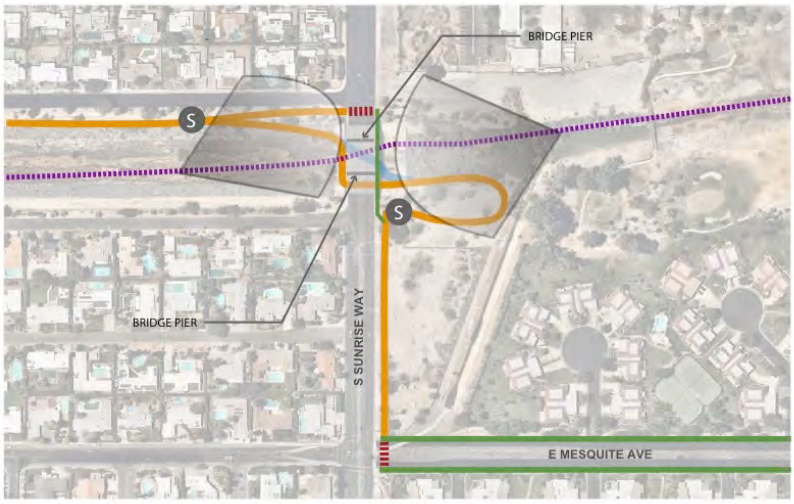
significant to the overall park use. Park users currently have existing multi-modal access to DeMuth Park provided by city-designated bike lanes and pedestrian walking pathways. CV Link may provide an alternative means of transportation to those who currently drive to the park for league play, and as a result could reduce vehicle trips and congestion on surrounding roadways, especially on weekend days.

Most of CV Link construction will occur along existing park roads and atop the levee, reconstruction of which is being coordinated with CV Link planners. Although, CV Link construction will temporary limit the use of these existing facilities, construction will be temporary and short-lived and will not create a significant impediment to park access, nor will it disturb existing park facilities. For this reason, CV Link will not result in the substantial deterioration or require the construction of new or expansion of existing park facilities.

Sunrise Park: Sunrise Park, a 38-acre park, is located approximately 0.4 miles north of the Tahquitz Creek alignment of the CV Link Route. This diverse park includes Palm Springs Swim Center, Mizell Senior Center, skateboard park, the Palm Springs Minor League baseball stadium, the main branch of the City Library and expanses of landscaped open space. CV Link will have no direct impact on these park and related facilities; however, their proximity to CV Link could see some level of increased use, although Link users' use of these facilities is expected to be less than significant. Sunrise Park, like the above-mentioned parks, is a community park. This means that the park is designed to accommodate a greater number of users. As a result, CV Link will not cause a substantial deterioration or require the construction of new or expansion of existing Sunrise Park facilities.

Tahquitz Creek/Bud Furer Trails: These trails occur in proximity to and portions will become a part of the overall CV Link facility, which extends from South Pam Canyon Drive at Tahquitz Creek and proceeds east along existing and planned pathways to the confluence with the Whitewater River. Construction of CV Link improvements along this existing trail will have a less than significant impact on access to or use of the existing facilities because short detours, if needed, can be provided on the adjoining streets and other available paths. The Bud Furer Trail improvements will be separated from the existing equestrian pathway, will provide 90 degree intersections with the equestrian facility, and will provide clear line of sight for horses along the trail and at intersections, including at Sunrise Way and Riverside Drive, and on El Cielo Road, as shown below.

CV LINK Equestrian Trail Interface Areas
SUNRISE WAY UNDERCROSSING



DESIGN CRITERIA

CV LINK WAYFINDING SIGNAGE "YIELD TO EQUESTRIANS."

CV LINK CROSSINGS PERPENDICULAR TO EQUESTRIAN TRAILS

PROVIDE CLEAR LINES OF SIGHT FOR EQUESTRIANS APPROACHING CV LINK TRAIL JUNCTIONS

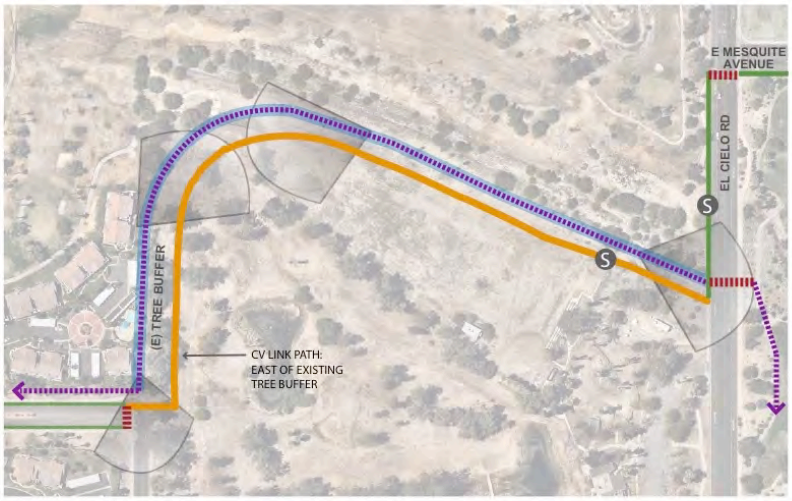
Feet
0 150 300 600

CVAG

PROPOSED CV LINK OFF-STREET PATH
PREVIOUS CV LINK OFF-STREET PATH
CV LINK ON-STREET FACILITY
EQUESTRIAN TRAIL
STREET CROSSING
EQUESTRIAN VIEW SHED

03/28/2017

CV LINK Equestrian Trail Interface Areas
EL CIELO



DESIGN CRITERIA

CV LINK WAYFINDING SIGNAGE "YIELD TO EQUESTRIANS."

CV LINK CROSSINGS PERPENDICULAR TO EQUESTRIAN TRAILS

PROVIDE CLEAR LINES OF SIGHT FOR EQUESTRIANS APPROACHING CV LINK TRAIL JUNCTIONS

Feet
0 150 300 600

CVAG

PROPOSED CV LINK OFF-STREET PATH
PREVIOUS CV LINK OFF-STREET PATH
CV LINK ON-STREET FACILITY
EQUESTRIAN TRAIL
STREET CROSSING
EQUESTRIAN VIEW SHED

03/28/2017

These trails are already connecting Palm Springs neighborhoods and park amenities, and CV Link users are expected to increase the use of these facilities. However, the CV Link will be an expansion of these facilities and will have a net positive benefit in increasing capacity and amenities for a broader mix of users. Therefore, the CV Link project will not result in the substantial deterioration or require the construction of new or expansion of existing trail facilities.

Tahquitz Creek public golf course: CV Link will make improvements to the existing bike path that currently passes adjacent to and through the golf course. Improvements will involve path widening, and moving a few tee-boxes. Furthermore, the proposed CV Link design in this area was developed based on consultation with the golf course manager. Accordingly, no significant impacts to recreational facilities at the golf course are anticipated. Nonetheless, as set forth in mitigation measure REC-1, below, CVAG shall obtain approval of the final design from the golf course owner prior to commencement of any construction activities on the golf course in order to assure that final design adequately buffers golf course facilities from CV Link improvements.

Other Recreational Amenities: As noted above, there are a variety of other recreational resources in proximity to CV Link, including the Palm Springs Aerial Tramway, Wet 'n' Wild Water Park, as well as the Agua Caliente Visitors Center and the Indian Canyons. All of these venues are open to the public but each has an entry fee. To varying degrees, CV Link will increase the visitation to and use of these facilities; however, these impacts are expected to be limited by the fee-nature and in some cases distance from a CV Link alignment.

City of Cathedral City

CV Link will incorporate the Whitewater River Bike Path between Vista Chino and Ramon Road, approved by the cities of Cathedral City and Palm Springs. This new facility will have direct connections to the CV Link Route in this area and will introduce new local and more distant users to this bike path. Visitation to the trail may be increased by the enhanced connection provided by the Proposed Project, but the use of the trail by existing residents and visitors will not be substantial, and the trail's capacity is sufficient to accommodate additional users.

The Second Street Park: This resource is a small neighborhood park located a short distance west of the proposed Route, with a ball field, playground and tennis and pickle ball courts. This park could experience a slight increase in use limited by the nature of the amenities, which are most suited for the local neighborhood. CV Link users from the immediate area could use CV Link as an alternative means of transportation to the park, thereby reducing vehicle trips in the area. Therefore, while there could be some very limited increased use of this facility by CV Link users, the project will not result in the substantial deterioration or require the construction of new or expansion of existing Second Street Park facilities.

Cimarron Golf Course: The City's approved Whitewater River bike path project will parallel the CV Link project and will be located atop the flood control levee, with the southern portion paralleling the existing Cimarron Golf Course, a public play facility. CV Link facilities will not encroach into the channel cross section where the course has been developed, except to cross under the Ramon Road bridge, where CV Link facilities will skirt and may conflict with tee boxes located in proximity to the bridge. Some existing tee-boxes may need to be moved slightly to accommodate the ramps for the CV Link undercrossing of the Ramon Road Bridge. These minor adjustments would not significantly impact course play. Nonetheless, as set forth in mitigation measure REC-1, below, CVAG shall obtain approval of the final design from the golf course owner prior to commencement of any construction activities on the golf course in order to assure that final design adequately buffers golf course facilities from CV Link improvements. Therefore, CV Link is not expected to generate a significant demand for or impact to these golf facilities after the incorporation of mitigation.

Cathedral Canyon Golf Course: Two CV Link alignments would pass through or along portions of this golf course, which is also lined by condominiums on the south and a resort hotel on the north sides of the channel, portions of which have been developed for golf. Most sections of the proposed alignment alternatives will be built on existing pathways, while some sections would be new paths. CV Link routing is being coordinated with golf

course management, such that CV Link facilities are not anticipated to result in potentially significant conflicts with play on the golf course. Nonetheless, as set forth in mitigation measure REC-1, below, CVAG shall obtain approval of the final design from the golf course owner prior to commencement of any construction activities on the golf course in order to assure that final design adequately buffers golf course facilities from CV Link improvements. Furthermore, CV Link is not expected to generate a significant demand for, golf course facilities, given that it is a fee-based facility. Existing residents in the area who are members of the Club could use CV Link as an alternative means of transportation to the Club, thereby reducing vehicle trips on surrounding streets. Therefore, CV Link is not expected to impact these golf facilities, after the incorporation of mitigation.

No other recreational resources located in Cathedral City will be directly or indirectly impacted by the Proposed Project because there are no other recreational resources within proximity to CV Link.

With expected on-going consultations with golf course owners whose facilities may be affected by CV Link (please see mitigation measures REC-1 and REC-2), design refinements will avoid and appropriately minimize impacts to these facilities. Therefore, the CV Link project will not result in the substantial deterioration or require the construction of new or expansion of existing parks or other recreational facilities.

City of Rancho Mirage

The CV Link Proposed Project does not include the City of Rancho Mirage. As noted throughout this document, CV Link proposes one of two potential West-End Termini (A & B) and one East-End Terminus on the city's borders with Cathedral City and Palm Desert, respectively. The East-End terminus at the intersection of Highway 111 and Parkview Drive is not in proximity to any Rancho Mirage recreational resource. The potential effects of the two West-End termini differ somewhat due to their location and proximity to Rancho Mirage recreational resources, which include Wolfson Park and the Butler-Abrams Trail.

West-End Terminus A: The West-End Terminus A would be on Buddy Rogers Avenue in Cathedral City with direct access to Highway 111 or back along CV Link and downtown Cathedral City's commercial and entertainment facilities. The more limited multi-modal access that is currently available into the western part of Rancho Mirage from this location will deter CV Link users to travel in this direction. Therefore, the impacts of CV Link users ending their CV Link eastbound travel at West-End Terminus A on Rancho Mirage recreational facilities will be minimal and less than significant.

West-End Terminus B: Rancho Mirage recreational resources, i.e. Wolfson Park and the Butler-Abrams Trail could be more impacted by CV Link users if the West-End terminus is constructed, as proposed at the northeast corner of Frank Sinatra Drive and the wash. This terminus would bring travelers to an existing signalized crosswalk at the intersection of Frank Sinatra and Da Vall Drives. The greater multi-modal access into the western part of Rancho Mirage from this location may encourage some CV Link user travel into Wolfson Park and the Butler-Abrams Trail. The degree to which the project will induce additional use of these facilities is difficult to predict; however, unless Rancho Mirage significantly upgrades the Butler-Abrams Trail it is unlikely to attract a significant number of CV Link users because While the park could see some CV Link user visitation, there are no active recreation facilities in this park and it would serve only as a rest stop along the journey. Therefore, the impacts of CV Link users ending their CV Link eastbound travel at West-End Terminus B on Rancho Mirage recreational facilities will be minimal and less than significant.

City of Palm Desert and College of the Desert

CV Link passes along the western boundary of the Palm Desert Civic Center Park on San Pablo Avenue, and past the Palm Desert Aquatic Center and the Palm Desert Community Park, both on Magnesia Falls Drive. CV Link will facilitate access to these facilities for multi-modal travelers, which could result in a limited increase in their use. Active transportation facilities such as CV Link are naturally complementary to these community parks, pools and other recreational resources, which can already be accessed to some degree by multi-modal facilities. CV Link users from a broader area could be expected to utilize Civic Center Park, the Aquatic Center and Palm

Desert Community Park facilities. None of these facilities, however, is at capacity. In addition, existing residents and visitors who currently access the recreational facilities at these locations would have an alternative means of access as a result of the Proposed Project, which could reduce vehicle trips on area roadways. Therefore, the CV Link project will not result in the substantial deterioration or require the construction of new or expansion of existing parks or other recreational facilities.

CV Link would also pass directly through the campus of the College of the Desert, extending from Monterey Avenue on the west to San Pablo Avenue on the east, following the southern segment of the campus ring road. The campus includes such athletic facilities as ball fields, a football field and tennis courts which are currently used by the public. CV Link users from a broader area could be expected to utilize these facilities. None of these facilities, however, is at capacity. In addition, existing residents and visitors who currently access the recreational facilities would have an alternative means of access as a result of the Proposed Project, which could reduce vehicle trips on area roadways. The southeast quadrant of the campus hosts the COD Golf Academy, which is privately leased and operated as a pay-to-play driving range and golf instruction studio. Existing customers at this facility may use CV Link to access it, but increased usage is not anticipated.

City of Indian Wells

Potentially impacted Indian Wells recreational amenities include the Indian Wells Golf Resort, which is a municipally owned facility open to the public. CV Link would pass through and provide direct access to this public golf course. The two proposed alignment variations, which are mutually exclusive, would be built on existing pathways and new paths. They would pass through or along portions of this golf course, which is also bordered on the south by major resort hotels. CV Link alignments through and near these facilities are primarily located out of the areas of active play, and were developed based on consultation with the golf course manager. Accordingly, CV Link facilities are not anticipated to result in significant conflicts with golf play. Nonetheless, as set forth in mitigation measure REC-1, below, CVAG shall obtain approval of the final design from the golf course owner prior to commencement of any construction activities on the golf course in order to assure that final design adequately buffers golf course facilities from CV Link improvements. Furthermore, the CV Link project is not expected to generate a significant demand for use of these golf facilities, because it is a pay-to-play facility. Existing golfers at the Club could use CV Link as an alternative means of transportation, thereby reducing vehicle trips on surrounding streets.

As previously noted, Indian Wells is home to the Indian Wells Tennis Garden, which in addition to being the home to the internationally respected annual PNB Parisbas Tennis Tournament, is also a major public tennis venue available for play and instruction for a fee. While CV Link would facilitate multi-modal access to these facilities, the Proposed Project is not expected to generate significant additional demand on the facility, since it is a fee-based venue. Existing residents and visitors could use the Proposed Project to access the facility without using their vehicles for special events and instruction, however, which would result in a decrease in vehicle trips on regional roadways.

The CV Link project will not result in the substantial deterioration or require the construction of new or expansion of existing park facilities or other recreational amenities.

City of La Quinta

The only La Quinta city park in proximity to the proposed CV Link project is Pioneer Park, located on the east side of Washington Street and a short distance north of the stormwater channel. This small neighborhood park is limited in size and amenities and is not expected to see any appreciable visitation from CV Link users since the distance and the location of the park would make it difficult for CV Link users to conveniently visit the park. As previously noted, a portion of the Indian Springs Golf Course is located near the CV Link Route and is open to the public. CV Link facilities will have no direct impact on this golf course and is not expected to generate a

significant demand for these facilities, because the Indian Springs Golf Course is a private course and CV Link users are unlikely to utilize the course. The CV Link project will not result in the substantial deterioration or require the construction of new or expansion of existing park facilities or other recreational amenities.

City of Indio

As noted above, CV Link will connect to or pass near public parks and recreational facilities, including North Jackson Park, Yucca Park, and the Indio Municipal Golf Course. North Jackson Park provides neighborhood-serving recreational amenities, including ball fields, tennis and basketball courts, as well as playground equipment. As a planned access point, the park has the potential for visitation and use by CV Link travelers. While CV Link will enhance access to this park it is not expected to result in the substantial deterioration or require the construction of new or expansion of existing park facilities or other recreational amenities. This park is primarily utilized by the local neighborhood and has the capacity to provide recreational facilities to a broader spectrum of users. This will mean that CV Link will not create an adverse effect, and instead will facilitate access to a recreational resource by connecting surrounding communities to the park.

Yucca Park is a small neighborhood facility located some distance south of the Route and is therefore unlikely to attract CV Link users. Therefore, the CV Link project will not result in the substantial deterioration or require the construction of new or expansion of existing park facilities or other recreational amenities.

City of Coachella

CV Link will be adjacent to Sierra Vista Park, which is a small neighborhood park with a basketball court, restroom facilities, limited playground equipment and landscaped open space. Visitation by CV Link users to this park are expected to be limited to the City of Coachella residents. CV Link will also provide indirect access to other recreational resources in the city, including but to a lesser extent Del Oro Park and the 46-acre Bagdouma Park that includes the Coachella Valley Boxing Club, a swimming pool and tennis courts both located to the west but accessible via CV Link. Existing residents are likely to use CV Link as an alternative mode of transportation to access the recreational facilities at these locations, thereby reducing vehicle trips. Therefore, the CV Link project will not result in the substantial deterioration or require the construction of new or expansion of existing park facilities or other recreational amenities since the use of the facilities are expected to remain within the scope of use at build out for each facility.

Riverside County and Native American Tribes

There are no recreational facilities or amenities of any Native American Tribe or of Riverside County that are located in proximity to the CV Link Route.

4.15.6. Mitigation Measures

As discussed above, the Proposed Project will not result in the substantial deterioration or require the construction of new or expansion of any existing park facilities or other recreational amenities in the project planning area. A few areas have been identified where further refinement of certain path alignments will serve to avoid and further minimize potential CV Link impacts on area recreational facilities. Even though impacts are anticipated to be less than significant, the following mitigation measure will be imposed in order to further reduce those already insignificant impacts:

REC-1 CVAG shall obtain concurrence from the owners of the Tahquitz Creek, Cimarron, Cathedral Canyon, and Indian Wells Golf Resort golf courses of the final design of CV Link facilities located on those respective golf courses prior to the commencement of any CV Link construction activities on those respective golf courses in order to assure that the final design of CV Link facilities adequately buffer fairways, greens, tee boxes and in play areas in proximity to the proposed alignments.

4.15.7. Significance After Mitigation

The above analysis indicates that the CV Link Proposed Project will have a less than significant impact on both public and private recreational resources located in proximity to Link pathways with the implementation of the three mitigation measures set forth in the above section. Therefore, the near and long-term adverse impact of the CV Link project on area recreational resources will be less than significant.

4.15.8. Cumulative Impacts

The near and long-term cumulative adverse impacts associated with the CV Link Proposed Project will not be considerable. The increased access provided by the Proposed Project is more likely to allow existing residents who currently drive to local parks to use alternative transportation. The Proposed Project is not expected to result in an exceedance of capacity at any of the recreational facilities it will access. When considered with other growth in the Valley, the Proposed Project would not result in the development of new residential development and associated population increases, which would increase demand on parks, and would therefore not contribute to cumulatively significant impacts to parks.

Importantly, the project is expected to have a cumulatively considerable positive or beneficial impact on individual and area-wide recreational amenities and resources, providing a much needed multi-modal backbone facility that improves community linkage to its recreational amenities, while providing a new and unique facility for walking and jogging, or bicycling.

4.16. Transportation and Traffic

4.16.1. Introduction

This section of the EIR describes the existing condition of traffic and circulation within the CV Link planning area and analyzes the potential impacts of the Proposed Project on traffic and circulation. The purpose of this analysis is to assess the potential impacts associated with the interface between pedestrians, bicyclists, LSEVs, and autos. A wide range of data and information, ranging from research and analysis conducted for specific projects in the area, to regional-scale planning and environmental documents, have been used in researching and analyzing the project and its potential effects. [1, 2, 3] These include detailed analysis of major roadway facilities, as well as detailed analysis of future conditions.[4]

CV Link Traffic Impact Study

The transportation analysis prepared for the CV Link project assessed the existing roadway network, and measured the level of use and service along the existing roadways in the project vicinity. The transportation analysis identified and evaluated 33 key at-grade access and/or at-grade crossing locations along the corridor that will interface with a CV Link alignment. Existing, long-term and associated multi-modal activity levels, which may require roadway, signal or other improvements and/or street traffic operations were fully analyzed[5]. The transportation analysis focused on the refinement of analysis criteria and methodologies, review of project plans, compilation of existing geometric information, and collection of peak season weekday auto, bike, LSEV, and pedestrian counts during peak periods at crossing locations along the corridor. Travel demand estimates were then developed for future travel activity along the corridor using information derived from the updated CVAG version of the Riverside County Transportation Analysis Model (RivTAM).[6] Finally, an evaluation of traffic level-of-service issues and safety considerations associated with the planned CV Link facility, particularly focusing on at-grade crossings, was provided. Findings and recommendations were also presented (see Appendix Q of this EIR).

4.16.2. Thresholds of Significance

Using established CEQA/NEPA guidelines, the proposed CV Link preferred project and alternatives would have a significant effect on transportation, traffic, and circulation, if they:

a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit.

b) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways.

1 "CV Link Corridor Transportation Analysis"" prepared by Urban Crossroads, Inc. August 2016.
2 "CVAG Active Transportation Plan", Coachella Valley Association of Governments. 2016.
3 "CVAG Neighborhood Electric Vehicle Plan", Coachella Valley Association of Governments. 2014.
4 "RivTAM 2016 CVAG Region Update", Coachella Valley Association of Governments. 2016. The RivTAM Model is based on the Southern California Association of Governments (SCAG) Regional Transportation Analysis Model, and is a sub-set of this model. The CVAG RivTAM Model is a sub-set of the county model and was updated in 2016 with new socio-economic, demographic and GIS land use data for the Coachella Valley.
5 The 33 intersections represent all direct interfaces between CV Link and existing roadways/transportation corridors.
6 Op. cit.

c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks.

d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).

e) Result in inadequate emergency access.

f) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.

Levels of Service and Jurisdiction Standards

The "Level of Service" (LOS) is a qualitative measurement that describes operational conditions within a traffic stream and considers speed, travel time, driving comfort, safety and traffic interruptions. Levels of Service are described as a range of alphabetical connotations, "A" through "F," which are used to characterize roadway and intersection operating conditions. LOS A represents the best, free flow conditions, and LOS F indicates the worst conditions and system failure.

Intersection Capacity

At intersections, the level of service is typically dependent on the quality of traffic flow. The 2000 Highway Capacity Manual (HCM)[7] methodology expresses the level of service at an intersection in terms of delay time for the various intersection approaches. The procedures used to determine levels of service vary with the type of intersection controls, including signs and signals. The levels of service are defined in the following table.

Table 4.16-1
Levels-of-Service for Intersections

	Average Total Delay Per Vehicle (seconds)	
Level of Service	**Signalized**	**Unsignalized**
A	0 to 10.00	0 to 10.00
B	10.01 to 20.00	10.01 to 15.00
C	20.01 to 35.00	15.01 to 25.00
D	35.01 to 55.00	25.01 to 35.00
E	55.01 to 80.00	35.01 to 50.00
F	80.01 and up	50.01 and up

The identification and definition of an intersection deficiency has been obtained from each of the applicable surrounding jurisdictions.

City of Palm Springs: Per Goal CR2.1 of the City of Palm Springs General Plan, Level of Service D or better should be maintained for the City's circulation network, as measured using "in season" peak hour conditions.

City of Cathedral City: For planning and design purposes, Cathedral City has established Level of Service D as the minimum peak hour system performance standard for Cathedral City circulation network.

[7] "Highway Capacity Manual; Fifth Edition"; Transportation Research Board, National Research Council; Washington, D.C.; 2010.

City of Rancho Mirage: Per Goal 1, Policy 1 of the City of Rancho Mirage General Plan, the following LOS will be utilized for study area intersections located within the City: Require development to achieve a peak hour LOS D or better at intersections and roadway segments. It should be noted that Ramon Road and Monterey Avenue are a part of the CMP system. Where a LOS of E or worse exists along roadway segments and intersections along these CMP roadways, the City will attempt to take every reasonable measure to improve operating conditions.

City of Palm Desert: The Circulation Element of the City of Palm Desert General Plan states that peak hour intersection operation at LOS "C" or better is generally acceptable. Because LOS "C" represents a standard that is progressively more difficult and costly to achieve as traffic volumes grow in the City LOS "D" and/or a maximum volume to capacity ratio of 0.90 is provisionally considered the generally acceptable service level for peak operating periods when all feasible intersection improvements have been implemented.

City of Indian Wells: Per City of Indian Wells General Plan, minimum Level of Service (LOS) "D" should be maintained at roadway intersections. It should be noted that only HWY-111 is included on the CMP roadway system in the City of Indian Wells. For principal arterials, the CMP standard is LOS "E" or better.

City of La Quinta: Per City of La Quinta's Engineering Bulletin #06-13 (July 2015), the City has established LOS "D" as the minimum level of service for its intersections and street segments.

City of Indio: City of Indio standard for acceptable Level of Service is LOS "D".

City of Coachella: City of Coachella criteria, LOS "D" is allowed in "Community Development areas, only at intersections of any combination of Secondary Highways, Major Highways, Arterials, Urban Arterials, Expressways, conventional state highways or freeway ramp intersections. For the purposes of this analysis, LOS "D" is the minimum acceptable LOS for roadway segments.

Riverside County: Riverside County General Plan Policy C 2.1 states that the County will maintain the following County-wide target LOS: LOS C on all County-maintained roads and conventional State Highways. As an exception, LOS D may be allowed in Community Development areas at intersections of any combination of Secondary Highways, Major Highways, Arterial Highways, Urban Arterial Highways, Expressways or conventional State Highways. LOS E may be allowed in designated Community Centers to the extent that it would support transit-oriented development and pedestrian communities. For CMP streets or highways, the County accepts LOS E.

Pedestrian Design Criteria

State and federal transportation policy has been shifting in recent years to require that transportation plans make provisions for pedestrian, bicyclists, LSEV and those with disabilities within the roadway network, which has heretofore primarily served motor vehicles. In analyzing options at intersections, pedestrians and motor vehicles have equal status; therefore, some loss of motor vehicle capacity is acceptable in order to accommodate minimum pedestrian crossing times. Pedestrian crossing-time requirements can have a significant impact on intersection operations, especially in coordinated or synchronized signal systems, where a background cycle length is used to achieve consistent operation between consecutive intersections.

The level of delay is again the primary measure of impacts on intersection capacity. In general, shorter cycle lengths are preferable to longer ones because they result in less delay and shorter queues. However, the need to accommodate multiple pedestrian movements across wide roadways, coupled with complex signal phasing and minimum green time requirements to accommodate signal progression in multiple directions, may sometimes require the use of longer cycle lengths.

The primary reference for the management and regulation of intersections is the California Manual of Uniform Traffic Control Devices (MUTCD), which states that the pedestrian clearance time should allow a pedestrian crossing in the crosswalk to leave the curb and travel to at least the far side of the traveled way or to a median of sufficient width for pedestrians to wait before opposing vehicles receive a green signal. The Institute of Transportation Engineers (ITE) recommends that median widths serving as pedestrian waiting area ideally be ten feet or wider to provide enough space for pedestrians to stand. Median refuge islands should be at least six feet wide and in no case less than four feet wide[8] when used by pedestrians and bicyclists.

Analysis Criteria and Methodology

The transportation analysis methodology for CV Link focuses on several layers of information:

(1) identification and targeting of potentially significant conflict points and safety issues along the corridor,
(2) collection of baseline (existing) peak season weekday auto, bike, LSEV, and pedestrian counts during peak periods at key at-grade access and/or at-grade crossing locations,
(3) estimation of future bike/LSEV/walk activity along each corridor segment using information derived from the updated CVAG version of the Riverside County Transportation Analysis Model (RivTAM),
(4) conflict point assessment and level of service (LOS) analysis at each of the potentially significant conflict points,
(5) estimation of future bike/LSEV/walk miles traveled along each corridor segment, and
(6) estimation of changes in vehicle miles traveled (VMT) on the surrounding road network associated with implementation of CV Link.

A variety of data sources were used to develop an understanding of traffic and roadway and intersection operating conditions. In addition to evaluating a wide variety of previous studies, additional traffic data were collected during March 2016, including peak hour directional movements tabulated at at-grade access and/or at-grade crossing locations along the corridor for vehicles, bicyclists, LSEVs and pedestrians. Future (RivTAM 2040 Plus TPPS – CVAG Model) volumes by mode of travel with the Proposed Project are then estimated at these locations. With the critical conflict locations known – the places where bicycles, LSEV, pedestrians and vehicles will compete for shared space – a thorough evaluation of each location has been performed based on Federal Highway and California State Highway best practice including LOS calculations; review of field geometry; and review of traffic controls proposed in conjunction with CV Link.

4.16.3. Regulatory Framework

Federal

There are a variety federal regulations that address transportation impacts associated with the Proposed Project. In the case of the CV Link project, federal regulations are imposed on the project through the California Department of Transportation (Caltrans), which serves as the Federal Highway Administration's agent for California transportation projects with a federal nexus. Under federal law, states must carry out a continuing, comprehensive, cooperative and intermodal statewide transportation planning process. The state, in cooperation with participating organizations including Metropolitan Planning Organizations (MPOs) and other Regional Transportation Planning Agencies (RTPAs), Native American tribal governments, environmental resource and permit agencies, and public transit operators, provides for a fully coordinated process.

[8] Institute of Transportation Engineers (ITE), Unsignalized Intersection Treatment Guide, Treatment ID No. 060. Also references the Federal Manual of Uniform Traffic Control Devices, Federal Highway Administration (FHWA), 2009, which recommends a minimum 4-foot wide median island refuge with an 8-foot refuge preferred.

State

Caltrans is also the responsible agency for implementing State level policies and standards for highway facilities under State jurisdiction. Caltrans and the FHWA have developed the Standard Environmental Reference (SER), a resource to help state and local agency staff plan, prepare, submit, and evaluate environmental documents for transportation projects. The SER contains information pertinent to all transportation projects developed under the auspices of Caltrans, and to all local agency highway or local streets and roads projects with funding or approvals by the Federal Highway Administration (FHWA).

Regional and Local

No regional or local regulations regarding traffic and transportation are applicable to the proposed CV Link.

4.16.4. Existing Conditions

Introduction

The physical conditions within the CV Link planning area are particularly well suited to the expanded use of alternative modes of travel, including walking, biking and LSEVs. While summer heat can deter some of these activities, there is a clear pattern of morning and evening walking and biking evident throughout the project planning area. These activities are supported by favorable terrain and excellent prevailing weather conditions. While outdoor activity during the summer season can pose a health risk, residents and visitors are well aware of the need to consider temperature and other conditions when exerting themselves and moderate their activities accordingly.

Windy conditions have also been identified as a deterrent to the use of CV Link and other active modes of travel. On an annualized basis, the prevailing winds in the planning area are from the northwest, originating from the San Gorgonio Pass. However, the area also experiences winds from the southeast associated with the late summer monsoons, and from the northeast in association with Santa Ana conditions. Again, walkers and bikers avoid less than ideal conditions and many users will not be deterred from using CV Link.

Existing Vehicle Levels of Service (2016)

As noted, the various CV Link alignments that comprise the core route are located primarily along and atop the service/maintenance roads of major drainages in the region, including Chino Wash and the Whitewater Floodplain, Tahquitz Creek Channel, and the Whitewater River/Coachella Valley Stormwater Channel. Portions of the alignments also would be located along and/or across vehicular roadways. A total of 33 locations (CV Link/Roadway intersections) have been identified where the potential exists for CV Link facilities and users to conflict with existing and planned roadway geometries and controls. As part of the traffic data collected during March 2016, weekday peak hour directional movements were tabulated at the key at-grade access and/or at-grade crossing locations (listed on Table 4.16-2 below) for vehicles, bicyclists, LSEVs and pedestrians. The following peak periods are evaluated based on the review of peak season hourly conditions observed in a sampling of available 24-hour traffic counts:

- Weekday Morning/Midday (peak hour between 11:30 AM and 1:30 PM)
- Weekday Evening (peak hour between 4:00 PM and 6:00 PM)

Table 4.16-2, below, identifies each of these locations and provides information on intersection geometries, traffic control devices, and current AM and PM peak hour levels of service for vehicular traffic, including LSEVs. Also see Exhibits 5.2-A through 5.2-I of the CV Link Transportation Analysis in Appendix Q, which show the existing daily traffic and peak hour volumes on roadways in the vicinity of each CV Link segments.

The analysis of existing operating conditions for vehicular traffic at these locations indicates that all are operating at acceptable levels of service (LOS D or better). In fact, only one location (Gene Autry Trail at Via Escuela) operates at LOS D (PM peak hour), with all other operating at LOS A through C.

Existing Pedestrian and Bicycle Levels of Service

In addition to evaluating the operating conditions for vehicular traffic at potentially affected CV Link/Roadway intersections a Level of Service (LOS) analysis was also performed for bicycle, pedestrian, and LSEV users (discussed separately below). The RivTAM model also allows for the assessment of conditions for pedestrians and bicyclists, which was conducted at the same time (March 2016) that peak hour vehicular traffic conditions were measured and observed. For existing conditions, the LOS analysis indicates acceptable operations, although several of the intersections indicate a poor quality of service for bicyclists (LOS "D") during peak hours. Pedestrian LOS at signalized intersections evaluates conflicting motorized vehicle volumes and speeds, crosswalk length, and average pedestrian delay. Pedestrians are better served at intersections with lower motorized vehicle volumes and speeds, shorter crosswalk lengths, and lower delay.

Table 4.16-2 below describes operating conditions for pedestrians and bikers at each of the 33 intersections, including type of traffic control, delays experienced by each mode of travel, and AM and PM peak hour LOS for each. Currently, for these users at these locations intersections operate at LOS C or better with the exception of seven intersections where one or more legs operate at LOS D. The lower operating conditions and longer waits are generally associated with roadways with higher traffic volumes.

Bicycle LOS at signalized intersections is determined based on perceived separation from motorized vehicle traffic, motorized vehicle volumes, cross-street width, and presence and utilization of on-street parking. Bicycle LOS is improved with a reduction in each of these indicators. Pedestrian LOS at cross-street STOP-controlled intersections is based on average pedestrian control delay crossing the major street. Pedestrian LOS is improved via lower vehicle volumes, presence of a median, and provision of pedestrian crossing treatments that improve motorist yielding rates. The analysis is also consistent with the guidance set forth in the 2010 Highway Capacity Manual, which provides guidance on how to analyze pedestrian and bicycle levels of service for signalized and unsignalized intersections.[9]

[9] 2010 Highway Capacity Manual, prepared by the Transportation Research Board of the National Academy of Science. 2010. Methodologies and guidance are provided to calculate levels of service for pedestrians and bicyclists at signalized and stop-controlled intersections.

Table 4.16-2
Vehicle Level Of Service Analysis For Existing Conditions (2016)

#	Intersection	Traffic Control[4]	Intersection Approach Lanes[1]												AUTO/LSEV[2,3]			
			Northbound			Southbound			Eastbound			Westbound			Delay (Secs)		Level of Service	
			L	T	R	L	T	R	L	T	R	L	T	R	AM	PM	AM	PM
1	Palm Cyn. Dr. (SR-111) / San Rafael Dr.	TS	1	2	1	1	2	1	1	1	1	0.5	1.5	0	10.8	10.1	B	B
2	Indian Cyn. Dr. / Sunrise Pkwy.	CSS	0	2	0	0	2	0	0	0	0	0	1!	0	12.3	11.1	B	B
3	Sunrise Pkwy. / San Rafael Dr.	TS	1	2	0	1	2	0	0.5	0.5	1	0	1!	0	11.9	11.8	B	B
4	Gene Autry Tr. / Via Escuela	TS	1	2	1	1	2	1	0.5	0.5	1	0.5	0.5	1	14.4	50.6	B	D
5	Clubhouse View / Vista Chino	TS	1	0	d	0	0	0	1	2	1	1	2	0	11.1	16.2	B	B
6	Sunrise Wy. / N. Riverside Dr.	CSS	1	2	0	0	2	0	0	1!	0	0	0	0	13.1	13.1	B	B
7	Sunrise Wy. / Mesquite Av.	TS	1	2	0	1	2	d	1	1	0	1	1	1	12.8	10.9	B	B
8	Farrel Dr. / Mesquite Av.	TS	1	2	0	1	2	0	1	2	0	1	2	0	13.5	12.0	B	B
9	El Cielo Rd. / Mesquite Av.	AWS	0	1	d	1	1	0	0	0	0	1	0	1	10.0	10.5	A	B
10	Crossley Rd. / 34th Av.	CSS	1	2	d	1	2	d	0	1!	0	0	1!	0	12.9	11.5	B	B
11	Golf Club Dr. / Tahquitz Creek	Y	0	2	0	0	2	0	0	0	0	0	0	0	-	-	-	-
12	Cathedral Cyn. Dr. / Officer David Vasquez Rd.	TS	0	2	0	1	2	0	0	0	0	2	0	1>	4.7	4.5	A	A
13	Date Palm Dr. / Perez Rd.	TS	1	2	0	0	2	1>	2	0	1	0	0	0	13.9	14.1	B	B
14	Da Vall Dr. / Frank Sinatra Dr.	TS	0	0	0	1	1!	0	1	2	0	1	2	1	16.4	25.4	B	C
15	SR-111 / Country Club Dr.	TS	1	3	0	2	3	0	1	1	0	1	0.5	1.5	9.1	8.4	A	A
16	SR-111 / Thunderbird Rd.	TS	1	3	0	1	3	1	0.5	0.5	d	0	1!	0	3.1	3.0	A	A
17	SR-111 / Paxton Dr.	TS	1	3	0	1	3	0	0	0	0	1	0	1	2.5	1.9	A	A
18	San Jacinto Dr. / Rancho Las Palmas	AWS	0.5	0.5	1	0	1!	0	1	2	0	1	2	0	9.9	9.9	A	A
19	Bob Hope Dr. / Rancho Las Palmas	TS	1	2	1	1	2	1	1	1	1	0.5	0.5	d	9.5	10.0	A	A
20	Bob Hope Dr. / Avenida Las Palmas	TS	1	2	1	1	2	1	0.5	0.5	1	0.5	0.5	1	17.1	13.7	B	B
21	Bob Hope Dr. / Commercial Dwy.	CSS	0	2	1	0	2	0	0	0	0	0	0	1	10.6	10.4	B	B
22	SR-111 / Bob Hope Dr.	TS	1	3	1	2	3	0	0	1!	0	2	1!	0	15.5	15.0	B	B
23	SR-111 / Magnesia Falls Dr.	TS	1	3	0	1	3	0	0.5	0.5	1	1.5	0.5	1	9.9	7.6	A	A
24	Monterey Av. / Park View Dr.	TS	1	3	1	2	3	1	1	1	1	1	1	1	9.2	11.8	A	B
25	San Pablo Av. / Magnesia Falls Dr.	AWS	1	0	1	0	0	0	0	1	0	1	1	0	10.1	10.9	B	B
26	San Pablo Av. / Alumni Dr.	AWS	1	1	d	0.5	0.5	1	0.5	0.5	d	1	1	0	9.8	11.3	A	B
27	Portola Av. / Magnesia Falls Dr.	TS	1	2	1	1	2	0	1	1	1	1	1	1	20.0	29.3	B	C
28	El Dorado Dr. / Fred Waring Dr.	TS	1	1	1	1	1	1	1	3	1	1	3	1	19.9	22.8	B	C
29	Dune Palms Rd. / Corporate Ctr. Dr.	CSS	1	1	0	0	2	0	1	0	1	0	0	0	17.5	19.9	C	C

Table 4.16-2
Vehicle Level Of Service Analysis For Existing Conditions (2016)

#	Intersection	Traffic Control[4]	Intersection Approach Lanes[1]												AUTO/LSEV[2,3]			
			Northbound			Southbound			Eastbound			Westbound			Delay (Secs)		Level of Service	
			L	T	R	L	T	R	L	T	R	L	T	R	AM	PM	AM	PM
30	Monroe St., south of I-10 EB Ramps	-	0	1	0	0	1	0	0	0	0	0	0	0	-	-	-	-
31	Avenue 44, east of Palo Verde St. - Circle Dr.	-	0	0	0	0	0	0	0	1	0	0	1	0	-	-	-	-
32	Dillon Rd., west of SR-86S SB Ramps	-	0	1	0	0	1	0	0	0	0	0	0	0	-	-	-	-
33	Tyler St. - Magnolia / Avenue 50 - Tyler St.	AWS[5]	0.5	0.5	1	0	1!	0	0.5	0.5	1	0	1!	0	10.4	15.4	B	C

1 When a right turn is designated, the lane can either be striped or unstriped. To function as a right turn lane there must be sufficient width for right turning vehicles to travel outside the through lanes. L = Left; T = Through; R = Right; 1! = Shared Left-Through-Right turn lane; > = Right Turn Overlap; d = Defacto Right Turn Lane

2 Delay and level of service calculated using Syncrho 9 analysis software. BOLD = LOS does not meet the applicable jurisdictional requirements (i.e., unacceptable LOS).

3 Per the 2010 Highway Capacity Manual, overall average intersection delay and level of service are shown for intersections with a traffic signal or all-way stop control.

For intersections with cross street stop control, the delay and level of service for the worst individual movement (or movements sharing a single lane) are shown.

4 TS = Traffic Signal; CSS = Cross Street Stop; AWS = All-Way Stop; Y = Crosswalk Yield

5 Based on field observations, the intersection of Tyler St. - Magnolia / Avenue 50 - Tyler St. is stop controlled for the NB, SB, and EB approach. The WB approach is uncontrolled.

This type of traffic control setup is not supported in Synchro. Therefore, for the purpose of this report this intersection is evaluated as an all-way stop control.

Table 4.16-3
Pedestrian And Bicycle Analysis For Existing (2016) Conditions

#	Intersection	Traffic Control[4]	PEDESTRIAN[1,2]				BICYCLE[3]			
			Score/ Delay		Level of Service		Score		Level of Service	
			AM	PM	AM	PM	AM	PM	AM	PM
1	Palm Cyn. Dr. (SR-111) / San Rafael Dr.	TS								
	- Eastbound Approach		N/A	N/A	N/A	N/A	1.95	1.95	A	A
	- Westbound Approach		2.19	2.19	B	B	2.56	2.57	B	B
	- Northbound Approach		N/A	N/A	N/A	N/A	3.06	3.19	C	C
	- Southbound Approach		2.67	2.73	B	B	3.01	3.12	C	C
2	Indian Cyn. Dr. / Sunrise Pkwy.	CSS								
	- Northbound Approach		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	- Southbound Approach		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
3	Sunrise Pkwy. / San Rafael Dr.	TS								
	- Eastbound Approach		2.30	2.34	B	B	2.92	2.94	C	C
	- Westbound Approach		1.73	1.77	A	A	2.08	2.11	B	B
	- Northbound Approach		2.48	2.52	B	B	2.27	2.38	B	B
	- Southbound Approach		2.38	2.37	B	B	1.89	1.87	A	A
4	Gene Autry Tr. / Via Escuela	TS								
	- Eastbound Approach		2.02	2.10	B	B	2.88	3.12	C	C
	- Westbound Approach		1.95	1.95	A	A	2.96	2.99	C	C
	- Northbound Approach		2.74	2.79	B	C	2.94	3.22	C	C
	- Southbound Approach		2.89	2.99	C	C	2.95	2.93	C	C
5	Clubhouse View / Vista Chino	TS								
	- Eastbound Approach		N/A	N/A	N/A	N/A	3.48	3.92	C	D
	- Westbound Approach		N/A	N/A	N/A	N/A	2.21	2.30	B	B
	- Northbound Approach		1.98	1.97	A	A	1.50	1.48	A	A
6	Sunrise Wy. / N. Riverside Dr.	CSS								
	- Northbound Approach		6.20	6.20	B	B	N/A	N/A	N/A	N/A
7	Sunrise Wy. / Mesquite Av.	TS								
	- Eastbound Approach		2.11	2.07	B	B	2.61	2.52	B	B
	- Westbound Approach		2.36	2.35	B	B	2.89	2.86	C	C
	- Northbound Approach		2.65	2.62	B	B	2.99	2.95	C	C
	- Southbound Approach		2.72	2.67	B	B	1.46	1.39	A	A
8	Farrel Dr. / Mesquite Av.	TS								
	- Eastbound Approach		2.36	2.35	B	B	2.36	2.33	B	B
	- Westbound Approach		2.36	2.33	B	B	2.30	2.28	B	B
	- Northbound Approach		2.51	2.49	B	B	2.53	2.51	B	B
	- Southbound Approach		2.46	2.44	B	B	2.76	2.72	C	B
9	El Cielo Rd. / Mesquite Av.	AWS	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10	Crossley Rd. / 34th Av.	CSS								
	- Northbound Approach		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	- Southbound Approach		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
11	Golf Club Dr. / Tahquitz Creek	CSS								
	- Northbound Approach		16.40	16.40	C	C	N/A	N/A	N/A	N/A
	- Southbound Approach		16.40	16.40	C	C	N/A	N/A	N/A	N/A

Table 4.16-3
Pedestrian And Bicycle Analysis For Existing (2016) Conditions

#	Intersection	Traffic Control[4]	PEDESTRIAN[1,2]				BICYCLE[3]			
			Score/ Delay		Level of Service		Score		Level of Service	
			AM	PM	AM	PM	AM	PM	AM	PM
12	Cathedral Cyn. Dr. / Officer David Vasquez Rd.	TS								
	- Westbound Approach		2.15	2.15	B	B	2.68	2.67	B	B
	- Northbound Approach		N/A	N/A	N/A	N/A	1.54	1.59	A	A
	- Southbound Approach		2.51	2.54	B	B	1.58	1.64	A	A
13	Date Palm Dr. / Perez Rd.	TS								
	- Eastbound Approach		2.59	2.58	B	B	3.13	3.06	C	C
	- Northbound Approach		2.66	2.67	B	B	3.27	3.38	C	C
	- Southbound Approach		N/A	N/A	N/A	N/A	3.46	3.39	C	C
14	Da Vall Dr. / Frank Sinatra Dr.	TS								
	- Eastbound Approach		2.59	2.61	B	B	3.02	3.10	C	C
	- Westbound Approach		2.71	2.75	B	B	3.08	3.22	C	C
	- Southbound Approach		2.54	2.59	B	B	2.98	2.93	C	C
15	SR-111 / Country Club Dr.	TS								
	- Eastbound Approach		1.97	1.96	A	A	3.74	3.76	D	D
	- Westbound Approach		N/A	N/A	N/A	N/A	3.53	3.41	D	C
	- Northbound Approach		N/A	N/A	N/A	N/A	3.73	3.85	D	D
	- Southbound Approach		3.46	3.43	C	C	3.29	3.16	C	C
16	SR-111 / Thunderbird Rd.	TS								
	- Eastbound Approach		1.98	1.99	A	A	1.73	1.76	A	A
	- Westbound Approach		1.74	1.73	A	A	2.69	2.68	B	B
	- Northbound Approach		3.30	3.33	C	C	2.13	2.19	B	B
	- Southbound Approach		N/A	N/A	N/A	N/A	3.62	3.64	D	D
17	SR-111 / Paxton Dr.	TS								
	- Westbound Approach		1.98	1.96	A	A	2.90	2.86	C	C
	- Northbound Approach		3.35	3.33	C	C	2.96	3.06	C	C
	- Southbound Approach		N/A	N/A	N/A	N/A	3.69	3.54	D	D
18	San Jacinto Dr. / Rancho Las Palmas	AWS	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
19	Bob Hope Dr. / Rancho Las Palmas	TS								
	- Eastbound Approach		2.42	2.42	B	B	3.32	3.33	C	C
	- Westbound Approach		2.01	2.01	B	B	3.01	3.02	C	C
	- Northbound Approach		2.82	2.81	C	C	3.11	3.10	C	C
	- Southbound Approach		2.88	2.89	C	C	3.27	3.27	C	C
20	Bob Hope Dr. / Avenida Las Palmas	TS								
	- Eastbound Approach		2.06	2.05	B	B	3.13	3.13	C	C
	- Westbound Approach		2.02	2.00	B	A	3.01	2.98	C	C
	- Northbound Approach		2.81	2.78	C	C	3.08	3.04	C	C
	- Southbound Approach		2.81	2.79	C	C	3.11	3.05	C	C
21	Bob Hope Dr. / Commercial Dwy.	CSS								
	- Northbound Approach		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	- Southbound Approach		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
22	SR-111 / Bob Hope Dr.	TS								
	- Eastbound Approach		1.77	1.78	A	A	2.06	2.06	B	B
	- Westbound Approach		2.70	2.66	B	B	3.07	2.99	C	C
	- Northbound Approach		N/A	N/A	N/A	N/A	3.83	3.91	D	D
	- Southbound Approach		3.31	3.32	C	C	2.66	2.60	B	B

Table 4.16-3
Pedestrian And Bicycle Analysis For Existing (2016) Conditions

#	Intersection	Traffic Control[4]	PEDESTRIAN[1,2]				BICYCLE[3]			
			Score/ Delay		Level of Service		Score		Level of Service	
			AM	PM	AM	PM	AM	PM	AM	PM
23	SR-111 / Magnesia Falls Dr.	TS								
	- Eastbound Approach		2.02	2.00	B	A	3.05	3.00	C	C
	- Westbound Approach		2.37	2.35	B	B	3.31	3.25	C	C
	- Northbound Approach		N/A	N/A	N/A	N/A	3.66	3.63	D	D
	- Southbound Approach		3.58	3.65	D	D	2.57	2.73	B	B
24	Monterey Av. / Park View Dr.	TS								
	- Eastbound Approach		2.23	2.26	B	B	3.45	3.56	C	D
	- Westbound Approach		2.31	2.32	B	B	3.16	3.25	C	C
	- Northbound Approach		3.26	3.27	C	C	3.18	3.23	C	C
	- Southbound Approach		3.34	3.36	C	C	3.37	3.35	C	C
25	San Pablo Av. / Magnesia Falls Dr.	AWS	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
26	San Pablo Av. / Alumni Dr.	AWS	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
27	Portola Av. / Magnesia Falls Dr.	TS								
	- Eastbound Approach		2.28	2.31	B	B	3.24	3.37	C	C
	- Westbound Approach		2.23	2.22	B	B	2.86	2.85	C	C
	- Northbound Approach		2.85	2.88	C	C	3.20	3.22	C	C
	- Southbound Approach		N/A	N/A	N/A	N/A	3.10	3.18	C	C
28	El Dorado Dr. / Fred Waring Dr.	TS								
	- Eastbound Approach		3.20	3.30	C	C	3.28	3.56	C	D
	- Westbound Approach		3.16	3.28	C	C	2.65	2.66	B	B
	- Northbound Approach		2.39	2.41	B	B	3.37	3.45	C	C
	- Southbound Approach		2.33	2.33	B	B	2.96	2.95	C	C
29	Dune Palms Rd. / Corporate Ctr. Dr.	CSS								
	- Northbound Approach		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	- Southbound Approach		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
30	Monroe St., south of I-10 EB Ramps	-								
	- Northbound Approach		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	- Southbound Approach		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
31	Avenue 44, east of Palo Verde St. - Circle Dr.	-								
	- Eastbound Approach		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	- Westbound Approach		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
32	Dillon Rd., west of SR-86S SB Ramps	-								
	- Eastbound Approach		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	- Westbound Approach		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
33	Tyler St. / Avenue 50	AWS[5]	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

1 Delay and level of service calculated using Syncrho 9 analysis software. BOLD = LOS does not meet the applicable jurisdictional requirements (i.e., unacceptable LOS).

2 Per the 2010 Highway Capacity Manual, the pedestrian score and level of service for the pedestrians crossing each subject approach (i.e. "Eastbound" pedestrians are those crossing the Eastbound vehicular approach) are shown for signalized intersections. For cross-street stop controlled intersections, the pedestrian delay and level of service are shown for pedestrians crossing a traffic stream not controlled by a stop sign. It should be noted that pedestrian level of service measures at all-way stop controlled intersections are not evaluated since pedestrian LOS is defined for pedestrians crossing a traffic stream not controlled by a stop sign (Exhibit 8-2 of HCM2010)

3 Per the 2010 Highway Capacity Manual, the bicycle LOS score for the segment is used to estimate facility LOS. One score is needed for each direction of travel of interest for each segment on the facility for signalized intersections. For unsignalized intersections, bicycle level of service measures are not evaluated per Exhibit 8-2 of HCM2010.

4 TS = Traffic Signal; CSS = Cross Street Stop; AWS = All-Way Stop

5 Based on field observations, the intersection of Tyler St. - Magnolia / Avenue 50 - Tyler St. is stop controlled for the NB, SB, and EB approach. The WB approach is uncontrolled. This type of traffic control setup is not supported in Synchro. Therefore, for the purpose of this report this intersection is evaluated as an all-way stop control

Existing Transit Service

Transit services can greatly enhance the usefulness of and access to CV Link, extending and enhancing the multi-modal function of the Link. As noted in Section 3: Environmental Setting of this EIR, the SunLine Transit Agency provides public transit service throughout the Coachella Valley. SunLine has a service area of approximately 1,120 square miles. Its fifteen transit lines provide public bus service with a fleet of 70 fixed route buses and 33 paratransit vans throughout the Coachella Valley, seven days a week (excluding Thanksgiving and Christmas). SunLine Transit Agency buses are wheelchair accessible, and have convenient bicycle racks that can accommodate either two or three bicycles per bus. There are approximately 105 SunLine bus stops in proximity, both walking and bicycling distance, to CV Link alignments.

Sunline's overall ridership increased 3.2% in 2014, the most recent year for which data are available, and the increases on some of the fixed routes were even more significant. The following fixed routes experienced the largest increase:

- Route 14—DHS/Palm Springs increased 4.3%.
- Route 15—Spa City Loop in Desert Hot Springs increased 7.7%.
- Route 24—Palm Springs increased 4.7%.
- Route 53—Palm Desert/Rancho Mirage/Indian Wells increased 20.6%.
- Route 81—Indio increased 109.4%.
- Route 90—Coachella/Indio increased 7.1%.
- Route 32—Thousand Palms/Palm Springs/Cathedral City increased 11%.
- SunLine ADA Paratransit service ridership increased by 9.2%.

Also, please see Exhibits 5.5-A through 5.5-I of the CV Link Corridor Transportation Analysis, which is Appendix Q of this EIR and which depict the existing bus service routes and bus stops in the vicinity of each CV Link segment.

Low Speed Electric Vehicles (LSEVs)

For purposes of this analysis, LSEV users have been evaluated in combination with automobile volumes where the LSEVs operate similarly to automobiles. Where LSEVs operate more similarly to bicycle/pedestrian traffic, they are forecast to experience a similar LOS to bicycle users. Low-Speed Electric Vehicles (which include neighborhood electric vehicles, golf carts, trikes, long boards, mobility devices, etc.) (LSEVs) have become an increasingly important part of the multi-modal mix. NEVs can travel up to 25 mph and can travel on any public street in the general traffic lane as long as the speed limit is 35 mph or less. NEVs can travel on a public street with a speed limit of 40mph or greater if there is a separate lane or path provided. Several jurisdictions have included golf cart paths in their General Plan Circulation Elements and these and their respective existing and planned routes are shown on Exhibits 5.7-A through J of Appendix Q of this EIR.

The cities of Rancho Mirage, Palm Desert, La Quinta and Indio all have existing golf cart transportation plans and policies. Existing public pathways designated for golf cart use may present opportunities for conversion to shared-LSEV paths. However, many of these paths are constrained by geometries (widths and curve radii) more suited to the typical top speed of a golf cart (under 15 mph). Because LSEVs are capable of traveling up to 25 mph, the route planning may suggest upgrades to existing golf cart facilities, or the use of other routes. Existing golf cart networks are typically designed around golf courses as the primary destination. Because golf cart paths are designed for golf course access and circulation, they may not offer direct transportation connections to other destinations.

The City of Rancho Mirage adopted Ordinance No. 1099 in 2015, which prohibits "Low-Speed Vehicles and Neighborhood Electric Vehicles" on primarily arterial roadways that occur within the jurisdiction of the city. The ordinance does not prohibit the operation of golf carts that are not operated pursuant to California Vehicle Code

Section 21115 or 21115.1. The Rancho Mirage ordinance also specifies that development of future low-speed or neighborhood electric vehicle plans, including CV Link and similar plans, will first require approval by ordinance.[10]

Existing and Proposed Bicycle Facilities

Jurisdictions in the Coachella Valley have constructed a variety of multi-modal pathways, including golf cart, bikeway and pedestrian facilities. In 2008, CVAG and the Southern California Association of Governments created a bikeway map in Geographic Information Systems (GIS) format that is updated as projects are built and plans are changed. This information was updated and utilized in the 2010 CVAG Non-Motorized Transportation Plan Update and the recently adopted CVAG Active Transportation Plan, which updated and supersedes the Non-Motorized Transportation Plan. Exhibits 5.6-A through 5.6-I of Appendix Q of this EIR present the existing and proposed bicycle and recreation trail facilities included in CVAG's 2016 Active Transportation Plan (ATP).

Pedestrian and Bicycle Collisions

Pedestrian and bicyclist injuries and fatalities have been one of the greatest concerns in efforts to expand the use of alternative modes of travel. Pedestrians comprise about 10.9% of all trips but 14% of all traffic fatalities[11]. Police descriptions of many of the reported crashes within the CV Link planning area indicate that wrong-way bicycling, distracted driving and "looked but failed to see" bicyclists are common issues or behaviors that have contributed to these collisions. An assessment of bicycle-involved collisions was conducted for the years 2010 through 2013 as a part of the CVAG Active Transportation Plan.[12] This analysis shows that during this period, the Cities of Indian Wells, Palm Desert and Palm Springs had bicycle collision rates higher than the state average. All Coachella Valley cities and the County have bicycle safety education programs in place, with the exception of the cities of Indian Wells and Rancho Mirage.[13] Table 4.16-4 below sets forth pedestrian/bike collisions with motor vehicles in the CV Link planning area between 2005 and 2012, the most recent year for which information is available.

Table 4.16-4
Existing Bicycle/Pedestrian/Auto Collision Data
(2005-2012)

City	Total Collisions	Percent Within Radius of CV Link Core Route (Miles)			
		0.25	0.50	0.75	1.00
Cathedral City	148	10%	34%	60%	72%
Coachella	98	2%	5%	22%	46%
Desert Hot Springs	52	0%	0%	0%	0%
Indian Wells	29	55%	73%	82%	100%
Indio	148	7%	22%	42%	59%
La Quinta	103	19%	26%	32%	42%
Palm Desert	138	17%	33%	50%	64%
Palm Springs	144	11%	33%	57%	70%
Rancho Mirage	67	45%	50%	57%	71%

Source: CV Link Conceptual Master Plan, January 2016.
Note: Collisions occurring in unincorporated Riverside County are include in Indio and Coachella numbers.

10 Ordinance No. 1099 of the City of Rancho Mirage. Adopted November 5, 2015.
11 "Annual Deaths Attributable to Obesity in the United States", Allison, David B., Kevin R. Fontaine, JoAnn E. Manson, June Stevens, Theodore B. VanItallie, and Ali H. Mokdad. JAMA. 1999; 282:1530-1538. Vol. 293 No. 3, January 19, 2005.
12 Op. cit. Coachella Valley Association of Governments. 2016.
13 Ibid.

There is a dearth of information or reliable statistics regarding the incidence of collisions between pedestrians and bicyclists; however, available data does indicate that while the numbers appear to be low this is an appropriate area of concern. As an example, in New York City between 1996 and 2005, 11 pedestrians died after a collision with a bicyclist, while between 2006 and 2013 there were only three pedestrian/bicyclist collision deaths. Even though New Yorkers are almost four times more likely to walk or bike to work than commuters elsewhere in the U.S., there were 2.8 cyclist fatalities per 1 million residents in New York's five boroughs, compared with 2.7 per million nationally, according to the report.[14] [15] The design standards and specifics of CV Link take into account the potential conflicts between pedestrian, bicycles and autos. In fact, one of the principle goals of the CV Link project is to provide safer facilities for all multi-modal users.

Airports

Palm Springs International Airport

The Palm Springs International Airport is the largest of the Valley's three airports and is the primary air transportation link for the Coachella Valley. The airport is located approximately one-half mile east of the subject property and is classified in the National Plan of Integrated Airport Systems (NPIAS) as a long-haul commercial service airport. It is capable of supporting non-stop commercial service to destinations over 1,500 miles distant, and is classified as a small hub air passenger airport based upon the percentage of national airline enplanements it supports. It also handles air freight and provides heliport access that is largely limited to medical evacuation flights between the Desert Regional Medical Center and Eisenhower Medical center heliports and the Palm Springs International Airport.

Since 1972, the airport has increased service from 143,809 passenger enplanements to 486,644 in 1994, with an average annual growth of about 5.5 percent. Major destination cities include San Francisco, Chicago, Seattle and New York. Commercial traffic is clearly seasonal, with the peak season being the January-February-March period and the slowest period occurring during the summer months. Commercial operations reached a total of 772,206 passenger enplanements in 2008 and slipped with the recession to 739,749 passenger enplanements in 2009, a year-to-year decrease of 4.24 percent.[16] By 2013, enplanements had rebounded strongly to 860,124[17]. Airport enplanements were projected to have reached approximately 809,256 by the year 2015.[18]

Jacqueline Cochran Regional Airport

The Jacqueline Cochran Regional Airport (aka Thermal Airport) is located immediately east of southern terminus of CV Link, on the east side of Harrison Street, between Avenue 56 (Airport Boulevard) and Avenue 62. Annual aircraft operations (flights) at Jacqueline Cochran Regional Airport were estimated at 65,000 operations in 2002, none of which were of a commercial nature. The airport's master plan projects this activity to reach some 110,000 operations by 2022 and to continue to grow along with the urbanization of the Coachella Valley. While commercial passenger services are anticipated in the future there is no projected date when these might be offered.

Bermuda Dunes Airport

Bermuda Dunes Airport is a General Aviation Airport located on 100± acres adjacent and parallel to the Union Pacific Railroad/ I-10 corridor, approximately 1.75 miles northeast of the Link's closest approach at Indio Boulevard. The airport is bounded on the north by Country Club Drive, on the south by Avenue 42, on the west by Adams Street and on the east by Jefferson Street. A total of approximately 25,332 operations (flights) occur each year at this airport, of which about 6.6% are business jets. The expansion of facilities at this airport is essentially precluded by surrounding development. Annual maximum capacity is estimated at 75,000 operations per year.

14 Bloomberg On-Line, September 23, 2014.
15 Bicyclist Fatalities and Serious Injuries in New York City 1996-2005, NYC Joint Departments Report.
16 ACAIS CY09: Preliminary CY09 Enplanements at Commercial Service Airports. June 29, 2010.
17 Federal Aviation Administration "List of Commercial Service Airports based on CY2013 Enplanements". June 2014.
18 "Palm Springs Regional Airport Master Plan and Part 150 Noise Compatibility Study", prepared by Coffman Associates. 1994.

Railway Facilities

The Coachella Valley is served by the Union Pacific Railroad (UPRR), which enters the Valley from the west through the San Gorgonio Pass, generally parallels I-10 through the Valley center, and then parallels Highway 111 from Indio to the east shore of the Salton Sea, where it then continues southeast towards Yuma. The UPRR is a major transcontinental railway carrying extensive freight operations as well as Amtrak passenger trains. This facility carries an average of between 40 and 50 trains per day. Most rail activity is freight traffic operated by UPRR, although Amtrak provides passenger service along the same tracks to Palm Springs and Indio. In recent years, UPRR added a full second track, parallel to the initial lines and is anticipating a 50% to 75% long-term increase in regional rail traffic. Although one CV Link segment passes under the UPRR bridge in Indio, neither project construction nor operations are anticipated to be affected by nor affect the operation of these railroad lines and facilities.

4.16.5. Project Impacts

Introduction

The analysis of CV Link project impacts on the local and regional transportation network takes at least two forms. First, the analysis evaluates the travel demand by mode choice (auto, walking, bicycling, etc.) and evaluates the current and long-term (2040) demand for the CV Link facility. The analysis also evaluates the effects of the CV Link project and facilities on the existing transportation network, especially at at-grade crossings and where CV Link facilities share the road right of way, including impacts associated with project construction. To assess these potential impacts, 33 CV Link/roadway interface locations were identified and analyzed.

The following discusses the CV Link project in the context of applicable thresholds of significance. The responses to these threshold questions are based in part upon the CV Link Conceptual Master Plan and CV Link Corridor Transportation Analysis, both of which are included in the EIR appendices. It is also based upon the project description, assessments of existing conditions and the above analysis of potential impacts. In this regard, will the Proposed Project:

a) *Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit.*

Background

Future travel demand estimates were developed for the project using the subregional Riverside Transportation Analysis Model (RivTAM) tool, which incorporates updated (2016) socio-economic data. The analysis also evaluates trip distribution, mode split (car, bike, walking, LSEV), time of day and traffic assignments. The RivTAM Model is based on the Southern California Association of Governments (SCAG) Regional Transportation Analysis Model, and is a sub-set of this model. The CVAG RivTAM Model is a sub-set of the county model and was updated in 2016 with new socio-economic, demographic and GIS land use data for the Coachella Valley.

The mode choice analysis process is identical to that used for the Southern California Association of Governments (SCAG), but with greater detail and resulting in greater accuracy in calculating travel distances, and times. Various sub-modes (for instance, walk or bike access to transit) are not considered in this analysis. Thus, the results reported herein are inherently conservative in terms of the actual demand for walking and biking. The model parameters indicate that both the bicycle and walk modes of transport analysis are based on the input variable of trip distance; that is, how far the user wishes to travel. The trip generation and distance have been

determined by the model based on the distribution of land uses in proximity to CV Link facilities, which establish the origins and destinations for trips generated within the vicinity of a CV Link alignment. In addition to the distance variable, a constant coefficient is also used in the mode choice model. The mode choice procedure is discussed in detail in Section 6.2 of the CV Link Corridor Transportation Analysis (see Appendix Q).

CV Link Demand Estimates

The above described modal split analysis gauges pedestrian, bicycle and LSEV demand on the CV Link facility based on a trip purpose basis for the 2016 socio-economic data and modeling for the year 2040. Demand estimates have also been extracted for home-based shopping trips, other-based other trips, and work-based other trips). The analysis provides a demand estimate for each CV Link segment based on a combination of all these purpose types.

Furthermore, demand for CV Link has been estimated by assuming that a portion of travel between cities for bicyclists, pedestrians, and LSEV users would find CV Link desirable. A smaller portion of travel within an individual city has also been allocated to CV Link demand. These demand estimates vary depending on the CV Link alignment, nearby land uses, and other considerations. The RivTAM model indicates that the percentage of pedestrians utilizing CV Link is generally lower than the percentage of bicycles using CV Link. LSEV demand has been estimated based upon bicycle and pedestrian demand, and varies similarly to the variation in bicycle demand estimates. More detailed breakdowns for individual purposes are included in Appendix 6 of the project transportation analysis.

Tables 6.3-1 through 6.3-9 in Section 6.3 of the CV Link Corridor Transportation Analysis (see Appendix Q) provides a detailed breakdown of the demand by mode and assigns trips as intra-area and as inter-area, that is trips that begin and end within the same area as compared to trips that begin in one area and end in another area. The trip generation and distribution estimates are for the entire length of the corridor and provide data for the peak and off-peak periods of the day. Traffic analysis areas are generally described on a jurisdictional basis. Some areas of the corridor interact more with surrounding areas than do others, depending on surrounding land use.

Table 4.16-5
CV Link Annual Corridor Demand
Proposed Project 2040

Month	Bike	LSEV	Ped
January	136,633	90,303	124,093
February	123,410	81,564	112,084
March	136,633	90,303	124,093
April	112,391	83,021	96,072
May	102,474	81,273	86,865
June	85,946	74,282	60,045
July	68,316	72,242	43,433
August	68,316	72,242	43,433
September	85,946	74,282	60,045
October	102,474	81,273	86,865
November	112,391	83,021	96,072
December	129,801	85,788	111,684
Annualized Yearly Trips	**1,264,731**	**969,594**	**1,044,784**

As discussed above, the RivTAM Model provides a means by which multi-modal trips, that might otherwise be taken using an auto, can be estimated. It should be noted that the RivTAM model and the analysis account for the effect of a gap (Rancho Mirage) in the CV Link facility, which also affects the degree of interaction between jurisdictions and the number and direction of multi-modal trips. The model analysis also evaluated the degree of interaction (intra-area and inter-area trips) between users in different areas along the CV Link route. The following briefly describes how the various CV Link analysis areas are projected to capture users, including pedestrians, bicyclists and LSEVs.

Palm Springs North

Trips originating in the Palm Springs North area include those trips contained within the area (intratrips), trips traveling to another CV Link analysis area (such as Palm Springs Central, Cathedral City, etc.), and trips that interact with County areas. Daily demand for the Palm Springs North segment in 2040 is anticipated to be approximately 1,275 trips, of which 672 are in the AM and PM peak periods and 603 are in the off-peak periods. The Palm Springs North segment trips primarily interact internally or on an intra-area basis, with a high proportion of interactions to and from Palm Springs Central and Cathedral City.

Palm Springs Central

The 2040 corridor demand estimate for Palm Springs Central potential for CV Link indicates AM and PM peak periods to be approximately 983 trips, with an additional 959 demand in the off-peak periods. Total daily corridor demand for the Palm Springs Central segment is 1,942 trips. In addition to intratrips, the Palm Springs Central segment trips experience a high proportion of interactions to and from Palm Springs North and Cathedral City.

Cathedral City

In addition to the corridor demand for intratrips (trips contained fully within Cathedral City), and trips traveling to another CV Link analysis area or County area, there are pass-through trips, which start on one side (either west or east) of Cathedral City and end on the other. For example, a trip that starts within Palm Springs Central and ends within Rancho Mirage would be a “pass through trip” for Cathedral City. Total daily demand for the Cathedral City segment is anticipated to be approximately 2,125 trips, of which 1,139 are in the AM and PM peak periods and 986 are in the off-peak periods. The Cathedral City segment trips primarily interact internally, with a high proportion of interactions to and from Palm Springs Central, Rancho Mirage, Palm Springs North, and Palm Desert.

Rancho Mirage

As noted in Section 2 and elsewhere, the Rancho Mirage alignments of CV Link are not a part of the Proposed Project, but are analyzed in Alternative 2 (see Section 5 of this EIR for the analysis of project alternatives). While the Proposed Project does not include CV Link alignments within the city, the construction of the Link and projected conditions in 2040 indicate that travel demand will nonetheless come from this jurisdiction. Under the Proposed Project, CV Link terminates near the city boundary on the east and west sides of the Rancho Mirage. Though NEVs are prohibited in Rancho Mirage, other types of LSEVs are allowed. Demand for the Rancho Mirage segment for the Proposed Project in the AM and PM peak periods is anticipated to be approximately 617 trips, with an additional 576 demand in the off-peak periods. Total daily corridor demand for the Rancho Mirage segment is 1,193 trips. In addition to intratrips, the Rancho Mirage segment trips experience a high proportion of trips to and from Palm Desert and Cathedral City.

Palm Desert

Daily demand in 2040 for the Palm Desert segment is anticipated to be approximately 2,168 trips, of which 1,123 will be in the AM and PM peak periods and 1,045 are in the off-peak periods. The Palm Desert segment trips primarily interact internally, with a high proportion of trips to and from Rancho Mirage, Cathedral City, Indian Wells, La Quinta and Indio.

Indian Wells
By the year 2040, the demand for the Indian Wells segment in the AM and PM peak periods is anticipated to be approximately 727 trips, with an additional 636 demand in the off-peak periods. Total daily corridor demand for the Indian Wells segment 1,363 trips. In addition to intratrips, the Indian Wells segment trips experience a high proportion of interactions to and from Palm Desert.

La Quinta
Daily demand in 2040 for the La Quinta segment is anticipated to be approximately 2,077 trips, of which 1,110 will be in the AM and PM peak periods and 967 in the off-peak periods. The La Quinta segment trips primarily interact internally, with a high proportion of interactions to and from Indio, Palm Desert, and Indian Wells.

Indio
By 2040, demand for the Indio segment in the AM and PM peak periods is anticipated to be approximately 1,483 trips, with an additional 1,238 demand in the off-peak periods. Total daily corridor demand for the Indio segment would be 2,721 trips. In addition to intratrips, the Indio segment trips experience a high proportion of interactions to and from Coachella, La Quinta, and Palm Desert.

Coachella
Daily demand for the Coachella segment in 2040 is anticipated to be approximately 2,361 trips, of which 1,278 are in the AM and PM peak periods and 1,083 are in the off-peak periods. The Coachella segment trips primarily interact internally, with a high proportion of interactions to and from Indio.

Estimated Vehicle Trip Reductions

As discussed above, the RivTAM Model provides a means by which multi-modal trips that might otherwise be taken using an auto, can be estimated. The following briefly quantifies multi-modal users by type and also quantifies the avoided motor vehicle miles that would otherwise be traveled without CV Link.

Table 4.16-6
CV Link Annual Trips and Vehicle Miles Avoided
(Proposed Project - Based on CV Link Use in 2040)

Pedestrian Trips	
Annual Pedestrian Trips	1,044,784
Reduced Motor Vehicle Trips	365,674
Reduced Motor Vehicle Miles	689,053
Bicycle Trips	
Annual Bicycle Trips	1,264,731
Reduced Motor Vehicle Trips	632,366
Reduced Motor Vehicle Miles	3,480,273
LSEV Trips	
Annual LSEV Trips	969,594
Reduced Motor Vehicle Trips	678,716
Reduced Motor Vehicle Miles	3,241,667
Total Trips	
Annual Trips	3,279,109
Reduced Motor Vehicle Trips	1,676,756
Reduced Motor Vehicle Miles	7,410,993

CV Link 2040 Daily Miles Traveled

In addition to calculating the number of non-automobile, multi-modal trips CV Link would carry in 2040, an approximation has also been made of the average miles per trip mode and defined for each travel activity or combination thereof (to work, school, recreation, etc.) along the CV Link corridor. This approximate trip length is dependent upon the segment length, the mode used, and the trip starting and ending points. The estimated 2040 daily miles traveled to approximate VMT (and auto conversion values) have been developed.

The model's traffic demand data has also been evaluated to provide a summary of CV Link miles traveled on the core route by bicyclists, LSEVs, and pedestrians. The planning area was divided into ten "districts" that are largely tied to city boundaries, with the exception of Palm Springs, which is divided into two districts. The calculations take into consideration the variable distances on each segment of the corridor that are related to intra-district and inter-district travel activities, which vary by bicycle travelers, LSEV users, and pedestrians. An estimate of CV Link desirability was also developed based upon known trends in seasonal variations in population and employment in the Coachella Valley, as were climate and weather patterns, which served to weight the demand projections. Table 6.4-1 in Appendix Q contains the results of this analysis. As shown on Table 4.16-7 below, the average trip lengths for the Proposed Project range from 1.88 miles for pedestrian trips to 5.50 miles for bicycle trips with an average of 4.78 miles for LSEV trips.

Table 4.16-7
CV Link 2040 Daily Miles Traveled

Corridor (Proposed Project)	Bike	LSEV	Walk	All trips
Intra District Trips	2,093	1,736	2,876	6,705
Inter District Trips	2,315	1,177	1,127	4,619
Daily Trips	4,408	2,913	4,003	11,324
Daily Miles Traveled	24,257	13,913	7,543	45,713
Average Miles Traveled Per Trip	**5.50**	**4.78**	**1.88**	**4.04**

CV Link Corridor Traffic and Access Analysis

The following describes the potential CV Link impacts on the broader transportation network, including access points and locations where CV Link interfaces with streets at at-grade crossings. For each key corridor access location, the RivTAM traffic forecast volumes were extracted. These raw model volumes were then refined via a review of current (2016) conditions, known nearby projects and regional trends, and the relationship of the peak hour to daily conditions. Forecasts for the key corridor access locations have been developed for general vehicle traffic (automobiles, trucks, motorcycles, etc.), bicycle and pedestrian activity, and LSEV usage. As a part of this analysis, vehicular traffic volumes were calculated for 2040; Table 4.16-8 below presents these data for each of the project roadway intersections.

An overall summary of intersection operations for vehicles at study area intersections in 2040 is included in Tables 4.16-9 and 4.16-10 for the proposed CV Link project. For most locations, intersection analysis is presented without improvements and with Project improvements. In some cases, General Plan improvements and/or additional improvements (such as Traffic Signal Modification), which are already programmed for construction, are also shown. The analysis determined that with project design features set forth in the CV Link master planning documents, all study area intersections are projected to experience acceptable operations. Appendix 7 of the project transportation analysis (see Appendix Q) provides the signal warrant worksheets for proposed new traffic controls.

Also as a part of this analysis, Level of Service (LOS) analysis has also been performed for bicycle, pedestrian, and LSEV users at study area intersections for year 2040. In this regard, LSEV users have been evaluated combined with automobile volumes where the LSEVs operate similarly to other vehicles (for example, they are included within the signal phasing). Where LSEVs operate more similarly to bicycle/pedestrian traffic, they are forecast to experience a similar LOS to bicycle users.

An LOS analysis for bicycle and pedestrians was also prepared for the Proposed Project for the year 2040 and the results are shown on Table 4.16-10, below. The result is that with project design features and related improvements, as well as intersection improvements already programmed by the local jurisdictions, the study area intersections are projected to experience acceptable operations for the Proposed Project.

Table 4.16-8
Future 2040 Average Daily Traffic (ADT) Volume Summary

Intersection #	Intersection				
		North Leg	South Leg	East Leg	West Leg
1	Palm Cyn. Dr. (SR-111) / San Rafael Dr.	30,520	29,040	5,900	14,020
2	Indian Cyn. Dr. / Sunrise Pkwy.	32,390	31,860	13,380	9,300
3	Sunrise Pkwy. / San Rafael Dr.	18,860	25,150	3,350	10,140
4	Gene Autry Tr. / Via Escuela	40,730	34,270	8,810	13,990
5	Clubhouse View / Vista Chino	0	1,330	31,540	31,540
6	Sunrise Wy. / N. Riverside Dr.	25,930	24,490	0	3,240
7	Sunrise Wy. / Mesquite Av.	24,490	21,040	6,770	5,470
8	Farrell Dr. / Mesquite Av.	11,660	12,990	8,700	6,920
9	El Cielo Rd. / Mesquite Av.	9,900	10,600	11,330	0
10	Crossley Rd. / 34th Av.	8,340	8,370	2,520	1,290
11	Golf Club Dr. / Tahquitz Creek	7,960	7,960	0	0
12	Cathedral Cyn. Dr. / Officer David Vasquez Rd.	18,280	17,250	5,010	0
13	Date Palm Dr. / Perez Rd.	37,720	27,500	0	15,810
14	Da Vall Dr. / Frank Sinatra Dr.	10,800	0	22,560	15,010
15	SR-111 / Country Club Dr.	46,260	36,600	14,350	11,420
16	SR-111 / Thunderbird Rd.	36,580	36,130	1,120	3,000
17	SR-111 / Paxton Dr.	37,630	37,630	4,980	0
18	San Jacinto Dr. / Rancho Las Palmas	4,580	3,500	8,360	7,130
19	Bob Hope Dr. / Rancho Las Palmas	31,060	31,060	2,530	8,360
20	Bob Hope Dr. / Avenida Las Palmas	31,060	31,060	5,000	5,060
21	Bob Hope Dr. / Commercial Dwy.	31,060	31,060	1,000	0
22	SR-111 / Bob Hope Dr.	49,290	61,270	31,060	800
23	SR-111 / Magnesia Falls Dr.	61,270	56,440	31,440	2,830
24	Monterey Av. / Park View Dr.	39,410	34,470	1,980	8,060
25	San Pablo Av. / Magnesia Falls Dr.	0	8,340	8,900	7,120
26	San Pablo Av. / Alumni Dr.	8,300	8,520	3,170	1,950
27	Portola Av. / Magnesia Falls Dr.	30,680	29,920	5,420	8,870
28	El Dorado Dr. / Fred Waring Dr.	1,930	5,670	44,770	42,590
29	Dune Palms Rd. / Corporate Ctr. Dr.	16,310	16,310	0	2,280
30	Monroe St., south of I-10 EB Ramps	24,620	24,620	0	0
31	Avenue 44, east of Palo Verde St. - Circle Dr.	0	0	10,470	10,470
32	Dillon Rd., west of SR-86S SB Ramps	0	0	54,240	54,240
33	Tyler St. - Magnolia / Avenue 50 - Tyler St.	80	11,380	39,780	38,420

Table 4.16-9
Intersection Analysis for 2040
Auto/LSEV Conditions

Jurisdiction	ID #	Intersection	Traffic Control[4]	Intersection Approach Lanes[1]												Proposed Project[2,3]			
				NB			SB			EB			WB			Delay (Secs)		Level of Service	
				L	T	R	L	T	R	L	T	R	L	T	R	AM	PM	AM	PM
Palm Springs North	1	Palm Cyn. Dr. (SR-111) / San Rafael Dr.																	
		- Without Improvements	TS	1	2	1	1	2	1	1	1	1	0.5	1.5	0	16.6	37.1	B	D
		- With Project Improvements *(Class I Bike Lane on Palm Cyn. Dr. and modified crosswalk on the north leg of Palm Cyn. Dr.)*	TS	1	2	1	1	2	1	1	1	1	0.5	1.5	0	16.6	37.1	B	D
	2	Indian Cyn. Dr. / Sunrise Pkwy.																	
		- Without Improvements	CSS	0	2	0	0	2	0	0	1!	0	0	1!	0	**>80**	**>80**	**F**	**F**
		- With Project, Other Cross-Street Improvements, and General Plan Improvements[6] *(New Traffic Signal, Class 1 Bike Lane on the north side of Sunrise Pkwy., and marked crosswalk on the north leg of Indian Cyn. Dr.)*	**TS**	**1**	**3**	0	**1**	2	0	**1**	**2**	0	**1**	**2**	**1>**	29.9	54.0	C	D
	3	Sunrise Pkwy. / San Rafael Dr.																	
		- Without Improvements	TS	1	2	0	1	2	0	0.5	0.5	1	0	1!	0	19.3	34.0	B	C
		- With Project Improvements *(Class II Bike Lane on Sunrise Pkwy., Class III Bike Lane on San Rafael Rd., and modified crosswalks)*	TS	1	2	0	1	2	0	0.5	0.5	1	0	1!	0	19.3	36.6	B	D
	4	Gene Autry Tr. / Via Escuela																	
		- Without Improvements	TS	1	2	1	1	2	1	0.5	0.5	1	0.5	0.5	1	38.3	**>80**	D	**F**
		- With Project Improvements *(Class I Bike Lane on Gene Autry Tr., north of Via Escuela, Class I Bike Lane on Via Escuela, east of Gene Autry Tr., modified north leg crosswalk, and traffic signal modification - EB/WB approach from permitted to split phase)*	TS	1	2	1	1	2	1	0.5	0.5	1	0.5	0.5	1	23.3	38.4	C	D
	5	Clubhouse View / Vista Chino																	
		- Without Improvements	TS	1	0	d	0	0	0	1	2	1	1	2	0	13.0	36.5	B	D
		- With Project Improvements *(Class I Bike lane on the east side of Clubhouse View and extending north of Vista Chino, modified traffic signal to include a separate phase for the NBT/SBT movement serving the Class I Bike Lane, and new east leg crosswalk)*	TS	1	0	d	0	***1***	0	1	2	1	1	2	0	12.9	36.5	B	D

Table 4.16-9
Intersection Analysis for 2040
Auto/LSEV Conditions

Jurisdiction	ID #	Intersection	Traffic Control[4]	Intersection Approach Lanes[1]												Proposed Project[2,3]			
				NB			SB			EB			WB			Delay (Secs)		Level of Service	
				L	T	R	L	T	R	L	T	R	L	T	R	AM	PM	AM	PM
Palm Springs Central	6	Sunrise Wy. / N. Riverside Dr.																	
		- Without Improvements	CSS	1	2	0	0	2	0	0	1!	0	0	0	0	**>80**	**56.6**	**F**	**F**
		- With Project Improvements *(New Traffic Signal, Class I Bike Lane undercrossing, and marked crosswalk on the south leg of Sunrise Wy.)*	**TS**	1	2	0	0	2	0	0	1!	0	0	***1***	0	9.6	13.8	A	B
	7	Sunrise Wy. / Mesquite Av.	-																
		- Without Improvements	TS	1	2	0	1	2	d	1	1	0	1	1	1	14.3	17.7	B	B
		- With Project Improvements *(Class II Bike Lane on Mesquite Av. and modified east leg crosswalk. It should be noted that Improved delay is due to the project improvement at Sunrise Wy./N. Riverside Dr.)*	TS	1	2	0	1	2	d	1	1	0	1	1	1	11.0	14.1	B	B
	8	Farrell Dr. / Mesquite Av.																	
		- Without Improvements	TS	1	2	0	1	2	0	1	2	0	1	2	0	18.7	21.3	B	C
		- With Project Improvements *(Class II Bike Lane on Mesquite Av. and modified lane configuration for the EB/WB approach)*	TS	1	2	0	1	2	0	1	**1**	1	1	**1**	1	17.6	20.8	B	C
PalmSprings Central	9	El Cielo Rd. / Mesquite Av.																	
		- Without Improvements	AWS	0	1	d	1	1	0	0	0	0	1	0	1	10.7	34.1	B	D
		- With Project Improvements *(Class IV Bike Lane on Mesquite Av., modified south leg crosswalk, and modified lane widths on Mesquite Av.)*	AWS	0	1	d	1	1	0	0	0	0	1	0	1	10.7	34.1	B	D
	10	Crossley Rd. / 34th Av.																	
		- Without Improvements	CSS	1	2	d	1	2	d	0	1!	0	0	1!	0	18.0	24.7	C	C
		- With Project Improvements *(New Traffic Signal, marked crosswalks (including diagonal paths), Class I Bike Lane on the south side of 34th Av.)*	**TS**	1	2	d	1	2	d	0	1!	0	0	1!	0	18.4	17.5	B	B
	11	Golf Club Dr. / Tahquitz Creek	-																
		- Without Improvements	Y	0	2	0	0	2	0	0	0	0	0	0	0	15.7	22.8	C	C
		- With Project Improvements *(Install Push Button Cross Walk Lights, widen crosswalk markings, and Class I Bike lane on Tahquitz Creek)*	**PB**	0	2	0	0	2	0	0	0	0	0	0	0	3.3	2.0	A	A

Table 4.16-9
Intersection Analysis for 2040
Auto/LSEV Conditions

Jurisdiction	ID #	Intersection	Traffic Control[4]	Intersection Approach Lanes[1]												Proposed Project[2,3]			
				NB			SB			EB			WB			Delay (Secs)		Level of Service	
				L	T	R	L	T	R	L	T	R	L	T	R	AM	PM	AM	PM
Cathedral City	12	Cathedral Cyn. Dr. / Officer David Vasquez Rd.	-																
		- Without Improvements	TS	0	2	0	1	2	0	0	0	0	2	0	1>	10.9	15.7	B	B
		- With Project Improvements *(Class I Bike Lane - west side of Cathedral Canyon Dr., Class I Bike Lane - north side of Officer David Vasquez Rd., and modify north leg crosswalk)*	TS	0	2	0	1	2	0	0	0	0	2	0	1>	10.9	15.7	B	B
	13	Date Palm Dr. / Perez Rd.	-																
		- Without Improvements	TS	1	2	0	0	2	1>	2	0	1	0	0	0	14.3	17.6	B	B
		- With Project Improvements *(Class I Bike Lane on Date Palm Dr. and modify south leg crosswalk)*	TS	1	2	0	0	2	1>	2	0	1	0	0	0	14.3	17.6	B	B
Rancho Mirage	14	Da Vall Dr. / Frank Sinatra Dr.	-																
		- Without Improvements	TS	0	0	0	1	1!	0	1	2	0	1	2	1	17.2	41.9	B	D
		- With Project Improvements *(Class I Bike Lane on Frank Sinatra Dr. connecting to Wolfson Park)*	TS	0	0	0	1	1!	0	1	2	0	1	2	1	N/A	N/A	--	--
	15	SR-111 / Country Club Dr.	-																
		- Without Improvements	TS	1	3	0	2	3	0	1	1	0	1	0.5	1.5	22.4	38.5	C	D
		- With Project Improvements *(Class I Bike Lane - north side of Country Club Dr., Class I Bike Lane - west side of SR-111, and modify crosswalks)*	TS	1	3	0	2	3	0	1	1	0	1	0.5	1.5	N/A	N/A	--	--
	16	SR-111 / Thunderbird Rd.	-																
		- Without Improvements	TS	1	3	0	1	3	1	0.5	0.5	d	0	1!	0	4.1	5.7	A	A
		- With Project Improvements *(Class I Bike Lane - west side of SR-111 and modify west leg crosswalk)*	TS	1	3	0	1	3	1	0.5	0.5	d	0	1!	0	N/A	N/A	--	--
	17	SR-111 / Paxton Dr.	-																
		- Without Improvements	TS	1	3	0	1	3	0	0	0	0	1	0	1	6.0	10.0	A	A
		- With Project Improvements *(Class I Bike Lane - west side of SR-111, Class I Bike Lane - south side of Paxton Drive, and modify south leg crosswalk)*	TS	1	3	0	1	3	0	0	0	0	1	0	1	N/A	N/A	--	--

Table 4.16-9
Intersection Analysis for 2040
Auto/LSEV Conditions

Jurisdiction	ID #	Intersection	Traffic Control[4]	Intersection Approach Lanes[1]												Proposed Project[2,3]			
				NB			SB			EB			WB			Delay (Secs)		Level of Service	
				L	T	R	L	T	R	L	T	R	L	T	R	AM	PM	AM	PM
Rancho Mirage	18	San Jacinto Dr. / Rancho Las Palmas	-																
		- Without Improvements	AWS	0.5	0.5	1	0	1!	0	1	2	0	1	2	0	10.7	11.0	B	B
		- With Project Improvements *(Class II Bike Lane on San Jacinto Dr., north of Rancho Las Palmas Dr.)*	AWS	0.5	0.5	1	0	1!	0	1	2	0	1	2	0	N/A	N/A	--	--
	19	Bob Hope Dr. / Rancho Las Palmas	-																
		- Without Improvements	TS	1	2	1	1	2	1	1	1	1	0.5	0.5	d	9.5	8.2	A	A
		- With Project Improvements *(Class II Bike Lane on Bob Hope Dr. with marked crossing)*	TS	1	2	1	1	2	1	1	1	1	0.5	0.5	d	N/A	N/A	--	--
	20	Bob Hope Dr. / Avenida Las Palmas	-																
		- Without Improvements	TS	1	2	1	1	2	1	0.5	0.5	1	0.5	0.5	1	34.7	27.4	C	C
		- With Project Improvements *(Class II Bike Lane on Bob Hope Dr. with marked crossing)*	TS	1	2	1	1	2	1	0.5	0.5	1	0.5	0.5	1	N/A	N/A	--	--
	21	Bob Hope Dr. / Commercial Dwy.	-																
		- Without Improvements	CSS	0	2	1	0	2	0	0	0	0	0	0	1	10.9	18.5	B	C
		- With Project Improvements *(install Push Button Cross Walk Lights, Class II Bike Lane on Bob Hope Dr. with marked crossing)*	CSS & **PB**	0	2	**0**	0	2	0	0	0	0	0	0	1	N/A	N/A	--	--
	22	SR-111 / Bob Hope Dr.	-																
		- Without Improvements	TS	1	3	1	2	3	0	0	1!	0	2	1!	0	20.8	**57.9**	C	**E**
		- With Project Improvements *(Class II Bike Lane on Bob Hope Dr., modified east leg crosswalk, Class I Bike Lane on SR-111, south of Bob Hope Dr., and install overlap phasing for NBR turn lane)*	TS	1	3	**1>**	2	3	0	0	1!	0	2	1!	0	20.8	54.4	C	D
	23	SR-111 / Magnesia Falls Dr.																	
		- Without Improvements	TS	1	3	0	1	3	0	0.5	0.5	1	1.5	0.5	1	54.4	**72.3**	D	**E**
		- With Project Improvements *(Class I Bike Lane on SR-111, modified crosswalks, and install overlap phasing for WBR turn lane)*	TS	1	3	0	1	3	0	0.5	0.5	1	1.5	0.5	**1>**	49.4	51.1	D	D

Table 4.16-9
Intersection Analysis for 2040
Auto/LSEV Conditions

Jurisdiction	ID #	Intersection	Traffic Control[4]	Intersection Approach Lanes[1]												Proposed Project[2,3]			
				NB			SB			EB			WB			Delay (Secs)		Level of Service	
				L	T	R	L	T	R	L	T	R	L	T	R	AM	PM	AM	PM
Palm Desert	24	Monterey Av. / Park View Dr.													-				
		- Without Improvements	TS	1	3	1	2	3	1	1	1	1	1	1	1	12.4	26.6	B	C
		- With Project Improvements *(Class IV Bike Lane on Parkview Dr., Class I Bike Lane on Monterey Avenue, north of Parkview Dr., and modified north leg crosswalk)*	TS	1	3	1	2	3	1	1	1	1	1	1	1	12.4	26.6	B	C
	25	San Pablo Av. / Magnesia Falls Dr.																	
		- Without Improvements	AWS	1	0	1	0	0	0	0	1	0	1	1	0	11.0	12.2	B	B
		- With Project Improvements *(Class II Bike Lane on San Pablo Av. and Magnesia Falls Dr.)*	AWS	1	0	1	0	0	0	0	1	0	1	1	0	11.0	12.2	B	B
	26	San Pablo Av. / Alumni Dr.													-				
		- Without Improvements	AWS	1	1	d	0.5	0.5	1	0.5	0.5	d	1	1	0	14.3	16.1	B	C
		- With Project Improvements *(Class II Bike Lane on San Pablo Av. and Class III Bike Lane on Alumni Dr.)*	AWS	1	1	d	0.5	0.5	1	0.5	0.5	d	1	1	0	14.3	16.1	B	C
Palm Desert	27	Portola Av. / Magnesia Falls Dr.																	
		- Without Improvements	TS	1	2	1	1	2	0	1	1	1	1	1	1	24.4	**70.2**	C	**E**
		- With Project Improvements *(Class II Bike Lane on Magnesia Falls Dr., and install WBR turn overlap phase)*	TS	1	2	1	1	2	0	1	1	1	1	1	**1>**	23.6	54.2	C	D
Indian Wells	28	El Dorado Dr. / Fred Waring Dr.																	
		- Without Improvements	TS	1	1	1	1	1	1	1	3	1	1	3	1	30.5	**61.7**	C	**E**
		- With Project Improvements *(Class I Bike Lane on Fred Waring Dr., west of El Dorado Dr., Class I Bike Lane on El Dorado Dr., south of Fred Waring Dr., modified crosswalks, and install NBR overlap phase)*	TS	1	1	**1>**	1	1	1	1	3	1	1	3	1	30.4	54.5	C	D
La Quinta	29	Dune Palms Rd. / Corporate Ctr. Dr.																	
		- Without Improvements	CSS	1	1	0	0	2	0	1	0	1	0	0	0	**39.3**	**>80**	**E**	**F**
		- With Project Improvements *(Class I Bike Lane on Dune Palms Dr., northwest corner of the intersection, and install traffic signal)*	**TS**	1	1	0	0	2	0	1	0	1	0	0	0	12.5	10.6	B	B

Table 4.16-9
Intersection Analysis for 2040
Auto/LSEV Conditions

Jurisdiction	ID #	Intersection	Traffic Control[4]	Intersection Approach Lanes[1]												Proposed Project[2,3]			
				NB			SB			EB			WB			Delay (Secs)		Level of Service	
				L	T	R	L	T	R	L	T	R	L	T	R	AM	PM	AM	PM
Indio	30	Monroe St., south of I-10 EB Ramps	-																
		- With Project Improvements (No At-Grade Xing) *(Class I Bike Lane on Monroe connecting to a CV Link access point located east of Monroe)*	-	0	1	0	0	1	0	0	0	0	0	0	0	N/A	N/A	--	--
	31	Avenue 44, east of Palo Verde St. - Circle Dr.																	
		- Without Improvements	-	0	0	0	0	0	0	0	1	0	0	1	0	-	-	-	-
		- With Project Improvements *(New HAWK beacon, north/south Class I Bike Lane path, marked crosswalk)*	**HAWK**	0	***1***	0	0	***1***	0	0	1	0	0	1	0	0.7	1.1	A	A
Coachella	32	Dillon Rd., west of SR-86S SB Ramps	-		-			-											
		- Without Improvements	-	0	1	0	0	1	0	0	0	0	0	0	0	-	-	-	-
		- With Project and General Plan Improvements[6] *(New HAWK beacon, north/south Class I Bike Lane path, marked crosswalk, and General Plan lane improvements)*	**HAWK**	0	**2**	0	0	**2**	0	0	***1***	0	0	***1***	0	1.6	3.6	A	A
	33	Tyler St. - Magnolia / Avenue 50 - Tyler St.																	
		- Without Improvements	AWS[5]	0.5	0.5	1	0	1!	0	0.5	0.5	1	0	1!	0	**>80**	**>80**	**F**	**F**
		- With Project and General Plan Improvements[6] *(Install stop sign control on WB approach, Class I Bike Lane east of Tyler St. - Magnolia, and Avenue 50 east leg striped crosswalk, and General Plan lane improvements)*	**TS**	0.5	0.5	1	**1**	1!	0	**1**	**2**	1	**1**	**2**	0	37.5	50.5	D	D

[1] When a right turn is designated, the lane can either be striped or unstriped. To function as a right turn lane there must be sufficient width for right turning vehicles to travel outside the through lanes.
L = Left; T = Through; R = Right; 1! = Shared Left-Through-Right turn lane; > = Right Turn Overlap; d = Defacto Right Turn Lane; **1** = Improvement ; **1** = General Plan Improvements; **1** = Lane Reduced; ***1*** = CV Link Path (not for autos)

[2] Delay and level of service calculated using Syncrho 9 analysis software. **BOLD** = LOS does not meet the applicable jurisdictional requirements (i.e., unacceptable LOS).

[3] Per the 2010 Highway Capacity Manual, overall average intersection delay and level of service are shown for intersections with a traffic signal or all-way stop control.
For intersections with cross street stop control, the delay and level of service for the worst individual movement (or movements sharing a single lane) are shown.

[4] TS = Traffic Signal; CSS = Cross Street Stop; AWS = All-Way Stop; Y = Crosswalk Yield; PB = Push Button Cross Walk Lights (Solar Powered); HAWK = High-Intensity Activated crossWalK beacon

[5] Based on field observations, the intersection of Tyler St. - Magnolia / Avenue 50 - Tyler St. is stop controlled for the NB, SB, and EB approach. The WB approach is uncontrolled.
This type of traffic control setup is not supported in Synchro. Therefore, for the purpose of this report this intersection is evaluated as an all-way stop control.

Table 4.16-10
Pedestrian And Bicycle Analysis For 2040 Proposed Project

Jurisdiction	#	Intersection	Traffic Control[4]		PEDESTRIAN[1,2]								BICYCLE[3]							
					Without Improvements				With Project Improvements[6]				Without Improvements				With Project Improvements[6]			
			W/O Imp.	W/ Proj. Imp.[6]	Score/Delay		LOS		Score/Delay		LOS		Score		LOS		Score		LOS	
					AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
Palm Springs North	1	Palm Cyn. Dr. (SR-111) / San Rafael Dr.	TS	TS																
		- Eastbound Approach			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.24	2.51	B	B	2.24	2.51	B	B
		- Westbound Approach			2.25	2.28	B	B	2.25	2.28	B	B	2.70	2.66	B	B	2.70	2.66	B	B
		- Northbound Approach			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3.16	4.06	C	D	3.16	4.06	C	D
		- Southbound Approach			2.80	3.00	C	C	2.80	3.00	C	C	3.53	3.64	D	D	3.53	3.64	D	D
	2	Indian Cyn. Dr. / Sunrise Pkwy.	CSS	**TS**																
		- Eastbound Approach			N/A	N/A	N/A	N/A	2.44	2.61	B	B	N/A	N/A	N/A	N/A	2.95	2.98	C	C
		- Westbound Approach			N/A	N/A	N/A	N/A	2.62	2.78	B	C	N/A	N/A	N/A	N/A	2.96	3.37	C	C
		- Northbound Approach			**>80**	**>80**	**F**	**F**	3.18	3.49	C	C	N/A	N/A	N/A	N/A	2.96	3.37	C	C
		- Southbound Approach			**>80**	**>80**	**F**	**F**	3.18	3.51	C	D	N/A	N/A	N/A	N/A	0.00	0.20	A	A
	3	Sunrise Pkwy. / San Rafael Dr.	TS	TS																
		- Eastbound Approach			2.42	2.43	B	B	2.42	2.43	B	B	3.12	3.10	C	C	3.12	3.10	C	C
		- Westbound Approach			1.85	1.89	A	A	1.85	1.89	A	A	2.33	2.28	B	B	2.33	2.28	B	B
		- Northbound Approach			2.78	2.91	C	C	2.78	2.91	C	C	2.74	2.99	B	C	2.85	2.99	C	C
		- Southbound Approach			2.67	2.69	B	B	2.67	2.69	B	B	2.24	2.29	B	B	1.70	1.75	A	A
	4	Gene Autry Tr. / Via Escuela	TS	TS																
		- Eastbound Approach			2.12	2.28	B	B	2.14	2.28	B	B	3.17	3.26	C	C	3.17	3.26	C	C
		- Westbound Approach			2.03	2.09	B	B	2.04	2.09	B	B	3.10	3.28	C	C	3.10	3.28	C	C
		- Northbound Approach			2.82	2.88	C	C	2.84	2.88	C	C	3.20	3.52	C	D	3.20	3.52	C	D
		- Southbound Approach			3.02	3.11	C	C	3.04	3.11	C	C	3.13	3.15	C	C	0.99	1.00	A	A
	5	Clubhouse View / Vista Chino	TS	TS																
		- Eastbound Approach			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3.60	4.15	D	D	3.49	4.04	C	D
		- Westbound Approach			2.98	3.56	C	D	2.98	3.56	C	D	2.45	3.36	B	C	2.88	3.79	C	D
		- Northbound Approach			2.01	2.01	B	B	2.01	2.01	B	B	1.52	1.53	A	A	1.63	1.64	A	A
Palm Springs Central	6	Sunrise Wy. / N. Riverside Dr.	CSS	**TS**																
		- Eastbound Approach			N/A	N/A	N/A	N/A	1.83	1.92	A	A	N/A	N/A	N/A	N/A	1.37	1.46	A	A
		- Westbound Approach			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.39	1.39	A	A
		- Northbound Approach			**>80**	**>80**	**F**	**F**	2.82	2.91	C	C	N/A	N/A	N/A	N/A	2.24	2.39	B	B
		- Southbound Approach			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.55	1.67	A	A
	7	Sunrise Wy. / Mesquite Av.	TS	TS																
		- Eastbound Approach			2.15	2.15	B	B	2.15	2.15	B	B	2.64	2.62	B	B	2.64	2.62	B	B
		- Westbound Approach			2.40	2.48	B	B	2.40	2.48	B	B	3.01	3.36	C	C	1.51	1.86	A	A
		- Northbound Approach			2.72	2.85	B	C	2.72	2.85	B	C	3.06	3.26	C	C	3.06	3.26	C	C
		- Southbound Approach			2.79	2.96	C	C	2.79	2.96	C	C	1.54	1.85	A	A	1.54	1.85	A	A
	8	Farrell Dr. / Mesquite Av.	TS	TS																
		- Eastbound Approach			2.41	2.50	B	B	2.27	2.38	B	B	2.47	2.54	B	B	1.55	1.68	A	A
		- Westbound Approach			2.48	2.67	B	B	2.35	2.59	B	B	2.43	2.78	B	C	1.47	2.16	A	B
		- Northbound Approach			2.58	2.74	B	B	2.58	2.74	B	B	2.60	2.82	B	C	2.60	2.82	B	C
		- Southbound Approach			2.49	2.57	B	B	2.49	2.57	B	B	2.80	3.00	C	C	2.80	3.00	C	C

Table 4.16-10
Pedestrian And Bicycle Analysis For 2040 Proposed Project

Jurisdiction	#	Intersection	Traffic Control[4]		PEDESTRIAN[1,2]								BICYCLE[3]							
					Without Improvements				With Project Improvements[6]				Without Improvements				With Project Improvements[6]			
			W/O Imp.	W/ Proj. Imp.[6]	Score/Delay		LOS		Score/Delay		LOS		Score		LOS		Score		LOS	
					AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
	9	El Cielo Rd. / Mesquite Av.	AWS	AWS	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	10	Crossley Rd. / 34th Av.	CSS	**TS**																
		- Eastbound Approach			N/A	N/A	N/A	N/A	1.81	1.79	A	A	N/A	N/A	N/A	N/A	1.91	1.88	A	A
		- Westbound Approach			N/A	N/A	N/A	N/A	1.82	1.89	A	A	N/A	N/A	N/A	N/A	2.01	2.04	B	B
		- Northbound Approach			**>80**	**>80**	**F**	**F**	2.67	2.72	B	B	N/A	N/A	N/A	N/A	0.86	1.07	A	A
		- Southbound Approach			**>80**	**>80**	**F**	**F**	2.65	2.66	B	B	N/A	N/A	N/A	N/A	0.80	0.72	A	A
	11	Golf Club Dr. / Tahquitz Creek	Y	**PB**																
Palm Springs Central		- Northbound Approach			16.80	**42.70**	C	**E**	2.39	2.52	B	B	N/A	N/A	N/A	N/A	0.46	0.81	A	A
		- Southbound Approach			16.80	**42.70**	C	**E**	2.39	2.53	B	B	N/A	N/A	N/A	N/A	0.44	0.39	A	A
	12	Cathedral Cyn. Dr. / Officer David Vasquez Rd.	TS	TS																
		- Westbound Approach			2.22	2.34	B	B	2.22	2.34	B	B	2.72	3.02	B	C	2.72	3.02	B	C
		- Northbound Approach			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.58	1.63	A	A	1.58	1.63	A	A
Cathedral City		- Southbound Approach			2.59	2.72	B	B	2.59	2.72	B	B	1.76	1.83	A	A	1.54	1.83	A	A
	13	Date Palm Dr. / Perez Rd.	TS	TS																
		- Eastbound Approach			2.63	2.78	B	C	2.63	2.78	B	C	3.17	3.40	C	C	3.17	3.40	C	C
		- Northbound Approach			2.84	2.98	C	C	2.84	2.98	C	C	3.42	3.93	C	D	3.10	3.61	C	D
		- Southbound Approach			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3.97	4.09	D	D	3.97	4.09	D	D
	14	Da Vall Dr. / Frank Sinatra Dr.	TS	TS																
		- Eastbound Approach			2.69	2.92	B	C	N/A	N/A	N/A	N/A	3.21	3.47	C	C	N/A	N/A	N/A	N/A
		- Westbound Approach			2.85	3.18	C	C	N/A	N/A	N/A	N/A	3.20	4.08	C	D	N/A	N/A	N/A	N/A
		- Southbound Approach			2.63	2.83	B	C	N/A	N/A	N/A	N/A	3.17	3.10	C	C	N/A	N/A	N/A	N/A
	15	SR-111 / Country Club Dr.	TS	TS																
		- Eastbound Approach			2.20	2.33	B	B	N/A	N/A	N/A	N/A	2.77	3.22	C	C	N/A	N/A	N/A	N/A
		- Westbound Approach			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3.94	4.07	D	D	N/A	N/A	N/A	N/A
		- Northbound Approach			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3.82	4.11	D	D	N/A	N/A	N/A	N/A
		- Southbound Approach			3.62	3.67	D	D	N/A	N/A	N/A	N/A	3.57	3.42	D	C	N/A	N/A	N/A	N/A
	16	SR-111 / Thunderbird Rd.	TS	TS																
Rancho Mirage		- Eastbound Approach			2.00	2.05	A	B	N/A	N/A	N/A	N/A	1.79	1.88	A	A	N/A	N/A	N/A	N/A
		- Westbound Approach			1.76	1.79	A	A	N/A	N/A	N/A	N/A	2.71	2.78	B	C	N/A	N/A	N/A	N/A
		- Northbound Approach			3.38	3.51	C	D	N/A	N/A	N/A	N/A	2.23	2.48	B	B	N/A	N/A	N/A	N/A
		- Southbound Approach			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3.70	3.74	D	D	N/A	N/A	N/A	N/A
	17	SR-111 / Paxton Dr.	TS	TS																
		- Westbound Approach			2.13	2.24	B	B	N/A	N/A	N/A	N/A	3.04	3.28	C	C	N/A	N/A	N/A	N/A
		- Northbound Approach			3.46	3.49	C	C	N/A	N/A	N/A	N/A	3.09	3.26	C	C	N/A	N/A	N/A	N/A
		- Southbound Approach			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3.80	3.65	D	D	N/A	N/A	N/A	N/A
	18	San Jacinto Dr. / Rancho Las Palmas	AWS	AWS	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Table 4.16-10
Pedestrian And Bicycle Analysis For 2040 Proposed Project

Jurisdiction	#	Intersection	Traffic Control[4]		PEDESTRIAN[1,2]								BICYCLE[3]							
					Without Improvements				With Project Improvements[6]				Without Improvements				With Project Improvements[6]			
			W/O Imp.	W/ Proj. Imp.[6]	Score/Delay		LOS		Score/Delay		LOS		Score		LOS		Score		LOS	
					AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
	19	Bob Hope Dr. / Rancho Las Palmas	TS	TS																
		- Eastbound Approach			2.43	2.42	B	B	N/A	N/A	N/A	N/A	3.36	3.33	C	C	N/A	N/A	N/A	N/A
		- Westbound Approach			2.01	2.02	B	B	N/A	N/A	N/A	N/A	3.02	3.05	C	C	N/A	N/A	N/A	N/A
		- Northbound Approach			2.96	3.16	C	C	N/A	N/A	N/A	N/A	3.17	3.68	C	D	N/A	N/A	N/A	N/A
		- Southbound Approach			3.03	3.23	C	C	N/A	N/A	N/A	N/A	3.68	3.85	D	D	N/A	N/A	N/A	N/A
	20	Bob Hope Dr. / Avenida Las Palmas	TS	TS																
		- Eastbound Approach			2.07	2.07	B	B	N/A	N/A	N/A	N/A	3.16	3.16	C	C	N/A	N/A	N/A	N/A
		- Westbound Approach			2.08	2.17	B	B	N/A	N/A	N/A	N/A	3.26	3.52	C	D	N/A	N/A	N/A	N/A
		- Northbound Approach			2.96	3.14	C	C	N/A	N/A	N/A	N/A	3.14	3.63	C	D	N/A	N/A	N/A	N/A
		- Southbound Approach			2.95	3.14	C	C	N/A	N/A	N/A	N/A	3.49	3.61	C	D	N/A	N/A	N/A	N/A
	21	Bob Hope Dr. / Commercial Dwy. (No At-Grade Xing)	CSS	CSS + **PB**																
		- Westbound Approach			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
		- Northbound Approach			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
		- Southbound Approach			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
RanchoMirage	22	SR-111 / Bob Hope Dr.	TS	TS																
		- Eastbound Approach			1.79	1.81	A	A	N/A	N/A	N/A	N/A	2.06	2.08	B	B	N/A	N/A	N/A	N/A
		- Westbound Approach			2.84	3.07	C	C	N/A	N/A	N/A	N/A	3.67	3.93	D	D	N/A	N/A	N/A	N/A
		- Northbound Approach			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4.14	4.23	D	D	N/A	N/A	N/A	N/A
		- Southbound Approach			3.54	3.69	D	D	N/A	N/A	N/A	N/A	2.78	3.09	C	C	N/A	N/A	N/A	N/A
	23	SR-111 / Magnesia Falls Dr.	TS	TS																
		- Eastbound Approach			2.05	2.03	B	B	N/A	N/A	N/A	N/A	3.10	3.07	C	C	N/A	N/A	N/A	N/A
		- Westbound Approach			2.56	2.62	B	B	N/A	N/A	N/A	N/A	3.66	4.22	D	D	N/A	N/A	N/A	N/A
		- Northbound Approach			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3.99	3.99	D	D	N/A	N/A	N/A	N/A
		- Southbound Approach			3.77	3.86	D	D	N/A	N/A	N/A	N/A	2.81	2.90	C	C	N/A	N/A	N/A	N/A
	24	Monterey Av. / Park View Dr.	TS	TS																
		- Eastbound Approach			2.28	2.38	B	B	2.28	2.38	B	B	3.67	3.91	D	D	3.67	3.91	D	D
		- Westbound Approach			2.34	2.35	B	B	2.34	2.35	B	B	3.25	3.32	C	C	3.25	3.32	C	C
		- Northbound Approach			3.36	3.59	C	D	3.36	3.59	C	D	3.32	3.92	C	D	3.32	3.92	C	D
		- Southbound Approach			3.39	3.54	C	D	3.39	3.54	C	D	3.45	3.43	C	C	3.45	3.43	C	C
Palm Desert	25	San Pablo Av. / Magnesia Falls Dr.	AWS	AWS	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	26	San Pablo Av. / Alumni Dr.	AWS	AWS	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	27	Portola Av. / Magnesia Falls Dr.	TS	TS																
		- Eastbound Approach			2.30	2.36	B	B	2.30	2.36	B	B	3.31	3.45	C	C	3.31	3.45	C	C
		- Westbound Approach			2.34	2.37	B	B	2.34	2.37	B	B	2.97	3.41	C	C	2.97	3.41	C	C
		- Northbound Approach			3.00	3.41	C	C	3.00	3.41	C	C	3.43	4.18	C	D	3.43	4.18	C	D
		- Southbound Approach			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Table 4.16-10
Pedestrian And Bicycle Analysis For 2040 Proposed Project

Jurisdiction	#	Intersection	Traffic Control[4]		PEDESTRIAN[1,2]								BICYCLE[3]							
					Without Improvements				With Project Improvements[6]				Without Improvements				With Project Improvements[6]			
			W/O Imp.	W/ Proj. Imp.[6]	Score/Delay		LOS		Score/Delay		LOS		Score		LOS		Score		LOS	
					AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
Indian Wells	28	El Dorado Dr. / Fred Waring Dr.	TS	TS																
		- Eastbound Approach			3.51	3.65	D	D	3.51	3.65	D	D	3.61	3.88	D	D	3.61	3.88	D	D
		- Westbound Approach			3.45	3.65	C	D	3.45	3.65	C	D	3.10	3.28	C	C	3.10	3.28	C	C
		- Northbound Approach			2.52	2.78	B	C	2.52	2.78	B	C	3.71	4.38	D	**E**	2.21	2.88	B	C
		- Southbound Approach			2.35	2.37	B	B	2.35	2.37	B	B	2.99	2.99	C	C	2.99	2.99	C	C
La Quinta	29	Dune Palms Rd. / Corporate Ctr. Dr.	CSS	**TS**																
		- Eastbound Approach			N/A	N/A	N/A	N/A	1.98	2.00	A	A	N/A	N/A	N/A	N/A	2.48	2.56	B	B
		- Northbound Approach			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.93	4.10	C	D
		- Southbound Approach			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.39	1.17	A	A
	30	Monroe St., south of I-10 EB Ramps	-	-																
		- Northbound Approach			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
		- Southbound Approach			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Indio	31	Av. 44, east of Palo Verde St.	-	**HAWK**																
		- Eastbound Approach			**>80**	**>80**	**F**	**F**	2.28	2.54	A	A	N/A	N/A	N/A	N/A	2.45	2.65	B	B
		- Westbound Approach			**>80**	**>80**	**F**	**F**	2.28	2.54	A	A	N/A	N/A	N/A	N/A	2.80	3.17	C	C
		- Northbound Approach			N/A	N/A	N/A	N/A	1.71	1.71	A	A	N/A	N/A	N/A	N/A	0.47	0.47	A	A
		- Southbound Approach			N/A	N/A	N/A	N/A	1.71	1.71	A	A	N/A	N/A	N/A	N/A	0.47	0.47	A	A
Coachella	32	Dillon Rd., west of SR-86S SB Ramps	-	**HAWK**																
		- Eastbound Approach			**>80**	**>80**	**F**	**F**	3.06	3.26	C	C	N/A	N/A	N/A	N/A	2.19	2.69	B	B
		- Westbound Approach			**>80**	**>80**	**F**	**F**	3.06	3.26	C	C	N/A	N/A	N/A	N/A	1.84	2.05	A	B
		- Northbound Approach			N/A	N/A	N/A	N/A	1.71	1.71	A	A	N/A	N/A	N/A	N/A	2.31	2.31	B	B
		- Southbound Approach			N/A	N/A	N/A	N/A	1.71	1.71	A	A	N/A	N/A	N/A	N/A	2.31	2.31	B	B
Coachella	33	Tyler St. / Avenue 50	AWS[5]	**TS**																
		- Eastbound Approach			N/A	N/A	N/A	N/A	2.93	3.09	N/A	N/A	N/A	N/A	N/A	N/A	3.11	4.09	C	D
		- Westbound Approach			N/A	N/A	N/A	N/A	2.88	3.07	N/A	N/A	N/A	N/A	N/A	N/A	3.55	3.53	D	D
		- Northbound Approach			N/A	N/A	N/A	N/A	2.26	2.35	N/A	N/A	N/A	N/A	N/A	N/A	3.85	3.80	D	D
		- Southbound Approach			N/A	N/A	N/A	N/A	1.74	1.74	N/A	N/A	N/A	N/A	N/A	N/A	2.94	2.93	C	C

[1] Delay and level of service calculated using Syncrho 9 analysis software. **BOLD** = LOS does not meet the applicable jurisdictional requirements (i.e., unacceptable LOS).
[2] Per the 2010 Highway Capacity Manual, the pedestrian score and level of service for the pedestrians crossing each subject approach (i.e. "Eastbound" pedestrians are those crossing the Eastbound vehicular approach) are shown for signalized intersections. For cross-street stop controlled intersections, the pedestrian delay and level of service are shown for pedestrians crossing a traffic stream not controlled by a stop sign. It should be noted that pedestrian level of service measures at all-way stop controlled intersections are not evaluated since pedestrian LOS is defined for pedestrians crossing a traffic stream not controlled by a stop sign (Exhibit 8-2 of HCM2010)
[3] Per the 2010 Highway Capacity Manual, the bicycle LOS score for the segment is used to estimate facility LOS. One score is needed for each direction of travel of interest for each segment on the facility for signalized intersections.
For unsignalized intersections, bicycle level of service measures are not evaluated per Exhibit 8-2 of HCM2010.
[4] TS = Traffic Signal; CSS = Cross Street Stop; AWS = All-Way Stop; Y = Crosswalk Yield; PB = Push Button Cross Walk Lights (Solar Powered); HAWK = High-Intensity Activated crossWalK beacon
[5] Based on field observations, the intersection of Tyler St. - Magnolia / Avenue 50 - Tyler St. is stop controlled for the NB, SB, and EB approach. The WB approach is uncontrolled. This type of traffic control setup is not supported in Synchro. Therefore, for the purpose of this report this intersection is evaluated as an all-way stop control.
[6] See project improvements identified in the intersection analysis table for Auto/LSEV.

Rancho Mirage CV Link Termini

In the spring of 2016, the City of Rancho Mirage requested that it be removed from the Proposed Project. As a result, CV Link facilities are not proposed through Rancho Mirage. For the west-end terminus project designers developed two alternatives, the first placing the terminus on Buddy Rogers Road just south of the Whitewater River Channel (West Terminus A) and the other at the northwest corner of Frank Sinatra Drive and Da Vall Drive (West Terminus B). The West Terminus B would be reached via continuation along the channel service road to the existing cross-channel path just north of Frank Sinatra Drive to the end point. Please see Exhibit 4.16-1, which shows the location of these two termini.

The east-end terminus is proposed at the southeast corner of Highway 111 and Parkview Drive in Palm Desert. There are two east-west alignments on the north and south side of Parkview Drive, the north side route ends at the Palm Desert/Rancho Mirage city limits, with westbound travelers continuing on the existing striped bike/golf cart lane and sidewalk within the Rancho Mirage city limits and extending to Highway 111. Please see Exhibit 4.16-1, which shows the location of this terminus.

The impact analysis assumes that CV Link users will make choices with regard to proceeding through Rancho Mirage at the above-described termini, or reverse direction and change routes. In the event CV Link users opt to proceed through Rancho Mirage, then the existing network of streets, sidewalks, levee paths and other trails are expected to accommodate this travel. Notice in the form of signage will be placed at both termini clearly stating CV Link has terminated and does not extend beyond this location, and that NEVs are illegal in Rancho Mirage. Signage is planned at the termini to provide CV Link users with information about the City of Rancho Mirage's approved bicycle and golf cart facilities.

<u>West Rancho Mirage Terminus A and B Impacts</u>
As shown on Exhibit 4.16-1, West Terminus A will be located on Buddy Rogers Avenue between Highway 111 and the stormwater channel. Terminus A provides adequate space for an access point to be constructed. This access point would be large enough to accommodate benches, shade structures, landscape and wayfinding kiosk signage. Terminus A is adjacent to Buddy Rogers Road which is a low volume street with on-street parking, a user benefit. There is continuous sidewalk on the north (east) side of Highway 111 from the intersection of Buddy Rogers Avenue and Highway 111 to Frank Sinatra Drive. NEV users would not be able to enter Rancho Mirage because they are banned in this jurisdiction.

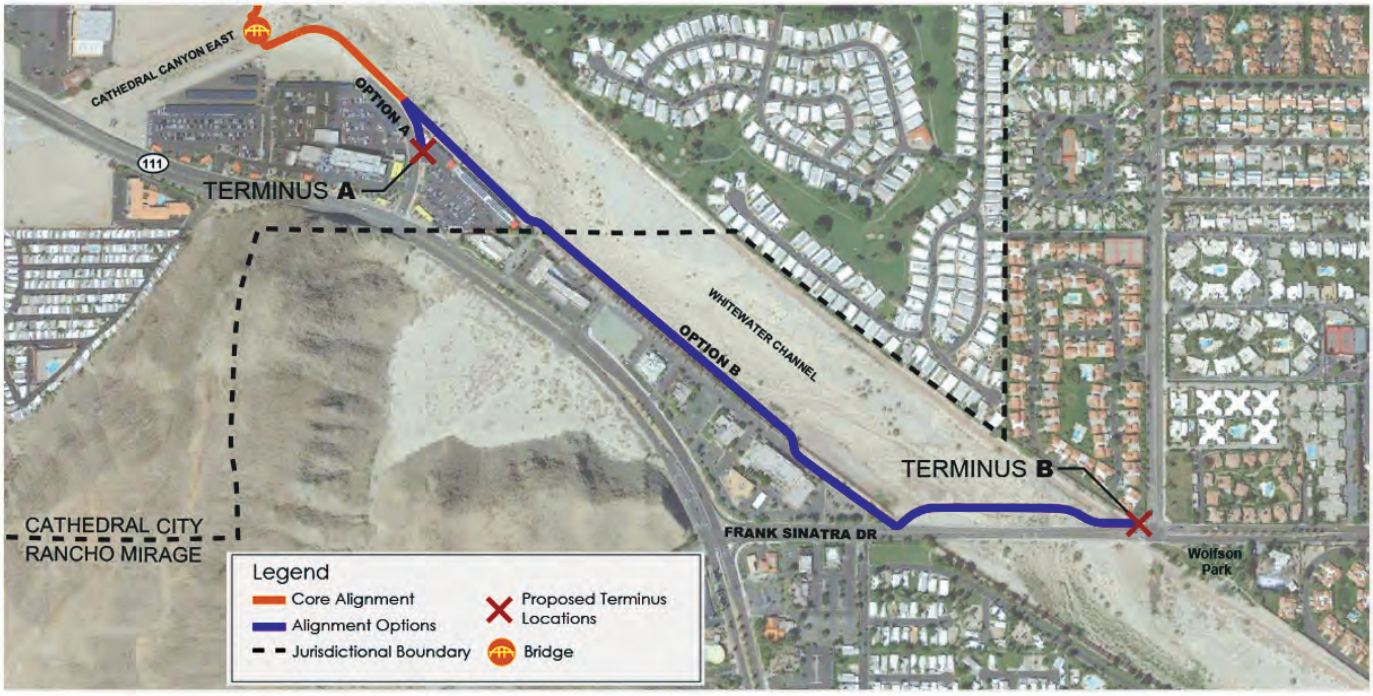
In order to reach Terminus B users would be required to travel along an in-channel path that would begin at One Mirage Place on the northwest. This transition to an in-channel alignment is recommended due to an existing parking lot that extends to within 5' of the top of slope protection east of One Mirage Place. During and after high-water events the in-channel path may be closed and users would likely try to complete the connection to Terminus B by traveling through the private parking lots adjacent to the channel.

West Terminus B at the corner of Sinatra Drive and Da Vall Drive would also allow multi-modal travelers to directly access existing pedestrian and bicycle facilities in Rancho Mirage, as is the case today. CV Link users could make their way to eastbound Frank Sinatra Drive on CV Link improvements, via an existing bike path in the channel on the north side of the road. Once across the channel, bicyclists and pedestrians could cross Frank Sinatra Drive at its signalized intersection with Da Vall Drive, and proceed east on painted bike lanes or south along the Butler-Abrams Trail atop the east (left) bank of the channel. Based upon the location of the proposed West Terminus B, CV Link user volume coming into the City would be greater than that associated with Terminus A, but as indicated below are still less than significant. Nonetheless, the availability of Terminus B will enhance access to Wolfson Park, on-street bike lanes and the Butler-Abrams Trail, and is expected to draw more CV Link users than would the reliance on Terminus A.

Rancho Mirage East Terminus



Rancho Mirage West Terminus



N

08.09.16

Source: CVAG, 2016

TERRA NOVA® PLANNING & RESEARCH, INC.

CV Link Project
Rancho Mirage Termini
Coachella Valley
Association of Governments

CV/LINK CONNECTING THE COACHELLA VALLEY

CVAG

Exhibit 4.16-1

From Frank Sinatra Drive multi-modal travelers can continue east on on-street (Class II) bike paths on Frank Sinatra Drive or proceed southeast along the stormwater channel gaining access to the levee path and the Butler-Abrams Trail, which parallels the channel to Country Club Drive. Multi-modal travelers have the option of proceeding east on Country Club Drive where bike paths are striped on both the north and south side of this street. Alternatively, multi-modal travelers can proceed southeast along Highway 111, where a multi-modal path is located within the south (west) right of way. From Paxton Road sidewalks provide non-vehicular access to downtown Rancho Mirage, the City Library and the Community Park. Based upon the location of the proposed West Terminus A, the availability of points of interest and destinations in Cathedral City in proximity to this terminus, and the lack of facilities in Rancho Mirage to convey CV Link users, the location and use of West Terminus A will not result in CV Link users significantly affecting Rancho Mirage streets or other transportation facilities.

The location and use of West Terminus B could modestly increase the use of these Rancho Mirage facilities by CV Link users. The CV Link traffic analysis indicates that individual bicycle movements at intersection locations in Rancho Mirage, without the CV Link alignments, are limited to less than 15 bicycles per hour. This is an average of one every four minutes. Signal cycle lengths are anticipated to be less than four minutes, and bicycle turns are not anticipated to occur in every direction during every cycle. Furthermore, pedestrian activity in Rancho Mirage without CV Link is not projected to occur during every signal cycle. The highest pedestrian projection at any location in the City of Rancho Mirage is 21 pedestrians per hour, or an average of 1 every three minutes. This average is actually conservative, as pedestrians are more likely to travel together than cyclists, possibly including a parent with child(ren). For the Proposed Project, LSEV activity is projected to be nominal (less than 2 per hour) at most locations in the City of Rancho Mirage. In the event that special accommodations are not provided, LSEV users operate as pedestrians, utilizing existing crosswalks, push-buttons, etc. The volume of CV Link passing through Rancho Mirage would be low and would have a less than significant impact on these Rancho Mirage facilities or roadways. Therefore, the implementation of the Terminus B design would not result in CV Link users significantly affecting Rancho Mirage streets or other transportation facilities.

West Terminus B is preferable from a safety standpoint because it would connect CV Link users directly to existing Class I (off street) bike, pedestrian, and golf cart infrastructure in Rancho Mirage. However, this connection cannot be made without the approval of Rancho Mirage voters. Terminus A has the advantage of space for parking and other access point amenities, but would require CV Link users to use on-street facilities to continue travel in Rancho Mirage. On-street facilities are less safe than off-street facilities because the increased likelihood of conflicts with fast moving automobile traffic.

East Rancho Mirage Terminus

The East Rancho Mirage Terminus ties directly into existing Rancho Mirage pedestrian, bicycle and golf cart facilities located on Parkview Drive, which to the east connect directly with the College of the Desert Palm Desert campus and the Palm Desert Civic Center and park beyond. The East Terminus also provides convenient access to a wide array of commercial services, as well as access to the local Santa Rosa Mountains trail system, including the very popular Bump and Grind Trail, which allows hikers and mountain bikers. In the absence of multi-modal facilities in the eastern part of Rancho Mirage, excepting sidewalks, access through the downtown portion of Rancho Mirage is constrained and is unlikely to attract CV Link users for this reason. Based upon the location of the proposed East Rancho Mirage Terminus and the availability of points of interest, recreational opportunities and commercial services, the location and use of East Terminus will not result in CV Link users significantly affecting Rancho Mirage streets or other transportation facilities.

Intersections Impacts Summary

The analysis of potential CV Link impacts on the local and regional transportation network assumes that no new vehicular traffic will be generated, but rather the subject multi-modal project will reduce vehicular traffic over time. CV Link alignments would interface with 33 roadway intersections and would rely upon and add to roadway improvements and traffic controls designed to ensure safety and acceptable levels of service for all users.

Therefore, initially there will be de minimis but beneficial effects on vehicular traffic reductions upon CV Link opening at all 33 intersections, which will operate as they do now. Over time, CV Link improvements will further benefit vehicular roadway operations at these intersections, where CV Link users will make up a larger percentage of roadway users, thereby reducing vehicle volumes at these locations versus what they would be without CV Link. As a result, the area-wide "buildout" period for surrounding lands and future traffic volumes was assumed for the Year 2040 and were computed based on this buildout year and associated land use patterns and socio-economic conditions in that year.

The following summarizes the conditions that will exist at the project intersections in 2040 with the implementation of already programmed General Plan roadway improvements, those improvements associated with the Proposed Project, and with the anticipated growth in background vehicular traffic. Where appropriate, intersections are noted by their number (as shown on the above tables) and by the name of intersecting streets. Intersection number and review are generally west to east along the proposed CV Link route.

As noted above, the analysis considered CV Link improvements, and in some cases, General Plan improvements and/or additional improvements (such as Traffic Signal Modification), all of which are already programmed for construction. The analysis determined that with project design features set forth in the CV Link master planning documents and other already programmed improvements, all study area intersections are projected to experience acceptable operations.

Palm Canyon Drive (SR-111) at San Rafael Drive/Tramway Road (#1): At this intersection, the CV Link project proposes a new north side crosswalk connecting the Palm Springs Visitor Center to the east side of Palm Canyon Drive. In addition, the project proposes that the existing signal be enhanced with CV Link crosswalks and curb ramps and a new path be installed on the east side between W. San Rafael Drive and Gateway Drive. The proposed crosswalk involves adjustment of the stop bar location (limit line before the crosswalk or intersection) for the southbound lanes, and restriping the existing left turn bay transition.

Indian Canyon Drive at Sunrise Parkway (#2): CV Link crosses this intersection in an east/west direction at grade on the north side of the street. The future Sunrise Parkway intersection at Indian Canyon Drive will include full traffic signals and lane improvements included in the City of Palm Springs General Plan. The future Sunrise Parkway intersection at Indian Canyon Drive will include full traffic signals and lane improvements included in the City of Palm Springs General Plan. The CV Link intersection analysis is performed without improvements, with project and other improvements, and with General Plan improvements. With City of Palm Springs General Plan improvements, the intersection is projected to experience acceptable operation (Level of Service "D" or better) for 2040 conditions.

Sunrise Way at San Rafael Drive intersection (#3): At this intersection the project proposes adjusting existing crosswalks on the north and east intersection legs at this location. Future bike accommodations along the CV Link route that would be constructed as a part of CV Link (Sunrise, north of San Rafael and San Rafael east of Sunrise) are also included and operations at these intersections are projected to experience acceptable levels of service (LOS "D" or better) for 2040 conditions.

Gene Autry Trail at Via Escuela (#4): For this intersection, CV link is anticipated to cross the north leg of the intersection. With improvements, the existing traffic signal would be modified to provide east/west split phasing and is projected to experience acceptable operation (LOS "D" or better) for 2040 conditions.

Clubhouse View at Vista Chino (#5): For this intersection, CV Link would include a new signal phase and crossing for the east leg of Vista Chino at the intersection of Clubhouse View and is projected to experience acceptable operation (LOS "D" or better) for 2040 conditions.

Sunrise Way/N. Riverside Drive (#6) and Sunrise Way/Mesquite Avenue (#7): For these two intersections, CV Link includes improvements for crosswalks along the south (for intersection #6) and east (for intersection #7) leg of the intersection. The proposed crosswalk location involves adjustment of the stop bar location and left turn striping for the incoming lanes. Along Sunrise Way between N. Riverside Drive and Mesquite Avenue, the alignment is shown east of Sunrise Way. Entering/exiting intersection #7 east of Sunrise Way, the route includes restriped and signposted Mesquite Avenue for CV Link LSEVs and bicyclists, and an existing path along Mesquite Golf Course - Tahquitz Creek Trail for bicyclists and pedestrians. Other project design features include traffic signal installation at the intersection of Sunrise Way at Riverside Drive (#6) to maintain acceptable intersection operations. It should be noted that both intersections are projected to experience acceptable operation (LOS "D" or better) for 2040 conditions.

Farrell Drive at Mesquite Avenue (#8): At this intersection of CV Link is proposed as lanes through the intersection in the east-west direction. Adjustments to left turn bays are included to accommodate CV Link. This intersection is projected to experience acceptable operation (LOS "D" or better) for 2040 conditions.

El Cielo Road at Mesquite Avenue (#9): At this intersection, CV Link crosses the south leg of El Cielo Road. CV Link lanes along Mesquite Avenue require restriping of the existing automobile lanes entering / exiting the intersection at El Cielo Road. This intersection is projected to experience acceptable operation (LOS "D" or better) for 2040 conditions.

34th Avenue at Crossley Road (#10): At this intersection, installation of a traffic signal with exclusive pedestrian scramble phase is proposed. The scramble phase only prioritizes pedestrians over vehicles during a portion of the traffic control cycle, while prioritizing vehicles over pedestrians for the remainder of the cycle. It also has benefits for pedestrian amenity and safety. Crosswalks are included on all legs of the intersection, and adjustments to the existing left turn bays allow for stop bar adjustments. This intersection is projected to experience acceptable operation (LOS "D" or better) for 2040 conditions.

Golf Club Drive at Tahquitz Creek (#11): Golf Club Drive is a four-lane road, and CV Link includes a crosswalk with push button at a planned Tahquitz Creek Pedestrian/Bike crossing at this location. It is projected to experience acceptable operation (LOS "D" or better) for 2040 conditions.

Cathedral Canyon Drive at Officer David Vasquez Road (#12): CV Link includes crosswalk improvements on the north leg of this intersection. This intersection is projected to experience acceptable operation (LOS "D" or better) for 2040 conditions.

Date Palm Drive at Perez Road (#13): At this intersection, CV Link provides new "Cathedral Canyon Channel Promontory Park" regional access and includes crosswalk improvements on the south leg. This intersection is projected to experience acceptable operation (LOS "D" or better) for 2040 conditions.

Monterey Avenue at Parkview Drive (#24): At this intersection, CV Link includes crosswalk improvements on the north leg of the intersection. Lanes for CV Link users are provided on the north side of Parkview Drive west of Monterey Avenue. Auto lanes are adjusted as necessary to accommodate CV Link lanes. This intersection is projected to experience acceptable operation (LOS "D" or better) for 2040 conditions.

San Pablo Avenue Intersections at COD (#26) and Magnesia Falls Drive (#25): Shared lane updates for CV Link users are included on Alumni Drive. Both intersections are projected to experience acceptable operation (LOS "D" or better) for 2040 conditions.

Magnesia Falls Drive at Portola Avenue (#27): This intersection includes vehicle striping improvements to accommodate CV Link lanes. This intersection is projected to experience acceptable operation (LOS "D" or better) for 2040 conditions.

El Dorado Drive at Fred Waring Drive (#28): At this intersection, CV Link improvements include crosswalk improvements for the north, west, and east legs of the intersection. Other traffic signal project design features include a northbound right turn overlap phase to maintain acceptable intersection operations.

Dune Palms Road at Corporate Center Drive (#29): At this location, CV Link is planned on the northwest corner side of this intersection. Other project design features include installation of traffic signal at this intersection to maintain acceptable intersection operation.

Monroe Street south of the I-10 Freeway (#30): This location includes the provision of an undercrossing of Monroe Street by CV Link, with a nearby access point located east of Monroe Street.

Avenue 44 east of Palo Verde Street – Circle Drive (#31): At this location, a north/south crosswalk with High-Intensity Activated crossWalK (HAWK) beacon is provided for CV Link. A HAWK beacon is a traffic control device used to stop road traffic and allow pedestrians to cross safely. The purpose of a HAWK beacon is to allow protected pedestrian crossings, stopping road traffic only as needed. Where standard traffic signal warrants prevent the installation of standard three-color traffic signals, the HAWK beacon provides an alternative. This location is projected to experience acceptable operation (LOS "D" or better) for 2040 conditions.

Dillon Road west of SR-86S SB ramps (#32): This intersection of Dillon Road with the proposed CV Link route is planned initially for an at-grade crossing with an undercrossing planned as a part of the CV Link project for the longer term when bridge improvements are made. Initially at this location, a north/south crosswalk with High-Intensity Activated crossWalK (HAWK) beacon is provided for CV Link. Future bridge improvements are planned that will provide for the eventual addition of the undercrossing. Both in the near-term (with at-grade crossing) and long-term (with bridge undercrossing), this location is projected to experience acceptable operation (LOS "D" or better) for 2040 conditions.

Tyler Street-Magnolia Avenue at Avenue 50-Tyler Street (#33): As with #32, this intersection is also initially planned for an at-grade north/south crosswalk, with an undercrossing planned as a part of the future Avenue 50 bridge construction. CV Link project design features include installation of traffic signal at this intersection to maintain acceptable intersection operations. Both in the near-term (with at-grade crossing) and long-term (with bridge undercrossing), this location is projected to experience acceptable operation (LOS "D" or better) for 2040 conditions.

CV Link Construction Impacts

CV Link alignments include those that will directly interface with the local street network at 33 intersections. CV Link will also include segments that are located within the existing and/or future roadway paved section or within the roadway right of way. Project-related improvements include curb adjustments and pavement re-striping, crosswalk painting, beacon and signal installations and relocations, and in some cases pavement adjustments. CV Link construction may also require the installation of temporary pavement, drainage and/or lighting, as well as temporary barriers and curbs,

Many of the impacts to the existing transportation network during CV Link construction will include temporary lane closures, modified signal controls and temporary stop signs, limited excavation and equipment installation, and by-pass or closures for pedestrian and bicycle paths. The need for full intersection closures is not anticipated except on occasions where Link construction is occurring over roadways, such as for CV Link overcrossings. CV Link construction is not expected to impact access to surrounding properties.

In summary, CV Link construction impacts on the local roadway network will be temporary, construction/traffic management, including lane adjustments or closures, staging areas and limits of work delineation, will be planned in a manner that avoids and minimizes impacts to the traveling public. It should also be noted that the project

contractor will be required to provide construction management plans, including any and all temporary facilities needed to accomplish project improvements while preserving traffic flow and safety to the greatest extent practicable. Standard methods to be applied to construction management are discussed in the mitigation section below (please see mitigation measures TRA-1 through 6). Project impacts will be less than significant.

Other CV Link Impacts

In 2040, CV Link will capture approximately 1.26 million bike trips, 970,000 LSEV trips, and 1.04 million pedestrian trips. Based on the non-motorized demand tool, which is a part of the RivTAM Model, it is estimated that on average approximately 35% of the pedestrian trips attracted to CV Link will replace vehicle trips. The mode shift from vehicle trips has been estimated to be approximately 50% for bicycle trips, and 75% for LSEV trips.[19] The addition of an integrated and safe option for bicycle travelers, LSEV users, and pedestrians in the Coachella Valley is also projected to induce new travel by these modes, in addition to reducing vehicle miles traveled in conventional motor vehicles.

The savings in automobile VMT with CV Link is estimated to be approximately 7.4 million miles annually for the Proposed Project in 2040, which is a substantial beneficial impact. By addressing current deficiencies in the existing walking and bicycling network in Coachella Valley, and creating an iconic new multimodal corridor, CV Link will help achieve goals relating to public health and safety by providing safer infrastructure for people to walk and ride bicycles and utilize LSEVs for transportation and recreation. It will also provide transportation options that are more economical than automobiles, thereby improving the mobility of all income populations. All of these effects can be considered beneficial impacts of the CV Link project.

Railway Facilities

There is a limited direct nexus between the proposed CV Link project and local and regional railroad facilities, this being the passage of the Link beneath the Union Pacific Railroad (UPRR) bridge crossing the Coachella Valley Stormwater Channel in the vicinity of Indio Boulevard in Indio. The Link path will descend into the channel side slope and pass between UPRR bridge trestles. Construction of this segment will be coordinated with CVWD and the UPRR and is not expected to impact these facilities or their operation in the near or long-term. Indirect impacts will be nil, there being no service demand nexus between railroad facilities and operations and CV Link.

Conclusion

During the development of the CV Link project, the project planners and proponents reviewed transportation-related planning and technical documents of the various local jurisdictions to harmonize the Link design with local transportation planning and regulations. These included a review of the various General Plan Circulation Elements (and related elements), the SCAG Regional Transportation Plan, Riverside County Transportation Commission Congestion Management Plan, the CVAG Active Transportation Plan and other plans, ordinances and polices with which the project might conflict. It is also important to note that as the project proponent, CVAG is acting on behalf of its member jurisdictions and regularly solicits input and concurrence on CV Link plans and challenges from member jurisdictions throughout the plan development process.

[19] "CV Link Corridor Transportation Analysis" prepared by Urban Crossroads, Inc. August 2016. The RivTAM Model includes a mode choice component that analyses socio-economic data, land use patterns and other data in an area, as well as patterns of trip distribution, time of day and other factors. The mode choice process relates to "how to travel" and is closely tied to the decision regarding "where to travel" (trip distribution). The travel demand forecasting that takes place currently for the most part separates these decisions, with trip distribution being estimated first, followed by the mode choice modeling process. Also see Section 6.2 of the CV Link traffic analysis report.

CV Link planners have met with all jurisdictions throughout the CV Link development process, and continue to review evolving CV Link plans with those jurisdictions that are not opposed to the project and its proponents. Further, CVAG's inter-jurisdictional committee structure has been used as a platform to inform, update, and receive feedback on CV Link plans from all the cities, the County, and three Tribes.

The Proposed Project for CV Link will not conflict with any of the various plans regulating transportation infrastructure construction or operation in the participating jurisdictions. Rather, the project builds off of and is meant to complement existing transportation plans, including and especially those associated with the provision of multi-modal facilities. Careful consideration has also been given to not conflict with the policies and ordinances of the City of Rancho Mirage, which is not participating in the Proposed project. Therefore, the CV Link Proposed Project will have a less than significant

b) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways.

The CV Link project interfaces with only one arterial roadway, Monterey Avenue at Parkview Drive where, as noted above, impacts to levels of service in the near and long-term will be less than significant. Furthermore, the project serves to implement the multi-modal performance standards set forth in the CMP, as well as helping to address long-term LOS deficiencies and improving local and regional air quality. The CV Link Proposed Project will be consistent with and will facilitate the achievement of CMP goals and programs. In this regard, the project will have a less than significant impact on CMP facilities and will have a beneficial impact in helping to achieve CMP goals.

c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks.

The CV Link project will have a less than significant impact on facilities, and near and long-term operations at the Palm Springs International Airport, the Jacqueline Cochran Regional Airport and the private Bermuda Dunes Airport. The project could contribute to the overall appeal and destination value of the Coachella Valley, providing a transportation and recreational asset that is highly values in resort destination communities. In this regard and though difficult to measure, the project could help to induce additional growth in visitors arriving in the Valley by passenger aircraft primarily at the Palm Springs Airport. The Proposed Project facilities will not be located in proximity to any airport and is not located within any airport land use plan.

As noted above, the CV Link project will have a negligible impact on air traffic patterns, will not increase levels of air travel or traffic, and will not introduce a use at a location that could result in substantial safety risks. No impact would occur.

d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).

As noted above, pedestrian and bicyclist injuries and fatalities have been one of the greatest concerns in efforts to expand the multi-modal transportation network. Pedestrians comprise about 10.9% of all trips but 14% of all traffic fatalities[20]. Most accidents are attributable to wrong-way bicycling, distracted driving and "looked but failed to see" bicyclists and drivers. Analysis of local motor vehicle accidents involving pedestrians and bicyclists

[20] "Annual Deaths Attributable to Obesity in the United States", Allison, David B., Kevin R. Fontaine, JoAnn E. Manson, June Stevens, Theodore B. VanItallie, and Ali H. Mokdad. JAMA. 1999; 282:1530-1538. Vol. 293 No. 3, January 19, 2005.

indicates that between 2005 and 2012 the cities of Indian Wells, Palm Desert and Palm Springs had bicycle collision rates higher than the state average. All Coachella Valley cities and the County have bicycle safety education programs in place, with the exception of the cities of Indian Wells and Rancho Mirage.[21]

As noted in the discussion above, there are limited reliable statistics on the incidence of collisions between pedestrians and bicyclists. Available data do indicate that while the numbers appear to be low this is an appropriate area of concern. The primary area of conflict where pedestrians and bicyclists are at greatest risk is where they interface with vehicular traffic. The basic design premise of CV Link is to provide a multi-modal facility that is separate from the roadway network and its associated hazards. The potential for pedestrian/bicyclist collisions is substantially lower on CV Link given that most of its alignments are off-street. The design standards and specifics of CV Link take into account the potential conflicts between pedestrian, bicycles and autos. As noted, one of the principle goals of the CV Link project is to provide safer facilities for all multi-modal users.

A number of design elements and features have been included in the CV Link master plan to address existing and future safety issues, including maximizing the extent of off-street facilities and siting the Link on stormwater channel levees and embankments. Bridges and roadway undercrossings are widely used along the route, which avoid the interaction of multi-modal Link users with vehicular traffic. Other safety-related design features include the incorporation of state of the art on-street traffic controls, including HAWK and other controls that maximize safety while maintaining traffic flow.

On-path improvements planned to enhance safety include the provision of pullouts and rest areas that are distributed along the route. Lighting and shade structures are also provided along CV Link to further enhance safety along the pathway. Signage along the pathway, including and especially where CV Link crosses the flow of or intersects with vehicular traffic, will also minimize confusion, enhance wayfinding and help to harmonize the various modes of travel.

As noted above and as described in the CV Link master plan, an important component of the project is the inclusion of High-Intensity Activated crossWalK (HAWK) beacons. The plan also calls for the use of Rectangular Rapid Flashing Beacons (RRFB) or Pedestrian Hybrid Beacons (aka HAWK). These are Caltrans- and FHWA-approved devices that are proposed at locations where no traffic signal currently exists.

The CV Link Corridor Transportation Analysis prepared for this project includes an assessment of possible safety issues associated with the project. The analysis concludes that the proposed CV Link improvements will substantially enhance and address existing safety issues associated with multi-modal transportation in the Coachella Valley. As noted above, a variety of design solutions and traffics control for all users (motor vehicles and alternative modes) have been incorporated into the project design, which serve to avoid, minimize and mitigate potential conflicts and safety impacts. Refinement of plans and signal technology will be coordinated with Public Works departments of each affected jurisdiction. Therefore, the project will not introduce new safety issues or concerns, but rather will serve to enhance existing multi-modal travel and ensure that CV Link users are also as safe as can be provided.

Rancho Mirage West-End Termini

As noted, the Proposed Project does not include the CV Link alignments originally planned to pass through Rancho Mirage. Therefore, west and east-end Link termini have been developed to address the gap in the CV Link route and provide logical locations for CV Link users to continue on existing multi-modal facilities or return along the alignment taken. For the west-end terminus project designers developed two alternatives, the first placing Terminus A on Buddy Rogers Avenue in Cathedral City just south of the Whitewater River Channel (West Terminus A).

[21] Ibid.

Alternatively, Terminus B would be located at the northwest corner of Frank Sinatra Drive and Da Vall Drive (West Terminus B), and adjacent to the wash. Terminus B would be reached via continuation along the channel service road and along an in-channel segment to the existing cross-channel path just north of Frank Sinatra Drive to the end point. Terminus B would benefit from full CV Link access point improvements. The CV Link Conceptual Master Plan makes provision for a Link user intersection crossing to the south side of Frank Sinatra Drive. At this location Terminus B would provide direct access to adjoining multi-modal on and off-street facilities. The limited CV Link user traffic at this location can be accommodated with the existing southbound and eastbound fully signalized crosswalks. Under the Proposed Project, both safety and level of service criteria are met at this location with existing improvements.

Rancho Mirage East-End Termini

As discussed above, the East Rancho Mirage Terminus ties directly into existing Rancho Mirage pedestrian, bicycle and golf cart facilities located on Parkview Drive, which to the east connect directly with the College of the Desert Palm Desert campus and the Palm Desert Civic Center and park beyond. The East Terminus also provides convenient access to a wide array of commercial services, as well as access to the local Santa Rosa Mountains trail system, including the very popular Bump and Grind Trail, which allows hikers and mountain bikers. In the absence of multi-modal facilities in the eastern part of Rancho Mirage, excepting sidewalks, access through the downtown portion of Rancho Mirage is constrained and is unlikely to attract CV Link users for this reason. Based upon the location of the proposed East Rancho Mirage Terminus and the availability of points of interest, recreational opportunities and commercial services, the location and use of East Terminus will not result in CV Link users significantly affecting Rancho Mirage streets or other transportation facilities.

CV Link designs and facilities have been developed in compliance with the American Association of State Highway and Transportation Officials (AASHTO) Guide for the Development of Bicycle Facilities and the National Association of City Transportation Officials (NACTO) Urban Street Design Guide also provide additional bikeway guidance not included in the California Highway Design Manual. CV Link also complies with the Americans With Disabilities Act (ADA).

Caltrans standards are used to design bikeways by most jurisdictions throughout California, and the Coachella Valley area adheres to Caltrans bikeway standards. These have also been used as design guidance for the CV Link protect. There have traditionally been three classifications for bicycle facilities: Class I, Class II, and Class III bikeways. The Protected Bikeways Act of 2014 (Assembly Bill 1193 - Ting, Chapter 495) established Class IV Bikeways for California. The project will not result in substantial or significant increases in hazards.

e) Result in inadequate emergency access.

The CV Link Conceptual Master Plan was developed in cooperation and coordination with police chiefs and emergency services managers and a variety of design components were identified critical to adequate emergency access. Several access points to CV Link will be provided to ensure an efficient emergency response.

Police departments and emergency services will have several access points to CV Link to provide efficient emergency response. For every mile marker, a physical address will be created in the 911-response system and a shortest path route should be mapped to emergency service provider locations. For every quarter mile of CV Link a mile-marker will be placed in accordance with AASHTO guidelines, and wayfinding signs at major streets, overcrossings, and undercrossing will also be provided to allow users to easily identify their location in case of an emergency. CV Link may also provide a useful alternative escape or access route in the event of an emergency, such as an earthquake. During a major natural disaster, principle highways may be congested or impassable, and even if portions are damaged, CV Link could provide additional capacity and network redundancy.

f) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.

The CV Link project was developed based, in part, on a review of transportation-related planning and technical documents of the various local jurisdictions in order to harmonize the Link design with local transportation planning, facilities and regulations. CV Link would result in the construction of bicycle, pedestrian and LSEV facilities, and would also provide enhanced access to employment centers, institutional uses (schools, civic centers, etc.), business districts, and parks and open space areas. CV Link will also enhance access to regional and local transit facilities by enhancing access to transit stops located in proximity to CV Link alignments. CV Link will not conflict with such transit facilities or plans.

As noted in the thresholds discussion above, the immediate and long-term operation of CV Link will be consistent with General Plan level of service goals or targets for all participating jurisdictions. As demonstrated in the CV Link transportation analysis, none of the 33 potentially impacted intersections will experience service levels that exceed LOS “D”. It should be noted that Highway 111, Ramon Road and Monterey Avenue are included on the CMP roadway system, where for principal arterials the CMP service standard is LOS "E" or better.

The potential of CV Link to conflict with adopted policies, plans and programs associated with public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities is analyzed in detail for each affected jurisdiction in Section 4.10.3 of this EIR. This analysis concludes that CV Link will not result in such conflicts, but rather will complement and enhance these policies, plans and programs, provide new multi-modal facilities that increase their performance and reduce safety issues associated with multi-modal facilities that must share the road with motor vehicles.

It is again important to note that as the project proponent, CVAG is acting on behalf of its member jurisdictions and have provided input and secured concurrence throughout the plan development process. CVAG and its members have also adopted the 2016 CVAG Active Transportation Plan, which updates regional policies and programs, and harmonizes them with those of state and federal programs supporting development of multi-modal and active transportation facilities.

The Proposed Project does not conflict with, but rather complements, the adopted policies, plans, and programs of the participating jurisdictions as they relate to public transit, bicycle, or pedestrian facilities. The project also serves to enhance, rather than decrease, the performance and safety of these multi-modal facilities.

4.16.6. Mitigation Measures

As noted above, a comprehensive traffic impact analysis was conducted to assess the potential impacts associated with development and operation of the CV Link project. In addition, jurisdiction-specific and regional traffic analyses were conducted for potential impacts to vehicular traffic and facilities, as well as multi-modal users. A wide range of new traffic counts other traffic data and information were collected to conduct this analysis.

It is important to note that the Proposed Project provides new and enhanced multi-modal transportation infrastructure that will reduce motor vehicle traffic and vehicle miles traveled, and reduce impacts to the local roadway network and preserve capacity. Beneficial effects will be immediate and will increase over time with the growth in CV Link use and its interconnection with other multi-modal facilities. CV Link and programmed roadway and intersection improvements will ensure that initially and through 2040, CV Link facilities will reduce traffic and improve roadway and intersection performance, maintaining acceptable levels of service. Therefore, the following measures can be best referred to as avoidance and minimization measures.

Based upon this analysis, project impacts are expected to be less than significant. Nonetheless, general and specific avoidance and minimization measures are provided below that will further reduce project impacts and facilitate development and maintenance of a safe and efficient transportation system that serves the Valley. General mitigation measures that further reduce impacts, such as those associated with project construction, are set forth below.

TRA-1 The construction activities shall meet or exceed all applicable federal, state and local statutory requirements for public safety.

TRA-2 All necessary permits or approvals, including traffic control plans, shall be secured prior to the initiation of site disturbance such as grading, paving and other construction activities where public streets may be affected. Prior to the initiation of site development, CVAG shall confer with the appropriate City Public Works Department to ensure that construction activities and traffic control are carried out in a manner that causes minimal disruption to traffic on adjoining city streets.

TRA-3 The Construction Manager shall be required to identify and promptly repair any project-related damage to existing public roads upon completion of the construction activities within the project site. The contractor shall monitor the condition of these routes throughout the construction process and, in the event of an accidental load spill, to arrange for the immediate cleanup of any spilled material with street sweeping or other procedures, as needed.

TRA-4 The final location and design of the Link access points and the internal circulation improvements shall comply with applicable city access and design standards, and be reviewed by the City Engineer. CVAG shall submit CV Link and associated street improvement and striping plans to each respective City Engineer for review and approval, prior to the issuance of grading and/or construction permits.

TRA-5 Properly designed and maintained CV Link and any associated street, roadway, and access area lighting shall be provided along the CV Link route as identified in the final plans, to facilitate the safe movement of vehicular, pedestrian and bicycle traffic, and to ensure good visibility under both daylight and nighttime conditions.

TRA-6 In order to minimize or avoid accessibility issues for nearby residences, business and schools, CVAG and the CV Link Construction Manager shall develop and implement construction management strategies and traffic control and operations plans that maximize the efficiency of construction and minimize the disruption of traffic flow through CV Link construction areas. Traffic control plans shall be approved by the affected jurisdiction, and shall include requirements that at least one lane remain open in each direction; that signage be installed for road work and/or detours; and that emergency vehicle access is not affected.

4.16.7. Significance After Mitigation

The CV Link Proposed Project will have a less than significant adverse impact on transportation facilities and operations. The project provides transportation facilities that address a wide range of transportation and policy needs. The project will not result in any significant adverse impacts from construction or operation. Rather, the CV Link Proposed Project will have significant beneficial impacts to local and regional traffic and to achieving the goals and policies of CVAG, its member jurisdictions, as well as state and federal transportation goals.

4.16.8. Cumulative Impacts

As noted above, CV Link has been developed within the framework of local and regional transportation planning and policy. In addition to being consistent with the Circulation/Mobility Elements of the local jurisdictions, CV Link is also consistent with and implements the SCAG Regional Transportation Plan and Coachella Valley's

CVAG Active Transportation Plan. CV Link also implements such important federal transportation plans as "Complete Streets", which serve to enhance roadway access to and use by all modes of transportation, including pedestrian, bicyclists and LSEVs.

The CV Link Proposed Project will have a less than considerable adverse cumulative impact on local and regional transportation facilities and operations. Rather, CV Link will provide a cumulatively beneficial impact on these facilities, their operations and levels of service. The project provides much needed multi-modal transportation facilities that address an identified need for a larger and more diverse multi-modal network in the Coachella Valley. Therefore, the project will not result in any cumulatively considerable adverse impacts but, rather, the CV Link Proposed Project's contributions will have cumulatively considerable beneficial effects on local and regional traffic of all types and modes.

4.17. Utilities and Service Systems

4.17.1. Introduction

This section details potential impacts on utilities and service systems that could occur as a result of implementing the Proposed Project and examines the level of impact the project will have on utilities and public services. Utilities and service systems discussed in this section include water, wastewater, solid waste facilities, electricity, natural gas, and telecommunications.

The utilities and service systems analysis prepared for CV Link evaluates the existing utilities and service systems providers and their capacities along CV Link alignments where activity levels may require utility infrastructure, and how those utilities and services operations may be impacted. The utilities and services system analysis focuses on the refinement of analysis criteria and methodologies, review of project plans, compilation of existing infrastructures and their capacities from the cities' general plans, general plan EIRs, and online databases. Utilities and service systems including water, wastewater, solid waste, electricity, natural gas, and telecommunications facilities and demand estimates were then evaluated for CV Link construction and operational (e.g. maintenance and users) phases using information derived from the CV Link Conceptual Master Plan. Finally, an evaluation of utilities and service system issues and safety considerations associated with the planned CV Link facility, particularly focusing on at-grade crossings and users, was undertaken.

4.17.2. Thresholds of Significance

Based on Appendix G of the State CEQA Guidelines, a project would have a significant impact relating to utilities and service systems if it would:

a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board.

b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.

c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.

d) Not have sufficient water supplies available to serve the project from existing entitlements and resources, or require new or expanded entitlements.

e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments.

f) Not be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs.

g) Not comply with federal, state, and local statutes and regulations related to solid waste.

4.17.3. Regulatory Framework

Federal

No federal regulations relative to utilities and service systems would be applicable to the proposed project

State

Porter-Cologne Water Quality Control Act

California's Porter-Cologne Act, enacted in 1969, provides the legal basis for water quality regulation within California. This Act requires a "Report of Waste Discharge" for any discharge of waste (liquid, solid, or gaseous) to land or surface waters that may impair beneficial uses for surface and/or groundwater of the State. It predates the Federal Clean Water Act (CWA) and regulates discharges to waters of the State. Waters of the State include more than just waters of the U.S., like groundwater and surface waters not considered waters of the U.S. Additionally, it prohibits discharges of "waste" as defined and this definition is broader than the CWA definition of "pollutant". Discharges under the Porter-Cologne Act are permitted by Waste Discharge Requirements (WDRs) and may be required even when the discharge is already permitted or exempt under the CWA.

The State Water Resources Control Board (SWRCB) and Regional WQCBs are responsible for establishing the water quality standards (objectives and beneficial uses) required by the CWA, and regulating discharges to ensure compliance with the water quality standards. Details regarding water quality standards in a project area are contained in the applicable RWQCB Basin Plan. In California, Regional Boards designate beneficial uses for all water body segments in their jurisdictions, and then set criteria necessary to protect these uses. Consequently, the water quality standards developed for particular water segments are based on the designated use and vary depending on such use. In addition, the SWRCB identifies waters failing to meet standards for specific pollutants, which are then state-listed in accordance with CWA Section 303(d). If a state determines that waters are impaired for one or more constituents and the standards cannot be met through point source or non-source point controls (NPDES permits or Waste Discharge Requirements), the CWA requires the establishment of Total Maximum Daily Loads (TMDLs). TMDLs specify allowable pollutant loads from all sources (point, non-point, and natural) for a given watershed.

California Integrated Waste Management Act of 1989

The California Integrated Waste Management Act of 1989 (Public Resources Code [PRC], Division 30), enacted through Assembly Bill (AB) 939 and modified by subsequent legislation, required all California cities and counties to implement programs to reduce, recycle, and compost at least 50% of wastes by the year 2000 (PRC Section 41780). The California Department of Resources, Recycling, and Recovery determines compliance with this mandate to divert generated waste (which includes both disposed and diverted waste).

Regional and Local

The Riverside County Integrated Waste Management Plan and certain municipal codes are applicable to the CV Link project, which are discussed below, also, incorporated in the project impact discussion.

Riverside County Integrated Waste Management Plan

In compliance with AB 939, Riverside County adopted an Integrated Waste Management Plan (CIWMP) in 1996 to divert a minimum of 25% solid waste landfill by 1995 and 50% by the year 2000. The CIWMP does not specifically address the reduction of construction and demolition debris or operational waste as related to the project, but provides guidelines for managing waste, which are incorporated in the analysis.

City of Palm Springs Municipal Code, Chapter 7
Recycled and Energy Consumptive Materials Environmental Procurement Ordinance (1605 § 1, 2002) (7.05.050) was adopted under Ordinance 1605 in 2002. The code contains salvage requirements, and requires the review and approval of specifications for the procurement of selected materials based on consideration of recycling, energy conservation, life cycle costs and other environmental considerations.

City of La Quinta Municipal Code, Chapter 9
Trash and recyclable materials storage Ordinance (284 § 1 (Exh. A, B) (part) 1996) (9.100.200) was adopted in compliance with Ordinance 284 in 1996. The code contains salvage requirements to implement the provisions of State Public Resources Code Section 42900 et seq. which requires local jurisdictions to provide regulations governing adequate areas for collection and loading of recyclable materials in multiple-family residential and nonresidential development projects. This section also addresses the related subject of common trash areas in such projects.

The City of Indio Construction and Demolition (C&D) Debris Recycling Program
The City of Indio operates a Construction and Demolition Debris Recycling Program, codified in Ordinance 1501. This Ordinance requires that certain construction and demolition projects achieve waste diversion rates of up to 50%. The Ordinance requires that a C&D Recycling Plan be submitted and approved by the City before a construction permit is issued.

The City of Coachella Municipal Code, Chapter 17.90
Chapter 17.90 was adopted by Ordinance 1065, in 2014. The code contains salvage requirements to implement the land use regulations, development standards and operational restrictions for the establishment of recycling operations to protect the public health, safety, general welfare, and quality of life in the city, while providing opportunities for certain recycling operations to establish in the city's commercial and industrial districts.

4.17.4. Existing Conditions

Water Service
There are six principal domestic water purveyors in the Coachella Valley: the Coachella Valley Water District (CVWD), Desert Water Agency (DWA), Mission Springs Water District (MSWD), City of Coachella, Coachella Water Authority (CWA), City of Indio Water Authority (IWA), and Myoma Dunes Mutual Water Company.[1,2,3,4,5,6] MSWD's and Myoma Dunes Mutual Water Company's service areas are outside the boundaries of CV Link. The project will be served by CVWD, DWA, CWA and IWA.

All of these providers supply their costumers primarily through wells extracting groundwater. The Coachella Valley's principal groundwater basin is Whitewater River Subbasin, which has an estimated storage capacity of approximately 30 million acre-feet (AF). In addition to natural groundwater sources, CVWD, DWA, IWA, and CWA have water-recycling programs to supply recycled water within their service areas. Since 1965, recycled water has been a priority water supply in the Valley. Based on the Coachella Valley Water Management Plan, CVWD and DWA provide more than 14,000 AF per year of recycled water for golf course and greenbelt irrigation purposes from four wastewater treatment facilities.

1 Coachella Valley Water District; www.cvwd.org; Accessed on 08.09.2016.
2 Desert Water Agency; www.dwa.org; Accessed on 08.09.2016.
3 Mission Springs Water District; www.mswd.org; Accessed on 08.09.2016.
4 City of Coachella; www.coachella.org/departments/water-department; Accessed on 08.09.2016.
5 2015 Urban Water Management Plan Prepared For Indio Water Authority (Public Draft, 2016)
6 Myoma Dunes Water Company; www.myomawater.com; Accessed on 08.09.2016.

All providers comply with state (California Department of Public Health) and federal (U.S. Environmental Protection Agency) drinking water quality standards. Each year, domestic water providers monitor for more than 100 regulated and unregulated chemicals. The domestic water supply meets state and federal standards; however, drinking water supplied to some service areas does contain low levels of naturally occurring hexavalent chromium (Cr6), arsenic, radon, and nitrates.

CVWD was formed in 1918 under the County Water District Act provisions of the California Water Code. CVWD's service area extends from the south end of Desert Hot Springs to Indio. CVWD relies on a combination of local groundwater, Colorado River water, State Water Project (SWP) water, and recycled water to meet water demands. The Coachella Canal brings Colorado River water from the All-American Canal near the Mexico-U.S. border and traverses the southeastern margin of the Valley. SWP water is obtained by exchange with Metropolitan Water District of Southern California, as CVWD does not have a direct connection to the SWP. The only direct water source for CVWD's urban potable water use is local groundwater. Although Colorado River and SWP water are used to replenish the groundwater basin, the potable water distribution system does not currently receive water directly from either imported water source.

DWA was formed in 1961 to import water in an effort to provide a reliable local water supply to its service area. It serves an area of about 325 square miles, including outlying county areas, part of Cathedral City, and most of the City of Palm Springs. DWA's groundwater comes from the Whitewater River subbasin beneath the Valley floor. Mountain streams also bring water by way of Chino Creek, Falls Creek and Snow Creek. Natural groundwater replenishment is supplemented with Colorado River water, which is imported through the Colorado River Aqueduct and percolated into the groundwater basin via recharge ponds near Windy Point.[7]

IWA was formed as a Joint Powers Authority in 2000, wholly owned by the City of Indio and Indio Redevelopment Agency, to be the legislative and policy entity responsible for delivering water to the City. IWA extracts groundwater to meet the needs of its service area. The groundwater is drawn from the Whitewater River Subbasin and is delivered to the service area via a pressurized distribution system of 326 miles of pipe supplied by 10 currently active wells. The IWA also has emergency intertie connections with CVWD and the City of Coachella. Since 2005, IWA has established active water conservation, water reuse, and groundwater recharge planning efforts to ensure adequate water availability and system capacity to meet the needs of the City.[8]

The City of Coachella's CWA was established in 1957, and is administered and managed by the Utilities General Manager. The City of Coachella is responsible for providing water service to its residents, and is the water supplier for the entire City service area. The main source of supply for the CWA is the Coachella Valley Groundwater Basin, specifically the East (Lower) Whitewater River Subbasin.[9]

Wastewater Service

Six agencies provide sewer service and wastewater treatment within the Coachella Valley: CVWD, DWA, the City of Coachella (Coachella Sanitary District), MSWD, the City of Palm Springs, and Valley Sanitary District (VSD). CVWD is the primary wastewater service provider for most of the Coachella Valley.[10] MSWD's service area lies outside the proposed CV Link boundary, and will not be impacted by the Proposed Project.

Table 4.17-1 provides a summary of the wastewater treatment plants (WWTP) in the Coachella Valley. Some isolated development in the East Coachella Valley, small portions of La Quinta, Rancho Mirage, Cathedral City and other scattered properties in the Coachella Valley are served by septic tanks. The tribal-owned casinos in the Valley are served by public sewer systems, while east Valley reservation communities are served by septic systems.

7 Water Quality Report 2013 by Desert Water Agency
8 2015 Urban Water Management Plan Public Draft by Indio Water Authority
9 Coachella General Plan 2012, DEIR
10 2010 Coachella Valley Water Management Plan Update

Table 4.17-1
Summary of Wastewater Treatment Plants In CV Link Planning Area

Agency	Treatment Plant	Plant Capacity (mgd)	Recycled Water Production
CVWD			
Thermal	WRP-4	7.0	No
Indio Hills	WRP-7	5.0	Yes
Palm Desert Country Club	WRP-9	0.40	Yes
City of Palm Desert	WRP-10	18 (existing), 22-24 (expansion)	Yes
City of Coachella (Coachella Sanitary District)	WWTP	4.5	No
City of Palm Springs	WWTP	10.9 (existing), 16.9 (expansion)	Yes
Desert Water Agency	WRP	5.0 (tertiary treatment for Palm Springs and secondary effluent)	Yes
Valley Sanitary District	WWTP in Indio	11	No

Source: 2010 Coachella Valley Water Management Plan Update

Total wastewater treatment capacity in the CV Link planning area is 61.8 million gallons per day. Three of CVWD's six water reclamation plants produce recycled water, which is primarily used for irrigation of golf courses and large landscaped areas. Recycled water use in the west Coachella Valley is approximately 11,700 acre-feet per year (AFY) (7,500 AFY by CVWD and 4,200 AFY by DWA). Recycled water use in the east Valley is approximately 700 AFY and is mainly used for agricultural irrigation, duck clubs and fish farms.

CV Link will be required to connect to the existing sanitary sewer system within each jurisdiction according to their regulations. CVWD, which operates wastewater treatment facilities in most of the planning area, will be the primary provider for the Proposed Project. All districts are subject to wastewater treatment standards established by the Regional Water Quality Control Board. All components of the Proposed Project will be required to design facilities consistent with local and Regional Board standards. Rest areas with restrooms and drinking fountains within the sewer service and wastewater treatment service areas of the respective provider will be connected to their sewer systems and subject to their wastewater treatment standards.

Solid Waste

Burrtec Waste and Recycling Services provides solid waste and recycling collection services for the cities of Cathedral City, Rancho Mirage, Palm Desert, Indian Wells, La Quinta, Indio, Coachella and the unincorporated community of Thermal. Palm Springs Disposal Services (PSDS) provides solid waste collection and disposal services to the City of Palm Springs.

Solid waste that is collected from these communities, including the CV Link planning area, is directed to the Badlands Sanitary Landfill in Moreno Valley, a Class III landfill operated by the Riverside County Waste Management Department (RCWMD). The Badlands Sanitary Landfill has a permitted capacity of 33,560,993 cubic yards and a maximum disposal capacity of 4,000 tons per day. The remaining capacity is approximately 14,730,025 cubic yards. The landfill solid waste permit lists an estimated closure date of 2016. The landfill accepts a variety of materials, including construction and demolition materials and agricultural ash.[11]

The RCWMD also operates the Mecca II Landfill, located at 95250 66th Avenue, in the unincorporated community of Mecca. The Mecca II Landfill has a permitted capacity of 452,182 cubic yards. The remaining capacity is approximately 6,371 cubic yards. The landfill solid waste permit lists an estimated closure date of

[11] Ibid.

2098. This estimate is based on an assumed four percent (4%) annual growth rate with an estimated 4 tons per year maximum disposal. The landfill accepts a variety of materials including construction and demolition materials and agricultural.

The Riverside County Lamb Canyon Landfill has a permitted capacity of 33,041,000 cubic yards and a maximum disposal capacity of 5,000 tons per day. The remaining capacity is approximately 18,955,000 cubic yards. The landfill solid waste permit lists an estimated closure date of 2021. The landfill accepts a variety of materials including construction and demolition materials and non-RCRA hazardous waste.[12]

Table 4.17-2 and 4.17-3 provide a summary of the waste and recycling service providers and existing landfills, respectively, in the CV Link project area.

Table 4.17-2
Summary of Waste and Recycling Service Providers

Agency	Service Area
Burrtec Waste and Recycling Services	Cathedral City Coachella Rancho Mirage Palm Desert Indian Wells La Quinta Indio Thermal
Desert Valley Disposal Inc.	Desert Hot springs
Palm Springs Disposal Services	Palm Springs
Source: City's General Plans	

Table 4.17-3
Summary of Existing Landfills

Landfill Sites	Address of landfills	Permitted capacity (cy)	Remaining capacity* (cy)	Estimated closure year
Badlands	31125 Ironwood Avenue Moreno Valley, CA 92555	33,560,993	14,730,025	2024
Mecca II	95250 66th Avenue Mecca, CA 92254	452,182	6,371	2098
Lamb Canyon	16411 Lamb Canyon Road Beaumont, CA 92223	33,041,000	18,955,000	2021
* Remaining Capacity As of Last Inspection (2009-2014) Source: CalRecycle 2015a.				

Riverside County adopted an Integrated Waste Management Plan (CIWMP) in 1996 to divert a minimum of 25 percent of its solid waste from landfills by 1995 and 50 percent by the year 2000. Currently, the cities with the County are required to maintain the 50 percent diversion for solid waste landfills. The cities within the County are also required to promote an integrated waste management system to emphasize on source reduction and recycling.

The amount of solid waste estimated to be generated by CV Link is approximately 5,750 tons per year, which is calculated based on 2.30 tons per year rate for recreational land use, given in CalRecycle's 2014 Waste Characterization Study, and total estimated daily users of 2,500 people for CV Link. CV Link will be required to

[12] Riverside County Department of Waste Resources, http://www.rcwaste.org/opencms/; Accessed on 10.04.2016.

maintain 50 percent waste diversion for each jurisdiction in accordance with CIWMP, based on this; the total solid waste generation for the project will be approximately 2,875 tons per year. Therefore, the project will only contribute 0.015% to Lamb Canyon's remaining capacity.

Electricity
The Southern California Edison (SCE) and Imperial Irrigation District (IID) provide electricity to the Coachella Valley including the CV Link planning area. Some support elements of CV Link, such as lighting at shade structures, WiFi equipment, security cameras, big belly trash systems, in-ground traffic counters, rest areas, restrooms, and lighting control systems may need electricity from SCE and IID. The electricity will be provided to CV Link either by SCE or IID where it will pass through their service areas. Electric poles are already available in some areas and will be constructed or extended where needed by local electric providers.

The total estimated power consumption for CV Link is approximately 819,527 kWh (See CV Link Draft Conceptual Master Plan Appendices – Table 5 CV Link Power Consumption). For the Proposed Project, approximately 734,296 kwh of electric power will be required. Solar panels will be installed on top of each shade structures to generate an extra source of electricity to power site lighting, CCTV cameras, WiFi base stations, and charging points. Solar panels will generate approximately 659,178 kWh. Based on this, approximately 89.79% of CV Link's electric need will be generated through 42 solar panels. Therefore, SCE and IID will provide only 10.23% (75,118 kWh) of the Proposed Project's electricity.

The demand and use of electricity associated with the Proposed Project are addressed in Section 4.11, Energy and Mineral Resources.

Natural Gas
The Gas Company and Southern California Gas Company, a subsidiary of Sempra Gas, provides natural gas to the Coachella Valley including CV Link planning area. According to CV Link's masters plan and designs, the project has no potential to utilize natural gas, therefore, no impacts relating to natural gas or demand for natural gas will occur.

Communications
Frontier Communications and Time Warner, are the primary landline telephone providers in the Coachella Valley, including the CV Link planning area. During the design development process and subject to development of a Safety and Security Plan, emergency call boxes may be implemented if it is determined that there are areas without a cellular signal. In that case, CV Link will be connected to the telecommunication system of the provider(s) available adjacent to the path. No impact is anticipated, and no further discussion is necessary.

4.17.5. Project Impacts

This analysis evaluates the potential for CV Link to directly affect utilities and services systems that would be associated with the construction, operation, and maintenance of the CV Link alignments and their facilities (e.g. shade structures and rest areas). Impacts to utilities and service systems associated with the implementation of the proposed CV Link were analyzed based on local planning documents, site surveys, and resource mapping.

According to the State CEQA Guidelines, the impact on utilities and service systems would be considered significant if new or expanded facilities would be required beyond those included in the Proposed Project description, the construction of which could result in an environmental impact. The solid waste analysis focuses on potential impacts related to landfill capacity resulting from the disposal of construction and operational waste, as well as the ability of local jurisdictions to comply with federal and State solid waste reduction goals and regulations.

a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board.

The buildout of CV Link will include approximately 44 miles of multi-modal transportation route along the Whitewater River and Tahquitz Creek to connect various cities of the Coachella Valley. The CV Link Route will pass through both rural and urbanized areas. Development of approximately 44 miles of pathway will not result in increased wastewater flows except eight rest areas which will include four restrooms and forty-four drinking fountain facilities. The wastewater generated by the project will not exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board.

Construction activities of the project may result in sediments such as trash and debris, oil and grease, fuels, lubricants, paints, and miscellaneous chemicals which may affect water quality. To minimize their impacts, construction BMPs will be designed and implemented as part of the project's NPDES permitting process, which will effectively reduce any pollutants of concern that may enter nearby receiving waters and/or wastewater treatment plants (also see Section 4.9, Hydrology and Water Resources). Portable toilets would be utilized only during construction (a limited timeframe) and waste would be disposed of according to required regulations.

Four proposed bathrooms are included in the Route. These restrooms are estimated to generate approximately 800 gallons of effluent per day. All of the local providers of sanitary sewage treatment have capacity to accommodate these flows, and are all subject to wastewater treatment standards established by the Regional Water Quality Control Board. All components of the Proposed Project will be required to design facilities consistent with Regional Board standards. These standards and requirements will assure that impacts associated with wastewater treatment requirements will be less than significant. The Proposed Project will not exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board (CRRWQCB), and no mitigation is required.

b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.

The Proposed Project would require water use during construction, primarily for periodic dust control on access roads and during earthmoving activities. However, this water use would be temporary in nature and would not generate wastewater that would require treatment or disposal.

For CV Link, the total estimated water demand during the construction phase is approximately 86.4 acre-feet. Water supplied to the rest stops for toilet and drinking water is estimated to be approximately 4.48 acre feet per year. It is further estimated that the operational water demand for landscape irrigation will be approximately 12.86 acre-feet per year. According to the Coachella Valley Integrated Water Management Plan (2010), the projected Valley-wide water demand for 2020 is 719,100 acre-feet per year. Based on this, CV Link's modest demand of 17.34 acre-feet per year constitutes a 0.0024% increase in demand. This increase is negligible and will have a less than significant impact on Valley-wide water supplies. Therefore, project-related impacts will be less than significant and require no mitigation.

c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.

The Proposed Project would introduce impervious surfaces in the project area through the construction or expansion of 44± miles of a multi-modal transportation route and access roads, bridges, and new foundations at rest areas. Portions of the Route occur on existing City streets and on existing concrete trails and paths in City parks and similar facilities. However, they suffer from inconsistent maintenance, which will require improvements and/or expansion. The existing impervious surfaces will be improved by the project, if needed (See CV Link Conceptual Master Plan (2016); Table 6). Therefore, those existing paths are considered as part of approximately 44 miles Proposed Project.

Project components would require soil compaction and installation of asphalt pathway and concrete pads at rest areas. The total disturbed surface area of the Proposed Project will be approximately 279.37 acres during construction phase (See Section 4.3. Air Quality). The surface area of the CV Link Proposed Project Route would result in 209.53 acres in impervious areas over a 44 mile area in the jurisdictions through which it will occur in the Coachella Valley, which would result in a permanent increase in runoff. The amount of increase would not be substantial, because approximately 127 acres of this area is currently in City streets, and park and golf course paths and similar surfaces will be upgraded but are already covered with impermeable surfaces. The primary increase in impervious surfaces will occur on levee tops, where compacted soils currently occur. In this case, storm water will be directed into the adjoining channel. Channel capacity will not be significantly affected. The Proposed Project would not create or contribute runoff that exceeds stormwater drainage system capacity. Impacts resulting from construction and operation of the Proposed Project would be less than significant.

Impervious surfaces created on existing levees, which are currently compacted dirt or asphalt, are expected to drain into the Whitewater River/Coachella Valley Stormwater Channel. As discussed above, the increase in runoff will not significantly impact these facilities. The covering of the top of levees will serve to lessen the potential for sediments and silts from the existing levee top to be carried into the channel. Since the Proposed Project would not substantially increase the amount of impervious surfaces, it would not create a significant change in the amount or location of additional storm runoff water. Please see Section 4.9, Hydrology and Water Resources for a detailed discussion of the drainage improvements proposed for the project.

CV Link will not require or result in the construction of new storm water drainage facilities or expansion of existing facilities. The Proposed Project will run along existing storm water drainage facilities at several locations; however, the function of the existing facilities will remain intact because the CV Link Route will be on top of levees and will consist of flatwork which will not impede channel capacity. Therefore, the project-related impact will be less than significant and no mitigation is required.

d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed.

The operation of the Proposed Project would require water during construction and operation. The primary use of water during construction of the Proposed Project would be for dust suppression on access roads and active ground disturbance sites. The water that would be required for construction would be trucked in from off-site. Based on the project specific water demand assumption provided by the Hermann Design Group, the total water demand during the construction phase for CV Link is approximately 86.4 acre-feet. The assumptions are based on CVWD Ordinance 1302_1 Rev 4_12_09. Water used during the construction period would be available from existing municipal water sources and would not require local water providers to obtain additional water entitlements. The amount of water required for construction of the Proposed Project would be less than significant, and would therefore not require new or expanded water supply resources or entitlements.

Operational water demand associated with CV Link will be approximately 17.34 acre-feet per year for restrooms, water fountains, and landscape irrigation.

CVWD, DWA, IWA, and CWA have sufficient water supplies available to serve the project from existing entitlements and resources and no new or expanded entitlements are needed. Please also see Section 4.9, Hydrology and Water Resources. Less than significant impacts would occur as a result of implementation of the project, and no mitigation is required.

e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments.

As described in 4.17.5(d), the primary use of water during construction of the Proposed Project would be for dust suppression on CV Link. Disposal would not be required because the water used during dust suppression activities would be absorbed into the ground. In addition, construction crews would use portable sanitation facilities (portable toilets), generating relatively small volumes of wastewater for a limited time during the construction phase. Sanitation waste would be disposed of according to sanitation waste management practices. No other sources of wastewater are anticipated during CV Link construction activities.

To calculate the wastewater for the operational phase of the Proposed Project, certain assumptions were made (See Section 4.9 Hydrology and Water Quality). It is assumed that 25 percent of the 2,500 CV Link daily users will use the restrooms. Furthermore, assuming the use of ultra-low flush toilets that use 1.28 gallons per flush for 625 users, operation of CV Link would generate 800 gallons per day of wastewater at each restroom, which will be transferred to local wastewater treatment plants. Wastewater generation represents a 0.000012 fraction of the capacity of local wastewater treatment plants, and would not generate the need for additional facilities. Project-related impacts will be less than significant and no mitigation is required.

f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs.

CV Link Construction Impacts

A variety of potential solid waste could be generated during project construction. These include sediments, trash and debris, oil and grease, fuels, lubricants, concrete waste and similar materials.

Soil and vegetative matter from excavations and land-clearing for CV Link Route and bridge foundations would be screened and separated for use as backfill material at the project sites to the maximum extent possible. Soils and vegetative matter unsuitable for backfill use would be disposed of at appropriate disposal sites (such as Lamb Canyon, Badlands, and Mecca II). Construction crews would categorize all waste materials that cannot be reused or recycled in order to guarantee proper final disposal based on ordinances (1605 § 1, 2002), (284 § 1 (Exh. A, B) (part) 1996), 1501, and 1065 for the cities of Palm Springs, la Quinta, Indio, and Coachella respectively. Certain waste materials generated during construction cannot be reused or recycled and may include plastic, metals, and concrete chunks. The construction contractors would be required to divert construction waste material (by reduction, recycling, reuse, and composting) from landfills within Riverside County. As a result of these reduction and recycling activities, the total amount of construction waste material anticipated to be disposed of in area landfills under the Proposed Project would be limited and is not expected to exceed the permitted capacity of the regional landfills.

All construction debris would be placed in appropriate onsite containers and periodically disposed of in accordance with all applicable regulations (i.e. Ordinances (1605 § 1, 2002), (284 § 1 (Exh. A, B) (part) 1996), 1501, and 1065). Non-hazardous construction materials that cannot be reused or recycled would be acceptable for disposal at municipal Riverside County landfills.

Any hazardous material (e.g. chemicals, oils fuels, lubricants, paints, and solvents) used during construction would be recycled, treated, and/or disposed of in accordance with federal, State, and local laws (See Section 4.8, Hazards and Hazardous Materials). Construction related solid waste generation will be short-term and local and/or regional landfills would have sufficient permitted capacity to accommodate the project's construction related solid waste disposal needs.

CV Link Operational Impacts

CV Link operations would generate trash and debris, including, dog waste, fertilizers and other chemicals from landscaped areas. The estimated amount of solid waste that would be generated by the Proposed Project is approximately 2,875 tons per year, which will contribute 0.00015% to Lamb Canyon's remaining capacity.

As identified in Table 4.17-2 and 4.17-3, the project area is served by a variety of waste management agencies and landfills. Each of the three landfills serving the study area has more than 50 percent capacity available. Due to the number and available capacity of the landfills serving the project area, it can be assumed that the solid waste generated from the construction of CV Link could be accommodated by the existing landfills in Riverside County.

The solid wastes generated from the Proposed Project during construction and operational phases will be transferred by the applicable solid waste disposal provider (Palm Springs Disposal Services, Waste Management of the Desert, and Burrtec Waste and Recycling Services). Once sorted, solid waste is transported to regional landfills, including Lambs Canyon, Mecca II, and Badlands, which are operated by the County of Riverside. Less than significant impacts would occur from the project and no mitigation is required.

g) Comply with federal, state, and local statutes and regulations related to solid waste.

As discussed above, the Proposed Project would generate waste during construction and operations. Construction related solid waste would include the one-time disposal of materials that could not be recycled or reused. Operation and maintenance of CV Link Route is not anticipated to produce a large amount of solid waste.

In addition, as discussed above, landfills within the project area have sufficient capacity to accept anticipated project waste. Riverside County has adopted a Countywide SRRE that establishes goals, programs, and methodologies for achieving 50 percent diversion of solid waste from landfills. Each of the waste management agencies that serve the project area also provides recycling services.

The Proposed Project is not expected to generate a large amount of solid waste. Waste produced by construction activities and operational use of CV Link will be handled and disposed of by existing local solid waste service providers and will comply with federal, state, and local statutes and regulations related to solid waste. Therefore, no impacts would occur from the project and no mitigation is required.

4.17.6. Mitigation Measures

No mitigation measures are required.

4.17.7. Significance After Mitigation

No mitigation program is required.

4.17.8. Cumulative Impacts

The geographic scope for the analysis of cumulative impacts on utilities and service systems consists of the proposed CV Link Route in the cities of Palm Springs, Cathedral City, Palm Desert, Indian Wells, La Quinta, Indio, and Coachella. Along its proposed Route, multiple providers of water, wastewater and solid waste disposal will have jurisdiction over the project.

CVWD, DWA, IWA, and CWA maintain and operate water and wastewater services where Proposed Project alignments are located. Each has identified adequate capacity to serve these project sites along with current and future projects. The Proposed Project will result in an increase of less than 1% in water demand from all water providers. Construction and operation of CV Link alignments developed under the Proposed Project would not require the construction or expansion of stormwater or wastewater facilities, because their impacts on these facilities will be minimal, and sufficient capacity exists. When taken with other projects in the region, the implementation of the Proposed Project will have a marginal and fractional impact on services. Therefore, the project's contribution to cumulative impacts related to these services would not be cumulatively considerable.

SCE and IID have adequate policies, programs, and projects in place to provide electricity to its users, including the Proposed Project, for 20 years. As discussed above, approximately 89.79% of CV Link's electric demand will be generated through 42 solar panels. Therefore, the Proposed Project's incremental demand for electricity from SCE and IID would not be cumulatively considerable.

For solid waste, implementation of the programs and municipal codes to reuse and recycle generated construction and operation waste would lessen the amount of the solid waste. When taken with other projects in the Valley, the solid waste generated by the Proposed Project will result in a fractional increase in waste to landfills, particularly when compared to the waste generated by residential or commercial project.

Therefore, implementation of the Proposed Project would not result in cumulatively considerable impacts related to utilities and service systems; and cumulative impacts would be less than significant.

5. ALTERNATIVE PROJECTS ANALYSIS

5.1. Introduction

Public Resources Code Section 21002.1 and CEQA Guidelines Section 15126.6 provide specific guidance on the need for alternatives to a Proposed Project. CEQA does not require that every potential alternative to a project be analyzed. Rather, an EIR must consider potentially feasible alternatives that meet most or all of the basic objectives of the Proposed Project, and avoid or substantially reduce the significant environmental impacts of the Proposed Project. CEQA further requires that the analysis of alternatives contain sufficient information to allow for "meaningful evaluation, analysis and comparison with the Proposed Project." Finally, a No Project alternative must be considered, in order to allow decision makers to assess the impacts of approving the Proposed Project, versus not approving it. In this case, because the Proposed Project is a development proposal, the consideration of the No Project alternative is based on the assumption that the current conditions would continue to exist on all project alignments.

The potential impacts associated with the same range of issues that are evaluated in Section 4 are discussed in this section for each of the three alternatives described below. The analysis in this Section also considers how each alternative meets, or does not meet, the following project objectives.

A. Create a regional multi-modal transportation facility that interconnects the highest intensity land use corridor in the Coachella Valley with neighborhoods, schools, parks, tourist destinations, retail centers, high density residential development, and employment centers, to enhance community livability and cohesiveness;

B. Help the Coachella Valley comply with the Global Warming Solutions Act (AB 32) and the Sustainable Communities and Climate Protection Act (SB 375) by encouraging zero-emission transportation technologies, transit, and active transportation;

C. Promote healthy lifestyles through the provision of infrastructure where people can safely travel and recreate by means of active transportation, which in turn can help to address public health problems such as childhood obesity and diabetes;

D. Limit conflicts between motor vehicle traffic, pedestrians and bicyclists, reduce injuries and fatalities, and create a pleasant user experience by providing grade-separated crossings (bridges and undercrossings) of major roadways to the greatest extent possible;

E. Support "safe routes to schools" efforts by providing connections to K-12 schools in three school districts and to higher education opportunities;

F. Optimize the use of underutilized flood control rights-of-way, enhance stormwater maintenance infrastructure, and improve emergency response access.

The analysis in this section includes a summary of existing conditions, as described in Section 4, and relating to the alternatives analyzed. Impacts are assessed on a categorical basis, for the same categories provided in Section 4. Impacts associated with each alternative are considered, and mitigation measures presented if found necessary. The Thresholds of Significance and Regulatory Framework described for each category is provided in Section 4, and has not been replicated below, as it is identical to that found in that Section.

5.1.1. Summary of Alternatives

Three alternatives were selected for consideration, based on the project objectives and physical consideration of the environment in which the Proposed Project occurs. Each of the alternatives is summarized below. Detailed descriptions of the alternatives are provided in Section 2, as is a comprehensive description of those alternatives considered but not further analyzed, and the reasons why these alternatives are not considered further.

Alternative 1 – Project without Rancho Mirage and Indian Wells

The primary difference between the Proposed Project and Alternative 1 is the deletion of CV Link improvements in Indian Wells, and the provision of logical termini at and in the vicinity of its city limits. This alternative is suggested based on votes taken by the Indian Wells City Council regarding the development of CV Link in its community, and the need to understand the consequences if Indian Wells does not participate. For Alternative 1, the Route length is 40.53± miles, and the total length of all alignments is 48.2± miles.

Under Alternative 1, the CV Link segments generally extending from Frank Sinatra Drive in Rancho Mirage and extending along the stormwater channel and public streets, are not included. Neither are those street and channel alignments planned in Indian Wells and generally extending from Fred Waring Drive on the west to Washington Street on the east. With the deletion of CV Link segments through Rancho Mirage and Indian Wells, Alternative 1 requires the selection of logical termini at Indian Wells, as have been selected for Rancho Mirage under the Proposed Project. The east and west Indian Wells termini are shown on Exhibits 2-20.

The east Indian Wells terminus has been placed at the city limits with La Quinta on Highway 111. The terminus will be reached by a spur path coming south from the Whitewater River path alignment and along the west end of the Point Happy commercial development to the signalized intersection of Plaza La Quinta and Highway 111. From this point, the path will cross Highway 111 and continue west along the south side of the highway to the city limits. At this location, Indian Wells provides a dedicated pedestrian bridge over the Deep Canyon Channel, generous parkway with sidewalks continuing west, and east and west on-street bike paths.

Four possible termini were considered at the western City limits that depend upon different Route alignments and end points. Each of the four termini being considered is briefly described below and is also shown on Exhibit 2-19 and Exhibit 2-20.

Terminus A: This terminus would be located on the south (right) bank of the channel at the planned Kelsey Circle access point located within the Desert Rose development.

Terminus B: This terminus would be located approximately 700-800 feet southeast of Terminus A, at the intersection of the now abandoned and partially paved Eldorado Drive alignment, which currently provides CVWD access to the channel and SCE access to an adjoining substation. This terminus would extend south on the existing right of way to Fred Waring Drive.

Terminus C: This terminus would be located on the north (left) bank of the channel and would be due north of Terminus B. This terminus would be reached by an in-channel path that would cross the wash and ramp back up onto the channel service road.

Terminus D: This terminus would continue along the north (left) bank of the channel and would continue southeast along the channel to Fred Waring Drive where it would proceed east to the intersection of Fred Waring Drive and Eldorado Drive, where the terminus would be sited. Terminus D and the left bank Route would be located within the Indian Wells city limits.

Alternative 1 also assumes that CV Link users will be able to continue to pass through both Rancho Mirage and Indian Wells on their existing sidewalks, bike paths, and streets in accordance with applicable state and federal requirements that local jurisdictions ensure multi-modal access (See California's Complete Streets Act (Government Code (65302(b)(2)(A), etc.).

Alternative 2 – Project with All Eight Cities

This project alternative assumes a complete and full buildout of the CV Link Route through all of the incorporated cities, unincorporated county and Native American lands from Palm Springs to Coachella. It evaluates all of the prospective Route alignments, including those that pass through the cities of Indian Wells and Rancho Mirage. In Rancho Mirage, this alternative would occur along the Whitewater River levee, from the western City limits, and across Frank Sinatra Drive. Two alternative segments are proposed at this location, on providing a bridged crossing on the west side of the River, which would continue the path on the south bank; and one at at-grade crossing on the east side of the River at the existing DaVall Drive intersection. This segment would proceed on the north side of the River on existing pathway and cross the river immediately north of the end of the Morningside golf course. Easterly of this point, the path would continue on the south bank on the existing Butler Abrams Trail, to its end point at Country Club Drive. The path would proceed on-street westerly on Country Club Drive, across Highway 111 at an at-grade crossing, and along the south side of Highway 111 on existing sidewalks. An access point would be provided at-grade at the Rancho Mirage Library, as the path proceeded easterly. From Paxton Road to the Magnesia Channel, two potential alignments could occur: one continuing on the south side of Highway 111, with an undercrossing into the Magnesia Channel that would take the path northerly to the Whitewater River levee; and one that would access the Whitewater River levee at Paxton Road, and continue easterly on the south side of the River. From the Magnesia Channel to the Rancho Mirage Community Park, the path would occur on the levee. At the west end of the park, two potential alignments could occur: one that continues along the River levee to Bob Hope Drive; and one that passes through the park and proceeds easterly on San Jacinto Drive to Rancho Las Palmas Drive and Bob Hope Drive. On Bob Hope Drive, the Route would proceed southerly to Highway 111, where it would proceed easterly on existing sidewalk, either on the north or south side, to Park View Drive. If located on the south side, an undercrossing would occur at Park View to allow users to proceed easterly on Park View, on existing City streets and into the City of Palm Desert. This alternative, therefore, evaluates the complete 49± mile long Route and its associated 64.34 miles of alignments.

Alternative 3 – No Build/No Project

Under the No Project alternative, the existing multi-modal network within the CV Link Route will continue to provide current levels and types of service and facilities. Future facilities planned for and set forth in jurisdiction general plans or their equivalent will continue to expand both intra-city and inter-city multi-modal networks. In the absence of another unifying, "multi-modal arterial" like CV Link the level of interconnectivity and the provision of meaningful user experiences are expected to be limited.

5.2. Aesthetics

5.2.1. Introduction

As discussed in Section 4.2, potential impacts on visual resources from implementation of CV Link are assessed in this section to consider the impacts the project alternatives would have on the visual environment in the region. Aesthetic resources include scenic vistas, scenic resources, the visual character of the areas surrounding the proposed alternatives, and the impacts that light and glare from the alternatives will have on surrounding areas.

The visual setting is characterized by the natural and built landscape features that may be viewed from publicly accessible vantage points. For analysis purposes, scenic resources are categorized as the built or natural environment that contributes to a scenic public setting. This includes but is not limited to trees and rock outcroppings. Scenic vistas are considered any publically accessible viewpoints that provide expansive views of a highly valued landscape view.

5.2.2. Existing Conditions

As described in Section 4.2.4, the Coachella Valley is a low desert basin surrounded by dramatic mountainous terrain created by the active geology that is characteristic of Southern California. The overall gradient of the Valley is from northwest to southeast, gently sloping from the San Gorgonio Pass, at approximately 2,600 feet above mean sea level to the Salton Sea, which has a current surface elevation of approximately 228 feet below mean sea level.

Aesthetic resources in the Valley are focused on the mountain ranges that surround it, including the San Jacinto Mountains, the foothills and slopes of which ascend from the Valley floor as near as approximately 1.5 miles to the west of the CV Link alignment, except under Alternative 2, where alignments in Rancho Mirage are less than ¼ mile distant, and adjacent at Paxton Road. At its peak, Mount San Jacinto rises to an elevation of 10,834 feet above mean sea level. To the south and southeast are the Santa Rosa Mountains, with Toro Peak at an elevation of 8,715 feet above mean sea level. The Santa Rosa and San Jacinto Mountains National Monument, which encompasses portions of each of these mountain ranges, was established in 2000. To the north and northeast of the Valley are the San Bernardino and Little San Bernardino Mountains, both of which are visible from the CV Link Route.

Detailed descriptions of the visual environment in those cities included in the Proposed Project and all alternatives are provided in Section 4.2.4. Alternatives 1 and 2 involve the cities of Rancho Mirage and Indian Wells, and the visual character for those two cities is provided below.

City of Rancho Mirage

The San Jacinto foothills are the main focal point in the city of Rancho Mirage with the addition of landscaped golf courses. In the vicinity of the two prospective West Termini, views include commercial land uses and the stormwater channel, with the exception of the single-family residential developments at the northwest corner of Da Vall Drive and Frank Sinatra Drive, which back onto the stormwater channel. Wolfson Park is located at the southeast corner of these two streets.

One East Terminus is proposed at the intersection of Highway 111 and Parkview Drive, where surrounding lands are fully developed with regional and community commercial services in both Rancho Mirage and Palm Desert. Important views primarily consist of the Santa Rosa foothills to the west and southwest.

City of Indian Wells

In Indian Wells, CV Link continues along the south bank of the Whitewater River, crosses the wash north of Fred Waring Drive to Eldorado Drive, passing residential lands and an IID substation. The Route splits south of Eldorado Drive to continue east along the north bank of the wash, and also south to Highway 111 and east along the highway and past resort hotels to Miles Avenue, where it continues north to the wash. Two alignments occur at this location, one continuing east along the south side of Miles Avenue passing homes, the Indian Wells Tennis Garden and vacant lands with views to the Santa Rosas to the west. An arching pylon-supported and cable-suspended bridge is proposed on the south bank. This structure will be located along the edge of Point Happy. The second alignment variation continues along the south bank of the wash, passing nearby residential and commercial uses to Washington Street, where it enters La Quinta.

The western termini at Indian Wells generally occur at Fred Waring Drive, where the visual environment is dominated by the Whitewater River in its native condition to the north, and golf course within the River to the south. The Santa Rosa Mountains are visible through the River further south.

The eastern terminus is dominated by views of Point Happy, a rocky outcropping that is an extension of the Santa Rosa Mountains. The terminus is surrounded by commercial and residential development.

5.2.3. Alternatives Impact Analysis

5.2.3.1. Alternative 1

5.2.3.1.1. Alternative 1 Impacts

Alternative 1 Project Summary
Under this Alternative, CV Link would be constructed from Palm Springs through Cathedral City as it would under the Proposed Project, and terminate on the west boundary of Rancho Mirage. It would resume again on its east boundary in Palm Desert, and be interrupted once again through Indian Wells, before resuming in La Quinta and continuing easterly to the eastern terminus in the community of Thermal, consistent with the Proposed Project.

As described above, termini have been proposed at the western and eastern edges of each city, at locations where CV Link users could connect to existing sidewalks or bicycle lanes. Termini also provide access to commercial, educational and recreational facilities, including commercial development along Highway 111, the College of the Desert, and the Indian Wells Tennis Garden.

The following discusses the CV Link project in the context of applicable thresholds of significance. The responses to these threshold questions are based in part upon the CV Link Conceptual Master Plan and extensive analysis of existing visual resources. It is also based upon the project description, assessments of existing conditions and the above analysis of potential impacts. The analysis considers several key locations where components of CV Link will have the potential to affect the aesthetic value of the area, as defined above. The discussion summarizes the findings of the Visual Impact Assessment prepared for the project. This document can be found in its entirety in Appendix D.

a) Have a substantial adverse effect on a scenic vista.

Under Alternative 1, the impacts to scenic vistas in Palm Springs and Cathedral City would be identical to those described for the Proposed Project, as the Route would remain the same. As described in Section 4.2, less than significant impacts to scenic vistas would occur at overcrossings along the project Route, including Highway 111 and Gene Autry Trail in Palm Springs. The CV Link Route would include two segments in Palm Springs, one starting at the Palm Springs Visitor Center and one beginning at South Palm Canyon Drive at the confluence of Tahquitz Creek in the west-central portion of the City. East of the Four Seasons community, the Route travels along the wash to Gene Autry Trail, which is another gateway roadway that connects US I-10 with the communities of Palm Springs and Cathedral City to the south and southeast.The path continues to Cathedral City, where the path travels along the Whitewater River or in developed areas. The Route will not significantly impact scenic vistas, insofar as its lack of bulk and mass will not block views of the surrounding mountains. Although urban development is denser in this portion of the Route, large expanses of river channel, portions of which are improved with golf courses, provide views of the mountains for properties adjacent to the Route. As with the Proposed Project, the Route would terminate at the western boundary of Rancho Mirage, and provide a terminus along the Whitewater River. Since the project would not occur in Rancho Mirage, it would not have any impact on a scenic vista in that City, because the scenic vistas within the Rancho Mirage, the Santa Rosa Mountains, would remain unobstructed by construction and operation of CV Link.

Through the City of Palm Desert, the impacts associated with scenic vistas under Alternative 1 would be identical to those of the Proposed Project, and would remain less than significant. The pathway occurs in highly developed areas in Palm Desert, and will not impact scenic vistas currently enjoyed by the residents and visitors of Palm Desert since the path and its amenities do not further obstruct the Santa Rosa Mountains which are a key scenic resource of the City.

Under this Alternative, the CV Link project would terminate at one of four locations at Indian Wells' western boundary, all generally located at Fred Waring Drive. The Route (please see Section 4.16, Traffic, and Section 5.16 for transportation discussion) is meant to provide access to existing sidewalks on Fred Waring. The termini at the western boundary would include hardscape improvements delimiting the Route, consistent with the Proposed Project, but would not extend through the golf course or onto City streets. The hardscape improvements included under the Proposed Project would not occur, and the current scenic views through the golf course to the Santa Rosa Mountains would remain. At the eastern boundary of the City, a terminus would be located at Point Happy. A bridge proposed under the Proposed Project along the north and east side of Point Happy would not occur under this alternative. The bridge, depicted in Exhibit 4.2-6, has a limited and less than significant impact on Point Happy, insofar as it partially blocks the base of this feature. Therefore, the implementation of Alternative 1 would reduce the impact to scenic vistas at this location.

From La Quinta's western boundary to the project's end south of the City of Coachella, the impacts to scenic vistas would be identical to those described in Section 4.2, insofar as the alternative would be identical to the Proposed Project.

The implementation of Alternative 1 would result in less than significant impacts to scenic vistas. This alternative would have somewhat lower impacts than the Proposed Project, insofar as the Point Happy bridge would not occur.

Construction Impacts

Construction of Alternative 1 will result in temporary impacts to scenic vistas from the use of construction equipment on the Route, and the use of cranes at planned bridge locations. Construction activities will be linear, insofar as it will progress on any given alignment from one end to the other. It is anticipated that construction will take approximately one month per mile, although multiple segments could be under construction at one time.

Construction activities for those portions of the Route occurring on existing City streets will be similar to any maintenance or repair activity conducted on City streets currently, and would not impact scenic vistas, because the views of equipment would be short range, and would not affect long range views for the traveling public.

Under Alternative 1, construction impacts to scenic vistas would be reduced only in Indian Wells, insofar as the route would not occur in that City, when compared to the Proposed Project. Construction impacts at all other locations within the Route would be identical to those of the Proposed Project, and would be less than significant, insofar as the majority of proposed improvements would be hardscape, and construction equipment visible on the route would be mobile and would only obstruct views for short periods of time.

Construction of Alternative 1 would also require staging areas. These staging areas are proposed at several locations along the route (please see Appendix B, CV Link Route Map Book), in locations adjacent or proximate to the alignment which it would serve. Under Alternative 1, the impacts to scenic vistas from the staging areas would be the same as the Proposed Project, except in the City of Indian Wells, where construction staging areas would not be required. Under Alternative 1, mitigation measure AES-1 would be applied, requiring the screening of staging areas. This mitigation measure would assure that temporary construction impacts associated with staging areas remain less than significant.

Finally, construction of Alternative 1 would, like the Proposed Project, include overcrossings for the project in Palm Springs and La Quinta, which would require the use of cranes for short periods to raise the design elements of those bridges. Impacts to scenic vistas at those locations would be affected insofar as these cranes would be clearly visible to the traveling public on the roads where the bridges occur. Again, however, the construction equipment will be visible for a short period, and will not permanently impact scenic vistas.

With the implementation of mitigation measure AES-1, impacts associated with construction of Alternative 1 will be less than significant.

b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway.

Substantial damage to a scenic resource occurs when a Proposed Project adversely degrades one or more of the aesthetic qualities that contribute to a scenic setting. This includes damages to trees, rock outcroppings, and historic buildings or a state scenic highway. No segment of the Alternative 1 Route is located within a State Scenic Highway and for this reason there will be no impact as a result of the construction and operation of CV Link under Alternative 1, consistent with the impacts of the Proposed Project.

Alternative 1 occurs in the same location as the Proposed Project in the cities of Palm Springs, Cathedral City, Palm Desert, La Quinta, Indio and Coachella, and in the community of Thermal. As described in Section 4.2, the Route does not damage any significant trees or historic buildings in those communities. As described for the Proposed Project, a bridge is proposed to be anchored to the base of Point Happy, in the City of La Quinta. The construction of that bridge would not damage this rock outcropping, but would change the view of the base of the structure. That change represents a less than significant impact on the rock outcropping under the Proposed Project's analysis in Section 4.2. Under Alternative 1, the bridge around Point Happy would not occur, and the rock outcropping would remain in its current condition. Under this Alternative, there would be no impact to Point Happy since no structure would be constructed around it.

c) Substantially degrade the existing visual character or quality of site and its surroundings.

The impacts to visual changes were evaluated in terms of potential damage to, or removal of features of the natural or built environment that create a scenic setting. The level of change to a visual resource also takes into consideration the degree of permanence. The following discussion therefore evaluates both the construction (short-term) and long-term impacts to the visual character of the area surrounding the pathway under Alternative 1.

Construction Impacts

Given that certain segments of CV Link will require a moderate amount of earthwork to provide a level and structurally sound base for path construction, there will be temporary construction-related impacts on the visual character of the project planning area. Direct views of the CV Link Route and construction staging areas are available form roadways and public areas in residential neighborhoods and from other recreational facilities. For this reason, construction equipment may be visible on service roads and along streets where improvements are being installed, and will progressively move along the segment as construction progresses. Additionally, sites for construction staging and stockpiling have been identified along the Route that will create temporary storage areas for construction equipment and building materials. The length of a segment under construction at any one time will vary throughout the build out period. Should Alternative 1 be implemented, the potential for construction equipment or staging areas to be visible in Indian Wells would be eliminated, when compared to the Proposed Project. There would be no impact under Alternative 1 in Rancho Mirage and Indian Wells, since the visual impediments created by the construction staging areas would not be visible by residents and visitors of Rancho Mirage and Indian Wells. In addition, construction staging areas have been identified in Appendix B, and the closest area is situated 30 feet from a residence in Palm Springs. The closest staging area to either Rancho Mirage and Indian Wells is located 55 feet from the Indian Wells/La Quinta border. Under Alternative 1, staging areas in those cities would not occur. Construction staging areas will not significantly degrade the visual character of the area, given the limited time frame during which they will occur, and will be screened from view, as required by mitigation measure AES-1.

Since Alternative 1 represents the elimination of Indian Wells' segments from the Route, the short term impacts associated with construction activity on the visual character of Indian Wells would be eliminated, the impacts to the balance of the Route would be the same as the Proposed Project, and would be required to implement the same mitigation measure for construction staging areas as the Proposed Project. Therefore, the implementation of Alternative 1 would result in less than significant impacts associated with visual character during construction.

Long-Term Impacts

The long-term use of CV Link has the potential to impact the visual character of specific locations, particularly where single-family homes occur immediately adjacent to the pathway. In most locations, the path will be separated from these single-family homes by privacy walls that currently exist. As described in Section 4.2, grade differentials between the path and neighbors in two areas have the potential to impact the visual character of the residents. These areas are located on the western end of the path in Palm Springs, and on its eastern end in Indio and Coachella. Under Alternative 1, the Route would be eliminated in both Rancho Mirage and Indian Wells. There were no areas of concern impacting the visual character for adjacent residents in the City of Indian Wells, since the path was proposed to occur primarily within the Whitewater River or on City streets. The implementation of Alternative 1, without Rancho Mirage and Indian Wells, would therefore have identical and less than significant impacts as those identified for the Proposed Project, which identified the grade differential between the Route and neighbors as a less than significant visual impact (please also see Section 4.10, Land Use). For this reason, the overall visual character of the participating communities would not be subjected to significant impacts as a result of the operation of CV Link.

d) Create a new source of substantial light or glare, which would adversely affect day or nighttime views in the area.

CV Link does not propose nighttime construction. Lighting is proposed along the Route and at the various rest areas, which will encourage and provide a level of safety to evening use. Lighting will be comprised of low-profile bollards, as well as embedded LED lighting that would be incorporated throughout the Route. The lighting will produce a limited and directed level of light and will result in little or no spillover effects. Additional sources of light will include low-level lighting near turnoff and access points. Under Alternative 1, the same lighting conditions would occur on the path, with the exception of that portion of the Route planned within the City of Indian Wells. Under this Alternative, the impacts associated with on-route lighting will be less than significant in all the participating cities, and will not occur in either Rancho Mirage or Indian Wells. The impacts associated with on-route lighting will be equivalent to those of the Proposed Project, which are less than significant since lighting will be zero at the property line as stipulated by the participating jurisdictions.

As discussed in Section 4.2, pole lighting standards higher than 6 feet in height have the potential to cast off light if not properly shielded. Under this alternative, the same potential for this impact would occur in Palm Springs, Cathedral City, Palm Desert, La Quinta, Indio and Coachella, and in the community of Thermal. Under this alternative, however, there would be no potential for pole lighting in Indian Wells, since the project would not occur there. As described in Section 4.2, all the cities along which the path travels require that pole lighting be shielded. The construction plans for this alternative would be expected to comply with this requirement, and with the mitigation measure provided in Section 4.2. Impacts associated with light and glare under this Alternative would be less than significant with the implementation of mitigation measure AES-2.

5.2.3.1.2. Alternative 1 Mitigation Measures

Please see 4.2.6, Mitigation Measures for further reference. There will be no need for any change or addition of mitigation measures under this alternative.

5.2.3.1.3. Alternative 1 Significance After Mitigation

Under Alternative 1, the same measures can be implemented to reduce its impacts on aesthetics to less than significant levels. Impacts under this alternative would remain less than significant with implementation of the mitigation measures.

5.2.3.1.4. Alternative 1 Cumulative Impacts

The majority of CV Link construction and use activities will be only minimally visible to residents, whose privacy should also be maintained through the installation of planned landscape screens. Cumulative impacts are those resulting from past, present, and reasonably foreseeable future actions, combined with the potential visual impacts of this project. Generally the CV Link Route is proposed in areas of existing moderate levels of activity, development, and light. The construction and long term use of CV Link will not significantly change the scenic vistas or visual character of the areas where it occurs. Because of the limited structures proposed, it will not contribute to cumulative increases in mass of urban development along the project Route. The implementation of this alternative will have less than significant cumulative impacts.

5.2.3.2. Alternative 2

5.2.3.2.1. Alternative 2 Impacts

Alternative 2 Project Summary
Under Alternative 2, all the cities from Palm Springs to Coachella would be affected by the Proposed Project, including the cities of Rancho Mirage and Indian Wells. This alternative would result in the inclusion of the City of Rancho Mirage in project plans, and would eliminate all termini along the Route, creating one continuous path through the Valley.

a) Have a substantial adverse effect on a scenic vista.

Under Alternative 2, the impacts to scenic vistas in Palm Springs and Cathedral City would be identical to those described for the Proposed Project, as the Route would remain the same. As described in Section 4.2, less than significant impacts to scenic vistas would occur at overcrossings along the project Route, including Highway 111 and Gene Autry Trail in Palm Springs. The CV Link Route would include two segments in Palm Springs, one starting at the Palm Springs Visitor Center and one beginning at South Palm Canyon Drive at the confluence of Tahquitz Creek in the west-central portion of the City. The impacts associated with the Four Seasons community, discussed above and in Section 4.2, would be identical to those of the Proposed Project and Alternative 1, and would be less than significant with the inclusion of project design features for walls and landscape screening.

The path continues to Cathedral City, where the path travels along the Whitewater River or in developed areas. The Route will not significantly impact scenic vistas, insofar as its lack of bulk and mass will not block views of the surrounding mountains. Although urban development is denser in this portion of the Route, large expanses of river channel, portions of which are improved with golf courses, provide views of the mountains for properties adjacent to the Route. Under this Alternative, the Route would continue from Cathedral City's eastern boundary through the City of Rancho Mirage.

In Rancho Mirage, the alignments propose access either along the existing levee, or on City streets. In the case of travel along the levee, based on site visits along the proposed alignment, the path in Rancho Mirage would occur adjacent to existing homes. In the western portion of the City, these homes currently abut the Butler Abrams Trail, and occur at the same elevation as the existing mixed-use trail. Existing homes have walls and fences along their property line to the trail, and would experience no change in scenic vistas, since the path would not change this condition. Further east, behind and past the Library, a mix of multi-family units and office development occurs adjacent to the levee. The multi-family units include both single and two story units, and all have perimeter walls

adjacent to the levee. The single story units would not see any change in scenic vistas, since their views occur above the perimeter walls in this direction, and would remain so. The two story units currently, at some locations, can see down onto the levee top, and would be able to see the path as it travels on the levee top. The views, however, would be of hardscape and colored paving, and would not impede the view of distant mountains to the north. Where the path would extend on City streets in Rancho Mirage, the path would have no impact to scenic vistas, since it would consist of hardscape, benches and similar street furniture of insufficient height, mass or scale to block views beyond existing development.

Through the City of Palm Desert, the impacts associated with scenic vistas under Alternative 2 would be identical to those of the Proposed Project, and would remain less than significant. The pathway occurs in highly developed areas in Palm Desert, and will not impact scenic vistas currently enjoyed by the residents and visitors of Palm Desert since the path and its amenities do not further obstruct the Santa Rosa Mountains which are a key scenic resource of the City.

The CV Link project would proceed through Indian Wells as it would under the Proposed Project. As with the Proposed Project, long range views of the Santa Rosa Mountains would remain, and views through the golf course toward La Quinta would be available. Impacts to scenic vistas in Indian Wells would be less than significant, and equivalent to those described under the Proposed Project.

From La Quinta's western boundary to the project's end south of the City of Coachella, the impacts to scenic vistas would be identical to those described in Section 4.2, insofar as the alternative would be identical to the Proposed Project.

Construction Impacts

Construction of Alternative 2 will result in temporary impacts to scenic vistas from the use of construction equipment on the Route, and the use of cranes at planned bridge locations. It is anticipated that construction will take approximately one month per mile, although multiple segments could be under construction at one time.

Construction activities for those portions of the Route occurring on existing City streets will be similar to any maintenance or repair activity conducted on City streets currently, and would not impact scenic vistas, because the views of equipment would be short range, and would not affect long range views for the traveling public.

Under Alternative 2, construction impacts to scenic vistas would occur in all jurisdictions, including Rancho Mirage. Under this alternative, residents adjacent to the Butler Abrams Trail, and east of the library, would experience temporary impacts associated with construction equipment behind their rear yards. As with other locations on the Route, this would affect their views during a short time period, and would not result in any permanent impact to scenic vistas.

Construction of Alternative 1 would also require staging areas at several locations along the route (please see Appendix B, CV Link Route Map Book), in locations adjacent or proximate to the alignment which it would serve. Under Alternative 2, mitigation measure AES-1 would be applied, requiring the screening of staging areas. This mitigation measure would assure that temporary construction impacts associated with staging areas remain less than significant.

Impacts associated with overcrossing construction would be less than significant, and identical to those of the Proposed Project, because the overcrossings under this alternative occur in locations other than Rancho Mirage, so no new impacts would occur. Under this alternative, construction equipment will be visible for a short period, and will not permanently impact scenic vistas.

With the implementation of mitigation measure AES-1, impacts associated with construction of Alternative 1 will be less than significant.

The implementation of Alternative 2 would result in less than significant impacts to scenic vistas. This alternative would not significantly impact scenic vistas in Rancho Mirage, and impacts would remain less than significant.

b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway.

Alternative 2 occurs in the same location as the Proposed Project in the cities of Palm Springs, Cathedral City, Palm Desert, Indian Wells, La Quinta, Indio and Coachella, and in the community of Thermal. As described in Section 4.2, the Route does not damage any significant trees or historic buildings in those communities. As described for the Proposed Project, a bridge is proposed to be anchored to the base of Point Happy, in the City of La Quinta. The construction of that bridge would not damage this rock outcropping, but would change the view of the base of the structure. That change represents a less than significant impact on the rock outcropping under the Proposed Project's analysis in Section 4.2.

Under this alternative, the project would be constructed through the City of Rancho Mirage, in addition to the other cities. The Route in Rancho Mirage occurs on the top of levees and on City streets. Based on site visits, there are no significant trees, rock outcropping or historic buildings in this portion of the project. Therefore, there would be no additional impacts to scenic resources, and impacts would remain less than significant.

c) Substantially degrade the existing visual character or quality of site and its surroundings.

Construction Impacts

Certain segments of CV Link will require a moderate amount of earthwork to provide a level and structurally sound base for path construction. There will be temporary construction-related impacts on the visual character of the project planning area. Direct views of the CV Link Route and construction staging areas are available from roadways and public areas in residential neighborhoods and from other recreational facilities. For this reason, construction equipment may be visible on service roads and along streets where improvements are being installed, and will progressively move along the segment as construction progresses.

Additionally, sites for construction staging and stockpiling have been identified along the Route that will create temporary storage areas for construction equipment and building materials. The length of a segment under construction at any one time will vary throughout the build out period. Under Alternative 2, the potential for construction equipment or staging areas to be visible would occur as it would under the Proposed Project, and in the City of Rancho Mirage. The path would occur on the top of the levee, at an elevation approximately equivalent to adjacent homes, or on City streets. For construction activities along the levee, adjacent residents would likely see construction equipment above their wall lines for short periods of time, similar to other areas of the path in other cities. However, as with other cities, construction activity would be short-term, and would not significantly degrade the visual character of these views for any length of time. For construction on those portions of the Route that would occur on City streets, impacts would be short term and temporary, as they would be in other cities. The visual character on City streets is urban in nature, and will not be significantly affected by construction equipment. Impacts in Rancho Mirage would be equivalent to those of other cities, and would remain less than significant. Under this alternative, a staging area would occur immediately west of the Library parking lot, on currently vacant land[1]. This may be modified based on construction plans for the city's Observatory. Residential uses occur to the west, but are separated by vacant land and Paxton Road. Their view of the staging area would be blocked by existing landscaping on Paxton Road, and no impact would occur. Residential development on the north side of the channel, several hundred feet away, may see the staging area, but distance and its location will have no impact on these residents' views of the San Jacinto Mountains.

[1] CV Link Route Map Book, which can be found as Appendix B of this document.

Long Term Impacts

The long-term use of CV Link has the potential to impact the visual character of specific locations, particularly where single family homes occur immediately adjacent to the pathway. In most locations, including those locations where the path occurs in Rancho Mirage under this Alternative, the path will be separated from these single-family homes by privacy walls that currently exist. As described in Section 4.2, grade differentials between the path and neighbors in two areas have the potential to impact the visual character of the residents. These areas are located on the western end of the path in Palm Springs, and on its eastern end in Indio and Coachella. Under Alternative 2, the impacts would be identical and less than significant, insofar as the addition of Rancho Mirage would not result in a change in the visual character in Rancho Mirage, where the construction of the path, consisting of hardscape, would not change the visual character from adjacent residential or commercial land uses, particularly since the path would occur at the same grade as existing residential units.

d) Create a new source of substantial light or glare, which would adversely affect day or nighttime views in the area.

Alternative 2 does not propose nighttime construction. Lighting is proposed along the Route and at the various rest areas, which will provide a level of safety to evening use. Lighting will be comprised of low-profile bollards, as well as embedded LED lighting that would be incorporated throughout the Route. The lighting will produce a limited and directed level of light and will result in little or no spillover effects. Additional sources of light will include low-level lighting near turnoff and access points. Under Alternative 2, the same lighting conditions would occur on the path, with the addition of that portion of the Route planned within the City of Rancho Mirage. Under this Alternative, the impacts associated with on-route lighting will be less than significant in all the cities. Therefore, the impacts associated with on-route lighting will be less than significant with the implementation of mitigation measure AES-2, which requires that any lighting be shielded, and be limited to the project boundary only.

As discussed in Section 4.2, pole lighting higher than 6 feet in height have the potential to cast off light if not properly shielded. Under this alternative, the same potential for this impact would occur in all the cities. As described in Section 4.2, all the cities along which the path travels require that pole lighting be shielded. The construction plans for the project would comply with this requirement, and with the mitigation measure provided in Section 4.2. The impacts associated with on-route lighting will be equivalent to those of the Proposed Project, which are less than significant since lighting will be zero at the project boundary as required by the participating jurisdictions.

5.2.3.2.2. Alternative 2 Mitigation Measures

Please see 4.9.6, Mitigation Measures for further reference. There will be no need for any change or addition of mitigation measures under this alternative.

5.2.3.2.3. Alternative 2 Significance After Mitigation

Even though the mitigation measures were project-specific to the Proposed Project, the same measures can be utilized with Alternative 2 since all alternatives would experience the same level of lighting. The incorporation of Rancho Mirage would result in an extension of the mitigation measures to that City. This change would not create a need to modify the existing mitigation measures. Impacts under this alternative will remain less than significant after mitigation.

5.2.3.2.4. Alternative 2 Cumulative Impacts

Similar to the Proposed Project, the majority of CV Link construction and use activities will be only minimally visible to residents, whose privacy should also be maintained through the installation of planned landscape screens. Cumulative impacts are those resulting from past, present, and reasonably foreseeable future actions,

combined with the potential visual impacts of this project. Generally the CV Link Route is proposed in areas of existing moderate levels of activity, development, and light. The construction and long-term use of CV Link will not significantly change the scenic vistas or visual character of the areas where it occurs. Because of the limited structures proposed, it will not contribute to cumulative increases in mass of urban development along the project Route. The implementation of this alternative will have less than significant cumulative impacts.

5.2.3.3. Alternative 3

5.2.3.3.1. Alternative 3 Impacts

Alternative 3 Project Summary
Alternative 3 would result in no construction or implementation of the CV Link project. There would be no change in the existing environment. Levee tops, streets, parks and golf courses would remain in their current condition.

a) Have a substantial adverse effect on a scenic vista.

There will be no proposed change under Alternative 3 and existing conditions will remain the same. There would be no impact on any scenic vista.

b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway.

Under Alternative 3 conditions will remain the same. There would be no damage to scenic resources, including, but not limited to, trees, rock outcroppings, historic buildings or state scenic highways.

c) Substantially degrade the existing visual character or quality of site and its surroundings.

Alternative 3 will not degrade the existing visual character or quality the project site and its surroundings for the reason that no changes would be proposed.

d) Create a new source of substantial light or glare, which would adversely affect day or nighttime views in the area.

Alternative 3 does not introduce changes thus it will not create a new source of substantial light or glare, which would adversely affect day or nighttime views in the area.

5.2.3.3.2. Alternative 3 Mitigation Measures

There will be no impacts and no therefore there would be no need for mitigation.

5.2.3.3.3. Alternative 3 Significance After Mitigation

There will be no impacts and no mitigation.

5.2.3.3.4. Alternative 3 Cumulative Impacts

Alternative 3 will not create conditions that may have a significant impact on the visual environment because CV Link would not be built, and visual conditions would be unaffected. There will be no cumulative impacts to visual resources.

5.2.4. Environmental Superior Alternative

The environmentally superior alternative was chosen based on potential long-term impacts to the scenic environment. Since Alternative 3 does not propose changes in conditions, the visual quality of the area will remain unaffected. However, Alternative 3 achieves none of the project objectives. A detailed decription of the project objectives and the relationship with each alternative is further described in Section 5.18 of this document. All development-oriented alternatives, including the Proposed Project, result in less than significant impacts associated with visual resources in that they would not contribute to substantial degradation of the visual resources in the project planning area. Given that Alternative 1 would eliminate the bridge at Point Happy, this alternative would be the environmentally superior alternative, insofar as it would reduce the overall impacts of the project.

5.3. Air Quality

5.3.1. Introduction

The following section describes the existing air quality in the Coachella Valley, and analyzes the potential impacts associated with the CV Link project alternatives. A variety of local and regional data and information, ranging from research and analysis conducted for the project site, to regional-scale planning and environmental documents, have been used in researching and analyzing the project and its potential effects on air quality. An Air Quality and Greenhouse Gas Report was prepared for the CV Link project and alternatives and is provided in Appendix E of this EIR.

5.3.2. Existing Conditions

The proposed CV Link project, including alternatives, is located within the Salton Sea Air Basin (SSAB) and is within the jurisdiction of the South Coast Air Quality Management District (SCAQMD). Air quality in the Salton Sea Air Basin has been impacted by emissions associated with increased development, population growth, and vehicle emissions. Although air pollution is emitted locally from various sources, some of the degradation of air quality within the Salton Sea Air Basin can be attributed to sources tributary to, but located outside of the basin. In the project area, air quality is regulated by the SCAQMD, as well as federal and state policy.

Please see 4.3.4, Existing Conditions for a detailed description of existing conditions.

5.3.3. Alternative Impact Analysis

As discussed in Section 4.3, construction and operational air quality impacts for the Proposed Project were analyzed for development of the 44-mile Route, which excludes Rancho Mirage. The following section discusses potential air quality impacts associated with the three project alternatives.

Specific construction parameters assumed for the development of each alternative are discussed, in detail, below.

5.3.3.1. Alternative 1

5.3.3.1.1. Alternative 1 Impacts

Alternative 1 Project Summary
Alternative 1 will eliminate all Rancho Mirage segments in addition to all Indian Wells segments. Construction of Alternative 1 will include additional termini on the east and west sides of Indian Wells. Construction parameters for the Proposed Project were also assumed for development of Alternative 1, where applicable, including phasing, staging areas, equipment used, and material hauling assumptions.

a) Conflict with or obstruct implementation of the applicable air quality plan;

The project which would develop under Alternative 1 is located within the SSAB, which is governed by the SCAQMD. SCAQMD is responsible for monitoring criteria air pollutant concentrations and establishing management policies for the SSAB. All development within the SSAB is subject to the current SCAQMD Air Quality Management Plan and 2003 PM_{10} Coachella Valley State Implementation Plan. These comprehensive plans establish control strategies and guidance on regional emission reductions for air pollutants. As with the Proposed Project, Alternative 1 would be developed in accordance with all applicable air quality management plans to ensure impacts to air quality are less than significant. Actions include, but are not limited to the preparation of a standard dust control management plan, in compliance with the CVSIP, and the enforcement of mitigation measures in the event that criteria pollutant thresholds are exceeded during construction activities.

As demonstrated below (under threshold (b)), Alternative 1 (as mitigated) will not exceed any South Coast AQMD thresholds of significance for criteria pollutants, and will actually *reduce* regional air quality emissions as compared to baseline conditions by reducing vehicle miles traveled. In addition, Alternative 1 will result in fewer construction related air quality emissions compared to the Proposed Project because it would not include construction of the Link through Indian Wells. Therefore, Alternative 1 will not only avoid any conflict with, or obstruction of, the applicable air quality management plans, it will actually assist in meeting the clean air goals that those plans are intended to achieve.

Alternative 1 is subjected to the same regional and local air quality plans and regulations as the Proposed Project, and therefore impacts are identical and less than significant.

b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation;

Development of Alternative 1 will result in the direct and indirect generation and emission of air pollutants during project construction and operation of various facility features, such as pathway lighting and water demands for landscaping. Criteria air pollutant emissions from grading and construction will be temporary; however, emissions from daily operation will be ongoing.

Construction Emissions

The total length of the Alternative 1 Route is approximately 40 miles. The same pathway width assumption of 30 feet and buffer of 10 feet used for the Proposed Project was also assumed for Alternative 1. Therefore, the paved area for Alternative 1 (including all alignments) is approximately 175.27 acres and total disturbed area is 233.69 acres.

Due to the regional nature of CV Link, it is possible that material cut from one segment may be used as fill for another portion. Therefore, materials may require hauling trips regardless of a net balance of materials. For analysis purposes, it is assumed that all cut and fill material projections will require hauling, resulting in 112,500 cubic yards of export and 198,750 cubic yards of import for Alternative 1. It is assumed that each haul trip will travel 30 miles and carry up to 20 tons (or 16 cubic yards) per haul. This overstates overall construction emissions associated with grading and provides a conservative emission estimate for analysis (please see Appendix E for further detail).

The following table provides construction-related air quality impacts for buildout of Alternative 1.

Table 5-1
Construction Emissions Summary
Alternative 1
Maximum Daily Emissions (lbs./day)

	CO	NO_x	ROG	SO_x	PM_{10}	$PM_{2.5}$
2018	88.40	111.80	9.59	0.20	24.81	12.79
2019	85.01	102.48	8.98	0.20	22.67	12.01
2020	38.31	38.31	3.94	0.06	2.25	1.91
2021	38.06	35.08	3.62	0.06	2.04	1.71
SCAQMD Threshold*	**550.00**	**100.00**	**75.00**	**150.00**	**150.00**	**55.00**
Exceeds Threshold	**No**	**Yes**	**No**	**No**	**No**	**No**

Source: CalEEMod Version 2013.2.2. See See Appendix E of this EIR for detailed tables. Value shown represents the average mitigated emissions from summer and winter.
* Source: "SCAQMD Air Quality Significance Thresholds" prepared by South Coast Air Quality Management District, March 2015.

As shown in the table above, SCAQMD daily thresholds for CO, ROG, SOx, PM_{10} and $PM_{2.5}$ will not be exceeded during construction of any phase of Alternative 1 development. However, NOx emissions have the potential to slightly exceed SCAMD thresholds due to simultaneous use of construction equipment and material hauling. To reduce NOx emissions and overall project impacts to less than significant levels, the same mitigation measure applied to the Proposed Project would be applied to Alternative 1 (See mitigation measure below).

Compared to the Proposed Project, whose emissions are shown in Table 4.3-6 of Section 4.3, Alternative 1 will emit lower levels of criteria pollutants during construction.

Operational Emissions

Operational emissions associated with Alternative 1 will be negligible and limited to area source emissions, such as pavement off-gassing and landscape watering. Energy demands are limited to lighting and recharge stations. Alternative 1 will not generate new mobile source emissions, instead the project is expected to reduce mobile source emissions by promoting and providing alternative modes of transportation, including biking and electric vehicles. Projected mobile source emission reductions are discussed in the following section.

The following table summarizes the annual daily emissions of Alternative 1 after project buildout. SCAQMD thresholds will not be exceeded for any criteria pollutant. Therefore impacts are considered less than significant.

Compared to the Proposed Project, whose emissions are shown in Table 4.3-6 of Section 4.3, Alternative 1 would have fewer operational emissions.

Table 5-2
Operational Emissions of Criteria Pollutants
Alternative 1 (Lbs per Day)

	CO	NO_x	ROG	SO_x	PM_{10}	$PM_{2.5}$
Operation	0.01	0.00	49.24	0.00	0.00	0.00
SCAQMD Threshold	**550.00**	**100.00**	**75.00**	**150.00**	**150.00**	**55.00**
Significant	**No**	**No**	**No**	**No**	**No**	**No**

Source: CalEEMod Version 2013.2.2. See Appendix E of this EIR for detailed tables. Value shown represents average daily unmitigated emission across summer and winter activities.

Operational Emission Reductions of Criteria Pollutants

Alternative 1 is expected to reduce overall vehicle miles traveled by promoting the use of alternative modes of transportation. The CV Link Traffic Report prepared by Urban Crossroads projects that Alternative 1 would result in a reduction of 6,422,918 annual vehicle miles by 2040. The following table summarizes the daily reduction in mobile source criteria pollutants that would result due to the reduction in vehicle miles. Overall, operation of Alternative 1 will result in a significant net reduction of daily criteria pollutants because of reduced vehicle trips. When compared to the Proposed Project, Alternative 1 would have fewer operational emission reduction savings, as shown in the table below, because of the reduced connectivity, which would increase vehicle trips (please see Section 5.16, below, for discussion of the number of vehicle trips that could be removed from city streets under each alternative).

Table 5-3
Operational Emission Reductions of Criteria Pollutants
Alternative 1 (Lbs per Day)

	CO	NO_x	ROG	SO_x	PM_{10}	$PM_{2.5}$
Mobile Source Reductions	-21,494.72	-2,380.38	-2,996.30	-4.97	-33.35	-21.31
Operational Emissions	0.01	0.00	49.24	0.00	0.00	0.00
Net Operational Emissions	**-21,494.71**	**-2,380.38**	**-2,947.06**	**-4.97**	**-33.35**	**-21.31**
Proposed Project	**-23,326.87**	**-2,583.27**	**-3,192.60**	**-5.40**	**-36.20**	**-23.13**
Net Difference	**1,832.15**	**202.89**	**245.54**	**0.43**	**2.85**	**1.82**

Source: CalEEMod Version 2013.2.2. See Appendix E of this EIR for detailed tables. Value shown represents average daily-unmitigated emission across summer and winter activities.

c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors);

See Cumulative Impacts discussion, below.

d) Expose sensitive receptors to substantial pollutant concentrations;

The same LST parameters used to analyze the Proposed Project were used to analyze impacts associated with Alternative 1. The maximum area of disturbance associated with buildout of Alternative 1 is approximately 233 acres and it is assumed that buildout would occur gradually over the course of four years. Although the total project area is greater than five acres, the area of daily disturbance (for purposes of LST analysis only) is limited to five acres or less per day at any given location, which is equivalent to one mile of pathway construction. As such, the five acre look up table is appropriate under the SCAQMD's methodology to screen for potential localized air quality impacts.

The Mass Rate Look-Up tables for LSTs were used to determine if the Proposed Project would have the potential to generate adverse localized air quality impacts during construction. The LST for Source Receptor Area (SRA) 30 (Coachella Valley) was used to determine LST emission thresholds. The distance from the emission source and the maximum daily site disturbance also determines emission thresholds. Sensitive receptors will vary depending upon which portion of the Link is being developed. For analysis purposes, the worst case scenario of a sensitive receptor being within 25 meters was used.

Results show that LST thresholds are not expected to be exceeded during Alternative 1 development under mitigated conditions. The alternative will be developed in accordance to SCAQMD Rule 403, and apply best management practices to ensure impacts to sensitive receptors are less than significant.

The Proposed Project and both build alternatives would have the same level of impact to sensitive receptors because LSTs were analyzed for a 1-mile stretch of pathway with the most conservative distance (25 meters) available, thus resulting in the same impact for all build alternatives.

Table 5-4
Localized Significance Thresholds
Alternative 1
25 Meters, 5 Acres (lbs per day)

	CO	NO_x	PM_{10}	$PM_{2.5}$
	13.67	16.53	4.47	2.53
LST	**2,292**	**304**	**14**	**8**
Exceed?	**No**	**No**	**No**	**No**
Source: CalEEMod Version 2013.2.2. See Appendix E of this EIR for detailed tables. Emissions show the highest emitting day for all emissions generated onsite during construction.				

e) Create objectionable odors affecting a substantial number of people.

Alternative 1 is not expected to generate significant objectionable odors during any phase of construction. The Proposed Project has the potential to result in short-term odors associated with paving and other construction activities. However, construction-related odors would be quickly dispersed below detectable thresholds and as distance from the construction site increases. Therefore, impacts from objectionable odors are expected to be less than significant.

Both construction and operational activities associated with Alternative 1 are the same activities assumed for the Proposed Project. Therefore, impacts associated with objectionable odors are comparable.

5.3.3.1.2. Alternative 1 Mitigation Measures

Please see 4.3.6, Mitigation Measures for further reference. There will be no need for any change or addition of mitigation measures under this alternative.

5.3.3.1.3. Alternative 1 Significance After Mitigation

As shown in the table below, adherence to the same mitigation measures required of the Proposed Project would reduce construction-related criteria pollutant emissions for Alternative 1 to below SCAQMD thresholds. Construction emissions will be further minimized through best development practices, proper maintenance of construction equipment, and other recommendations set forth in the Air Quality and Greenhouse Gas Report that would limit the alternative's contribution to air pollutant emissions during construction. Therefore, impacts to air quality resulting from construction of Alternative 1 will be less than significant after mitigation.

Table 5-5
Mitigated Construction Emissions Summary
Alternative 1
Maximum Daily Emissions (lbs./day)

Year	CO	NO_x	ROG	SO_x	PM_{10}	$PM_{2.5}$
2018	88.40	87.94	9.60	0.20	16.57	8.64
2019	85.01	80.63	8.98	0.20	14.43	7.86
2020	38.31	29.26	3.94	0.06	2.25	1.91
2021	38.06	26.81	3.62	0.06	2.04	1.71
SCAQMD Threshold*	**550.00**	**100.00**	**75.00**	**150.00**	**150.00**	**55.00**
Exceeds Threshold	**No**	**No**	**No**	**No**	**No**	**No**

Source: CalEEMod Version 2013.2.2. See Appendix E of this EIR for detailed tables. Value shown represents the average mitigated emissions from summer and winter.
* Source: "SCAQMD Air Quality Significance Thresholds" prepared by South Coast Air Quality Management District.

5.3.3.1.4. Alternative 1 Cumulative Impacts

Cumulative air quality impacts were assessed on a regional scale given the dispersing nature of pollutant emissions and aggregate impacts from surrounding jurisdictions and air management districts. Any activity resulting in emissions of PM_{10}, ozone, or ozone precursors will unavoidably contribute, at some level, to regional non-attainment designations of ozone and PM_{10}. However, the level of impact a single project may have on regional air quality is difficult to measure.

The Coachella Valley is subject to the SCAQMD 2016 Air Quality Management Plan and the 2003 PM_{10} Coachella Valley State Implementation Plan (CVSIP) to ensure levels of criteria pollutants are regulated and minimized to the best of the region's ability. The 2016 AQMP has set forth attainment deadlines and future emission level projections for criteria pollutants within the project area, which satisfies Section 15130(b)(1)(B) of the CEQA guidelines for analyzing cumulative impacts. These regional plans provide guidelines and rules for achieving state and federal air quality standards, which aid to reduce cumulative impacts, particularly through the enforcement of SCAQMD daily thresholds and implementation of time-sensitive reduction strategies to achieve attainment status. Overall, CV Link will result in a net reduction of all criteria pollutants and will have a positive long-term impact on cumulative air quality conditions. Cumulative air quality impacts are therefore limited to construction emissions. Construction mitigation and minimization measures set forth in this EIR are aimed to reduce CV Link's contribution to any significant cumulative effects related to air quality.

The SSAB is designated as nonattainment under both the CAAQS and the NAAQS for ozone and PM_{10}. Emissions of CO, NOX and ROG that exceed the SCAQMD operational thresholds would contribute to the ozone nonattainment designation, while emissions of PM_{10} that exceed the SCAQMD thresholds would contribute to the PM_{10} nonattainment designation of the SSAB.

Construction activities associated with development of Alternative 1 will not exceed SCAQMD daily thresholds for criteria pollutants with the imposition of the above mitigation measures. However, emission of CO, NOx, ROG, and PM_{10} during construction of the project are unavoidable and will marginally contribute to regional ozone and PM_{10} nonattainment designations. The following discussions address cumulative impacts related to ozone and PM_{10}.

Regulation of Ozone
Development of Alternative 1 will adhere to ozone reduction measures set forth in the SCAQMD AQMP. In addition, the project will result in significant reductions of future ozone precursors related to mobile source emissions. Therefore, the Proposed Project is considered less than significant in regards to cumulative air quality impacts related to ozone.

Regulation of PM_{10}
Similar to ozone, PM_{10} is regulated through the SCAQMD 2012 and Draft 2016 Air Quality Management Plan and 2002 PM_{10} Coachella Valley State Implementation Plan (CVSIP). Additional PM_{10} reduction measures include applicable state code and AQMD Rules, such as Rule 403 (Fugitive Dust), which enforces fugitive dust compliance for all activities within the SSAB. As shown in the analysis above, the Proposed Project will not exceed local daily thresholds for PM_{10}. Therefore, cumulative impacts to PM_{10} are considered less than significant.

In conclusion, cumulative air quality impacts related to construction and use of Alternative 1 are considered less than significant with mitigation. Development and operation will not exceed air quality maximum daily thresholds for CO, NOx and PM_{10}, which are cumulative thresholds by their nature. In addition, the Proposed Project is consistent with regulation requirements of ozone and PM_{10} in the Salton Sea Air Basin. Therefore cumulative impacts related to ozone and PM_{10} emissions will be less than significant.

5.3.3.2. Alternative 2

5.3.3.2.1. Alternative 2 Impacts

Alternative 2 Project Summary
Alternative 2 assumes buildout of all project alignments, including Rancho Mirage segments. Construction of Alternative 2 will not require additional termini on the east and west sides of Rancho Mirage. The total length of the Alternative 2 Route is approximately 49 miles. Construction parameters for the Proposed Project were also assumed for development of Alternative 2, where applicable, including phasing, equipment used, and material hauling assumptions.

a) Conflict with or obstruct implementation of the applicable air quality plan;

Alternative 2 is located within the SSAB, which is governed by the SCAQMD. SCAQMD is responsible for monitoring criteria air pollutant concentrations and establishing management policies for the SSAB. All development within the SSAB, including the Proposed Project, is subject to the current SCAQMD Air Quality Management Plan and 2003 PM_{10} Coachella Valley State Implementation Plan. These comprehensive plans establish control strategies and guidance on regional emission reductions for air pollutants. CV Link would be developed in accordance with all applicable air quality management plans to ensure impacts to air quality are less than significant. Actions include, but are not limited to the preparation of a standard dust control management plan, in compliance with the CVSIP, and the enforcement of mitigation measures in the event that criteria pollutant thresholds are exceeded during construction activities.

As demonstrated below (under threshold (b)), CV Link Alternative 2 (as mitigated) will not exceed any South Coast AQMD thresholds of significance for criteria pollutants, and will actually *reduce* regional air quality emissions as compared to baseline conditions by reducing vehicle miles traveled. Therefore, Alternative 2 will not only avoid any conflict with, or obstruction of, the applicable air quality management plans, it will actually assist in meeting the clean air goals that those plans are intended to achieve.

The addition of Rancho Mirage under this Alternative is consistent with the regional plans for the Coachella Valley and the Air Basin, insofar as Rancho Mirage is part of, and included in, these regional plans. The addition of the pathway through Rancho Mirage would result in similar reductions in air emissions, and would therefore

support implementation of these plans. Alternative 2 is subjected to the same regional and local air quality plans and regulations as the Proposed Project, and therefore impacts associated with implementation of air quality plans are the same.

b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation;

Development of Alternative 2 will result in the direct and indirect generation and emission of air pollutants during project construction and operation of various facility features, such as pathway lighting and water demands for landscaping. Criteria air pollutant emissions from grading and construction will be temporary; however, emissions from daily operation will be ongoing

Construction Emissions

Alternative 2 proposes to include all cities listed in the Proposed Project, and also includes connectivity through the Rancho Mirage. The total length of the Alternative 2 Route is approximately 49 miles. The same pathway width assumption of 30 feet and buffer of 10 feet used for the Proposed Project was also assumed for Alternative 2. Therefore, it is assumed that the paved area for Alternative 2 is approximately 233.96 acres and total disturbed area of 311.95 acres.

Due to the regional nature of CV Link, it is possible that material cut from one segment of the Link may be used as fill for another portion. Therefore, materials may require hauling trips regardless of a net balance of materials. For analysis purposes, it is assumed that all cut and fill material projections will require hauling, resulting in 150,000 cubic yards of export and 265,000 cubic yards of import for Alternative 2. It is assumed that each haul trip will travel 30 miles and carry up to 20 tons (or 16 cubic yards) per haul. This overstates overall construction emissions associated with grading and provide a conservative emission estimate for analysis.

The following table provides construction-related air quality impacts for buildout of Alternative 2.

Table 5-6
Unmitigated Construction Emissions Summary
Alternative 2
Maximum Daily Emissions (lbs./day)

Year	CO	NO_x	ROG	SO_x	PM_{10}	$PM_{2.5}$
2018	31.82	45.31	4.29	0.05	14.25	8.55
2019	91.54	120.63	11.25	0.15	32.89	19.07
2020	103.81	124.12	12.05	0.18	34.16	19.57
2021	99.31	110.79	11.10	0.18	33.53	18.98
SCAQMD Threshold*	**550.00**	**100.00**	**75.00**	**150.00**	**150.00**	**55.00**
Exceeds Threshold	**No**	**Yes**	**No**	**No**	**No**	**No**

Source: CalEEMod Version 2013.2.2. See Appendix E of this EIR for detailed tables. Value shown represents the average mitigated emissions from summer and winter.
* Source: "SCAQMD Air Quality Significance Thresholds" prepared by South Coast Air Quality Management District, March 2015.

As shown in the table above, SCAQMD daily thresholds for CO, ROG, SOx, PM_{10} and $PM_{2.5}$ will not be exceeded during construction of any phase of Alternative 2 development. However, NOx emissions have the potential to slightly exceed SCAMD thresholds due to simultaneous use of construction equipment and material hauling. To reduce NOx emissions and overall project impacts to less than significant levels, the same mitigation measures applied to the Proposed Project will be applied to Alternative 2, with the exception that oxidation catalysts would be increased from a 30% NOx reduction to a 35% NOx reduction.

Compared to the Proposed Project, as shown in Table 4.3-6 of Section 4.3 Air Quality, Alternative 2 will emit higher levels of criteria pollutants during construction, and emissions of oxides of nitrogen would exceed SCAQMD thresholds.

Operational Emissions

Operational emissions associated with Alternative 2 will be negligible and limited to area source emissions, such as pavement off-gassing and landscape watering. Energy demands are limited to lighting and recharge stations. Alternative 2 will not generate new mobile source emissions, instead the alternative is expected to reduce mobile source emissions by promoting and providing alternative modes of transportation, including biking and electric vehicles. Projected mobile source emission reductions are discussed in the following section.

The following table summarizes the annual daily emissions of CV Link after project buildout. SCAQMD thresholds will not be exceeded for any criteria pollutant. Therefore impacts are considered less than significant.

Table 5-7
Operational Emissions of Criteria Pollutants
Alternative 2 (Lbs per Day)

	CO	**NO_x**	**ROG**	**SO_x**	**PM_{10}**	**$PM_{2.5}$**
Operational	0.02	0.00	65.72	0.00	0.00	0.00
SCAQMD Threshold	**550.00**	**100.00**	**75.00**	**150.00**	**150.00**	**55.00**
Significant	**No**	**No**	**No**	**No**	**No**	**No**
Source: CalEEMod Version 2013.2.2. See Appendix E of this EIR for detailed tables. Value shown represents average daily unmitigated emission across summer and winter activities.						

Compared to the Proposed Project, as shown in Table 4.3-7 of Section 4.3, Alternative 2 would have greater operational emissions.

Operational Emission Reductions of Criteria Pollutants

Alternative 2 is expected to reduce overall vehicle miles traveled by promoting the use of alternative modes of transportation. The CV Link Traffic Report prepared by Urban Crossroads projects that Alternative 2 would result in a reduction of 9,071,027 annual vehicle miles by 2040. The following table summarizes the daily reduction in mobile source criteria pollutants that would result due to the reduction in vehicle miles. Overall, operation of Alternative 2 will result in a significant net reduction of daily criteria pollutants.

Compared to the Proposed Project, Alternative 2 would increase the usage of CV Link due to continuity provided by a full-length Link, resulting in fewer auto trips (mobile sources emissions). Therefore, Alternative 2 would have greater operational emission reduction savings as shown in the table below.

Table 5-8
Operational Emission Reductions of Criteria Pollutants
Alternative 2
(Lbs per Day)

	CO	NO_x	ROG	SO_x	PM_{10}	$PM_{2.5}$
Mobile Source Reductions	-26,464.31	-2,931.70	-3,687.63	-6.16	-43.51	-26.93
Operational Emissions	0.02	0.00	65.72	0.00	0.00	0.00
Net Operational Emissions	**-26,464.29**	**-2,931.70**	**-3,621.91**	**-6.16**	**-43.51**	**-26.93**
Proposed Project	**-23,326.87**	**-2,583.27**	**-3,192.60**	**-5.40**	**-36.20**	**-23.13**
Net Difference	**3,137.42**	**348.43**	**429.31**	**0.76**	**7.31**	**3.80**

Source: CalEEMod Version 2013.2.2. See Appendix E of this EIR for detailed tables. Value shown represents average daily-unmitigated emission across summer and winter activities.

c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors);

See Cumulative Impacts, below.

d) Expose sensitive receptors to substantial pollutant concentrations

The same LST parameters used to analyze the Proposed Project were used to analyze impacts associated with Alternative 2. The maximum area of disturbance associated with buildout of Alternative 2 is approximately 312 acres and it is assumed that buildout would occur gradually over the course of four years. Although the total project area is greater than five-acres, the area of daily disturbance (for purposes of LST analysis only) is limited to five acres or less per day at any given location, which is equivalent to one mile of pathway construction. As such, the five acre look up table is appropriate under the SCAQMD's methodology to screen for potential localized air quality impacts.

The Mass Rate Look-Up tables for LSTs were used to determine if the Proposed Project would have the potential to generate significant adverse localized air quality impacts during construction. The LST for Source Receptor Area (SRA) 30 (Coachella Valley) was used to determine LST emission thresholds. The distance from the emission source and the maximum daily site disturbance also determines emission thresholds. Sensitive receptors will vary depending upon which portion of the Link is being developed. Senstive receptors along the Rancho Mirage segment of the Link include single-family residences and the Rancho Mirage Community Park. For analysis purposes, the worst case scenario of a sensitive receptor being within 25 meters was used.

Results show that LST thresholds are not expected to be exceeded during project development under mitigated conditions. The project will be developed in accordance to SCAQMD Rule 403, and apply best management practices to ensure impacts to sensitive receptors are less than significant.

The Proposed Project and both build alternatives would have the same level of impact to sensitive receptors because LSTs were analyzed for a 1-mile stretch of pathway with the most conservative distance (25 meters) available, thus resulting in the same impact for all build alternatives.

Table 5-9
Localized Significance Thresholds
Alternative 2
25 Meters, 5 Acres
(lbs per day)

	CO	NO_x	PM_{10}	$PM_{2.5}$
	13.67	16.53	4.47	2.53
LST	**2,292**	**304**	**14**	**8**
Exceed?	**No**	**No**	**No**	**No**

Source: CalEEMod Version 2013.2.2. See Appendix E of this EIR for detailed tables. Emissions show the highest emitting day for all emissions generated onsite during construction.

e) Create objectionable odors affecting a substantial number of people.

Alternative 2 is not expected to generate significant objectionable odors during any phase of construction. The Proposed Project has the potential to result in short-term odors associated with paving and other construction activities. However, construction-related odors would be quickly dispersed below detectable thresholds and as distance from the construction site increases. Therefore, impacts from objectionable odors are expected to be less than significant.

Both construction and operational activities associated with Alternative 2 are the same activities assumed for the Proposed Project. Therefore, impacts associated with objectionable odors are comparable.

5.3.3.2.2. Alternative 2 Mitigation Measures

Under Alternative 2, the entire length of the Route would be subject to the requirements for implementation of a dust management program, as required in Section 4.3, mitigation measure AQ-1. However, under Alternative 2, NO_x thresholds would be exceeded during construction. In order to assure that these levels would be within established thresholds, mitigation measure AQ-2 would require modification, as follows:

AQ-1: To reduce particulate matter and NOx emissions construction equipment shall utilize aqueous diesel fuels, diesel particulate filters and diesel oxidation catalyst with a minimum 35% reduction rating during all construction activities for Alternative 2.

Note that this is a 5% increase in NOx reduction ratings compared to the Proposed Project and Alternative 1 due to higher emissions.

5.3.3.2.3. Alternative 2 Significance After Mitigation

As shown in the table below, adherence to mitigation measures above would reduce construction-related criteria pollutant emissions below SCAQMD thresholds. Construction emissions will be further minimized through best development practices, proper maintenance of construction equipment, and other recommendations set forth in the Air Quality and Greenhouse Gas Report that limit the project's contribution to air pollutant emissions during construction. Therefore, impacts to air quality resulting from construction of Alternative 2 will be less than significant after mitigation.

Table 5-10
Mitigated Construction Emissions Summary
Alternative 2
Maximum Daily Emissions
(lbs./day)

	Year	CO	NO_x	ROG	SO_x	PM_{10}	$PM_{2.5}$
	2018	98.91	94.68	10.37	0.24	19.20	4.53
	2019	95.24	86.85	9.72	0.24	16.47	4.17
	2020	38.31	27.75	3.94	0.06	2.25	1.84
	2021	38.06	25.43	3.62	0.06	2.04	1.65
SCAQMD Threshold*		**550.00**	**100.00**	**75.00**	**150.00**	**150.00**	**55.00**
Exceeds Threshold		**No**	**No**	**No**	**No**	**No**	**No**

Source: CalEEMod Version 2013.2.2. See Appendix E of this EIR for detailed tables. Value shown represents the average mitigated emissions from summer and winter.
* Source: "SCAQMD Air Quality Significance Thresholds" prepared by South Coast Air Quality Management District, March 2015.

5.3.3.2.4. Alternative 2 Cumulative Impacts

Cumulative air quality impacts were assessed on a regional scale given the dispersing nature of pollutant emissions and aggregate impacts from surrounding jurisdictions and air management districts. Any activity resulting in emissions of PM_{10}, ozone, or ozone precursors will unavoidably contribute, at some level, to regional nonattainment designations of ozone and PM_{10}. However, the level of impact a single project may have on regional air quality is difficult to measure. The Coachella Valley is subject to the SCAQMD 2012 Air Quality Management Plan (AQMP), soon to be superseded by the 2016 AQMP, and the 2003 PM_{10} Coachella Valley State Implementation Plan (CVSIP) to ensure levels of criteria pollutants are regulated and minimized to the best of the region's ability. The 2016 AQMP has set forth attainment deadlines and future emission level projections for criteria pollutants within the project area, which satisfies Section 15130(b)(1)(B) of the CEQA guidelines for analyzing cumulative impacts. These regional plans provide guidelines and rules for achieving state and federal air quality standards, which aid to reduce cumulative impacts, particularly through the enforcement of SCAQMD daily thresholds and implementation of time-sensitive reduction strategies to achieve attainment status. Overall, CV Link will result in a net reduction of all criteria pollutants and will have a positive long-term impact on cumulative air quality conditions. Cumulative air quality impacts are therefore limited to construction emissions. Construction mitigation and minimization measures set forth in this EIR are aimed to reduce CV Link's contribution to any significant cumulative effects related to air quality.

The SSAB is designated as nonattainment under both the CAAQS and the NAAQS for ozone and PM_{10}. Emissions of CO, NOX and ROG that exceed the SCAQMD operational thresholds would contribute to the ozone nonattainment designation, while emissions of PM_{10} that exceed the SCAQMD thresholds would contribute to the PM_{10} nonattainment designation of the SSAB.

Construction activities associated with development of Alternative 2 will not exceed SCAQMD daily thresholds for criteria pollutants with the imposition of the above mitigation measures. However, emission of CO, NOx, ROG, and PM_{10} during construction of the project are unavoidable and will marginally contribute to regional ozone and PM_{10} nonattainment designations. The following discussions address cumulative impacts related to ozone and PM_{10}.

Regulation of Ozone
Development of Alternative 2 will adhere to ozone reduction measures set forth in the SCAQMD AQMP. In addition, the project will result in significant reductions of future ozone precursors related to mobile source emissions. Therefore, the Proposed Project is considered less than significant in regards to cumulative air quality impacts related to ozone.

Regulation of PM_{10}
Similar to ozone, PM_{10} is regulated through the SCAQMD 2016 Air Quality Management Plan and 2002 PM_{10} Coachella Valley State Implementation Plan (CVSIP). Additional PM_{10} reduction measures include applicable state code and AQMD Rules, such as Rule 403 (Fugitive Dust), which enforces fugitive dust compliance for all activities within the SSAB. As shown in the analysis above, the Proposed Project will not exceed local daily thresholds for PM_{10}. Therefore, cumulative impacts to PM_{10} are considered less than significant.

In conclusion, cumulative air quality impacts related to construction and use of Alternative 2 are considered less than significant with mitigation. Development and operation will not exceed air quality maximum daily thresholds for CO, NOx and PM_{10}, which are cumulative thresholds by their nature. In addition, the Proposed Project is consistent with regulation requirements of ozone and PM_{10} in the Salton Sea Air Basin. Therefore cumulative impacts related to ozone and PM_{10} emissions will be less than significant.

5.3.3.3. Alternative 3

5.3.3.3.1. Alternative 3 Impacts

Alternative 3 Project Summary
Under Alternative 3, there would be no construction of CV Link, and it would not operate. Under this alternative, existing conditions would continue, and no reduction in operational trips would occur.

a) Conflict with or obstruct implementation of the applicable air quality plan;

Under Alternative 3, existing conditions would not be altered and there would be no new emissions of criteria pollutants. Because there will be no new impacts to the region's air quality, this alternative will not conflict or obstruct implementation of an applicable air quality plan. There will be no impact.

b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation;

Under Alternative 3, existing conditions would not be altered and there would be no new emissions of criteria pollutants. Because there will be no new impacts to the region's air quality, this alternative will not violate any air quality standard or contribute substantially to an existing or projected air quality violation. There will be no impact.

c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors);

Under Alternative 3, existing conditions would not be altered and there would be no new emissions of criteria pollutants. Because there will be no new impacts to the region's air quality, this alternative will not result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in nonattainment under an applicable federal or state ambient air quality standard. There will be no impact.

d) Expose sensitive receptors to substantial pollutant concentrations;

Under Alternative 3, existing conditions would not be altered and there would be no new emissions of criteria pollutants. Because there will be no new impacts to the region's air quality, this alternative will expose sensitive receptors to substantial pollutant concentrations. There will be no impact.

e) Create objectionable odors affecting a substantial number of people.

Under Alternative 3, existing conditions would not be altered and there would be no new emissions of criteria pollutants. Because there will be no new impacts to the regions air quality, this alternative will not create objectionable odors affecting a substantial number of people. There will be no impact.

5.3.3.3.2. Alternative 3 Mitigation Measures

Mitigation measures are not required for Alternative 3.

5.3.3.3.3. Alternative 3 Significance After Mitigation

Alternative 3 will not result in significant impacts requiring mitigation. Impacts are less than significant.

5.3.3.3.4. Alternative 3 Cumulative Impacts

Under Alternative 3, existing conditions would not be altered and there would be no new emissions of criteria pollutants. Because there will be no new impacts to the regions air quality, this alternative will not result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in nonattainment under an applicable federal or state ambient air quality standard. There will be no impact.

5.3.4. Environmentally Superior Alternative

From an air quality perspective, the environmentally superior alternative was chosen based on potential long-term criteria pollutant emission reductions. Alternative 2 is therefore environmentally superior because it will result in the greatest VMT trip reductions, which in turn results in the greatest criteria pollutant emissions reduction. The remaining alternatives ranked from most superior to less superior are as follows: Proposed Project, Alternative 1, and Alternative 3. However, all alternatives, including the Proposed Project, result in less than significant impacts associated with air quality.

5.4. Biological Resources

5.4.1. Introduction

This section provides an overview of the existing biological resource conditions within the project area and surrounding region and environmental analysis of potential biological resource impacts that would result from implementation of project alternatives. The project's potential biological impacts are discussed and where needed, mitigation measures are set forth.

5.4.2. Existing Conditions

Significant portions of the Route are located within paved public roads and paths adjacent to golf courses and parks. Equally significant examples of disturbance include onsite and adjacent commercial, industrial, recreational (golf course), and residential development, limited agriculture (only on the southern end of the Route), road

shoulder disturbance, fragmentation caused by public roads, operation of off-road vehicles and/or golf carts (existing dirt and paved roads and trails), dumping of trash, debris and waste and the presence of domestic animals such as dogs and livestock.

All of these onsite and adjacent human-related disturbances have had adverse impacts to the natural environment in the immediate vicinity of the project Route and have negatively affected the distribution, diversity and abundance of flora and fauna.

Please see Section 4.4.4 for further detail on existing conditions in the project area.

5.4.3. Alternative Impact Analysis

5.4.3.1. Alternative 1

5.4.3.1.1. Alternative 1 Impacts

Alternative 1 Project Summary
Alternative 1 would result in a CV Link project that would exclude the cities of Rancho Mirage and Indian Wells. The balance of the Route would be constructed in a manner identical to that of the Proposed Project.

a) Have a substantial adverse effect, either directly or indirectly, or through habitat modifications, on any species identified as a candidate, sensitive, or special status species (including species listed as threatened or endangered) in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service.

Alternative 1 has the potential to impact sensitive species both directly through habitat removal or modification, and indirectly with the introduction of pathway facilities and the generation of new sources of noise or light, which may generate edge effects. The CVMSHCP protects a number of species that could occur in the area surrounding CV Link. Potential impacts to those species will be mitigated through the payment of impact fees.

Tables 4.4-1 through 4.4-6 of this document summarize information on all special-status species that have been reported within the vicinity (5-mile radius), or are considered to have some potential to occur onsite based on geographic distribution and presence of potentially suitable habitat. These tables provide the names, legal or conservation status, general habitat associations, and the probability of occurrence for each of these species.

As discussed in Section 4.4, all impacts to sensitive or special status species will be mitigated to less than significant levels through adherence to mitigation measures. The exclusion of Rancho Mirage and Indian Wells would result in a reduction in the project Route on levee tops and city streets. However, the areas that would be avoided in Alternative 1 are currently impacted and provide degraded habitat, as does the balance of the Route. The implementation of Alternative 1 would not change the impacts to the Whitewater Floodplain conservation area, or the Casey's June Beetle, as these occur in jurisdictions which would remain in the project. Potential impacts to biological resources associated with the Proposed Project are similar to those of Alternative 1, and therefore the same mitigation measures apply.

b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service.

Riparian habitats in the Coachella Valley are located within the Santa Rosa and San Jacinto Mountains Conservation Area. The Route closely approaches, but does not encroach on the Santa Rosa and San Jacinto Mountains Conservation Area in two relatively small areas: between Paxton Drive and Mirage Road on the south

side of Highway 111, and in the Parkview Drive/Highway 111 area. These areas are in Rancho Mirage, which would not be part of the project under Alternative 1. Because Alternative 1 will not encroach on riparian habitat, the Proposed Project is not anticipated to have adverse impacts on such resources.

Potential impacts to federally protected wetlands are further discussed in response to c) below.

c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.

The entire length of the CV Link Route, including Alternative 1, was surveyed to identify the potential for jurisdictional water features. A total of 97.89 acres of non-wetland waters of the United States (WUS) and waters of the State (WSC), 13.09 acres of wetlands, and 433.27 acres of CDFW jurisdictional streambeds were found to occur along the CV Link Route. Under this alternative, the termini proposed on the western boundary of Indian Wells would occur. Some of the alignments for these termini include encroachment into the Whitewater River. Therefore, as a result of implementation of this alternative, the total impact to jurisdictional waters would be reduced. Impacts would also be reduced in Rancho Mirage, where one alignment traverses the Whitewater River bed. As described in the Jurisdictional Delineation prepared for the project (Appendix G), the exclusion of both Rancho Mirage and Indian Wells would result in a reduction in temporary impacts to non-wetland waters of the US of 1.77 acres, permanent impacts to non-wetland waters of the US of 0.74 acres, temporary and permanent impacts to wetlands of 0.009 acres, temporary impacts to waters of the State of 13.14 acres, and permanent impacts to waters of the State of 6.74 acres.

CVAG has met and conferred with the USACE, CDFW and the RWQCB to discuss impacts associated with jurisdictional waters. It has been agreed that the In Lieu Fee Program established by the USACE and the Coachella Valley Conservation Commission shall be used as the means of mitigation for jurisdictional waters. Similar to the Proposed Project, this understanding will be formalized and applied to Alternative 1 on a site-specific basis in permits from the USACE, CDFW, and RWQCB. Completion and approval of the appropriate permits issued by the USACE, CDFW, and RWQCB, as provided in the mitigation measures for the Proposed Project, will ensure impacts to federally protected wetlands will be reduced to less than significant levels.

d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.

Alternative 1 is not located within a mapped migratory corridor or native wildlife nursery site. The majority of the Alternative 1 Route has been previously cleared of vegetation (dirt levee roads maintained by CVWD), or is located with paved roads and/or golf cart paths completely devoid of vegetation suitable for migratory movement. In addition, buildout of CV Link will not result in habitable structures or fencing that would potentially restrict wildlife movement from occurring.

However, significant portions of the Route pass through or are adjacent to areas including golf courses, park lands, areas of landscaped trees and shrubs, and undeveloped natural habitats that contain habitat for a variety of nesting birds. Although some of the birds potentially nesting along the project Route are CVMSHCP covered species, this coverage does not allow the take of the individual birds or their active nests. Additionally, the CVMSHCP does not provide coverage or conservation for many other bird species potentially occurring or nesting onsite that are protected by the MBTA. Impacts to birds covered by MBTA could be significant if construction activities for any portion of the Route are undertaken during nesting season, without the implementation of mitigation measures. With the implementation of Alternative 1, the area that would be developed would be somewhat reduced. As a result, Alternative 1 would reduce the potential to impact bird

species subject to MBTA, when compared to the Proposed Project. However, under all potential development scenarios, CVAG will be required to implement mitigation measures that adhere to conditions set forth under the MBTA to ensure impacts to migratory or other nesting birds will be less than significant.

e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance. (Response combined with f), below)

A thorough investigation of all participating jurisdictions' Municipal Codes was conducted in preparing this document. Neither the County of Riverside nor the cities through which the Proposed Project will occur have local ordinances protecting biological resources (See Section 4.10 Land Use for list of City ordinances). All the affected jurisdictions, however, are signatories to and participate in the implementation of the Coachella Valley Multiple Species Habitat Conservation Plan. Similar to the Proposed Project, Alternative 1 will not conflict with any local policies or ordinances protecting biological resources.

f) Conflict with the provisions of any adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional or state habitat conservation plan.

As previously stated, neither the County of Riverside nor the cities through which the Proposed Project will occur have local ordinances protecting biological resources. All the affected jurisdictions, however, are signatories to and participate in the implementation of the Coachella Valley Multiple Species Habitat Conservation Plan.

Construction associated with Alternative 1 will be largely within either existing paved surfaces and/or within the graded/cleared dirt roads (where present), and therefore project-related impacts to natural vegetation communities and habitats within Conservation Areas are expected to be largely avoided. As a Permittee under the CVMSHCP, CVAG must comply with all applicable terms and conditions of the CVMSHCP and Implementing Agreement (See Section 13.0 of the CVMSHCP Implementing Agreement). This includes, but not limited to, payment of a land development/mitigation fee and implementation of "Land Use Adjacency Guidelines." Under Alternative 1, the area of disturbance would be reduced, but the same mitigation measures would apply. Alternative 1 would conform to the CVMSHCP.

Compliance with the mitigation measures will ensure Alternative 1 will not conflict with any local policy, ordinance, or Habitat Conservation Plan. Therefore, impacts will be less than significant.

5.4.3.1.2. Alternative 1 Mitigation Measures

With the implementation of the recommendations, requirements and guidelines summarized in Section 4.4, including requisite participation in the CVMSHCP, project-related impacts to the CVMSHCP-covered species, special-status species not covered by the CVMSHCP, nesting birds protected under the MBTA and USACE and/or CDFW jurisdictional areas will be mitigated to less than significant levels. Alternative 1 would not require any additional mitigation measures, nor would it preclude the need for the mitigation measures required for the Proposed Project.

5.4.3.1.3. Alternative 1 Significance After Mitigation

Impacts to biological resources associated with construction of Alternative 1 will be reduced to a less than significant level by adherence to the mitigation measures in Section 4.4. Operational impacts associated with Alternative 1 will be less than significant.

5.4.3.1.4. Alternative 1 Cumulative Impacts

Alternative 1 has been designed to adhere to local, state, and federal regulations related to the protection of biological resources; therefore, Alternative 1 would not make a considerable contribution to cumulative impacts to biological resources. The geographic scope for the analysis of potential cumulative biological impacts includes the immediate vicinity around each of the path segments. Using the summary of projections method to analyze cumulative impacts set forth in State CEQA Guidelines section 15130 (b)(1)(B), impacts have been assessed on both a regional and local level. The primary document used to determine cumulative impacts was the CVMSHCP, which was designed for the long-term protection and regulation of biological resources in the project area.

Potential impacts to biological resources in and outside of CVMSHCP Conservation Areas will be largely avoided or mitigated to less than significant levels with implementation of the mitigation program. CVAG shall comply with all terms and conditions of the CVMSHCP and its Implementing Agreement including, but not limited toparticipation in the Joint Project Review Process and implementation of the "Land Use Adjacency Guidelines", which are set forth in the mitigation measures. Therefore, the project's impacts to biological resources will be less than significant and the project's contribution to cumulative impacts will not be cumulatively considerable

5.4.3.2. Alternative 2

5.4.3.2.1. Alternative 2 Impacts

Alternative 2 Project Summary
Under Alternative 2, the CV Link project would extend uninterrupted from Palm Springs through Coachella, and would include the cities of Rancho Mirage and Indian Wells. A continuous path would be provided, and the termini proposed at the boundaries of these two cities would be eliminated.

a) Have a substantial adverse effect, either directly or indirectly, or through habitat modifications, on any species identified as a candidate, sensitive, or special status species (including species listed as threatened or endangered) in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service.

Alternative 2 has the potential to impact sensitive species both directly through habitat removal or modification, and indirectly with the introduction of pathway facilities and the generation of new sources of noise or light, which may generate edge effects. The CVMSHCP protects a number of species that could occur in the area surrounding CV Link. Potential impacts to those species will be mitigated through the payment of impact fees.

Tables 4.4-1 through 4.4-6 of this document summarize information on all special-status species that have been reported within the vicinity (5-mile radius), or are considered to have some potential to occur onsite based on geographic distribution and presence of potentially suitable habitat. These tables provide the names, legal or conservation status, general habitat associations, and the probability of occurrence for each of these species.

The addition of Rancho Mirage with this alternative would not significantly impact sensitive species. As detailed in the biological analysis provided in Appendix F, no additional or differing species were identified in Rancho Mirage than were for the Proposed Project. The addition of Rancho Mirage would marginally increase the loss of poor quality habitat on levee tops. However, these areas include an existing trail and roadways, so they are impacted and devoid of native habitat. Further, the on-site surveys conducted for the Proposed Project included the Route's alignments in Rancho Mirage, and did not identify species of concern along it. One portion of the Route through Rancho Mirage would occur near a CVMSHCP conservation area, but would not be within it. This portion of the Route would be subject to the same requirements of the Plan for lands adjacent to conservation areas as any other portion of the Route. The addition of Rancho Mirage would not significantly increase impacts to biological resources.

As discussed in Section 4.4, all impacts to sensitive or special status species will be mitigated to less than significant through adherence to mitigation measures. Potential impacts to biological resources associated with the Proposed Project are similar to those of the Proposed Project, and therefore the same mitigation measures apply. With the implementation of these measures, Alternative 2 would have less than significant impacts on sensitive species.

b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service.

Riparian habitats in the Coachella Valley are located within the Santa Rosa and San Jacinto Mountains Conservation Area. The Alternative 2 Route closely approaches, but does not encroach on the Santa Rosa and San Jacinto Mountains Conservation Area in two relatively small areas: between Paxton Drive and Mirage Road on the south side of Highway 111, and in the Parkview Drive/Highway 111 area, in the City of Rancho Mirage. Under this alternative, the project would occur near, but will not encroach on riparian habitat[2]. This alternative is not anticipated to have adverse impacts on such resources.

Potential impacts to federally protected wetlands are further discussed in response to c) below.

c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.

The entire length of the CV Link Route, including Alternative 2, was surveyed to identify the potential for jurisdictional water features. A total of 97.89 acres of non-wetland waters of the United States (WUS) and waters of the State (WSC), 13.09 acres of wetlands, and 433.27 acres of CDFW jurisdictional streambeds were found to occur along the CV Link Route. Similar to the Proposed Project, all impacts associated with federally protected wetlands will require permits from the USACE, CDFW, and RWQCB. Impacts would occur in Rancho Mirage, under this alternative, where one alignment traverses the Whitewater River bed. As described in the Jurisdictional Delineation prepared for the project (Appendix G), the inclusion of Rancho Mirage would result in an increase in temporary impacts to non-wetland waters of the US of 1.29 acres, permanent impacts to non-wetland waters of the US of 0.56 acres, temporary impacts to waters of the State of 2.44 acres, and permanent impacts to waters of the State of 1.18 acres

CVAG has met and conferred with the USACE, CDFW and the RWQCB to discuss impacts associated with jurisdictional waters. It has been agreed that the In Lieu Fee Program established by the USACE and the Coachella Valley Conservation Commission shall be used as the means of mitigation for jurisdictional waters. Similar to the Proposed Project, this understanding will be formalized and applied to Alternative 2 on a site-specific basis in permits from the USACE, CDFW, and RWQCB. Completion and approval of the appropriate permits issued by the USACE, CDFW, and RWQCB, as provided in the mitigation measures for the Proposed Project, will ensure impacts to federally protected wetlands will be reduced to less than significant levels.

d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.

[2] "Biological Resource Assessment Report and Coachella Valley Multiple Species Habitat Conservation Plan Compliance Analysis", provided in Appendix F

Alternative 2 is not located within a mapped migratory corridor or native wildlife nursery site. The majority of the Alternative 2 Route has been previously cleared of vegetation (dirt levee roads maintained by CVWD), or is located with paved roads and/or golf cart paths completely devoid of vegetation suitable for migratory movement. In addition, buildout of CV Link will not result in habitable structures or fencing that would potentially restrict wildlife movement from occurring.

However, significant portions of the alignment pass through or adjacent to areas including golf courses, park lands, areas of landscaped trees and shrubs, and undeveloped natural habitats that contain habitat for a variety of nesting birds. Although some of the birds potentially nesting along the project Route are CVMSHCP covered species, this coverage does not allow the take of the individual birds or their active nests. Additionally, the CVMSHCP does not provide coverage or conservation for many other bird species potentially occurring or nesting onsite that are protected by the MBTA. Impacts to birds covered by MBTA could be significant if construction activities for any portion of the Route are undertaken during nesting season, without the implementation of mitigation measures. With the implementation of Alternative 2, the area that would be developed would be somewhat increased. As a result, Alternative 2 would increase the potential to impact bird species subject to MBTA, when compared to the Proposed Project. However, under all potential development scenarios, CVAG will be required to implement mitigation measures that adhere to conditions set forth under the MBTA to ensure impacts to migratory or other nesting birds will be less than significant. Mitigation measures for the MBTA are provided below, under Mitigation Measures.

e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance. (Response combined with f) below).

A thorough investigation of all participating jurisdictions' Municipal Codes was conducted in preparing this document. Neither the County of Riverside nor the cities through which the Proposed Project will occur have local ordinances protecting biological resources (See Section 4.10 Land Use for list of City ordinances). All the affected jurisdictions, however, are signatories to and participate in the implementation of the Coachella Valley Multiple Species Habitat Conservation Plan. Similar to the Proposed Project, Alternative 2 will not conflict with any local policies or ordinances protecting biological resources.

f) Conflict with the provisions of any adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional or state habitat conservation plan.

Neither the County of Riverside nor the cities through which the Proposed Project will occur have local ordinances protecting biological resources. All the affected jurisdictions, however, are signatories to and participate in the implementation of the Coachella Valley Multiple Species Habitat Conservation Plan.

Construction associated with Alternative 2 will be largely within either existing paved surfaces and/or within the graded/cleared dirt roads (where present), and therefore Project-related impacts to natural vegetation communities and habitats within Conservation Areas are expected to be largely avoided. As a Permittee under the CVMSHCP, CVAG must comply with all applicable terms and conditions of the CVMSHCP and Implementing Agreement (See Section 13.0 of the CVMSHCP Implementing Agreement), which are summarized in Mitigation Measures, below. This includes, but not limited to, payment of a land development/mitigation fee and implementation of "Land Use Adjacency Guidelines." Under Alternative 2, the area of disturbance would be increased, but the same mitigation measures would apply. Alternative 2 would conform to the CVMSHCP.

Compliance with the mitigation measures will ensure Alternative 2 will not conflict with any local policy, ordinance, or Habitat Conservation Plan. Therefore, impacts will be less than significant.

5.4.3.2.2. Alternative 2 Mitigation Measures

With the implementation of the recommendations, requirements and guidelines summarized in Section 4.4, including requisite participation in the CVMSHCP, project-related impacts to the CVMSHCP-covered species, special-status species not covered by the CVMSHCP, nesting birds protected under the MBTA and USACE and/or CDFW jurisdictional areas will be mitigated to less than significant levels. Alternative 2 would not require any additional mitigation measures, nor would it preclude the need for the mitigation measures required for the Proposed Project.

5.4.3.2.3. Alternative 2 Significance After Mitigation

Impacts to biological resources associated with construction of Alternative 2 will be reduced to a less than significant level by adherence to the mitigation measures set forth in Section 4.4. Operational impacts associated with Alternative 2 will be less than significant.

5.4.3.2.4. Alternative 2 Cumulative Impacts

Alternative 2 has been designed to adhere to local, state, and federal regulations related to the protection of biological resources; therefore, Alternative 2 would not make a considerable contribution to cumulative impacts to biological resources. The geographic scope for the analysis of potential cumulative biological impacts includes the immediate vicinity around each of the path segments. Using the summary of projections method to analyze cumulative impacts set forth in State CEQA Guidelines section 15130 (b)(1)(B), impacts have been assessed on both a regional and local level. The primary document used to determine cumulative impacts was the CVMSHCP, which was designed for the long-term protection and regulation of biological resources in the project area.

Potential impacts to biological resources in and outside of CVMSHCP Conservation Areas will be largely avoided or mitigated to less than significant levels with implementation of the mitigation program. CVAG shall also comply with all terms and conditions of the CVMSHCP and its Implementing Agreement including, but not limited to participation in the Joint Project Review Process and implementation of the "Land Use Adjacency Guidelines," which are set forth in the above mitigation measures. Therefore, the project's impacts to biological resources will be less than significant and the project's contribution to cumulative impacts will not be cumulatively considerable

5.4.3.3. Alternative 3

5.4.3.3.1. Alternative 3 Impacts

Alternative 3 Project Summary
Alternative 3 will result in the continuation of existing conditions. No impacts to biological resources would occur. The character and quality of on-site and surrounding habitats, including those within CVMSHCP Conservation Areas, would be unaffected.

a) *Have a substantial adverse effect, either directly or indirectly, or through habitat modifications, on any species identified as a candidate, sensitive, or special status species (including species listed as threatened or endangered) in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service.*

Alternative 3 would not disturb any land, and as a result would have no impact on sensitive species.

b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service.

Alternative 3 would not impact riparian habitat, because no project would occur.

c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.

Alternative 3 would not impact wetlands, because no project would be constructed.

d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.

There would be no construction under Alternative 3, so there would be no impact to migratory corridors.

e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance. (Response combined with f), below)

f) Conflict with the provisions of any adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional or state habitat conservation plan.

Under Alternative 3, no construction would occur, so there would be no impact to the CVMSHCP.

5.4.3.3.2. Alternative 3 Mitigation Measures

Alternative 3 will have no impact on biological resources. Mitigation measures are not required.

5.4.3.3.3. Alternative 3 Significance After Mitigation

Alternative 3 will have no impact on biological resources.

5.4.3.3.4. Alternative 3 Cumulative Impacts

Alternative 3 will have no impact on biological resources. There will be no cumulative impacts.

5.4.4. Environmentally Superior Alternative

Alternative 3 is the environmentally superior alternative, since it would have no impact on biological resources. Impacts associated with the other two alternatives and the Proposed Project would be similar, though the location and extent of CV Link facilities would somewhat differ. Again, it should be noted that there will be no unmitigated significant impacts to biological resources from implementation and operation of the Proposed Project, with implementation of mitigation measures. Similarly, both Alternative 1 and Alternative 2 would be required to implement the same mitigation measures. Because Alternative 1 would include a somewhat reduced project area, and would therefore disturb less land, it represents the superior development alternative.

5.5. Cultural Resources

5.5.1. Introduction

This section provides an overview of the existing cultural and historical resources within the project area and surrounding region and environmental analysis of potential cultural resource impacts that could result from implementation of project alternatives. It also discussed potential impacts to paleontological resources. The project's potential impacts to these resources are discussed and where needed, mitigation measures are set forth.

5.5.2. Existing Conditions

Cultural Resources

The oldest cultural remains known to the CV Link planning area date back about 2,700 years and were discovered near the intersection of Jefferson Street and Fred Waring Drive along the ancient shoreline of Lake Cahuilla. Numerous types of habitation and village sites were developed throughout the Valley. These included villages occupied for extended periods of time, milling sites used seasonally as particular foods became available, lithic workshops for making stone tools and weapons, and rock art sites used for artistic/religious expression.

With the drying up of ancient Lake Cahuilla other dependable water sources were essential. Canyons of the San Jacinto Mountains, including and especially Tahquitz Canyon, had apparently been important habitation areas during Lake Cahuilla's last stand, and also including Palm, Andreas and Murray Canyons, which Tahquitz Creek then as now had year-round streams. As stated by Bean, et al., "It can be assumed that spring sites were places known to the Cahuilla and used by them, and that there were villages or significant use sites near all major springs."[3]

The earliest evidence of European settlements is about 1812, when the region fell under the influence of Mexico, as it secured its independence from Spain. The issuance of land grants and the establishment of agricultural enterprises, under the organization of rancheros, dominated the region for the next thirty years. Following the end of the Mexican-American War in 1848, California into the union in 1850, which led to the influx of peoples from many countries. The first U.S. Government Surveys were made in the Coachella Valley in 1855-56, by surveyors who observed a number of trails and roads crossing the area. These included the Cocomaricopa Trail, which later became known as the Bradshaw Trail and today includes portions of State Highway 111.

Paleontological Resources

As discussed in Section 4, paleontological resources occur in sedimentary rock such as sandstone, siltstone, mudstone, claystone, and shale. Specific rock and soil types of a locale are useful indicators in determining the likelihood for the presence of paleontological resources. Soils on the valley floor portion of the City are generally post-Pleistocene age alluvium from the surrounding mountains. Such soils are generally considered recent by paleontological standards and therefore have little potential to yield fossilized remains. The southeastern portions of the CV Link Route are located within the boundary of the ancient Lake Cahuilla, an area where most paleontological resources in the Valley have occurred. At these locations, previous channel cuts and levee fills have occurred along the most sensitive portions of the Route, and the limited geographic distribution of these paleontological resources, no areas of sensitivity for these resources has been identified

CV Link would be constructed upon a variety of previously disturbed lands, or upon alluvial fan and aeolian (windblown) deposits, including those excavated from the adjoining channels to construct levees. The proposed Route is also well removed from intact bedrock or sedimentary rock that most typically harbors paleontological resources. Most of the Proposed Project would be constructed on the low-lying valley floor and on lands that have

[3] "The Cahuilla and the Santa Rosa Mountain Region: Places and Their Native American Association", Lowell J. Bean, Sylvia Brakke Vane and Jackson Young. Edited by Russell L. Kaldenberg. Cultural Systems Research, Inc. for the US Bureau of Land Management. October, 1981.

been previously disturbed and developed. Soils along the Route are from the Holocene epoch, of relatively recent age, and are therefore not expected to contain paleontological resources. Therefore the planning area has a low, less than significant potential to contain sensitive paleontological resources.

Please see Section 4.5.4 for further detail on existing conditions in the project area.

5.5.3. Alternative Impact Analysis

5.5.3.1. Alternative 1

Alternative 1 Project Summary
Alternative 1 would result in a CV Link project that would exclude the cities of Rancho Mirage and Indian Wells. The balance of the CV Link alignments could be constructed in a manner identical to that of the Proposed Project.

5.5.3.1.1. Alternative 1 Impacts

The Alternative 1 project would have a significant impact on cultural resources if it would:

a) Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5.

As noted above, the CV Link route and alignments cross through lands that have been a part of and have been affected by the historic development of the Coachella Valley. The location of these historic resources, their relationship to the CV Link APE and whether they still exist has resulted in the identification of two significant historical resources that could be adversely impacted by both Alternative 1 and the Proposed Project. These include the Palm Springs Visitor's Center (Former Tramway Gas Station) and the Coachella Branch of the All-American Canal (Coachella Canal), the potential impacts to which are discussed below.

Alternative 1 assumes that the cities of Rancho Mirage and Indian Wells do not participate in the project. Impacts associated with Alternative 1 would therefore be equivalent to those of the Proposed Project excepting that this alternative would generate no potential impacts to historical resources in Indian Wells. The CV Link Route analysis identified numerous historic and prehistoric resources almost all of which had been previously identified. No potentially significant historical resources were identified within the Indian Wells city limits that are in proximity to the CV Link alignments.

In Rancho Mirage, Alternative 1 avoids potential impacts to three historic properties (Rancho Chiquito, Rancho Mirage Villa Apartments and the MJ Custom Furniture building) are located along CV Link alignments. The Rancho Mirage Villa Apartments are located on the north side of San Jacinto Drive and under Alternative 1 will have no direct or indirect impact on this property. The Rancho Chiquito property was bought by the city and was developed as a part of Whitewater Park, and most recently redeveloped with a new amphitheater at the same location within the renamed Rancho Mirage Community Park. The MJ Custom Furniture building is located on the north side of Highway 111 and adjacent to the East Magnesia Falls Stormwater Channel. Here too, Alternative 1 will have neither direct or indirect impacts on this historic property. No historical resources in Rancho Mirage would be affected under the Alternative 1 project. Therefore, impacts to historical resources with the implementation of the Alternative 1 project will be the same as those for the Proposed Project, which will be less than significant with the implementation of mitigation measures set forth in Section 4.5.

b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5.

The impacts to archaeological resources under the Alternative 1 project would be the same as for the Proposed Project, with the exception that potential impacts to such resources in the City of Indian Wells would not occur. As discussed below, a wide range of archaeological resources and sites have been identified in Indian Wells over the course of conducting the cultural resources assessment for the CV Link project. These include village sites, cremations, pottery shards and other cultural items. The resource survey indicates that there are no such sensitive archaeological resources in the Rancho Mirage portion of the CV Link planning area[4].

As discussed in Section 4, there are a number of sensitive archaeological sites identified in Indian Wells and within the CV Link planning area. These include Native American sites in portions of what is now the Indian Wells Golf Resort, and both sites have been excavated and modified for stormwater channel maintenance but also for the newer golf course and resort amenities, including a parking structure that has been built upon one of the sites. A third Indian Wells site was identified near Washington Street and the Whitewater River Channel, which was limited to a single isolate found in 1998. Despite diligent efforts, the isolate could not be found during the field survey. This area has been highly disturbed and has been used in the past by CVWD for channel maintenance access. Alternative 1 development would not affect this site. The fourth site identified in Indian Wells is identified as Kavinish, a village site with associated resource areas in proximity, including resources identified on the north side of the Whitewater River Channel, south of Miles Avenue and east of the Miles Avenue bridge. While the cultural resource assessment prepared for CV Link concluded that the project's development would not result in significant adverse impacts to archaeological resources, any potential effects would be precluded by the Alternative 1 project.

c) Directly or indirectly destroy a unique paleontological resource or site or unique geological feature.

The CV Link project is proposed for development in areas of the Coachella Valley that have a very low potential to yield important paleontological resources. This includes the eastern CV Link alignments, where channel excavation material was used to construct the levees atop of which the CV Link Route will run in this area. There are no potential paleontological resource areas in Rancho Mirage or Indian Wells that would be affected by the CV Link project. The only identified unique geological feature in the CV Link planning area is Point Happy, which is a northerly spur of the Santa Rosa Mountains foothills that juts into the Whitewater River Channel. Under the Alternative 1 scenario, the planned bridging around this feature would not be constructed. Therefore, development of the Alternative 1 project would have no significant impact on paleontological resources or on a unique geological feature.

d) Disturb any human remains, including those interred outside of formal cemetaries.

The identification of historic or prehistoric human remains along the CV Link Route are those associated with the Kavinish village site in Indian Wells . No other areas where human remains might be encountered were identified with the potential for CV Link development to encounter human remains. While the CV Link alignments in this area have been adjusted to avoid possible impacts to these resources, the Alternative 1 project would preclude any CV Link development in proximity to them. No areas of sensitivity for human remains has been identified in the CV Link planning area in Rancho Mirage. Therefore, under the Alternative I scenario, the project would not disturb human remains and, with mitigation measures set forth in Section 4.5.6, There will be no significant impacts to human remains.

[4] "Historical Property Survey Report/Archaeological Survey Report, CV Link Project", provided in Appendix H.

Impacts to Tribal Cultural Resources

According to recent CEQA Appendix G changes and additions under the heading *Tribal Cultural Resources* per Assembly Bill (AB) AB 52, the following thresholds also apply:

a) Would the project cause a substantial adverse change in the significance of a Tribal Cultural Resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American Tribe, and that is:

- *Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or*

- *A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1 for the purposes of this paragraph, the lead agency shall consider the significance of the resource to a California Native American tribe.*

As noted throughout Section 4.4, the cultural resources assessments prepared for the CV Link project included detailed a consideration of horizontal and vertical extent of the project and associated land disturbance, including impacts associated with Alternative 1. A variety of as-built plans, engineering and geotechnical data and mapping were also analysed to document the depths of manufactured fill along and comprising stormwater channel embankments and levees to the used by the project. It was determined that most CV Link improvements will not encroach into native, undisturbed soils. Exceptions include areas where bridges and associated structural piers are proposed. These discrete and identified locations will involve piers from 40 to up to 200 feet deep. Mitigation Measure CUL-1.b and others presented in Section 4.5 will ensure that potential impacts to tribal cultural resources will be less than significant.

Therefore, based upon the substantial evidence presented in Section 4.5 and in referenced technical reports and pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the Alternative 1 will not have a significant adverse impact on Tribal cultural resources with the implementation of mitigation measures set forth in Section 4.5.

5.5.3.1.2. Alternative 1 Mitigation Measures

As discussed above and in Section 4 of this section of the EIR, a few of the CV Link alignments would occur in locations where potentially sensitive archaeological and historic resources have been identified both over the course of CV Link cultural resource investigations and through a wide range of other investigations. The analysis of these resources and the potential for CV Link to impact them indicates that the project will have a limited and less than significant impact on cultural resources. Nonetheless, measures set forth in Section 4.5 are designed to avoid and minimize the potential for adverse impacts. These are fully applicable to the Alternative 1 project and will ensure that Alternative 1 project impacts to cultural resources will be less than significant.

5.5.3.1.3. Alternative 1 Significance After Mitigation

Impacts to cultural and historic resources associated with construction of the Alternative 1 project would be less than significant with adherence to the mitigation measures set forth in Section 4.5.6.

5.5.3.1.4. Alternative 1 Cumulative Impacts

The Alternative 1 project would contribute considerably to cumulative impacts if it were to have a significant adverse effect on these cultural, historical or paleontological resources in the Coachella Valley. Impacts to paleontological resources could also be cumulatively substantial if the project impacted any unique geological features. This analysis was performed using the growth projection approach consistent with State CEQA Guidelines Section 15130(b)(1)(B). The potential impacts of the Alternative 1 project on cultural, historical, tribal, and unique paleontological and geological resources would be lower than those for the Proposed Project, which it was determined will have a less than significantly impact on these resources. In addition, avoidance and minimization measures have been set forth in Section 4.5.6 that are applicable to the Alternative 1 project, requiring that if such resources are encountered during project construction, impacts to these resources will be mitigated to levels that are less than significant. Therefore, the Alternative 1 project incremental impacts to these resources, if any, will not be cumulatively considerable.

5.5.3.2. Alternative 2

Alternative 2 Project Summary
Alternative 2 would result in a CV Link project that would include all jurisdictions located along the Route, including the cities of Rancho Mirage and Indian Wells. All of the CV Link alignments could be constructed in a manner identical to that of the Proposed Project, including those that pass through Rancho Mirage.

5.5.3.2.1. Alternative 2 Impacts

The Alternative 2 project would have a significant impact on cultural resources if it would:

a) Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5.

The impacts associated with the Alternative 2 project are essentially the same as those identified for the Proposed Project, excepting that consideration is given to potential resources that occur in Rancho Mirage and in proximity to CV Link alignments. As discussed above, in Rancho Mirage, three historic properties (Rancho Chiquito, Rancho Mirage Villa Apartments and the MJ Custom Furniture building) occur along CV Link alignments. The Rancho Mirage Villa Apartments are located on the north side of San Jacinto Drive that CV Link would pass with on-street facilities, which will have no significant direct or indirect impact on this property. The Rancho Chiquito property was bought by the city and was developed as a part of Rancho Mirage Community Park, and most recently with the construction of a new amphitheater at the same location. The MJ Custom Furniture building is located on the north side of Highway 111 and adjacent to the East Magnesia Falls Stormwater Channel. Here too, the CV Link Route runs past this property within the existing street right-of-way and will have neither direct nor indirect impacts on this historic property. No historical resources in Rancho Mirage would be affected under the Alternative 2 project. Therefore, impacts to historical resources with the implementation of the Alternative 2 project will be the same as those for the Proposed Project, which will be less than significant with the implementation of mitigation measures set forth in Section 4.5.6.

b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5.

The impacts to archaeological resources under the Alternative 2 project would be the same as for the Proposed Project. The resource survey conducted for the CV Link project indicates that there are no sensitive archaeological resources in the Rancho Mirage portion of the CV Link planning area. While the cultural resource assessment prepared for CV Link concluded that the project's development would not result in significant adverse impacts to archaeological resources, any potential effects would be kept to insignificant levels through adherence to the avoidance, minimization and mitigation measures set forth in Section 4.5.6.

c) Directly or indirectly destroy a unique paleontological resource or site or unique geological feature.

As noted above, the CV Link project is proposed for development in areas of the Coachella Valley that have a very low potential to yield important paleontological resources. This includes the eastern CV Link alignments, where channel excavation material was used to construct the levees atop of which the CV Link Route will run in this area. There are no potential paleontological resource areas in Rancho Mirage that would be affected by the CV Link project. The only identified unique geological feature in the CV Link planning area is Point Happy, potential adverse impacts to which have been analysed in Section 4.6 and determined to be less than significant. Therefore, development of the Alternative 2 project would have no significant impact on paleontological resources or on a unique geological feature.

d) Disturb any human remains, including those interred outside of formal cemeteries.

The identification of historic or prehistoric human remains along the CV Link Route are those associated with the Kavinish village site in Indian Wells. No other areas where human remains might be encountered were identified along CV Link alignments, including those planned in Rancho Mirage. In Indian Wells where sensitivity for human remains has been identified CV Link alignments in this area have been adjusted to avoid possible impacts to these resources. No areas of sensitivity for human remains has been identified in the CV Link planning area in Rancho Mirage. Therefore, under the Alternative 2 scenario, the project would not disturb human remains and, with mitigation measures set forth in Section 4.5.6, there will be no significant impacts to human remains.

Impacts to Tribal Cultural Resources

According to recent CEQA Appendix G changes and additions under the heading *Tribal Cultural Resources* per Assembly Bill (AB) AB 52, the following thresholds also apply:

a) Would the project cause a substantial adverse change in the significance of a Tribal Cultural Resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American Tribe, and that is:

- *Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or*

- *A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1 for the purposes of this paragraph, the lead agency shall consider the significance of the resource to a California Native American tribe.*

As noted throughout Section 4.4, the cultural resources assessments prepared for the CV Link project included detailed a consideration of horizontal and vertical extent of the project and associated land disturbance, including impacts associated with Alternative 2. A variety of as-built plans, engineering and geotechnical data and mapping were also analysed to document the depths of manufactured fill along and comprising stormwater channel embankments and levees to the used by the project. It was determined that most CV Link improvements will not encroach into native, undisturbed soils. Exceptions include areas where bridges and associated structural piers are proposed. These discrete and identified locations will involve piers from 40 to up to 200 feet deep. Mitigation Measure CUL-1.b and others presented in Section 4.5 will ensure that potential impacts to tribal cultural resources will be less than significant.

Therefore, based upon the substantial evidence presented in Section 4.5 and in referenced technical reports and pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the Alternative 2 will not have a significant adverse impact on Tribal cultural resources with the implementation of mitigation measures set forth in Section 4.5.

5.5.3.2.2. Alternative 2 Mitigation Measures

As discussed above and in Section 4 of this section of the EIR, a few of the CV Link alignments would occur in locations where potentially sensitive archaeological and historic resources have been identified both over the course of CV Link cultural resource investigations and through a wide range of other investigations. The analysis of these resources and the potential for CV Link to impact them indicates that the project will have a limited and less than significant impact on cultural resources. Nonetheless, avoidance, minimization and mitigation measures are set forth in Section 4.5.6 that are designed to avoid and minimize the potential for adverse impacts. These are fully applicable to the Alternative 2 project and will ensure that Alternative 2 project impacts to cultural resources will be less than significant.

5.5.3.2.3. Alternative 2 Significance After Mitigation

Impacts to cultural and historic resources associated with construction of the Alternative 2 project would be less than significant with adherence to the mitigation measures set forth in Section 4.5.6.

5.5.3.2.4. Alternative 2 Cumulative Impacts

The Alternative 2 project would contribute considerably to cumulative impacts if it were to have a significant adverse effect on these cultural, historical or paleontological resources in the Coachella Valley. Impacts to paleontological resources could also be cumulatively substantial if the project impacted any unique paleontological resources or geological features. This analysis was performed using the growth projection approach consistent with State CEQA Guidelines Section 15130(b)(1)(B) and based upon an assessment of potential future development in the CV Link planning area. The potential impacts of the Alternative 2 project on cultural, historical, tribal, and unique paleontological and geological resources would be greater than those for the Proposed Project, but nonetheless will have a less than significantly impact on these resources. In addition, avoidance/minimization/mitigation measures have been set forth in Section 4.5.6 that are applicable to the Alternative 2 project requiring that if such resources are encountered during project construction, impacts to these resources will be mitigated to levels that are less than significant. Therefore, the Alternative 2 project incremental impacts to these resources, if any, will not be cumulatively considerable.

5.5.3.3. Alternative 3

Alternative 3 is the No Build/No Project alternative. The CV Link project would not be built and none of the potential impacts to cultural resources would occur. There would be no uniform multi-modal transportation facility built on local drainage levees or elsewhere as a result of this project.

5.5.3.3.1. Alternative 3 Impacts

The No Project alternative would preclude CV Link-related land disturbances or other activities that could uncover or damage sensitive cultural resources. Therefore, the Alternative 3 scenario would result in no impacts to these resources.

5.5.3.3.2. Alternative 3 Mitigation Measures

No mitigation measures are required for the Alternative 3 (No Project) alternative.

5.5.3.3.3. Alternative 3 Significance After Mitigation

There would be no change in conditions for cultural resources and no CV Link impacts would occur.

5.5.3.3.4. Alternative 3 Cumulative Impacts

The Alternative 3 scenario would not generate any impacts to cultural resources. Therefore, the No Project alternative would not contribute to cumulative impacts to these resources.

5.5.4. Environmentally Superior Alternative

While the analysis of cultural and historic resources in this EIR has concluded that none of the project alternatives will result in significant impacts to these resources, the No Project (Alternative 3) scenario has the least potential to impact these resources and is therefore environmentally superior to the other alternatives in this regard. There are no portions along any of the CV Link alignments that have not been previously disturbed or in many cases built upon. Of the development alternatives, Alternative 1, which would exclude both Rancho Mirage and Indian Wells, would disturb less area, and would therefore have the least potential to impact on cultural resources.

5.6. Geology and Soils

5.6.1. Introduction

This section of the EIR briefly describes existing conditions with regard to geology and soils within the CV Link planning area and analyzes the potential impacts to the alternatives to the Proposed Project based on regional and/or local geology and soils. Research and analysis conducted for the CV Link project, as well as other geotechnical studies conducted in the area, have been used in researching and analyzing the project and its potential effects.[5] These include detailed analysis of regional and local geology, soils, and seismicity conditions, as well as detailed analysis of future conditions.

5.6.2. Existing Conditions

Regional Geologic Setting

The Coachella Valley is located across the boundary of two geologic-geomorphic provinces: the Colorado Desert Province and Peninsula Ranges Province. The Colorado Desert Province is a low-lying desert basin and a depressed block between active branches of the alluvium-covered San Andreas Fault. The Coachella Valley is surrounded by mountain ranges, including the San Bernardino, San Jacinto, Santa Rosa and Little San Bernardino Mountains. The foothills of the Little San Bernardino Mountains extend along the northerly, easterly, and southeasterly portion of the Valley. The foothills of the Santa Rosa and San Jacinto Mountains extend along the westerly and southerly portions of the Valley.

[5] "Preliminary Subsurface Investigation and Geotechnical Background Report, CV Link Project, CVAG, Coachella Valley, Riverside County, California", prepared by PETRA Geoscience Inc. on August 2016.

The San Andreas Fault System runs along the long axis of the Valley and along its eastern margin. The San Jacinto Fault System is also an active fault that can also generate strong groundshaking in the Coachella Valley. Both the fault systems have a complex structural characteristics and slip rates.[6] During the offset along San Andrea Fault system and associated smaller faults, sediments have been eroded to fill the Valley and subsequently uplifted as the Indio and Mecca hills, which are now exposed.[7] Erosion and Valley fill has provided as much as 12,000 feet of sediments in the basin. Soils of different ages and compositions have developed on these sedimentary units, and on the younger alluvial units filling the Valley floor, including lakebed sediments from multi-le stands of ancient Lake Cahuilla. Coachella Valley is underlain by a thick sequence of sedimentary deposits.[8]

Local Geologic Conditions

As discussed in detail in Section 4.6 and in the geotechnical report prepared for the CV Link project, local geologic and soils conditions vary somewhat along the 49± mile Route of CV Link. Influences include alluvial and aeolian deposition of sands and gravels eroded from the surrounding mountains, the soils of the ancient lakebeds in the southeast, and to a less degree the steep rock terrain associated with the surrounding mountains. The following briefly discusses these conditions on a categorical basis.

Soils: CV Link alignments cross or abut a wide range of soil types, including windblown (aeolian) soils, water transported soils (fluvial) and to a very limited extent rocky outcrop lands. Most of the soils crossed by project alignments include those of the following soil series: Carsitas, Coachella, Fluvents, Gilman, Indio and Myoma, as well as riverwash. Two alignments approach the toe of slope, including on Highway 111 at Paxton Road and at Point Happy in Indian Wells. Portions of the Route cross areas with collapsible soils and a few areas associated with lakebed sediments that may also be expansive.

Seismic Faults and Groundshaking: The project area lies within Seismic Zone 4 with a high probability of significant seismic activity. The nearest active faults to the project area are the San Andreas and San Jacinto Fault Zones. Ground acceleration associated with a maximum probable earthquake on these faults would range from 0.59 to 0.84g (gravity, or 32 feet per second). Potential impacts associated with this level of ground shaking include slope collapse, seismically induced ground cracking or buckling of the pathway associated with soils settlement or collapse, damage to shade structures and other vertical improvements associated with the project.

Liquefaction: Liquefaction occurs when the strength and stiffness of unconsolidated soils is reduced by seismic shaking or other rapid loading usually in the presence of groundwater. During liquefaction, soils lose their bearing or shear strength needed to support structural foundations and can cause structural failures. Those portions of the CV Link Route adjacent to Coachella Valley Stormwater Channel in the cities of Indio and Coachella have a "high" liquefaction susceptibility.[9,10]

Seismically Induced Slope Failures and Landslides: Strong groundshaking can result in unstable slope conditions, including rock falls and landslides. The project site is located within the Valley floor with relatively flat terrain. There is a "low" susceptibility to slope instability on most portions of the CV Link alignments. Portions of CV

6 Bennett, R. A., Rodi, W., & Reilinger, R. E. (1996). Global Positioning System constraints on fault slip rates in southern California and northern Baja, Mexico. Journal of Geophysical Research: Solid Earth, 101(B10), 21943-21960.

7 Keller, E. A., Bonkowski, M. S., Korsch, R. J., & Shlemon, R. J. (1982). Tectonic geomorphology of the San Andreas fault zone in the southern Indio Hills, Coachella Valley, California. Geological Society of America Bulletin, 93(1), 46-56.

8 Ibid.

9 Exhibit IV-3, La Quinta General Plan, 2013.

10 Ibid.

Link alignments will be constructed on manufactured fill used to construct channel levees. Slopes associated with the project stormwater channels will also be subject to lateral forces during a strong quake. There are two locations where a rockfall hazard potential exists, these being the corner of Highway 111 and Paxton Road in Rancho Mirage (Alterantive 2) and at Point Happy in Indian Wells and La Quinta.

Soil Erosion: CV Link would extend through an area of the Valley with wind erosion or erodability ratings of "moderate" to "very high", with most of the Route occurring in the "high" rating[11], a condition that is widespread throughout much of the Valley. Parts of the CV Link alignments are subject to severe wind erosion.[12] Small portions of CV Link in Rancho Mirage (Alternative 2), Indio, and Coachella are designated as "high wind erodability," with the exception of a few pockets of "moderate wind erodability".

Expansive Soils: Expansive soils, also referred as swelling soils, are soils that have a tendency to increase volume with an increase in the moisture content. Expansive soils are common in the lakebed soils in the eastern area of CV Link but do not occur elsewhere in the CV Link planning area. Non-expansive soils predominate along the Route and expansive soils only occur in the eastern CV Link Route in areas with lakebed soils.

Collapsible Soils: Collapsible soils are unsaturated soils that exhibit a high strength when dry but experience a large and rapid volume reduction upon saturation, which can result in substantial structural damage. Collapsible soils were primarily found in the near surface of wind and water-deposited soils, and have been noted in the mid and east Valley areas (Palm Desert, Indian Wells, La Quinta, Indio, and Coachella).

Lateral Spreading: Lateral spreading is the lateral displacement of gently sloping ground that is underlain by loose sands and a shallow water table. Lateral spreading towards the stormwater channels may occur under conditions found along portions of the Route. The potential for lateral spreading along CV Link is generally from Indio to the CV Link terminus at Airport Boulevard.

Subsidence: Ground subsidence involves the settling or sinking of the ground surface due to either natural or human-caused activities. In the Coachella Valley most ground subsidence is associated with groundwater pumping. Land surface subsided from about 220 to 600 mm (0.72 to 1.97 ft) has been identified in Palm Desert, Indian Wells, and La Quinta. The potential for groundwater extraction-related ground subsidence along the CV Link Route is considered to be limited due to reduction in pumping in these areas. On-going groundwater recharge, water conservation and conversion of golf courses to canal and reclaimed water are designed to reduce or stop subsidence.

Seiches and Tsunamis: A seiche is defined as an occasional and sudden oscillation of the closed water body (lake, bay, estuary, etc.) producing fluctuations in the water level. The seiche hazard associated with the planning area include above-ground water reservoirs, golf course lakes and other impoundments. Domestic water reservoirs in the Coachella Valley have been constructed to resist the effects of groundshaking that could compromise the integrity of these structures. Golf course lakes and other impoundments are relatively small and shallow, and do not pose a significant seiche hazard. Given the Valley's location more than 100 miles east of the Pacific Ocean, the potential for tsunamis in the project area is negligible.

[11] Riverside County Safety Element Technical Report, prepared by Earth Consultants International. Riverside County General Plan, 2015.

[12] "Preliminary Subsurface Investigation and Geotechnical Background Report, CV Link Project, CVAG, Coachella Valley, Riverside County, California", prepared by PETRA Geoscience Inc. on August 2016.

5.6.3. Alternative Impact Analysis

5.6.3.1. Alternative 1

The CV Link Alternative 1 project is the same as the Proposed Project excepting that the planned alignments in Indian Wells (as well as those in Rancho Mirage) would not be constructed. This alternative provides for CV Link termini near or at the Indian Wells western and eastern city limits, which are addressed herein. There are two basic categories by which geological and seismological impacts are assessed, those impacts that are the result of natural events and those that occur as a direct result of construction of the project. Regardless of whether the impact is due to a natural event or a direct result of the CV Link project, the following potential for Alternative 1 impacts have been identified and are discussed categorically below.

5.6.3.1.1. Alternative 1 Impacts

a) *Will the Project expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:*

   i) *Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area of based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42?*

CV Link Alternative 1 planning area is not located within an Alquist-Priolo Earthquake Fault Zone, and there are no known active or potentially active faults in the planning area or within the immediate vicinity. The nearest major active fault is the San Andreas Fault, which is located approximately one mile to the northeastern near Indio and Coachella. This fault is capable of generating large earthquakes and, given its proximity to the subject site, moderate to severe ground shaking is considered the primary geologic hazard affecting the site. However, there will be no impact to the CV Link Alternative 1 Project from fault-related ground rupture because no portion of the Route is located within an Alquist-Priolo Earthquake Fault Zone. Impacts will be comparable to those associated with the Proposed Project.

   ii) *Strong seismic ground shaking?*

There is a high probability that all of the CV Link Alternative 1 alignments will be subject to strong groundshaking during the life of this facility. The nearest faults to the project area are part of the San Andreas Fault system located at its closest approach approximately one mile to the northeast. According to the CV Link geotechnical report, the planning area is subject to potential groundshaking ranging from 0.59 to 0.84 (g). Impacts from strong groundshaking include buckling of pavements and damage to shade structures, bridges and other vertical elements of the project. All elements of the CV Link Alternative 1 project will be constructed in compliance with applicable seismic safety codes, including the California Building Code and other relevant codes. Based upon the adherence of project structural design to applicable seismic and other codes, the effects of seismically induced groundshaking can be reduced to a level that it will have a less than significant impact on CV Link Alternative 1 facilities and users.

   iii) *Seismic-related ground failure, including liquefaction?*

b) *Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?*

Alternative 1 impacts associated with ground failure, liquefaction, landslides, lateral spreading, subsidence and other ground failure potential are the same as those described for the Proposed Project. The eastern portions of the CV Link Route are located in a liquefaction hazard area with high groundwater, poorly consolidated and

liquefiable soils, and the potential for strong groundshaking. Most of the CV Link Alternative 1 alignments will be located within areas of relatively flat terrain, including those portions within the liquefaction hazard area, and will be constructed on manufactured fill used to construct channel levees. Also, the slopes associated with the project stormwater channels will also be subject to lateral forces during a strong quake.

In the eastern most portions of the CV Link Alternative 1 Route the potential exists for lateral spreading to occur. Lateral displacement can occur on gently sloping ground that is underlain by loose sands and a shallow water table. The potential for lateral spreading along CV Link is generally from Indio to the CV Link terminus at Airport Boulevard. The potential impacts of liquefaction on CV Link Alternative 1 project improvements and users can be effectively mitigated through standard methods of soil engineering, including overexcavation and hydroconsolidation, spread footings and other means. With the application of recommendations set forth in the CV Link geotechnical report and the mitigation measures set forth in Section 4.6, the potential impacts on CV Link Alternative 1 facilities and users will be less than significant.

iv) Landslides?

The potential for large-scale landslides or slope failures were assessed by the project geotechnical engineers. As noted, the large majority of CV Link Alternative 1 alignments will be located within areas of relatively flat terrain. However, there are extensive slope areas associated with the various drainage channels along and through which CV Link will run. The slope stability analysis conducted as a part of the geotechnical evaluation assumed a worst-case scenario, and indicates that minor surficial slope failures can be expected in areas of the project next to unlined portions of the channel. The potential for minor slope failures are on a nuisance rather than significant impact level; therefore, the Alternative 1 project will not result in a potentially significant landslide hazard.

Under the Alternative 1 project scenario, there is one location where a rockfall hazard potential exists along the east face of Point Happy at the Indian Wells /La Quinta city boundary west of Washington Street. At this location, the CV Link alignment ends and turns south along the Plaza La Quinta Drive and a steep rocky slope to Highway 111. The hazard involves the slope's stability; however, the type of conventional rock face stabilization recently carried out on the Highway 111 side of this spur of rock, potential rock fall impacts associated with the Alternative 1 project will be less than significant with mitigation.

c) Result in substantial soil erosion or the loss of topsoil?

Under the Alternative 1 project scenario, CV Link would extend through an area of the Valley that is considered to have a wind erosion or erodability rating of "moderate" to "very high", with most of the Route occurring in the "high" rating. [13] The potential for wind-related soils erosion exists along the entire length of CV Link. However, construction of the CV Link alignments under the Alternative 1 scenario will result in less new ground disturbance when compared to the Proposed project (Indian Wells excluded). Relevant Alternative 1 alignments include grading atop and adjacent to channel levees and embankments, where soils are already well compacted. Disturbance within the channels will be less than that associated with the Proposed Project and will occur in areas already regularly disturbed by nuisance and flood flows, and subject to on-going channel maintenance activities. CV Link construction will occur incrementally and in measured stages, which will facilitate effective control of soil moisture and stability, and erosion. Standard mitigation measures are expected to reduce wind erosion potential to less than significant levels.

Soils in the CV Link Alternative 1 project area are also susceptible to water erosion, and the potential exists for disturbed or stockpiled soils to be eroded by rainstorms or an inadvertent or inappropriate application of water during construction. A variety of avoidance/minimization/mitigation measures are set forth in the hydrology analysis section associated with water quality management, which directly address the potential for water erosion

[13] Riverside County Safety Element Technical Report, prepared by Earth Consultants International. Riverside County General Plan, 2015.

of soils. These and the avoidance/minimization/mitigation measures set forth below will ensure that the loss of soils from wind or water erosion will be less than substantial or significant. Neither will the CV Link Alternative 1 expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death from the creation of such conditions.

d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?

Expansive soils have a tendency to increase volume with an increase in the moisture content. Expansive soils can heave and can cause lifting and even structural damage when their moisture content rises. Expansive soils are common in the lakebed soils in the eastern area of CV Link Alternative 1 alignment, but most of the soils along the CV Link Route have a low shrink/swell potential.[14] [15] The potential impacts to the Alternative 1 project associated with expansive soils can be effectively mitigated through prescribed soils engineering. Therefore, the impacts of expansive soils on the CV Link project will be less than significant with the application of foundation and flatwork recommendation set forth below and in the CV Link geotechnical report.

CV Link Alternative 1 travelways and structural foundations that are built upon collapsible soils are potentially subject to damage if such soils become saturated. Collapsible soils were primarily found in the near surface of wind and water-deposited soils, and have been noted in the mid and east valley areas (Palm Desert, Indian Wells, La Quinta, Indio, and Coachella). The potential Alternative 1 impacts associated with collapsible soils are somewhat less than those associated with the Proposed project, as this alternative does not include Indian Wells. Collapsible soils can be effectively mitigated through prescribed soils engineering. Therefore, the impacts of collapsible soils on the CV Link Alternative 1 project will be less than significant with the application of foundation and flatwork recommendation set forth below and in the CV Link geotechnical report.

e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?

The CV Link Alternative 1 project restrooms will connect to municipal sewerage systems and will not rely on on-lot septic tanks. Therefore, there will be no impacts associated with soils that may be inadequate to support on-lot septic tanks.

5.6.3.1.2. Alternative 1 Mitigation Measures

CV Link improvements associated with the Alternative 1 project will be constructed on soils and in geologically active areas that require the application of specific geotechnical and soils engineering solutions. The constraints and potential impacts associated with geotechnical conditions along the CV Link Route can be reduced to a level of insignificance by avoidance, minimization and by proper engineering design. The potential geotechnical impacts include construction that will disturb surficial geological formations, collapsible soils and other constraints, and could contribute to increased erosion. Mitigation measures include implementation of standard erosion control methods, slope stabilization measures, removal and recompaction of loose surficial soils or soil reinforcement, and establishing procedures for controlling erosion and runoff. These measures are all consistent with the measures required for the Proposed Project (please see Section 4.6 for a complete listing of mitigation measures).

[14] Ibid.
[15] Op. cit. Petra 2016.

5.6.3.1.3. Alternative 1 Significance After Mitigation

The geotechnical conditions in which the CV Link Alternative 1 project will be constructed pose certain constraints on its development, including seismic and soil conditions that require specific design and engineering solutions. With the application of the avoidance/minimization/mitigation measures set forth in Section 4.6, impacts associated with project geotechnical conditions will be mitigated to a level of insignificance. With the exclusion of the Indian Wells alignments, Alternative 1 project impacts will also be less than those associated with the Proposed Project and lowest of the three build alternatives.

5.6.3.1.4. Alternative 1 Cumulative Impacts

A consideration of cumulative effects associated with geotechnical conditions includes the degree to which a project may contribute to the cumulative impacts from seismic events, marginal soils, steep and unstable terrain and other conditions. The CV Link Alternative 1 project will not significantly increase the community impacts associated with prevailing geotechnical conditions in the Coachella Valley. With the exclusion of the Indian Wells alignments, the contribution the Alternative 1 project makes to cumulative impacts will also be less than those associated with the Proposed Project and lowest of the three build alternatives. The Alternative 1 project may provide the benefit of an alternative means of travel through participating CV Link communities in the event streets are impacted by earthquakes or other geotechnical condition. In this way, CV Link Alternative 1 facilities can serve to offset these adverse impacts by providing alternative access.

5.6.3.2. Alternative 2

The CV Link Alternative 2 project is the substantially same as the Proposed Project excepting that the planned alignments in Rancho Mirage would be constructed, thereby providing a continuous CV Link facility through all jurisdictions from Palm Springs to Coachella and Thermal. There are two basic categories by which geological and seismological impacts have been assessed, those impacts that are the result of natural events and those that occur as a direct result of construction of the project. Regardless of whether the impact is due to a natural event or a direct result of the CV Link project, the following potential for Alternative 2 impacts have been identified and are discussed categorically below.

5.6.3.2.1. Alternative 2 Impacts

a) Will the Project expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:

i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area of based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42?

CV Link Alternative 2 planning area is not located within an Alquist-Priolo Earthquake Fault Zone, and there are no known active or potentially active faults in the planning area or within the immediate vicinity. The nearest major active fault is the San Andreas Fault, which is located approximately one mile to the northeastern near Indio and Coachella. This fault is capable of generating large earthquakes and, given its proximity to the subject site, moderate to severe ground shaking is considered the primary geologic hazard affecting the site. However, there will be no impact to the CV Link Alternative 2 Project from fault-related ground rupture because no portion of the Route is located within an Alquist-Priolo Earthquake Fault Zone. Impacts will be comparable to those associated with the Proposed Project.

ii) Strong seismic ground shaking?

There is a high probability that all of the CV Link Alternative 2 alignments will be subject to strong groundshaking during the life of this facility, with potential groundshaking ranging from 0.59 to 0.84 (g). Impacts from strong groundshaking include buckling of pavements and damage to shade structures, bridges and other vertical elements of the project. All elements of the CV Link Alternative 2 project will be constructed in compliance with applicable seismic safety codes, including the California Building Code and other relevant codes. Based upon the adherence of project structural design to applicable seismic and other codes, the effects of seismically induced groundshaking can be reduced to a level that it will have a less than significant impact on CV Link Alternative 2 facilities and users.

iii) Seismic-related ground failure, including liquefaction?

b) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?

Alternative 2 impacts associated with ground failure, liquefaction, landslides, lateral spreading, subsidence and other ground failure potential are the same as those described for the Proposed Project. The eastern portions of the CV Link Route are located in a liquefaction hazard area with high groundwater, poorly consolidated and liquefiable soils, and the potential for strong groundshaking. Most of the CV Link Alternative 2 alignments will be located within areas of relatively flat terrain, including those portions within the liquefaction hazard area, and will be constructed on manufactured fill used to construct channel levees. Also, the slopes associated with the project stormwater channels will also be subject to lateral forces during a strong quake.

In the eastern most portions of the CV Link Alternative 2 Route the potential exists for lateral spreading to occur. The potential for lateral spreading along CV Link is generally from Indio to the CV Link terminus at Airport Boulevard. The potential impacts of liquefaction on CV Link Alternative 2 project improvements and users can be effectively mitigated through standard methods of soil engineering, including overexcavation and hydroconsolidation, spread footings and other means. With the application of recommendations set forth in the CV Link geotechnical report and the mitigation measures set forth in Section 4.6, the potential impacts on CV Link Alternative 2 facilities and users will be less than significant.

iv) Landslides?

The potential for large-scale landslides or slope failures were assessed by the project geotechnical engineers for all CV Link alignments, including those planned for Rancho Mirage included in the Alternative 2 project. Most of CV Link Alternative 2 alignments will be located within areas of relatively flat terrain. However, as with the other project alternatives, there are extensive slope areas associated with the various drainage channels along and through which CV Link will run. The CV Link slope stability analysis assumed a worst-case scenario and indicates that minor surficial slope failures can be expected in areas of the project next to unlined portions of the channel. The potential for minor slope failures are on a nuisance rather than significant impact level; therefore, the Alternative 2 project will not result in a potentially significant landslide hazard.

Under the Alternative 2 project scenario, there are two location where a rockfall hazard potential exists, one along north tip of Point Happy at the Indian Wells /La Quinta city boundary west of Washington Street, where a suspended bridge is proposed under Alternative 2 and the Proposed Project. The hazard involves slope stability and rockfall hazards. Impacts can be effectively mitigated by application of the type of conventional rock face stabilization recently carried out on the Highway 111 side of this spur of rock.

The second location is at the corner of Highway 111 and Paxton Road in Rancho Mirage, where roadway widening in recent years has included cutting back and stabilizing the rocky slope to accommodate the eastbound sidewalk installed at this location. There is no significant rockfall hazard associated with this location in Rancho Mirage. Therefore, potential rock fall hazard associated with the Alternative 2 project will be less than significant with mitigation.

c) Result in substantial soil erosion or the loss of topsoil?

Under the Alternative 2 project scenario, CV Link would extend through an area of the Valley that is designated a wind erosion or erodability rating of "moderate" to "very high", with most of the Route occurring in the "high" rating. [16] The potential for wind-related soils erosion exists along the entire length of CV Link. However, construction of the CV Link alignments under the Alternative 2 scenario will result in the greatest new ground disturbance when compared to the Proposed Project with the inclusion of Rancho Mirage in this alternative. Relevant Alternative 2 alignments include grading atop and adjacent to channel levees and embankments, where soils are already well compacted. Disturbance within the channels will be less than that associated with the Proposed Project and will occur in areas already regularly disturbed by nuisance and flood flows, and subject to on-going channel maintenance activities. CV Link construction will occur incrementally and in measured stages, which will facilitate effective control of soil moisture and stability, and erosion. While potential impacts are greater than those associated with the Proposed Project with the inclusion of Rancho Mirage, standard mitigation measures will reduce wind erosion potential to less than significant levels.

Soils in the CV Link Alternative 2 project area are also susceptible to water erosion, and the potential exists for disturbed or stockpiled soils to be eroded by rainstorms or an inadvertent or inappropriate application of water during construction. Potential for water erosion associated with the Alternative 2 project is modestly greater than that associated with the Proposed Project. A variety of avoidance/minimization/mitigation measures are set forth in the hydrology analysis section associated with water quality management, which directly address the potential for water erosion of soils. These and the avoidance/minimization/mitigation measures set forth below will ensure that the loss of soils from wind or water erosion will be less than substantial or significant. Neither will the CV Link Alternative 2 expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death from the creation of such conditions.

d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?

Expansive soils have a tendency to increase volume with an increase in the moisture content. Expansive soils can heave and can cause lifting and even structural damage when their moisture content rises. Expansive soils are common in the lakebed soils in the eastern area of CV Link Alternative 2 alignment, but most of the soils along the CV Link Route have a low shrink/swell potential.[17] [18] The potential impacts to the Alternative 2 project are the same as the other build alternatives, and can be effectively mitigated through prescribed soils engineering. Therefore, the impacts of expansive soils on the CV Link Alternative 2 project will be less than significant with the application of foundation and flatwork recommendation set forth below and in the CV Link geotechnical report.

CV Link Alternative 2 travelways and structural foundations that are built upon collapsible soils are potentially subject to damage if such soils become saturated. Collapsible soils were primarily found in the near surface of wind and water-deposited soils, and have been noted in the mid and east valley areas (Palm Desert, Indian Wells,

16 Riverside County Safety Element Technical Report, prepared by Earth Consultants International. Riverside County General Plan, 2015.
17 Ibid.
18 Op. cit. Petra 2016.

La Quinta, Indio, and Coachella). The potential Alternative 2 impacts associated with collapsible soils are somewhat greater than or comparable to those associated with the Proposed Project, with the occurrence of collapsible soils being lower in Rancho Mirage. Collapsible soils can be effectively mitigated through prescribed soils engineering. Therefore, the impacts of collapsible soils on the CV Link Alternative 2 project will be less than significant with the application of foundation and flatwork recommendation set forth below and in the CV Link geotechnical report.

e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?

The CV Link Alternative 2 project restrooms will connect to municipal sewerage systems and will not rely on on-lot septic tanks. Therefore, there will be no impacts associated with soils that may be inadequate to support on-lot septic tanks.

5.6.3.2.2. Alternative 2 Mitigation Measures

Avoidance, minimization and mitigation measures set forth in Section 4.6 will be equally effective at ensuring that impacts associated with soils and geological conditions will be less than significant. The inclusion of Rancho Mirage does not present any new, unmitigable impacts and no additional mitigation is required.

5.6.3.2.3. Alternative 2 Significance After Mitigation

As with the other CV Link build alternatives, geotechnical conditions in which the CV Link Alternative 2 project will be constructed pose constraints on its development, including seismic and soil conditions that require specific design and engineering solutions. With the application of the avoidance/minimization/mitigation measures set forth above in Section 5.6.3.1.2, impacts associated with Alternative 2 project geotechnical conditions will be mitigated to a level of insignificance. With the inclusion of the Rancho Mirage alignments, Alternative 2 project impacts are nonetheless comparable to those associated with the Proposed Project and greatest of the three build alternatives.

5.6.3.2.4. Alternative 2 Cumulative Impacts

As with the other two build alternatives, the consideration of cumulative effects associated with geotechnical conditions includes the degree to which a project may contribute to the cumulative impacts from seismic events, marginal soils, steep and unstable terrain and other conditions. The CV Link Alternative 2 project will not significantly increase the community impacts associated with prevailing geotechnical conditions in the Coachella Valley. With the inclusion of Rancho Mirage and all other jurisdictions' alignments, the contribution the Alternative 2 project makes to cumulative impacts will be comparable to those associated with the Proposed Project but greatest of the three build alternatives. The Alternative 2 project may provide the benefit of an alternative means of travel through participating CV Link communities in the event streets are impacted by earthquakes or other geotechnical condition. In this way, CV Link Alternative 2 facilities can serve to offset these adverse impacts by providing alternative access.

5.6.3.3. Alternative 3

The CV Link Alternative 3 is the No Project alternative. Under this alternative, none of the CV Link alignments would be built and essentially the project would be abandoned. Paving and other stabilization to soils, and the provision of alternative means of access if other transportation facilities are affected by geotechnical events, would not be realized. Neither geotechnical nor soil conditions in the planning area would be affected.

5.6.3.3.1. Alternative 3 Impacts

a) *Will the Project expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:*

i) *Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area of based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42?*

CV Link Alternative 3 would mean that the project is not constructed in any form and therefore will not encroach upon or place improvements within a mapped fault zone.

ii) *Strong seismic ground shaking?*

While the CV Link planning area will remain in a seismically active region, no project facilities or improvements would be constructed under this scenario. Therefore, there would be no groundshaking-related impacts associated with the No Project alternative.

iii) *Seismic-related ground failure, including liquefaction?*

b) *Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?*

There would be no Alternative 3 impacts associated with ground failure, liquefaction, landslides, lateral spreading, subsidence and other ground failure. While these geotechnical conditions can be expected to persist there will be no CV Link facilities constructed and no impacts to facilities or CV Link users could occur under the No Project alternative.

iv) *Landslides?*

Portions of the CV Link planning area are subject to a generally less than significant impact from the threat of landslides or rockfalls. Since Alternative 3 will result in no new facilities or CV Link users, there will be no impacts due to these geotechnical conditions.

c) *Result in substantial soil erosion or the loss of topsoil?*

Portions of the CV Link planning area are designated a wind erosion or erodability rating of “moderate” to “very high,” with most of the Route occurring in the “high” rating and the potential for wind-related soils erosion will continue to exist in these areas. However, under Alternative 3 no construction of the CV Link facilities would occur and the associated potential erosion impacts would not occur.

d) *Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?*

Expansive soils are common in the lakebed soils in the eastern area of CV Link planning area, but most of the soils in the area have a low shrink/swell potential. There would be no exposure of CV Link improvements to expansive soils under the No Project alternative.

e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?

CV Link Alternative 3 would result in no CV Link improvements and no need for wastewater treatment, on-lot or otherwise. Therefore, there would be no impacts in this regard.

5.6.3.3.2. Alternative 3 Mitigation Measures

No avoidance, minimization or mitigation measures are required for this alternative.

5.6.3.3.3. Alternative 3 Significance After Mitigation

There will be no impacts under Alternative 3.

5.6.3.3.4. Alternative 3 Cumulative Impacts

There will be no contribution to cumulative impacts under the Alternative 3 scenario.

5.6.4. Environmentally Superior Alternative

It must first be noted that for all CV Link project alternatives all potential impacts associated with soils and geological conditions can be mitigated to a level of insignificance. While the level or degree of exposure to these conditions differ only to a limited extent between the three build alternatives, it is arguable that the No Project alternative (Alternative 3) is environmentally superior. It results in no exposure of facilities or CV Link users to these hazards. While it is also arguable that the least extensive CV Link alternative (Alternative 1) is environmentally superior to the other two build alternatives because it has a smaller impact footprint, no alternative results in unmitigable impacts.

5.7. Greenhouse Gas Emissions

5.7.1. Introduction

The following section analyzes the potential impacts associated with the CV Link project alternatives. A variety of local and regional data and information, ranging from research and analysis conducted for the project site, to regional-scale planning and environmental documents, have been used in researching and analyzing the project and its potential effects on air quality, specifically greenhouse gases. An Air Quality and Greenhouse Gas Report was prepared for the CV Link project and alternatives and is provided in Appendix E of this EIR.

5.7.2. Existing Conditions

Carbon dioxide is the primary greenhouse gas that has raised the most concern of atmospheric scientists due to current atmospheric levels, current and projected emission levels, and the highly correlated temperature regression curve that has been observed, predicting a future path of rising carbon dioxide levels. Currently (2016), carbon dioxide concentrations in the atmosphere are around 400 ppm. Comparatively, prior to the Industrial Revolution, about 250 years ago, CO_2 levels were 278 ppm, and over the past 650,000 years carbon dioxide levels have fluctuated between 180 and 300 ppm, making present day atmospheric CO_2 levels substantially greater than at any point in the past 650,000 years.[19]

The CV Link Proposed Project is proposed as a 44± mile transportation path network that extends across the Coachella Valley. The Proposed Project includes a number of alignments that total 57.6 miles. Construction of the Proposed Project is anticipated to occur over a four year period starting in 2018 with buildout in 2021. Construction activities will include site preparation, grading, pathway paving, underpass/overpass construction, and operation of construction equipment. Construction related GHG emissions are temporary and end once construction is complete. However, GHG emissions from construction will be amortized over the life of the project, defined as 30 years, and added to operational emissions to be compared to the applicable GHG threshold per SCAQMD recommendation[20].

Please see 4.8.4, Existing Conditions for further reference.

5.7.3. Alternative Impact Analysis

As discussed in Section 4.7, construction and operational air quality impacts for the Proposed Project were analyzed for development of the 44-mile Route, which excludes Rancho Mirage. The following section discusses potential air quality impacts associated with the three project alternatives.

Specific construction parameters assumed for the development of each alternative are discussed in detail below.

[19] "Working Group III Contribution to the Intergovernmental Panel on Climate Change Fourth Assessment Report, Climate Change 2007: Mitigation of Climate Change," prepared by the Intergovernmental Panel on Climate Change, May 2007.

[20] "Interim CEQA GHG Significance Threshold for Stationary Sources, Rules and Plans," SCAQMD, December 5, 2008.

5.7.3.1. Alternative 1

5.7.3.1.1. Alternative 1 Impacts

Alternative 1 Project Summary
Under this Alternative, CV Link would be constructed from Palm Springs through Cathedral City as it would under the Proposed Project, and terminate on the west boundary of Rancho Mirage. It would resume again on its east boundary in Palm Desert, and be interrupted once again through Indian Wells, before resuming in La Quinta and continuing easterly to the eastern terminus in the community of Thermal, consistent with the Proposed Project.

The total length of the Alternative 1 Route is approximately 40 miles. The same pathway width assumption of 30 feet and buffer of 10 feet used for the Proposed Project was also assumed for Alternative 1. Therefore, the paved area for Alternative 1 is approximately 175.27 acres and total disturbed area is 233.69 acres.

a. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.

Development of Alternative 1 will result in the direct and indirect generation and emission of GHG pollutants during project construction and operation of various facility features, such as pathway lighting and water demands for landscaping, and solid waste disposal. Greenhouse gas emissions from grading and construction will be temporary; however, emissions from daily operation will be ongoing

Construction Related Greenhouse Gas Emissions
Construction activities will result in short-term GHG emissions associated with operation of construction equipment, employee commute, material hauling, and other ground disturbing activities. The following table summarizes the estimated GHG emissions from construction of Alternative 1. There are currently no construction-related GHG emission thresholds for projects of this nature. However, development of Alternative 1 will incorporate current construction technologies and various forms of resource conservation to minimize GHG emissions.

GHG emissions from construction are temporary and will not substantially affect climate or interfere with a GHG reduction plan. All components of construction, including equipment, fuels, materials, and management practices, will be subject to current regulations of GHGs. To determine if construction emissions will result in a cumulative considerable impact, buildout GHG emissions were amortized over a 30-year period and added to annual operational emissions. (See the Operational GHG Emissions Summary below.)

Table 5-11
Construction GHG Emissions Summary
Alternative 1

(Metric Tons/Year)

	CO_2	**CH_4**	**N_2O**	**Total CO_2e**
Alternative 1	3,454.24	0.72	0.00	3,469.40
Proposed Project	3,712.85	0.72	0.00	3,728.04
			Net Difference	**258.64**
Source: CalEEMod Versions 2013.2.2. See Appendix E of this EIR for detailed tables. Values shown represent the total unmitigated GHG emission projections for construction of the Proposed Project.				

Compared to the Proposed Project, Alternative 1 will emit 258.64 tons of CO2e less during construction.

Operational Greenhouse Gas Emissions

Operational GHG emissions associated with Alternative 1 will be limited to off-site energy production and water use. Similar to the Proposed Project, the net energy demand of 83,687 kWh per year, 4.1 million gallons of water per year, and 2,875 tons of solid waste per year was applied to Alternative 1. The project will result in significant GHG reductions due to the motor vehicle trips that may be avoided and the associated reduction in Valley-wide vehicle miles traveled. The following table shows the projected annual reduction in emissions of GHGs plus the amortized construction emissions. As shown below, it is expected that Alternative 1 will result in a net GHG reduction of 56,755.46 metric tons per year. This is 4,917.07 metric tons fewer than the Proposed Project GHG reductions (61,672.53 tons of CO2e reductions). Due to the project's direct significant reduction in GHG emissions, the Proposed Project will not conflict with adopted GHG reduction plans, policies or regulations under any alternative or the Proposed Project. Overall the project will have a positive impact on the environment by reducing Valley-wide GHG emissions.

Table 5-12
Operational GHG Emissions and Reduction Summary
Alternative 1

(Metric Tons/Year)

	CO_2	**CH_4**	**N_2O**	**CO_2e**
Energy Use	23.95	0.00	0.00	24.04
Water Use	16.89	0.00	0.00	16.96
Solid Waste	583.59	34.48	0.00	1,307.88
Annual Reductions	-58,074.59	-5.35	-0.00	-58,186.98
Buildout plus Amortized Construction Emissions[1]				**-56,755.46**

Source: CalEEMod Version 2013.2.2. Values shown represent the total unmitigated GHG emission projections for operation of Alternative 1 and assumes an annual avoidance of 6,422,918 vehicle miles in 2040.
1. Buildout construction GHG emissions were amortized over 30-years then added to buildout operational GHG emissions. 3,469.39/30 =115.64

b. Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

As discussed above, Alternative 1 will not conflict with adopted GHG reduction plans, policies or regulations due to the project's direct significant reduction in regional GHG emissions. Overall the project will have a positive impact on the environment by reducing Valley-wide GHG emissions.

5.7.3.1.2. Alternative 1 Mitigation Measures

Impacts related to GHG emissions will be less than significant without mitigation.

5.7.3.1.3. Alternative 1 Significance After Mitigation

Impacts related to GHG emissions will be less than significant without mitigation.

5.7.3.1.4. Alternative 1 Cumulative Impacts

Cumulative air quality impacts associated with Alternative 1 would be similar to the Proposed Project due to the dispersing nature of pollutant emissions and aggregate impacts from surrounding jurisdictions and air management districts. Due to the project's direct significant reduction in GHG emissions, Alternative 1will have a positive cumulative impact on the environment by reducing Valley-wide GHG emissions.

5.7.3.2. Alternative 2

5.7.3.2.1. Alternative 2 Impacts

Alternative 2 Project Summary
Under Alternative 2, all the cities from Palm Springs to Coachella would be affected by the Proposed Project, including the cities of Rancho Mirage and Indian Wells. Under this alternative, the project would be consistent with the City of Rancho Mirage's adopted Climate Action Plan, as it would be with those of the other participating jurisdictions. According to the City's adopted CAP, the City's targets are to reduce emissions by 19.8%, or 54,272 tonnes to meet AB 32 targets by 2020.

This alternative would result in the inclusion of the City of Rancho Mirage in project plans, and would eliminate all termini along the Route, creating one continuous path through the Valley. The total length of the Alternative 2 route is approximately 49 miles. The same pathway width assumption of 30 feet and buffer of 10 feet used for the Proposed Project was also assumed for Alternative 2. Therefore, it is assumed that the paved area for Alternative 2 is approximately 233.96 acres and total disturbed area of 311.95 acres

a) *Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.*

Development of Alternative 2 will result in the direct and indirect generation and emission of GHG pollutants during project construction and operation of various facility features, such as pathway lighting and water demands for landscaping. Greenhouse gas emissions from grading and construction will be temporary; however, emissions from daily operation will be ongoing

Construction-Related Greenhouse Gas Emissions
GHG emissions from construction are temporary and will not substantially affect climate or interfere with a GHG reduction plan. All components of construction, including equipment, fuels, materials, and management practices, will be subject to current regulations of GHGs. To determine if construction emissions will result in a cumulative considerable impact, buildout GHG emissions were amortized over a 30-year period and added to annual operational emissions. (See the Operational GHG Emissions Summary below.)

Table 5-13
Construction GHG Emissions Summary
Alternative 2
(Metric Tons/Year)

	CO_2	CH_4	N_2O	Total CO_2e
Alternative 2	3,831.20	0.72	0.00	3,846.39
Proposed Project	3,712.85	0.72	0.00	3,728.04
			Net Difference	**118.35**
Source: CalEEMod Versions 2013.2.2. See Appendix E of this EIR for detailed tables. Values shown represent the total unmitigated GHG emission projections for construction of the Proposed Project.				

Compared to the Proposed Project, Alternative 2 will emit 118.35 tons of CO2e more during construction.

Operational Greenhouse Gas Emissions

Operational GHG emissions associated with Alternative 2 will be limited to off-site energy production and water use. Similar to the Proposed Project, the net energy demand of 83,687 kWh per year, 4.1 million gallons of water per year, and 2,875 tons of solid waste per year was applied to Alternative 2. The project will result in significant GHG reductions due to the motor vehicle trips that may be avoided and the associated reduction in Valley-wide vehicle miles traveled. The following table shows the projected annual reduction in emissions of GHGs plus the amortized construction emissions. As shown below, it is expected that Alternative 2 will result in a net GHG reduction of 70,557.20 metric tons per year. This is 8,884.67 metric tons more than the Proposed Project GHG reductions (61,672.53 tons of CO2e reductions). Due to the project's direct significant reduction in GHG emissions, the Proposed Project will not conflict with adopted GHG reduction plans, policies or regulations. Overall the project will have a positive impact on the environment by reducing Valley-wide GHG emissions.

Table 5-14
Operational GHG Emission and Reduction Summary
Alternative 2

(Metric Tons/Year)

	CO_2	**CH_4**	**N_2O**	**CO_2e**
Energy Use	23.95	0.00	0.00	24.04
Water Use	19.45	0.00	0.00	19.53
Solid Waste	583.59	34.48	0.00	1,307.88
Annual Reductions	-71,898.24	-6.60	0.00	-72,036.86
Buildout plus Amortized Construction Emissions[1]				**-70,557.20**

Source: CalEEMod Version 2013.2.2. See Appendix E of this EIR for detailed tables.
Values shown represent the total unmitigated GHG emission projections for operation of Alternative 2 and assumes an annual avoidance of 9,071,027 vehicle miles in 2040.
1. Buildout construction GHG emissions were amortized over 30-years then added to buildout operational GHG emissions. 3,846.39/30 =128.21

b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

As discussed above, Alternative 2 will not conflict with adopted GHG reduction plans, policies or regulations due to the project's direct significant reduction in GHG emissions. Overall the project will have a positive impact on the environment by reducing Valley-wide GHG emissions.

5.7.3.2.2. Alternative 2 Mitigation Measures

Impacts related to GHG emissions will be less than significant without mitigation.

5.7.3.2.3. Alternative 2 Significance After Mitigation

Impacts related to GHG emissions will be less than significant without mitigation.

5.7.3.2.4. Alternative 2 Cumulative Impacts

Cumulative air quality impacts associated with Alternative 2 would be similar to the Proposed Project due to the dispersing nature of pollutant emissions and aggregate impacts from surrounding jurisdictions and air

management districts. Due to the project's direct significant reduction in GHG emissions, Alternative 2 will have a positive cumulative impact on the environment by reducing Valley-wide GHG emissions.

5.7.3.3. Alternative 3

5.7.3.3.1. Alternative 3 Impacts

Alternative 3 Project Summary
Alternative 3 would result in no construction or implementation of the CV Link project. There would be no change in the existing environment. Levee tops, streets, parks and golf courses would remain in their current condition.

a) *Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.*

Alternative 3 will not generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment because CV Link would not be built, and greenhouse gas conditions would be unaffected. There will be no impact.

b) *Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases.*

Alternative 3 will not directly conflict with adopted GHG reduction plans, policies or regulations because CV Link would not be built, and greenhouse gas conditions would be unaffected. There will be no impact. However, Alternative 3 would also result in "business as usual" emissions from vehicle trips that could otherwise be reduced by the implementation of the Proposed Project or Alternative 1 or 2. Therefore, Alternative 3 would not result in a reduction in vehicle trips, and would not contribute to meeting the State-wide GHG reduction goals for which all Coachella Valley are responsible.

5.7.3.3.2. Alternative 3 Mitigation Measures

There will be no impacts and no mitigation.

5.7.3.3.3. Alternative 3 Significance After Mitigation

There will be no impacts and no mitigation.

5.7.3.3.4. Alternative 3 Cumulative Impacts

Alternative 3 will not generate greenhouse gas emissions, either directly or indirectly, that could have a significant impact on the environment because CV Link would not be built, and greenhouse gas conditions would be unaffected. There will be no cumulative impacts to greenhouse gas conditions.

5.7.4. Environmentally Superior Alternative

From a GHG perspective, the environmentally superior alternative was chosen based on potential long-term GHG emission reductions. Alternative 2 is therefore environmentally superior because it will result in the greatest VMT trip reductions, which in turn results in the greatest GHG emissions reduction. The remaining alternatives ranked from most superior to less superior are as follows: Proposed Project, Alternative 1, and Alternative 3. However, all alternatives, including the Proposed Project, result in less than significant impacts associated with GHG emissions.

5.8. Hazards and Hazardous Materials

5.8.1. Introduction

This discussion describes hazardous materials and other hazards to public health and safety that could result from implementation of the project alternatives. The discussion evaluates potential impacts from regional hazards including public and private airports and wildfire hazards. In August 2016, an Initial Site Assessment was prepared to support the analysis in this section and is included as Appendix J.

5.8.2. Existing Conditions

The evaluation of impacts associated with hazards and hazardous materials includes two components: the potential for hazards or hazardous materials to be used, transported or stored as part of the Proposed Project during construction and operation; and the potential impacts that existing hazards or hazardous materials could have on CV Link.

The evaluation of the potential to encounter hazardous materials in soil and groundwater along the proposed Route is based on federal, State, and local regulatory database reviews which identified permitted hazardous materials uses, environmental cases, and spill sites within 1/8 miles of the proposed Route. As shown in Table 4.8-1 in this EIR, potentially hazardous materials or releases were not identified on or adjacent to the proposed Route. As noted in Table 4.8-1, no hazardous materials were identified in the segments of the Route through the City of Indian Wells. As shown in the Table below, no potential hazardous materials sources were identified in the City of Rancho Mirage.

Table 5-15
Current Hazardous Materials Conditions in Rancho Mirage

Rancho Mirage (Country Club Drive to Monterey Avenue; Photo Nos. 29 to 34)	
Country Club Drive to Paxton Drive (along Highway 111)	This alignment traverses along the western/southern side of Highway 111 on a concrete-paved sidewalk. This sidewalk is bordered by well-maintained landscaped areas.
Paxton Drive to Mirage Road along Highway 111	This alignment resumes on the sidewalk along the western side of Highway 111.
Magnesia Channel between Highway 111 and Whitewater River Channel	This alignment passes along the right bank of the Magnesia Channel. This channel bottom is covered with sandy soil and sparse vegetation. Its sides are lined with concrete.
Paxton Dr. to Magnesia Canyon Channel	South of Paxton Drive, this alignment passes through a vacant lot covered with crushed asphalt. It then passes along the right bank of the Whitewater River Channel, which is comprised of a gentle slope covered with soil and sparse vegetation. This alignment passes over the Magnesia Canyon Channel.
Magnesia Canyon Channel to Bob Hope Dr. (along the Whitewater River Channel)	East of Magnesia Canyon Channel, this segment traverses along the upper and lower sides (right bank) of the Whitewater River Channel. The Route in this area is unpaved and either following an existing vehicle path or passes through sandy areas with sparse vegetation.

Table 5-15
Current Hazardous Materials Conditions in Rancho Mirage

Rancho Mirage (Country Club Drive to Monterey Avenue; Photo Nos. 29 to 34)	
San Jacinto Dr. and Rancho Palmas Dr.	An alignment traverses away from the channel to San Jacinto Drive. The alignment then traverses along San Jacinto Drive to Rancho Las Palmas. The alignment then travels northeast within a parking lot that is located along the southern side of Rancho Las Palmas Drive. It continues in the parking lot until it reaches Bob Hope Drive.
Commercial Parking Lot Driveway between Rancho Palmas Dr. and Bob Hope Dr.	An alignment traverses southeast from the intersection of Rancho Palmas Drive and San Jacinto Drive. It parallels a driveway that is located within a relatively large commercial shopping center.
Bob Hope Dr. between the Whitewater River Channel and Highway 111	This alignment passes between the Whitewater River Channel and Highway 111 along sidewalks on the eastern or western sides of Bob Hope Drive. The sidewalks are adjoined by well-maintained landscaped areas.
Highway 111 between Bob Hope Dr. and Parkview Dr.	Alignments pass along each side of Highway 111 between Bob Hope Drive and Parkview Drive. One alignment is located along this roadway's eastern (north-bound) side. The second alignment along the western (south-bound) side of Highway 111 is located within a concrete-paved sidewalk.
Desert Dr. and Rio Del Sol Rd.	An alignment leaves Highway 111 and travels west along the northern side of Desert Drive and then south along Rio Del Sol Road. This alignment leaves these roadways and traverses through undeveloped properties before it connects back with Highway 111. These undeveloped properties are covered with sandy soil and rock outcrops.
ParkviewDr. between Highway 111 and Monterey Ave.	This alignment initially traverses through a concrete-lined channel for approximately 440 feet. It then passes along the northern side of Park View Drive. Bike lanes are currently located on each side of this roadway.

Fourteen schools were identified within a half-mile radius of the Proposed Project and alternatives. Their names, location and distances to the proposed Route are provided in Table 4.8-3.

Portions of the Route are within the 2-mile radius of the Palm Springs International Airport, Bermuda Dunes Executive Airport and the Jacqueline Cochran Regional Airport.

Please see Section 4.8.4, Existing Conditions for a more detailed analysis.

5.8.3. Alternatives Impact Analysis

5.8.3.1. Alternative 1

5.8.3.1.1. Alternative 1 Impacts

Alternative 1 Project Summary
Under this Alternative, CV Link would be constructed from Palm Springs through Cathedral City as it would under the Proposed Project, and terminate on the west boundary of Rancho Mirage. It would resume again on its east boundary in Palm Desert, and be interrupted once again through Indian Wells, before resuming in La Quinta and continuing easterly to the eastern terminus in the community of Thermal, consistent with the Proposed Project.

a) Creates a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

b) Creates a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?

As with the Proposed Project, both temporary and permanent impacts would result from the implementation of Alternative 1. Temporary impacts would be those associated with the construction of this alternative. These impacts would be produced as a result of the use of chemicals, oils, fuels, lubricants, paints, and solvents. A variety of regulations ensure the safe transport, use, storage, and disposal of materials, which further minimize potential risks. Even so, the daily transport of potential hazardous materials to and from construction areas to construction staging areas would have the potential to create a hazard due to the transport and use of these materials. Under Alternative 1, the hazard would be somewhat reduced, because construction would not occur in either Rancho Mirage or Indian Wells. Therefore, overall construction risks would be reduced. It is assumed for purposes of this analysis that this alternative will be constructed in segments, and that the exact order of construction is not known. However, regardless of the length of the path being constructed, temporary construction impacts associated with the use of chemicals, oils fuels, lubricants, paints, and solvents would occur.

In the case of an accidental spill of materials, the provisions of law, required of every project, and the required best management practices associated with water quality management planning would assure that such an occurrence would be contained and remediated immediately. In the case of transport of materials to or from a construction area, the local Fire Department, Caltrans and the CHP regulate the transportation of hazardous materials and wastes, including container types and packaging requirements. Under this alternative, the pad-mounted electric transformers located in Cathedral City would still require proper handling under established regulations, if they were to be removed during construction. The mitigation measures included in Section 4.8 would apply to this alternative.

Over the life of this alternative, maintenance activities will likely require the use of chemicals and cleansers for cleaning and maintenance of the Route, and pesticides, herbicides and fertilizers for landscape maintenance. The amount of these materials will not be significant, and will be typical of municipal maintenance activities conducted throughout the Valley on roads, sidewalks and trails. In the event that hazardous materials like cleansers, landscaping maintenance products or fuels require disposal, that disposal will be required to adhere to current regulations, which minimize potential impacts. For this reason, impacts associated with long term impacts from the transport, use or disposal of hazardous materials will be less than significant.

As detailed in Section 4.8.4 and Table 4.8-2, each site identified as having had a hazardous spill, with the exception of five properties, has been reported as cleaned to the satisfaction of the regulatory agencies. An in-depth description of each site is available in Section 4.8.5. The closest site is located 220 feet of CV Link's project area. None of these unresolved properties occur in either Rancho Mirage or Indian Wells, and as a result the status and condition of these properties would remain the same as under the Proposed Project. Since none of these sites impact the Route, there would also be no impact under this alternative.

Although aerially deposited lead has been know to occur near the project area, the soils along the CV Link Route are not considered potentially hazardous based on current screening levels at any point on the Route, including the cities of Rancho Mirage and Indian Wells. For this reason impacts associated with ADL will be less than significant.

c) Emits hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school?

The implementation of Alternative 1 will have no impact on schools from a hazardous materials perspective. Neither the Proposed Project nor Alternative 1 will result in the transport of these materials, as the purpose of the path is for recreational and personal use. The Route passes within 0.25 miles of 14 schools listed in Table 4.8-3, none of which occur in either Rancho Mirage or Indian Wells. The construction of this alternative, as described above, will involve the use of small amounts of paints, solvents and fuels that will be used within 0.25 miles of these schools while construction occurs. However, neither the time needed for construction, nor the amount of materials to be used would result in a significant impact.

d) Be located on a site which is included on a list of hazardous materials sites complied pursuant to Government Code Section 65962.5 and, as a result, would create a significant hazard to public to the public or the environment?

According to the findings in the project-specific ISA, no location within the project boundary, or the boundary of any alternative is included on any lists of hazardous materials sites compiled pursuant to Government Code Section 65962.5. For this reason, this criterion is not applicable and no impact will occur.

e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?

f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?

The Proposed Project passes 0.6 miles east of the airport in Palm Springs, 2.4 miles from the Bermuda Dunes airport, and one mile from the Jacqueline Cochran airport, and this condition would continue under Alternative 1. The proposed path will have no impact on airport operations, and as a non-structural project located at a considerable distance from any of the airports, will have no impact on the airports' land use plans.

There are no private airstrips located in the Valley, therefore no impact will occur.

g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

All the cities through which the Proposed Project and this alternative passes, as well as the County of Riverside, have adopted emergency response plans. The exclusion of Rancho Mirage and Indian Wells would have no impact on the implementation of those plans.

The construction of this alternative may create some temporary road detours, although there might be marginally fewer detours because of the exclusion of Indian Wells. These will not conflict with established plans since they will be minimal and span relatively short distances given that the construction phase will be carried out in segments.

In addition, CV Link may prove to be an alternative transportation route for emergency evacuation in a major catastrophe. In the event that a major catastrophe impacts the Coachella Valley and roads are closed, the Proposed Project or this alternative could provide valley residents with an alternative route that connects the valley from Palm Springs to Coachella. Under this alternative, the nonparticipating cities of Rancho Mirage and Indian Wells will not have this benefit, yet will still able to utilize the Route, given that termini for both cities are located in centralized locations.

h) Expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands.

Neither the Proposed Project nor this alternative are located in wildfire zones, and are therefore are not expected to increase the risk of wildlands fires during construction or operational phases. Given that the project planning area is located primarily in urban and developed areas there will be no impacts involving wildfires.

5.8.3.1.2. Alternative 1 Mitigation Measures

This alternative would require the same mitigation measure as the Proposed Project, for the remediation of pad-mounted transformers in Cathedral City. Please see Section 4.8.6, Mitigation Measures for further reference. Since the pad-mounted transformers occur in Cathedral City, which is included in this alternative, the mitigation measure would still be required.

5.8.3.1.3. Alternative 1 Significance After Mitigation

With the implementation of the mitigation measure described above, impacts associated with hazards and hazardous resources under this alternative would be less than significant.

5.8.3.1.4. Alternative 1 Cumulative Impacts

Alternative 1 would have less than significant impacts associated with hazards and hazardous materials during both construction and operations. The addition of this alternative to the urban environment, when added to other future development in the Coachella Valley, will marginally increase the potential for impacts associated with hazards and hazardous materials by adding the potential for hazardous materials to spill. However, this alternative and all future other projects are subject to stringent regulations imposed by local, regional, State and federal law. The construction and operation of this alternative will not significantly impact this progressive increase, because it will not use or distribute significant amounts of hazardous materials. The requirements and standards of local, State and federal regulations would apply to this and all projects proposed in the Coachella Valley. Therefore, Alternative 1 will not significantly contribute to cumulative impacts associated with hazardous materials.

5.8.3.2. Alternative 2

5.8.3.2.1. Alternative 2 Impacts

Alternative 2 Project Summary
Under Alternative 2, all the cities from Palm Springs to Coachella would be part of the Proposed Project, including the cities of Rancho Mirage and Indian Wells. This alternative would result in the inclusion of the City of Rancho Mirage in project plans, and would eliminate all termini along the Route, creating one continuous path through the Valley.

a) *Creates a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?*

b) Creates a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?

Similar to the Proposed Project, both temporary and permanent impacts would result from the implementation of Alternative 2. Temporary impacts would be those associated with the construction of this alternative. These impacts would be as a result of the use, of chemical, oils, fuels, lubricants, paints, and solvents. A range of

regulations ensures the safe transport, use, storage, and disposal of material, which further minimize potential risks. It is assumed for purposes of this analysis that this alternative, like the Proposed Project, will be constructed in segments, and that the exact order of construction is not known. However, regardless of the length of the path being constructed, temporary construction impacts associated with the use of chemicals, oils fuels, lubricants, paints, and solvents could occur. Under this alternative, which would include all cities on the Route, the potential for this risk would be marginally increase, because a longer pathway would be constructed.

The daily transport of potential hazardous materials to and from construction areas and construction staging areas could result in the increase in the potential for accidents, and would be marginally greater under this alternative because of the inclusion of both Rancho Mirage and Indian Wells. However, no large amounts of these materials would be used for the construction of asphalt or concrete pathways. In the case of an accidental spill of materials, the provisions of law, required of every project, and the required best management practices associated with water quality management planning would assure that such an occurrence would be contained and remediated immediately. In the case of transport of materials to or from a construction area, the local Fire Department, Caltrans and the CHP regulate the transportation of hazardous materials and wastes, including container types and packaging requirements.

Under this alternative, the pad-mounted electric transformers located in Cathedral City would still require proper handling under established regulations, if they were to be removed during construction. The mitigation measure included in Section 4.8 in this regard would apply to this alternative.

Over the life of this alternative, maintenance activities will likely require the use of chemicals and cleansers for cleaning and maintenance of the Route, and pesticides, herbicides and fertilizers for landscape maintenance. The amount of these materials would be marginally increased, because of the added length of the pathway. However, the amount of these materials will not be significant, and will be typical of municipal maintenance activities conducted throughout the Valley on roads, sidewalks and trails. Impacts associated with long term impacts from the transport, use or disposal of hazardous materials will be less than significant.

c) Emits hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school?

The implementation of Alternative 2 will have no impact on schools from a hazardous materials perspective. Neither the Proposed Project nor Alternative 2 will result in the transport of these materials, as the purpose of the path is for recreational and personal use. The Route passes within 0.25 miles of 14 schools listed in Table 4.8-3. The construction of the full build of CV Link will incorporate the use of small amounts of paints, solvents, and fuels that will be utilized within 0.25 miles of schools. However, no school in Rancho Mirage is within ¼ mile of the pathway, so impacts would be the same as the Proposed Project, and would be less than significant because the quantities used will not be sufficient to cause a hazard.

d) Be located on a site which is included on a list of hazardous materials sites complied pursuant to Government Code Section 65962.5 and, as a result, would create a significant hazard to public to the public or the environment?

According to the findings in the project-specific ISA, no location within the project boundary, or the boundary of any alternative is included on any lists of hazardous materials sites compiled pursuant to Government Code Section 65962.5. For this reason, this criterion is not applicable and no impact will occur.

e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?

f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?

Alternative 2 will consist of paved or concrete pathway, occasional shade structures, benches and wayfinding signage. No large habitable structures are proposed as part of Alternative 2. The Route passes 3,400 feet east of the airport in Palm Springs, 2.4 miles from the Bermuda Dunes airport, and one mile from the Jacqueline Cochran airport. Alternative 2's path will have no impact on airport operations, and as a non-structural project located at a considerable distance from any of the airports, will have no impact on the airports' land use plans.

There are no private airstrips located in the Valley, therefore no impact will occur.

g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

All the cities through which this alternative passes, as well as the County of Riverside, have adopted emergency response plans. The inclusion of Rancho Mirage and Indian Wells would have no impact on the implementation of those plans.
The construction of this alternative may create some temporary road detours, although there might be marginally more detours because of the inclusion of Rancho Mirage and Indian Wells. These will not conflict with established plans since they will be minimal and span relatively short distances given that the construction phase will be carried out in segments.

In addition, CV Link may prove to be an alternative transportation route for emergency evacuation in a major catastrophe. In the event that a major catastrophe impacts the Coachella Valley and roads are closed, this alternative could provide Valley residents with an alternative route that connects the Valley from Palm Springs to Coachella. Under this alternative, all participating cities would be able to utilize the Route, and a continuous route would be available.

h) Expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands.

Alternative 2 does not occur in a wildfire hazard zone and is not expected to increase the risk of wildlands fires during construction or operational phases. Given that the entire project area is located primarily in urban and developed areas there will be impacts involving wildfires.

5.8.3.2.2. Alternative 2 Mitigation Measures

This alternative would require the same mitigation measure as the Proposed Project, which requires the remediation of pad-mounted transformers in Cathedral City if they are disturbed for construction.

5.8.3.2.3. Alternative 2 Significance After Mitigation

With the implementation of the mitigation measure described above, impacts associated with hazards and hazardous resources under this alternative would be less than significant.

5.8.3.2.4. Alternative 2 Cumulative Impacts

Under Alternative 2, CV Link will be built within all eight cities of the Coachella Valley, including Rancho Mirage and Indian Wells. The alternative would have less than significant impacts associated with hazards and hazardous materials during both construction and operations for the previously discussed reasons. As described above, the requirements and standards of local, regional and State regulations apply to all projects. Any project would be required to construct and operate facilities consistent with local, State and federal requirements. The addition of Alternative 2 to the urban environment, when added to other future development in the Coachella Valley, will marginally increase the potential for impacts associated with hazards and hazardous materials. However, Alternative 2 and all future other projects are subject to stringent regulations imposed by local, regional, State and federal law. The construction and operation of this alternative will not significantly impact this progressive increase, because it will not use or distribute significant amounts of hazardous materials. Therefore, Alternative 2 will not significantly contribute to a cumulative increase in hazards or hazardous materials.

5.8.3.3. Alternative 3

5.8.3.3.1. Alternative 3 Impacts

Alternative 3 Project Summary
Alternative 3 would result in no construction or implementation of the CV Link project. There would be no change in the existing environment. Levee tops, streets, parks and golf courses would remain in their current condition.

a) Creates a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

Under this alternative no changes are proposed. The public and the environment will not be exposed to hazards related to the routine transport, use, or disposal of hazardous materials from the construction or operation of the Proposed Project. No impact would occur.

b) Creates a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?

Since conditions will not be changed under Alternative 3, no significant hazards are expected to occur as a result of upset or accident conditions involving the release of hazardous materials into the environment.

c) Emits hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school?

Schools will not be exposed to conditions related to hazards or hazardous materials as result of Alternative 3, given that no project and no changes are proposed.

d) Be located on a site which is included on a list of hazardous materials sites complied pursuant to Government Code Section 65962.5 and, as a result, would create a significant hazard to public to the public or the environment?

According to the findings in the project-specific ISA, no location within the project boundary, or the boundary of any alternative is included on any lists of hazardous materials sites compiled pursuant to Government Code Section 65962.5. For this reason, this criterion is not applicable and no impact will occur.

e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?

f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?

There will be no proposed change under Alternative 3 and conditions will remain the same. There would be no impact to the airport land use plan or present a safety hazard for people residing or working in the project area.

g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

All the Coachella Valley cities, as well as the County of Riverside, have adopted emergency response plans. Alternative 3 will result in no changes or impacts to these plans. There will be no conflict with established plans since there will be not changes to roadways or transportation corridors.

h) Expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands.

Alternative 3 would have no wildfire impacts, since no change in current conditions would occur.

5.8.3.3.2. Alternative 3 Mitigation Measures

Alternative 3 would not require mitigation, since no project related activity would occur.

5.8.3.3.3. Alternative 3 Significance After Mitigation

There would be no impacts associated with hazards or hazardous materials under Alternative 3.

5.8.3.3.4. Alternative 3 Cumulative Impacts

Alternative 3 would have no impacts associated with hazards and hazardous materials given that no change is proposed. Therefore, the Alternative 3 will not significantly contribute to cumulative impacts associated with hazardous materials. There will be no impact.

5.8.4. Environmentally Superior Alternative

Alternative 3, the No Project Alternative, is the environmentally superior alternative, insofar as no change would occur, and there would be no potential for impacts associated with hazards or hazardous materials. However, Alternative 3 meets none of the project objectives.

Alternative 1 would result in a marginally smaller length of pathway, because the City of Indian Wells would be excluded from the path, along with the City of Rancho Mirage. As a result, this alternative could marginally reduce the potential risk associated with the use, transport or storage of hazardous materials. Conversely, because of the somewhat longer pathway length associated with Alternative 2, risks and associated impacts could be marginally greater. Therefore, Alternative 1 is the environmentally superior development oriented alternative, followed by the Proposed Project and finally Alternative 2.

5.9. Hydrology and Water Quality

5.9.1. Introduction

As discussed in Section 4.9, potential impacts on hydrological resources and water quality are assessed in this section to consider the impacts the project alternatives would have on the drainages pattern and water quality in the region. Hydrological resources include regional and local drainages, flood control facilities, water quality, the areas with flood control deficiency surrounding the proposed alternatives, and the impacts that run-off from the alternatives will have on surrounding areas.

This hydrology and water quality/resources analysis focuses on potential impacts to surface water hydrology and water quality/resources from both construction and operation activities of each proposed alternative. The analysis evaluates whether construction or operation will have the potential to degrade water quality, increase erosion, modify drainage patterns, or exceed capacities of existing surface drainages.

5.9.2. Existing Conditions

Hydrology
As described in Section 4.9.4, the main drainage feature in the project area is the Whitewater River (WWR), which originates from the southerly and easterly slopes of the San Bernardino Mountains, at the western portion of the Coachella Valley. Several of its tributaries originate from the easterly slopes of the San Jacinto and Santa Rosa Mountains. The Whitewater River eventually discharges to the Salton Sea through the man-made extension of the stormwater channel system known as the Coachella Valley Stormwater Channel (CVSC) and extends 22 miles southeast from the City of La Quinta, through the cities of Indio and Coachella, and the agricultural communities of Thermal and Mecca down to the north end of the Salton Sea. The drainage area of the WWR/CVSC is approximately 1,500 square miles.

The projected 100-year 24-hour storm event in the planning area is 5.42 inches of rain over a 24-hour period. In the upper Whitewater Stormwater Channel 100-Year storm flows are calculated to be approximately 47,000 cubic feet per second (cfs) in the vicinity of the confluence Tahquitz Creek and the Whitewater Channel, to about 43,000 cfs east of Point Happy in La Quinta. The Standard Project Flood (SPF) flow at these locations range from 85,000 cfs on the west to 83,000 cfs at Point Happy. East of Point Happy, CVSC is projected to carry a 100-Year flow of approximately 43,000 cfs and an SPF flow of about 82,000 in the eastern portion of the CV Link planning area.[21]

Portions of the CV Link project are subject to flooding from 100-year storms and have been mapped by the Federal Emergency Management Agency (FEMA). Major portions of the CV Link segments will have adequate freeboard along the levee/stormwater channel. However, at several locations, the surface pathways will be topographically lower than the adjacent bank or levees. Detailed descriptions of the respective floodplain levees, channels, drainages, and potential encroachment of the CV link Route into the channels and drainages in all eight cities, including Rancho Mirage and Indian Wells, are provided in the Section 4.9.4.

Water Resources
The Whitewater River Groundwater Basin generally extends from the Whitewater River in the northwest to the Salton Sea in the southeast. The aquifer is naturally subdivided by fault barriers into subbasins, which are further divided into subareas. Desert Water Agency (DWA) and the Coachella Valley Water District (CVWD) jointly utilize and manage a replenishment program for the local groundwater basin, the Upper Whitewater River

[21] Whitewater River/Coachella Valley Stormwater Channel Hydraulic Analysis (Ramon Road to Jefferson Street Bridges), prepared by Northwest Hydraulic Consultants and CVWD. September 2014.

Subbasin. Estimates of groundwater storage in the Upper Whitewater River Subbasin range from 10.5 to 14.2 million acre-feet. In total, the subbasins underlying the Coachella Valley contain approximately 39.2 million acre-feet of water in storage, of which about 28.8 million are within the Whitewater River subbasin.

Water for CV Link landscaping and potable use will come from the local domestic water purveyors, including DWA, CVWD, Indio Water Authority and Coachella Water Department. The providers supply their costumers from wells extracting groundwater.

All providers comply with state (California Department of Public Health) and federal (U.S. Environmental Protection Agency) drinking water quality standards. Each year, domestic water providers monitor for more than 100 other regulated and unregulated chemicals that are not detected during this regular monitoring. The domestic water supply meets current state and federal standards; however, drinking water supplied to some service areas do contain low levels of naturally occurring hexavalent chromium (Cr6), arsenic, radon, and nitrate.[22]

5.9.3. Alternatives Impact Analysis

5.9.3.1. Alternative 1

5.9.3.1.1. Alternative 1 Impacts

Alternative 1 Project Summary
Under this Alternative, CV Link would be constructed from Palm Springs through Cathedral City as it would under the Proposed Project, and terminate on the west boundary of Rancho Mirage. It would resume again on its east boundary in Palm Desert, and be interrupted once again through Indian Wells, before resuming in La Quinta and continuing easterly to the eastern terminus in the community of Thermal, consistent with the Proposed Project.

a) Will the Project violate any water quality standards or waste water discharge requirements?

Portions of the Coachella Valley Stormwater Channel are listed as impaired waters for pathogens and the agro-chemical Toxaphrene. The pathogen impairment extends from about Dillon Road to the Salton Sea along which the channel has perennial flows fed by municipal wastewater and agricultural water discharge into the channel. The Toxaphrene impairment occurs from about Lincoln Street to the Salton Sea, south of the eastern terminus of Alternative 1 and the Proposed Project.

Alternative 1 Construction Impacts
CV Link receiving waters include the Chino Canyon Creek and the Whitewater Floodplain, Tahquitz Channel, Palm Canyon Channel, Cathedral Canyon Channel West and East, San Pasqual Channel, Deep Canyon Channel, Whitewater and Coachella Valley Stormwater Channels, and ultimately the Salton Sea. A variety of potential water contaminants (sediments, trash and debris, oil and grease, fuels, lubricants, concrete waste, paints, sanitary waste and miscellaneous chemicals). Disturbed soils, as well as trash and debris, can be conveyed to receiving waters by wind and water erosion and increase suspended solids and total dissolved solids in these waters. Liquid fuels and lubricants can be discharged during operation or servicing, if not properly maintained and managed. Other construction wastes, including concrete, coating containers and other construction materials must be properly managed to avoid soils or surface water contamination.

Temporary or portable sanitary facilities provided for construction workers could be a source of sanitary waste that could affect the environment if not properly managed. The use and maintenance of these facilities, however, is regulated, and any contractor engaged to provide the service will be subject to and implement these regulations.

[22] Coachella Valley Water District (2013-2014 Annual Review); http://www.cvwd.org/ArchiveCenter/ViewFile/Item/59; Accessed 8.30.2016.

Under Alternative 1, the project area would be somewhat reduced from that of the Proposed Project, with the exclusion of both Rancho Mirage and Indian Wells. As a result, the impacts to water quality associated with this alternative would be marginally reduced, insofar as the overall area of disturbance would be smaller, and the potential for pollution of receiving waters would be reduced in those two cities. However, as with the Proposed Project, a Water Quality Management Plan and construction BMPs would be required, consistent with the mitigation measures for the Proposed Project, and would be expected to effectively reduce or avoid the discharge of any pollutants of concern that could occur as a result of implementation of this alternative. Construction BMPs include establishing limits of construction and the use of silt berms and fences, earth dikes, drainage swales, sediment traps, check dams, reinforced soil retaining systems, temporary sediment basins and flow diversion. See specific mitigation measure below.

Alternative 1 Operational Impacts

Under Alternative 1, CV Link operational impacts that could affect water quality include trash and debris from humans, dog waste, nutrients and other chemicals from landscaped areas, and bacteria from pavement runoff to receiving waters. These impacts would be somewhat reduced under this alternative, because of the exclusion of Indian Wells from the Route. However, the provision of trash containers, dog waste receptacles, operational best management practices and regular maintenance activities are intended to minimize or eliminate the impacts from these pollutants, and would be implemented consistent with the implementation of the same mitigation measures required of the Proposed Project. A wide range of project design elements, including inert and non-toxic paving and coating materials, trash and waste receptacles, restrooms, signage and regular maintenance, which are set forth in the CV Link Conceptual Master Plan, will ensure that the project does not violate any water quality standards or waste water discharge requirements and will therefore have a less than significant impact on water quality.

b) Will the Project substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?

Alternative 1 will generate demand for water resources for purposes of construction and to irrigate landscape areas. Potable water will also be provided via water fountains and restrooms located along the Route. Water demand associated with project construction was calculated based on the extent and type of development.

During construction, the total estimated water demand for the Alternative 1 is approximately 75.62 acre-feet, or 10.78 acre feet less than the Proposed Project (86.4 acre-feet). Water supplied to the rest stops for toilet and drinking water use is estimated to be equivalent to that generated by the Proposed Project, or approximately 8.96 acre-feet per year, since the locations of these stops would still occur. It is further estimated that the operational water demand for landscape irrigation will be approximately 11.84 acre-feet per year, or 1.03 acre feet less than the Proposed Project (12.87 acre-feet). According to the Coachella Valley Integrated Water Management Plan (2010), the projected Valley-wide water demand for 2020 is 719,100 acre-feet per year. Based on this, Alternative 1's modest demand of 20.8 acre-feet per year, the implementation of Alternative 1 constitutes a 0.0029% increase in demand, and a reduction of 4.7% when compared to the Proposed Project. Alternative 1 is anticipated to have less impact to water services than the Proposed Project, but both the Proposed Project and Alternative 1 have a less than significant impact on water resources.

Overall, the water demand associated with both construction and operations of the Alternative 1 will be very limited and less than significant.

c) Will the Project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner, which would result in substantial erosion or siltation on- or offsite?

d) Will the Project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate of surface runoff in a manner, which would result in flooding on- or off-site?

Under Alternative 1, the pathway would not occur in the cities or Rancho Mirage and Indian Wells. As a result, the land area affected by the project would be reduced, and the potential for erosion or siltation marginally decreased. Under this alternative, termini in Rancho Mirage and Indian Wells could occur within the Whitewater River. These termini could marginally increase the amount of impervious surface in the River. The areas of impact, however, would not be substantial insofar as they represent only the construction of hardscape which will not structurally impair channel capacity, and would not significantly impact the capacity of the River during 100 year storms.

Under Alternative 1, the south (right) bank alignment in Indian Wells would be eliminated, and would not require undercrossing of the future Fred Waring bridge to the existing Eldorado Drive bridge. The channel access ramps and channel bottom path would also be eliminated, as would the potential to impact channel capacity. As described in Section 4.9, the improvements proposed in Indian Wells would not significantly impact channel capacity or increase runoff in that City's portion of the channel. Under this alternative, there would be no impact to these facilities, and no additional runoff, so overall impacts would be marginally decreased.

The areas where Alternative 1 crosses or encroaches into potentially affected drainages elsewhere within the Route were analyzed to determine whether and to what extent project improvements will alter the drainage patterns. Both CVWD and the RCFCWCD have been consulted during the design phase of the project and their recommendations have been incorporated into the overall project design. The potential for Alternative 1 to result in substantial erosion or siltation will be less than significant with the proper application of the Best Management Practices (BMPs) which have been included in the mitigation measures for the Proposed Project, and would be applied to Alternative 1.

Alternative 1 would consist of the same concrete for bicycles and LSEVs and decomposed granite for pedestrian paths where the Route occurred. The impermeable portions of the path are limited in width and linear in layout, thereby limiting the amount of runoff than can be generated. The pedestrian paths will be permeable and will further reduce runoff. Based upon the hydrology analyses, there will be no substantial increase in the rate of surface runoff nor will Alternative 1 runoff result in flooding on- or off-site. Therefore, impacts in this regard will be less than significant.

e) Will it create or contribute runoff water, which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?

Alternative 1 runoff will discharge to adjoining receiving waters, including the Whitewater Floodplain, Tahquitz Creek Channel, Tahquitz Creek, Palm Canyon Channel, East and West Cathedral Canyon Channels, and the Whitewater and Coachella Valley Stormwater Channels, all of which ultimately discharge to the Salton Sea. The total disturbed surface area of Alternative 1 is approximately 233.69 acres, and represents a reduction of 45 acres when compared to the Proposed Project (279 acres). Of the total reduced area, approximately 31 acres would be developed as impervious surfaces, and 14 acres as pervious surface. As a result, the potential for runoff would be marginally reduced, since less impervious surface would result from this alternative. It should be noted that there is only approximately 3 to 4 inches of annual precipitation expected in the region, which would mean that there is little to no baseflow in the study area. Given the very limited potential for CV Link-generated stormwater runoff and the path's proximity to drainage channels and public streets, Alternative 1 will make a less than significant

contribution to runoff and will not significantly contribute to an exceedance of existing or planned channel capacity in the project area, nor will Alternative 1 make a substantial contribution to existing sources of polluted runoff.. Nonetheless, a range of construction BMPs, including establishing limits of construction and the use of silt berms and fences, earth dikes, drainage swales, sediment traps, check dams, reinforced soil retaining systems, temporary sediment basins and flow diversion, will further ensure that the project does not generate substantial additional polluted runoff. Also, please see BMPs set forth in the mitigation discussion in Section 4.9. Project-related impacts will be less than significant with mitigation.

f) Will the Project otherwise substantially degrade water quality.

As discussed above, there is a less than significant potential for Alternative 1 to substantially degrade water quality. CV Link development will occur almost entirely on previously disturbed land and roadways, which will limit the extent of site disturbance and the potential for contaminated runoff. Work within stormwater channel rights of way will be primarily outside the channel area and atop channel embankment and levee service roads. The nature of the construction materials, which are primarily aggregate, concrete, decomposed granite, are relatively inert and not polluting. The use of the Link facilities will be limited to pedestrians, bicyclists and LSEV, and the contamination associated with motor vehicles will not occur along the CV Link alignments. While project impacts to water quality will be insignificant, the properly application of standard BMPs during and following project construction. With routine construction management and maintenance protocols, Alternative 1 will not substantially degrade local surface or groundwater.

g) Will the Project place housing within a 100-year flood hazard area as mapped on a federal Flood Hazards Boundary or Flood Insurance Road Map or other flood hazard delineation map?

Alternative 1 will not place housing or other structures for human habitation within a 100-year flood hazard area. No housing is proposed as part of this project. Therefore, Alternative 1 will have no impact in this regard.

h) Will the Project place within a 100-year flood hazard area structures, which would impede or redirect flood flow.

Alternative 1 would result in the elimination of channel structures in Indian Wells, and the potential addition of termini in the Whitewater River. The following locations would not occur under this alternative: the undercrossing of Eldorado Drive and channel crossings on the Indian Wells Golf Course; and the Miles Avenue and Deep Canyon Bridge crossing. Under this alternative, therefore, there would be no potential for affecting changes in flood capacity. Also under this alternative, the termini on each side of the Indian Wells City limits would be implemented, which would result in the construction of hardscape in the Whitewater River Channel. These facilities are not structures, however, and have little potential to impact capacity or redirect flood flows. As with all build alternatives, CVWD will require approval of all facilities occurring in the channel, and require demonstration that these facilities will not redirect flood flows. This requirement will assure that this alternative does not significantly impact flood flows, and that impacts remain less than significant.

Other areas of the path would have the same less than significant impacts on flood flow as with the Proposed Project. Final plans must be approved by either CVWD or RCFCWDC. However, none of the CV Link encroachments into the 100-year floodplain will significantly impede or redirect flood flow in any of the various project drainages. Therefore, impacts to these drainages in this regard will be less than significant.

i) Will the Project expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of a levee or dam?

j) Will the Project expose people or structures to inundation by seiche, tsunami, or mudflow?

Alternative 1 will reduce the amount of pathway flatwork in the region's drainages by eliminating Indian Wells from the Route, and will facilitate travelers' access into the channel at various locations along the Route. Improvements are limited to inert paving materials, the loss of which from a large storm can be cost-effectively restored. Human access into the channels during periods of storms and potential flooding will be restricted with use of barriers and signage to ensure that there is no significant risk of injury or death. Mitigation measures to affect the subject access closures are set forth in Section 4.9.

There are no dams or levees actively impounding water, nor are there upslope water storage tanks or other bodies of water along the Route that could rupture during a major seismic event or from other causes that would result in injury or death, or damage to structures.

5.9.3.1.2. Alternative 1 Mitigation Measures

Please see 4.9.6, Mitigation Measures for further reference.

5.9.3.1.3. Alternative 1 Significance After Mitigation

Alternative 1 would be subject to the same mitigation measures as the Proposed Project, and would result in less than significant impacts associated with hydrology and water resources.

5.9.3.1.4. Alternative 1 Cumulative Impacts

The geographic scope for the analysis of cumulative surface water hydrology and water quality/resources impacts consists of the individual CV Link sites and their adjacent surface drainages. The scope of analysis also includes and takes into consideration the effects of other development on the subject flood control facilities, including development along all areas tributary to these drainages. The various stormwater management plans implemented by CVWD and the RCFCWCD include requirements of all new development to detain or retain stormwater it generates, and to implement control measures that protect both surface and groundwater quality.

Alternative 1 will not result in adverse cumulative impacts to hydrology and floodplains. Under this alternative, the path would occur in all jurisdictions except Rancho Mirage and Indian Wells. The improvements proposed under this alternative would include impervious surfaces on levee tops and existing streets. The addition of pathway to levee tops will marginally increase the amount of impermeable surface along the Route, which will also increase the impervious surfaces in the Coachella Valley. However, the linear nature of these improvements will not significantly impact the ability of storm waters to drain to regional drainages, and the mitigation measures provided in this document, which would apply to Alternative 1, will assure that surface and ground water pollution will not increase on the path or in the region. Alternative 1 will have a less than significant cumulative impact on hydrology and water quality.

5.9.3.2. Alternative 2

5.9.3.2.1. Alternative 2 Impacts

Alternative 2 Project Summary
Under Alternative 2, all the cities from Palm Springs to Coachella would be affected by the Proposed Project, including the cities of Rancho Mirage and Indian Wells. This alternative would result in the inclusion of the City of Rancho Mirage in project plans, and would eliminate all termini along the Route, creating one continuous path through the Valley.

a) Will the Project violate any water quality standards or waste water discharge requirements?

Portions of the Coachella Valley Stormwater Channel are listed as impaired waters for pathogens and the agro-chemical Toxaphrene. The pathogen impairment extends from about Dillon Road to the Salton Sea along which the channel has perennial flows fed by municipal wastewater and agricultural water discharge into the channel. The Toxaphrene impairment occurs from about Lincoln Street to the Salton Sea, south of the eastern terminus of Alternative 2 and the Proposed Project.

Alternative 2 Construction Impacts

CV Link receiving waters include the Chino Canyon Creek and the Whitewater Floodplain, Tahquitz Channel, Palm Canyon Channel, Cathedral Canyon Channel West and East, San Pasqual Channel, Deep Canyon Channel, Whitewater and Coachella Valley Stormwater Channels, and ultimately the Salton Sea. A variety of potential water contaminants (sediments, trash and debris, oil and grease, fuels, lubricants, concrete waste, paints, sanitary waste and miscellaneous chemicals). Disturbed soils, as well as trash and debris, can be conveyed to receiving waters by wind and water erosion and increase suspended solids and total dissolved solids in these waters. Liquid fuels and lubricants can be discharged during operation or servicing, if not properly maintained and managed. Other construction wastes, including concrete, coating containers and other construction materials must be properly managed to avoid soils or surface water contamination.

Temporary or portable sanitary facilities provided for construction workers could be a source of sanitary waste that could affect the environment if not properly managed. The use and maintenance of these facilities, however, is regulated, and any contractor engaged to provide the service will be subject to and implement these regulations.

Under Alternative 2, the project area would be increased from that of the Proposed Project, and would include both Rancho Mirage and Indian Wells. As a result, the impacts to water quality associated with this alternative would be marginally greater, insofar as the overall area of disturbance would be greater. However, as with the Proposed Project, a Water Quality Management Plan and construction BMPs would be required, consistent with the mitigation measures for the Proposed Project, and would be expected to effectively reduce or avoid the discharge of any pollutants of concern that could occur as a result of implementation of this alternative. Construction BMPs include establishing limits of construction and the use of silt berms and fences, earth dikes, drainage swales, sediment traps, check dams, reinforced soil retaining systems, temporary sediment basins and flow diversion. See specific mitigation measure below.

Alternative 2 Operational Impacts

Under Alternative 2, operational impacts that could affect water quality include trash and debris from humans, dog waste, nutrients and other chemicals from landscaped areas, and bacteria from pavement runoff to receiving waters. These impacts would be somewhat increased under this alternative, because of the inclusion of Rancho Mirage and Indian Wells. However, the provision of trash containers, dog waste receptacles, operational best management practices and regular maintenance activities are intended to minimize or eliminate the impacts from these pollutants, and would be implemented consistent with the implementation of the same mitigation measures required of the Proposed Project. A wide range of project design elements, including inert and non-toxic paving and coating materials, trash and waste receptacles, restrooms, signage and regular maintenance, which are set forth in the CV Link Conceptual Master Plan, will ensure that the project does not violate any water quality standards or waste water discharge requirements and will therefore have a less than significant impact on water quality.

b) Will the Project substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?

Alternative 2 will generate demand for water resources for purposes of construction and to irrigate landscape areas in all eight cities. Potable water will also be provided via water fountains located along the Route. Water demand associated with project construction was calculated based on the extent and type of development.

During construction, the total estimated water demand for Alternative 2 is approximately 100.83 acre-feet (17% greater than the 86.4 acre-feet required for construction of the Proposed Project). Water supplied to the rest stops for toilet and drinking water is estimated to be equivalent to that of the Proposed Project, or approximately 8.96 acre feet per year, since the addition of the two cities would add to the path's length, but not to its restrooms or drinking fountains. It is further estimated that the operational water demand for landscape irrigation will be approximately 14.47 acre-feet per year, or 1.6 acre feet per year more than the Proposed Project. According to the Coachella Valley Integrated Water Management Plan (2010), the projected Valley-wide water demand for 2020 is 719,100 acre-feet per year. Based on this, Alternative 2's demand of 23.43 acre-feet per year constitutes a 0.0032% increase in demand. Alternative 2 is anticipated to have greater impact to water services than the Proposed Project. However, this increase is negligible (0.0002%) and will have a less than significant impact on Valley-wide water supplies.

Therefore, the water demand associated with both construction and operations of the Alternative 2 will be less than significant.

c) *Will the Project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner, which would result in substantial erosion or siltation on- or offsite?*

d) *Will the Project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate of surface runoff in a manner, which would result in flooding on- or off-site?*

Under Alternative 2, the pathway would occur in eight Valley cities, including the cities or Rancho Mirage and Indian Wells. As a result, the land area affected by the project would be increased, and the potential for erosion or siltation marginally increased.

Under Alternative 2, the path would travel along the Whitewater River from Cathedral City to the north end of the Morningside Golf Course. At the channel's intersection with Frank Sinatra Drive, the proposed Link path alignment would increase the water surface elevation by 0.88 feet. This could result in a marginal loss of channel freeboard in this area, which could require that the pathway be elevated to compensate. If Alternative 2 were implemented, it would result in the potential increase in height of the Whitewater River levee. This activity would result in a need for imported fill, compaction and construction of the path on the higher levee. These activities have the potential to impact erosion and siltation. However, Alternative 2 would be subject to the same requirements for storm water management planning and construction and operational BMPs as the Proposed Project, which would reduce potential impacts associated with siltation and erosion to less than significant levels.

Under Alternative 2, the impacts associated with the future Fred Waring bridge undercrossing, access ramps and channel bottom path would occur, and would have the same less than significant impacts on erosion and siltation as described in Section 4.9.

All other areas where the pathway encroaches into potentially affected drainages on the balance of the Route were analyzed in Section 4.9 to determine whether and to what extent project improvements will alter the drainage patterns. Both CVWD and the RCFCWCD have been consulted during the design phase of the project and their recommendations have been incorporated into the overall project design. The potential for Alternative 2 to result in substantial erosion or siltation will be less than significant with the proper application of the Best Management Practices (BMPs) which have been included in the mitigation measures for the Proposed Project, and would be applied to Alternative 2.

Alternative 2 would consist of the same concrete for bicycles and LSEVs and decomposed granite for pedestrian paths where the Route occurred. The impermeable portions of the path are limited in width and linear in layout, thereby limiting the amount of runoff than can be generated. The pedestrian paths will be permeable and will further reduce runoff. Based upon the hydrology analyses, there will be no substantial increase in the rate of surface runoff nor will Alternative 2 runoff result in flooding on- or off-site. Therefore, impacts in this regard will be less than significant.

e) Will it create or contribute runoff water, which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?

Alternative 2 runoff will discharge to adjoining receiving waters, including the Whitewater Floodplain, Tahquitz Creek Channel, Tahquitz Creek, Palm Canyon Channel, East and West Cathedral Canyon Channels, and the Whitewater and Coachella Valley Stormwater Channels, all of which ultimately discharge to the Salton Sea. The total disturbed surface area of Alternative 2 is approximately 311.95 acres, and represents an increase of 33 acres when compared to the Proposed Project (279 acres). Of the total increased area, approximately 22.8 acres would be developed as impervious surfaces, and 10.3 acres as pervious surface. As a result, the potential for runoff would be marginally increased, since more impervious surface would result from this alternative. It should be noted that there is only approximately 3 to 4 inches of annual precipitation expected in the region, which would mean that there is little to no baseflow in the study area.

Given the very limited potential for CV Link-generated stormwater runoff and the path's proximity to drainage channels and public streets, Alternative 2 will make a less than significant contribution to runoff and will not significantly contribute to an exceedance of existing or planned channel capacity in the project area, nor will Alternative 2 make a substantial contribution to existing sources of polluted runoff. Nonetheless, a range of construction BMPs, including establishing limits of construction and the use of silt berms and fences, earth dikes, drainage swales, sediment traps, check dams, reinforced soil retaining systems, temporary sediment basins and flow diversion, will further ensure that the project does not generate substantial additional polluted runoff. Also, please see BMPs set forth in the mitigation discussion in Section 4.9. Project-related impacts will be less than significant with mitigation.

f) Will the Project otherwise substantially degrade water quality.

As discussed above, there is a less than significant potential for Alternative 2 to substantially degrade water quality. CV Link development will occur almost entirely on previously disturbed land and roadways, which will limit the extent of site disturbance and the potential for contaminated runoff. Work within stormwater channel rights of way will be primarily outside the channel area and atop channel embankment and levee service roads. The nature of the construction materials, which are primarily aggregate, concrete, decomposed granite, are relatively inert and not polluting. The use of the Link facilities will be limited to pedestrians, bicyclists and LSEV, and the contamination associated with motor vehicles will not occur along the CV Link alignments. While project impacts to water quality will be insignificant, the properly application of standard BMPs during and following project construction. With routine construction management and maintenance protocols, Alternative 2 will not substantially degrade local surface or groundwater.

g) Will the Project place housing within a 100-year flood hazard area as mapped on a federal Flood Hazards Boundary or Flood Insurance Road Map or other flood hazard delineation map?

Alternative 2 will not place housing or other structures for human habitation within a 100-year flood hazard area. No housing is proposed for this project. Therefore, Alternative 2 will have no impact in this regard.

h) Will the Project place within a 100-year flood hazard area structures, which would impede or redirect flood flow.

Alternative 2 would result in the addition of pathway in the Whitewater River, between the western City limits and the north end of the Morningside Golf Course. Other areas of the path would have the same less than significant impacts on flood flow as with the Proposed Project. Final plans must be approved by either CVWD or RCFCWDC. However, none of the CV Link encroachments into the 100-year floodplain will significantly impede or redirect flood flow in any of the various project drainages. Therefore, impacts to these drainages in this regard will be less than significant.

i) Will the Project expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of a levee or dam?

j) Will the Project expose people or structures to inundation by seiche, tsunami, or mudflow?

Alternative 2 will increase the amount of pathway flatwork in the region's drainages by including Rancho Mirage in the pathway, and will facilitate travelers' access into the channel at various locations along the Route. Improvements are limited to inert paving materials, the loss of which from a large storm can be cost-effectively restored. Human access into the channels during periods of storms and potential flooding will be restricted with the use of barriers and signage to ensure that there is no significant risk of injury or death. Mitigation measures to affect the subject access closures are set forth in Section 4.9.

There are no dams or levees actively impounding water, nor are there upslope water storage tanks or other bodies of water along the Route that could rupture during a major seismic event or from other causes that would result in injury or death, or damage to structures.

5.9.3.2.2. Alternative 2 Mitigation Measures

The implementation of Alternative 2 would require the same mitigation measures as the Proposed Project, and with implementation of these measures, would result in less than significant impacts associated with hydrology and water quality.

5.9.3.2.3. Alternative 2 Significance After Mitigation

Alternative 2 would be required to implement the same mitigation measures as the Proposed Project. As a result, Alternative 2 will have a less than significant impact on hydrology and water quality.

5.9.3.2.4. Alternative 2 Cumulative Impacts

The geographic scope for the analysis of cumulative surface water hydrology and water quality/resources impacts consists of the individual CV Link sites and their adjacent surface drainages. The scope of analysis also includes and takes into consideration the effects of other development on the subject flood control facilities, including development along all areas tributary to these drainages. The various stormwater management plans implemented by CVWD and the RCFCWCD include requirements of all new development to detain or retain stormwater it generates, and to implement control measures that protect both surface and groundwater quality.

Alternative 2 will not result in adverse cumulative impacts to hydrology and floodplains. Under this alternative, the path would occur in all eight jurisdictions. The improvements proposed under this alternative would include impervious surfaces on levee tops and existing streets. The addition of pathway to levee tops will marginally increase the amount of impermeable surface along the Route, which will also increase the impervious surfaces in the Coachella Valley. However, the linear nature of these improvements will not significantly impact the ability of storm waters to drain to regional drainages, and the mitigation measures provided in this document, which would apply to Alternative 2, will assure that surface and ground water pollution will not increase on the path or in the region. Alternative 2 will have a less than significant cumulative impact on hydrology and water quality.

5.9.3.3. Alternative 3

5.9.3.3.1. Alternative 3 Impacts

Alternative 3 Project Summary
Alternative 3 would result in no construction or implementation of the CV Link project. There would be no change in the existing environment. Levee tops, streets, parks and golf courses would remain in their current condition.

a) Will the Project violate any water quality standards or waste water discharge requirements?

Alternative 3 will not result in CV Link alignments and the existing conditions remain as they currently occur. Therefore, there will be no violation of water quality standards or wastewater discharge.

b) Will the Project substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?

Alternative 3 will have no impact on supplies of groundwater, nor will it interfere with groundwater recharge. The Whitewater River Stormwater Channel/Coachella Valley Stormwater Channel (WWRSC/CVSC) will remain under the same conditions and levees around the WWRSC/CVSC will not be improved with impervious surfaces.

c) Will the Project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner, which would result in substantial erosion or siltation on- or offsite?

Alternative 3 will maintain the status quo and there will be no physical changes to the environment such as alterations in drainage patterns or alteration of a stream or river.

d) Will the Project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate of surface runoff in a manner, which would result in flooding on- or off-site?

Alternative 3 will not change the hydrologic patterns within the planning area and will not result in any new or increased risk of on-site or off-site flooding.

e) Will it create or contribute runoff water, which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?

Alternative 3 will not create any new runoff and would not result in any additional source of polluted runoff.

f) Will the Project otherwise substantially degrade water quality.

As noted above, Alternative 3 will effect no changes on the environment and no degradation of local water quality will result.

g) Will the Project place housing within a 100-year flood hazard area as mapped on a federal Flood Hazards Boundary or Flood Insurance Road Map or other flood hazard delineation map?

Alternative 3 would result in no changes to the physical environment and would no place housing within a 100-year flood hazard area. The alternative will have no impact in this regard.

h) Will the Project place within a 100-year flood hazard area structures, which would impede or redirect flood flow.

As noted above, under Alternative 3 there will be not construction within a 100-year flood hazard area or elsewhere.

i) Will the Project expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of a levee or dam?

The Whitewater River Stormwater Channel/Coachella Valley Stormwater Channel (WWRSC/CVSC) and its tributaries within the project area would continue to accommodate stormwater runoff during storm events. Under Alternative 3 there would be no change in circumstances and no new development would result that could expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of a levee or dam.

j) Will the Project expose people or structures to inundation by seiche, tsunami, or mudflow?

Alternative 3 will not affect stormwater or domestic water storage, and will not expose people or structures to seiche, tsunami, or mudflows.

5.9.3.3.2. Alternative 3 Mitigation Measures

No mitigation measures will be required under Alternative 3.

5.9.3.3.3. Alternative 3 Significance After Mitigation

No mitigation measures will be required under Alternative 3. Therefore, there will be no significance after mitigation to be considered.

5.9.3.3.4. Alternative 3 Cumulative Impacts

No project-related cumulative impacts will occur.

5.9.4. Environmentally Superior Alternative

From a hydrological and water quality perspective, the environmentally superior alternative is Alternative 3, because it will not result in potential water contaminants that could be emitted during project construction and operation; nor will it change the hydrologic patterns within the planning area. However, Alternative 3 will not meet any of the project objectives. The development oriented alternatives, ranked from most superior to less superior are as follows: Alternative 1, Proposed Project, and Alternative 2. However, all alternatives, including the Proposed Project, result in less than significant impacts associated with hydrology and water quality.

5.10. Land Use and Planning

5.10.1. Introduction

This section evaluates the compatibility of and potential impacts on adjacent land uses from the project alternatives. Land use regulations that address land use planning in the study area are provided in Section 4.10 for evaluation of land use compatibility. Potential land use impacts from project construction and operation are evaluated. Design elements that serve to avoid or minimize impacts are described. This section includes a discussion of one potentially affected Conservation Area established by the Coachella Valley Multiple Species Habitat Conservation Plan (CVMSHCP). Please refer to Section 5.4 Biological Resources for a comprehensive resource-based discussion of the Alternatives' potential effects on sensitive species and habitats, including those covered by the MSHCP.

5.10.2. Existing Conditions

As described in Section 4.10.4, the CV Link alignments largely follow the levees of the region's principal watercourses, including the Chino Creek, the Whitewater Floodplain, Tahquitz Creek, the Whitewater River Stormwater Channel and the Coachella Valley Stormwater Channel. In some locations, CV Link will share rights-of-way with public roads thus providing direct access to key commercial districts, employment centers and recreational and institutional venues.

Land uses surrounding and along CV Link alignments generally consist of stormwater channels and floodplains, single and multi-family residential, retail commercial, professional offices, light and service industrial uses, golf courses and other open space lands, K-12 schools and College of the desert, public streets, and vacant lands. Surrounding land uses along the western and central alignments are predominantly residential and public streets, while the majority of surrounding land uses in the eastern valley are residential, light industrial, wastewater treatment facilities and agricultural lands. Also please see Appendix B: CV Link Route Map Book.

5.10.3. Alternatives Impact Analysis

5.10.3.1. Alternative 1

5.10.3.1.1. Alternative 1 Impacts

Alternative 1 Project Summary
Under this Alternative, CV Link would be constructed from Palm Springs through Cathedral City as it would under the Proposed Project, and terminate on the west boundary of Rancho Mirage. It would resume again on its east boundary in Palm Desert, and be interrupted once again at approximately the Indian Wells city limits, before resuming in La Quinta and continuing easterly to the eastern terminus in the communities of Coachella and Thermal, consistent with the Proposed Project.

a) Physically divide an established community.

Similar to the Proposed Project, Alternative 1 will be largely constructed atop existing stormwater channel maintenance roads, these channels already serving to divide communities to some degree. CV Link alignments are also planned on or adjacent to existing streets and will have no effect of dividing an established community. Alternative 1 would eliminate the Route in both Rancho Mirage and Indian Wells. In Rancho Mirage, the elimination of the Route would result in no impacts to existing land use patterns. This alternative would also preclude CV Link access to the Rancho Mirage Library and Rancho Mirage Community Park, which would be a lost opportunity to enhance community connectivity. It should be noted that access for pedestrians and bicyclists

would still be available on City streets. In Indian Wells, Alternative 1 would remove the connection along the Whitewater Stormwater Channel from about Fred Waring Drive and through the City's public golf course and resort hotels, although access for pedestrians, bicyclists and LSEVs would still be available on City streets.

In addition to the Rancho Mirage termini described in Section 4.10, Alterative 1 provides four west-end termini alternatives and one east-end terminus in the vicinity of the Indian Wells city limits. The east and west termini proposed for this alternative are described below.

East Indian Wells Terminus

The east terminus developed for this alternative has been designed to bring CV Link users to a diverse activity center with an array of commercial services and access to recreation and sports venues. It also optimizes the ability of CV Link users to continue westward on existing and future facilities, and Indian Wells residents and visitors to continue eastward along city streets, sidewalks and bike paths to CV Link improvements in La Quinta.

Therefore, the east Indian Wells terminus has been placed at the city limits with La Quinta on the south side of Highway 111. The terminus will be reached by a spur path coming south from the WWR Channel path alignment and along the west end of the Point Happy commercial development to the signalized intersection of Plaza La Quinta and Highway 111. From this point, the path will cross Highway 111 and continue west along the south side of the highway to the city limits. At this location, Indian Wells provides a dedicated pedestrian bridge over the Deep Canyon Channel, generous parkway with sidewalks continuing west, and east and west on-street bike paths (unsigned). These facilities should be able to accommodate those CV Link users and others that wish to proceed west via alternative modes of travel.

West Indian Wells Termini

The deletion of the above described Indian Wells CV Link alignments will also affect how the Link is terminated on the west side of the city. To this end, a variety of possible termini were considered that depend upon different alignments and end points. Each of the four west-end termini being considered is briefly described below.

Terminus A: This terminus would be located on the south (right) bank of the channel at the planned Kelsey Circle access point located within the Desert Rose development in Palm Desert.

Terminus B: This terminus would be located approximately 700-800 feet southeast of the Terminus A at the intersection of the old (now abandoned) and partially paved Eldorado Drive alignment, which currently provides CVWD access to the channel and SCE access to an adjoining substation. This terminus would extend south on the existing right of way to Fred Waring Drive.

Terminus C: This terminus would be located on the north (left) bank of the channel and essentially due north of Terminus B on the south side of the channel. This terminus would be reached by an in-channel path that would cross the wash and ramp back up onto the north (left) bank channel service road.

Terminus D: This terminus is the easterly most of the four considered. It would continue along the north (left) bank of the channel and would continue southeast along the channel to the north side of Fred Waring Drive where it would proceed east to the intersection of Fred Waring Drive and Eldorado Drive where the terminus would be sited. Terminus D and the left bank alignment to same would be located within the Indian Wells city limits.

During the construction phase, access to neighborhoods, commercial areas, schools and adjacent parks along the balance of the CV Link alignments could be temporarily disrupted by Link construction and lane closures or detours. Due to the scope, scale and location of the proposed alignments there is a very low potential for the construction of the project to divide or isolate parts of an established community. Any impacts would be short-term and less than significant.

b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect.

Along the CL Link Alternative 1 Route and its various alignments, pathway width will vary from 15 to 30 feet based upon the availability of right of way and other physical constraints and opportunities. A vital part of a functioning land use pattern is transportation. For this reason, the relationship the CV Link with adjacent land uses and land use plans is a complementary one. Under Alternative 1, CV Link's multi-modal connectivity will not occur in the cities of Rancho Mirage and Indian Wells. In all the other cities, conditions would be identical to those described for the Proposed Project. Please see Section 4.10 for descriptions of each of these cities' land use plan impacts and their compatibility with their respective policy documents, with which CV Link is consistent.

City of Rancho Mirage

For Alternative 1, and in the vicinity of the two prospective west termini proposed in Rancho Mirage, land uses are limited to commercial and stormwater channel, with the exception of the attached single-family development at the northwest corner of Da Vall Drive and Frank Sinatra Drive, which backs onto the stormwater channel. Wolfson Park is located at the southeast corner of these two streets. The one east terminus is proposed at the intersection of Highway 111 and Parkview Drive, where surrounding lands are fully developed with regional and community commercial services in both Rancho Mirage and Palm Desert, and where access to hiking and mountain biking venues are available nearby.

The implementation of Alternative 1 would reduce the City's ability to effect the implementation of the General Plan's Circulation Element Policy 7, which requires the development of "a system of continuous and convenient bicycle routes and multi-use trails to places of employment, shopping centers, schools and other high activity areas." The exclusion of the City would also limit the implementation of Program 7.B, by not expanding the City's golf cart transportation program. To the extent the CV Link alignments originally planned in Rancho Mirage are consistent with similar facilities developed by the City, the two west-end Rancho Mirage termini would be consistent with Rancho Mirage policy and regulation.

City of Indian Wells

Alternative 1 would not include Indian Wells alignments and would site west-end termini at one or more of four identified locations within and along the Whitewater Stormwater Channel. Lands along and adjacent to the channel alignments include Watercourse (W), Open Space-Golf/Recreation (OS), and Medium Density Residential (R-MD). Recreational uses are permitted and have been developed within the channel right of way with City and CVWD approvals.

Alternative 1 would result in the elimination of CV Link alignments in Indian Wells, and reduce the City's ability to implement its General Plan Circulation Element Goal IIC2, by limiting residents' "choice of travel modes." It would also be in conflict with Policy IIC2.5 and IIC3.5, insofar as it would not expand the City's connection to adjacent Palm Desert or La Quinta and preclude the connection to the City's adopted sidewalks, bikeways or golf paths; or add alternative modes of transportation to connect neighborhoods to retail, resort and school uses.

The impacts associated with the other cities' land use plans would remain identical to those described in Section 4.10. As described in that section, the pathway will support General Plan land use policies and regulations, as and those relating to alternative transportation and connectivity. The implementation of Alternative 1 would somewhat reduce CV Link's regional connectivity by eliminating Indian Wells and reducing other cities' residents ability to travel between cities in the Valley. However, there would be no impacts associated with land use policies and plans under Alternative 1.

c) Conflict with any applicable habitat conservation plan or community conservation plan.

Under Alternative 1, those portions of the pathway that occur immediately adjacent to the CVMSHCP Whitewater Floodplain Conservation Area from Highway 111 to just west of Gene Autry Trail would remain. The Whitewater Floodplain Conservation Area, which encompasses approximately 7,400 acres, provides core habitat for several species, including the iconic Coachella Valley fringe-toed lizard. This portion of the Route would still be required to implement adjacency guidelines required by the Plan.

With implementation of this alternative, areas proximate to the San Jacinto and Santa Rosa Mountains Conservation Area, which roughly abuts Highway 111 at Paxton Road in Rancho Mirage, would not be developed with CV Link improvements. The balance of the CV Link alignments would occur in areas of the CVMSHCP that are outside Conservation Areas. Any new ground disturbance associated with CV Link construction would be subject to the payment of mitigation or development impact fees established under the CVMSHCP. Under Alternative 1, the potential impacts to the CVMSHCP would be less than significant, with implementation of the same mitigation measures required in Section 4.4, Biological Resources, as they apply to the CVMSHCP.

Under Alternative 1, overall impacts associated with conservation plan consistency would be less than significant, as they would be for the Proposed Project.

5.10.3.1.2. Alternative 1 Mitigation Measures

No new mitigation measures would be necessary as land use impacts would be less than significant. Mitigation measures set forth in Section 4.4.6 and related to compliance with the MSHCP shall also be adhered to under the Alternative 2 scenario.

5.10.3.1.3. Alternative 1 Significance After Mitigation

Impacts associated with land use would be less than significant.

5.10.3.1.4. Alternative 1 Cumulative Impacts

Potential project conflicts or inconsistencies with applicable adopted plans, policies and regulations would be specific to an individual project component, and would not combine to result in a substantial cumulative impact. Given the physical extent of the project, construction will be carried out in stages and its effects will be short-lived resulting in less than significant overall impacts. During the operation of the proposed CV Link facility, the surrounding land uses will benefit and in many cases will be enhanced by the project. In addition, CV Link serves the participating cities to implement a variety of General Plan Goals and Polices, which are further detailed in Section 4.10. Overall, there will be a less than cumulatively substantial effect on existing and planned land uses generated by this Alternative.

5.10.3.2. Alternative 2

5.10.3.2.1. Alternative 2 Impacts

Alternative 2 Project Summary
Under Alternative 2, all the cities from Palm Springs to Coachella would be affected by the Proposed Project, including the cities of Rancho Mirage and Indian Wells. This alternative would result in the inclusion of the City of Rancho Mirage in project plans, and would create one continuous path network through the Valley.

a) Physically divide an established community.

Under Alternative 2, all eight cities along the Route would participate in the project. As a result, all eight cities would benefit from added connectivity and access to public and private facilities, including employment centers, shopping and recreational opportunities. As described in Section 4.10, CV Link does not physically divide existing communities, insofar as it is intended to enhance community accessibility and connectivity, and as proposed on existing levees and City streets does not introduce any new barriers to or divide communities. Alternative 2 would expand multi-modal connectivity in Rancho Mirage and Indian Wells. The proposed location of the path in those two cities does not divide established communities, and provides connections to the library, commercial services and the Community Park in Rancho Mirage, and the resort hotels, public golf course and Tennis Garden facilities in Indian Wells. Implementation of Alternative 2 will have a less than significant adverse impact on established communities, and will have a positive or beneficial effect in this regard.

b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect.

Under Alternative 2, the cities of Rancho Mirage and Indian Wells would be included in the project. The impacts associated with Alternative 2 to each of these two cities' General Plans are considered below. The impacts associated with the other six cities, the County and the Tribes would be identical to those under the Proposed Project, and would be less than significant. Please see Section 4.10 for descriptions of each of these cities' land use plan impacts, as well as an analysis of each city's compatibility with their respective policy documents.

City of Rancho Mirage

The implementation of Alternative 2 would facilitate the City's ability to implement Circulation Element Policy 7, which directs the city to develop "a system of continuous and convenient bicycle routes and multi-use trails to places of employment, shopping centers, schools and other high activity areas." The inclusion of the City would also enhance the implementation of Program 7.B, by expanding the City's golf cart transportation program.

The City of Rancho Mirage adopted Ordinance No. 1099 in 2015, which prohibits "Low-Speed Vehicles and Neighborhood Electric Vehicles" on primarily arterial roadways that occur within the jurisdiction of the city. The ordinance does not prohibit the operation of golf carts that are not operated pursuant to California Vehicle Code Section 21115 or 21115.1. The Rancho Mirage ordinance also specifies that development of future low-speed or neighborhood electric vehicle plans, including CV Link and similar plans, will first require approval by ordinance.[23] Therefore, residents of Rancho Mirage would need to vote upon and approve an ordinance allowing "Low-Speed Vehicles and Neighborhood Electric Vehicles" prior to the approval/selection of Alternative 2.

City of Indian Wells

Alternative 2 would increase the City's ability to implement its General Plan Circulation Element Goal IIC2, by increasing the "choice of travel modes" for residents. It would also allow the implementation of Policy IIC2.5 and IIC3.5, insofar as it would add alternative modes of transportation to connect neighborhoods to retail, resort and school uses.

The impacts associated with the other cities' land use plans would remain identical to those described in Section 4.10. As described in that section, the pathway will support General Plan policies relating to alternative transportation and connectivity. The implementation of Alternative 2 would increase that connectivity, by including both Rancho Mirage and Indian Wells.

[23] Ordinance No. 1099 of the City of Rancho Mirage. Adopted November 5, 2015.

In November 2016, "Measure H" passed with majority vote (68%) requiring the voters give approval before the City Council could approve installation of any portion of CV Link within the City of Indian Wells. Therefore, the residents of Indian Wells would need to vote to approve the project prior to Alternative 2 being implemented.

Overall impacts associated with land use policies and plans would still be expected to be less than significant.

c) Conflict with any applicable habitat conservation plan or community conservation plan.

Under Alternative 2, those portions of the pathway that occur immediately adjacent to the CVMSHCP Whitewater Floodplain Conservation Area from Highway 111 to just west of Gene Autry Trail would remain. The Whitewater Floodplain Conservation Area, which encompasses approximately 7,400 acres, provides core habitat for several species, including the iconic Coachella Valley fringe-toed lizard. This portion of the Route would still be required to implement adjacency guidelines required by the Plan.

With implementation of Alternative 2, areas proximate to the San Jacinto and Santa Rosa Mountains Conservation Area near the intersection of Highway 111 and Paxton Road in the City of Rancho Mirage would be constructed. However, impacts would be essentially the same as the existing condition, with the Conservation Area separated at the urban interface by an eight-foot fence. The balance of CV Link alignments would occur in areas of the CVMSHCP planning area that are outside Conservation Areas. These areas would remain subject to the MSHCP mitigation fee program. Under Alternative 2, the potential impacts to the CVMSHCP would be less than significant, with implementation of the same mitigation measures required in Section 4.4, Biological Resources, as they apply to the CVMSHCP.

Overall impacts associated with conservation plan consistency would be less than significant, as they would be for the Proposed Project.

5.10.3.2.2. Alternative 2 Mitigation Measures

No additional mitigation measures would be necessary. Mitigation measures set forth in Section 4.4.6 and related to compliance with the MSHCP shall also be adhered to under the Alternative 2 scenario.

5.10.3.2.3. Alternative 2 Significance After Mitigation

Impacts would be less than significant.

5.10.3.2.4. Alternative 2 Cumulative Impacts

Potential project conflicts or inconsistencies with applicable adopted plans, policies and regulations would be specific to an individual project component, and would not combine to result in a substantial cumulative impact. Given the physical extent of the project, construction will be carried out in stages and its effects will be short-lived. During the operation of the proposed CV Link facility, the surrounding land uses will benefit and in many cases will be enhanced by the project. An added benefit of the construction and subsequent operation of Alternative 2 is that the implementation of the several of the City of Rancho Mirage's policies will be able to be implemented. The integration of Rancho Mirage means that a total of 8 cities and the county will be provided with way to successfully carry out their long-term land use goals and policies. In the overall, there will be a less than cumulatively substantial effect on existing and planned land uses as a result of the project.

The geographic scope for the analysis of potential cumulative biological impacts includes the immediate vicinity around each of the path segments. Using the summary of projections method to analyze cumulative impacts set forth in State CEQA Guidelines section 15130 (b)(1)(B), impacts have been assessed on both a regional and local level. The primary document used to determine cumulative impacts was the CVMSHCP, which was designed for the long-term protection and regulation of biological resources in the project area.

Potential impacts to biological resources in and outside of CVMSHCP Conservation Areas will be largely avoided or mitigated to less than significant levels with implementation of the mitigation program provided above. CVAG shall also comply with all terms and conditions of the CVMSHCP and its Implementing Agreement including, but not limited to participation in the Joint Project Review Process and implementation of the "Land Use Adjacency Guidelines", which are set forth in the above mitigation measures. Therefore, the project's impacts to biological resources will be less than significant and the project's contribution to cumulative impacts will not be cumulatively considerable.

5.10.3.3. Alternative 3

5.10.3.3.1. Alternative 3 Impacts

Alternative 3 Project Summary
Alternative 3 would result in no construction or implementation of the CV Link project. There would be no change in the existing environment. Levee tops, streets, parks and golf courses would remain in their current condition.

a) Physically divide an established community.

There will be no proposed change under Alternative 3 and conditions will remain the same. For this reason, Alternative 3 will not physically divided an established community.

b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect.

Given that conditions will not be changed under Alternative 3, no conflicts with any applicable land use plan, policy, or regulation of an agency with jurisdiction will occur.

c) Conflict with any applicable habitat conservation plan or community conservation plan

Under this alternative no changes are proposed. There will be no conflicts with any applicable habitat conservation plan or community conservation plan.

5.10.3.3.2. Alternative 3 Mitigation Measures

Please see 4.9.6, Mitigation Measures for further reference.

5.10.3.3.3. Alternative 3 Significance After Mitigation

Please see 4.9.7, Significance After Mitigation for further reference.

5.10.3.3.4. Alternative 3 Cumulative Impacts

As analyzed above, the No Build/No Project Alternative would have no significant impacts associated with land use. Therefore, the No Build/No Project Alternative will not significantly contribute to cumulative impacts associated with hazardous materials. There will be no impact.

5.10.4. Environmentally Superior Alternative

Alternative 2 would be the environmentally superior alternative in this case, insofar as it would allow all the affected jurisdictions an opportunity to implement alternative transportation and connectivity policies and programs in their jurisdictions.

5.11. Energy & Mineral Resources

5.11.1. Introduction

As noted in the project description, solar (photovoltaic or PV) energy production is a major component of the CV Link project. Multiple installations of PV solar panels will be integrated with rest stop shade structures and EV charging stations at different locations along the CV Link Route. Project electricity demand is associated with led pathway lighting, embedded barrier lighting, kiosk and ambient rest area lighting, charging stations and that associated with access points and restroom facilities. A project goal is to maximize the generation of renewably based multi-transportation route. The application of solar panels in all of the build alternatives will significantly minimize CV Link's need for electricity from utility providers. As a point of reference, it is estimated that for CV Link operations local electric providers will only be required to provide about 10.21% (83,687 kWh) of the Proposed Project's electricity need. This implies a roughly 9 to 1 ratio of project versus grid power that would be used for the CV Link project.

5.11.2. Existing Conditions

The CV Link planning area is host to an array of energy production from renewable resources. Energy resources are widely distributed in the Valley, with wind turbine development focused in the San Gorgonio Pass area and geothermal at the south end of the Salton Sea. Solar photovoltaic systems have been and are continuing to be developed throughout the Valley on various scales from individual residential to utility-scale systems. Mineral resources are largely associated with fluvial deposits in the Indio Hills, Mecca Hills and foothills of the Little San Bernardino Mountains. The following summarizes the existing conditions with regard to energy and mineral resources.

The Santa Rosa and San Jacinto Mountains have a history of mining that dates back to the late 1800s. Mines in the Santa Rosa and San Jacinto National Monument have produced gold, asbestos, beryllium, limestone, tungsten, copper, tourmaline, and garnet. With the exception of limestone, however, these mineral deposits have not been extensively mined, are limited, or are not precisely known.

Mountain ranges and eroding hills surrounding the Coachella Valley have filled the Valley with significant amounts of sand and gravel, known collectively as aggregate. The Palm Springs Production-Consumption (P-C) Region is a 631 square mile area in the Coachella Valley that is heavily mined for aggregate.[24,25,26] This region covers the area east of Cabazon, south of Morongo Valley and Joshua Tree National Park, west of the Mecca Hills, and north of the community of Mecca and the San Jacinto Mountains. According to California Geological Survey, the Palm Springs P-C Region has 30,072 acres classified as land where significant mineral deposits are present, or where it is judged that a high likelihood for their presence exists. The Palm Springs region contains 3.2± billion tons of aggregate resources. Lands within the CV Link planning area are classified as MRZ-1, -2 and -3. These include limited MRZ-2 lands in the Whitewater River floodplain, the balance of the planning area

[24] "Draft Environmental Impact Statement for the California Desert Conservation Area Plan Amendment for the Coachella Valley," prepared by the U.S. Department of the Interior Bureau of Land Management, June 2002. Figure 2-7 Windparks and Sand and Gravel Mining.

[25] "Mineral Land Classification: Aggregate Materials in the Palm Springs Production-Consumption Region," prepared by the California Department of Conservation Division of Mines and Geology, 1988.

[26] The Palm Springs Production-Consumption Region generally extends from Cabazon on the west to Mecca on the east.

having resources designated MRZ-1 or -3. The Coachella Valley has nearly a dozen permitted aggregate operations, which contain approximately 272 million tons of mineable aggregate. These reserves are expected to meet the demand and provide adequate supply at current rates of consumption for approximately 130 years.

The Coachella Valley Multiple Species Habitat Conservation Plan (CVMSHCP) has identified nine permitted aggregate operations within its boundaries, which contain approximately 272 million tons of aggregate.[27] Four of these permitted sites are located in the vicinity of the Proposed Project (See Section 4.11.4).

The main energy resources in the Coachella Valley include solar energy, wind energy, geothermal energy, and natural gas. However, the majority of energy, including electrical power, comes from non-renewable resources, which include oil, coal and natural gas. Further discussion of energy resources is provided in Section 4.11.5 Energy Resources.

5.11.3. Alternative Impact Analysis

5.11.3.1. Alternative 1

Alternative 1 Project Summary
As noted throughout this section, Alternative 1 includes all CV Link alignments with the exception of those in the cities of Rancho Mirage and Indian Wells. Therefore, energy needs of the project would be reduced proportional to the extent of CV Link facilities that would not be built or operated in these cities.

5.11.3.1.1. Alternative 1 Impacts

a) Use large or excessive amounts of fuel or energy in an unnecessary, wasteful, or inefficient manner.

Project electricity demand is associated with led pathway lighting, embedded barrier lighting, kiosk and ambient rest area lighting, and that associated with access points and restroom facilities. Under the Alternative 1 scenario, which would construct all CV Link alignments except those in Rancho Mirage and Indian Wells, both construction and operational power demands would be approximately 11.23% less than the Proposed Project and about 17.28% less than the full CV Link buildout (Alternative 2, see below). Operational electricity demand under the Alternative 1 scenario would be approximately 677,913 kwh per year, of which about 89.79% would be generated by CV Link solar panels. Therefore, SCE and IID will be providing only 69,350 kwh of grid power per year. Energy resource impacts would be approximately 11.23% less than for the Proposed Project.

According to the California Energy Demand Update Forecast (2015-2025)[28], the total estimated high energy demand for the SCE is 119,741 billion watt-hours (Gwh) in 2025. Alternative 1 will constitute only 0.000067% of 119,741 Gwh which is less than significant.

b) Constrain local or regional energy supplies, require additional capacity, or substantially affect peak and base periods of electrical demand.

The CV Link Alternative 1 project would not significantly constrain local or regional energy supplies, nor would its modest net annual electricity demand require additional capacity or substantially affect peak and base periods of electrical demand. Link PV power systems will be generating electricity during the highest demand period of the day at the same time as the lowest Link project demand. This complementary match of period of generation

[27] Ibid.
[28] California Energy Demand Update Forecast (2015-2025); http://www.energy.ca.gov/2014publications/CEC-200-2014-009/CEC-200-2014-009-SF.pdf; Accessed on 10.07.2016.

and demand ensured that the project would have modest adverse effects and substantial beneficial effects on load management and power generation. Therefore, Alternative 1 project impacts in this regard will be less than significant.

c) Require or result in the construction or expansion of new electrical generation and/or transmission facilities, the construction of which could cause significant environmental effects.

As noted above, the construction and operation of the CV Link project will include integrated solar PV that will generate nearly 89.79% of the electricity demand of the project. The operation of the CV Link Alternative 1 project would result in a modest and less than significant increase in demand for electrical power, approximately 11.23% less than for the Proposed Project and about 17.28% less than Alternative 2. CV Link is located within and adjacent to urban infrastructure, including electric power distribution lines and the Alternative 1 project should be able to integrate Link PV systems into the local grid without causing significant environmental effects.

d) Conflict with existing energy standards, including standards for energy conservation.

CV Link serves to implement energy conservation and GHG reduction plans and strategies that have been adopted by all of the participating entities. The project's high reliance on renewable energy sources and the use of high efficiency lighting (LEDs) also helps to ensure that the project is consistent with current energy standards and conservation goals. As with the other build alternatives, the Alternative 1 project will have no adverse impact on either energy or mineral conservation standards.

e) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state.

The CV Link Alternative 1 project is estimated to require approximately 90,862 cubic yards of aggregate base (approximately 7,901 cubic yards less than the Proposed Project). Total aggregate required for Alternative 1, including its use in concrete, will be approximately 294,412 to 344,934 cubic yards. The impact of the Alternative 1 project on the availability of the sand and gravel resource would not be significant because the volume of material already permitted for mineral extraction in the planning area is sufficient to meet demand for approximately 130 years at current rates of consumption, and land planned for CV Link use does not physically affect these mineral resources. The California Department of Conservation's regulations state that recreational open space uses are compatible with mining and, thus, do not threaten future potential to extract mineral (California Code of Regulations, Title 14, section 3675).

f) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan.

The CV Link Alternative 1 Project would be located away from identified and/or actively mined sand and gravel resource, the only locally-important mineral resource in the planning area. The CV Link alignments occur within and along the urbanized portions of the Valley, which precludes the mining of such resources by virtue of the incompatibility of sand and gravel mining with urban land uses. The Alternative 1 project would not affect important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan, and will have no impacts in this regard.

5.11.3.1.2. Alternative 1 Mitigation Measures

No mitigation measures would be required under Alternative 1.

5.11.3.1.3. Alternative 1 Significance After Mitigation

Impacts associated with Alternative 1 would be less than significant.

5.11.3.1.4. Alternative 1 Cumulative Impacts

Alternative 1 would not result in significant project-specific impacts related to energy resources. Alternative 1 would not directly or indirectly induce growth in the project area or the region, which might increase energy use in the long-term. Rather, the project has a demonstrated net positive effect on energy resources when transportation energy offsets associated with the project are considered. The project would not increase the long-term use of energy and would not use energy in a wasteful or inefficient manner. During construction, CVAG and its contractor would prepare a construction management plan that would ensure construction activities are conducted in a fuel-efficient manner.

The very limited net increases in demand during long-term operations of Alternative 1 would be accommodated by the energy providers within Coachella Valley (SCE and IID), and will only constitute 0.000067% of the total electricity demand in 2025. This would not constrain local or regional energy supplies, require additional capacity, or substantially affect peak and base periods of electrical demand during operation. Projected city and county populations and land uses would result in substantial increases in electricity and natural gas usage, to which the energy providers in Coachella Valley (i.e., SCE and IID) are planning for long-term growth and associated infrastructure. As a result, Alternative 1's contribution to a cumulative impact on energy resources would not be cumulatively considerable.

5.11.3.2. Alternative 2

5.11.3.2.1. Alternative 2 Impacts

a) Use large or excessive amounts of fuel or energy in an unnecessary, wasteful, or inefficient manner.

Project electricity demand under the Alternative 2 scenario, which would include a continuous route from Palm Springs to Coachella and construction and operational power demands, would be approximately 11.6% more energy input than the Proposed Project. Alternative 2 generates the highest energy demand but also generates the most solar-electric power. Operational electricity demand under the Alternative 2 scenario would be approximately 819,527 kwh per year, of which 89.79% (735,840 kwh) could be generated by CV Link solar panels. Energy impacts would, therefore, be approximately 11.6% greater than for the Proposed Project.

According to the California Energy Demand Update Forecast (2015-2025), the total estimated high energy demand for the SCE is 119,741 Gwh in 2025. Alternative 2 will constitute only 0.000075% of 119,741 Gwh which is less than significant.

b) Constrain local or regional energy supplies, require additional capacity, or substantially affect peak and base periods of electrical demand.

The CV Link Alternative 2 project would not significantly constrain local or regional energy supplies, nor would its modest net annual electricity demand require additional capacity or substantially affect peak and base periods of electrical demand. Link PV power systems will be generating electricity during the highest demand period of the day at the same time as the lowest Link project demand. This complementary match of period of generation and demand ensured that the project would have modest adverse effects and substantial beneficial effects on load management and power generation. Therefore, Alternative 2 project impacts in this regard will be less than significant.

c) Require or result in the construction or expansion of new electrical generation and/or transmission facilities, the construction of which could cause significant environmental effects.

As noted above, the construction and operation of the CV Link project will include integrated solar PV that will generate nearly 89.79% of the electricity demand of the project. The operation of the CV Link Alternative 2 project would result in a modest and less than significant increase in demand for electrical power, approximately 11.6% more than for the Proposed Project. CV Link is located within and adjacent to urban infrastructure, including electric power distribution lines and the Alternative 2 project should be able to integrate Link PV systems into the local grid without causing significant environmental effects.

d) Conflict with existing energy standards, including standards for energy conservation.

CV Link serves to implement energy conservation and GHG reduction plans and strategies that have been adopted by all of the participating entities. The project's high reliance on renewable energy sources and the use of high efficiency lighting (LEDs) also helps to ensure that the project is consistent with current energy standards and conservation goals. As with the other build alternatives, the Alternative 2 project will have no adverse impact on either energy or mineral conservation standards.

e) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state.

Alternative 2 project is estimated to require approximately 108,866 cubic yards of aggregate base. Total aggregate required for Alternative 2, including its use in concrete, will be approximately 356,399 to 413,283 cubic yards. Aggregate base is in good supply in the Coachella Valley and which is locally mined at several locations. The impact of the Alternative 2 project on the availability of the sand and gravel resource would not be significant given the volume of material already permitted for mineral extraction in the planning area sufficient to meet demand for approximately 130 years at current rates of consumption, and land planned for CV Link use does not physically affect these mineral resources. The California Department of Conservation's regulations state that recreational open space uses are compatible with mining and, thus, do not threaten future potential to extract mineral (California Code of Regulations, Title 14, section 3675).

f) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan.

The CV Link Alternative 2 Project would be located away from identified and/or actively mined sand and gravel resource, the only locally-important mineral resource in the planning area. The CV Link alignments occur within and along the urbanized portions of the Valley, which precludes the mining of such resources by virtue of the incompatibility of sand and gravel mining with urban land uses. The Alternative 2 project would not affect important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan, and will have no impacts in this regard.

5.11.3.2.2. Alternative 2 Mitigation Measures

No mitigation measures would be required under Alternative 2.

5.11.3.2.3. Alternative 2 Significance After Mitigation

Impacts associated with Alternative 2 would be less than significant.

5.11.3.2.4. Alternative 2 Cumulative Impacts

Alternative 2 would not result in significant project-specific impacts related to energy resources.. Alternative 2 would not directly or indirectly induce growth in the project area or the region, which might increase energy use in the long-term. Rather, this and the other build alternatives have a demonstrated net positive effect on energy resources when transportation energy offsets associated with the project are considered. The Alternative 2 project would not result in a cumulatively substantial increase in the long-term use of energy and would not use energy in a wasteful or inefficient manner. During construction, CVAG and its contractor would prepare a construction management plan that would ensure construction activities are conducted in a fuel-efficient manner.

The very limited net increases in demand during long-term operations of the Alternative 2 scenario would be accommodated by the energy providers within Coachella Valley (SCE and IID), and will only constitute 0.000075% of the total electricity demand in 2025. This would not constrain local or regional energy supplies, require additional capacity, or substantially affect peak and base periods of electrical demand during operation. Projected city and county populations and land uses would result in substantial increases in electricity and natural gas usage, to which the energy providers in Coachella Valley (i.e., SCE and IID) are planning for long-term growth and associated infrastructure. As a result, the contribution of Alternative 2 to cumulative impacts to energy and mineral resources would not be cumulatively considerable.

5.11.3.3. Alternative 3

5.11.3.3.1. Alternative 3 Impacts

Under the No Project/No Build Alternative 3 scenario, no CV Link facilities would be constructed and there would be no expenditures of energy of commitment of mineral resources to the CV Link project. Therefore, there would be no adverse impacts to these resources. It should also be noted that the beneficial effects of the project, especially the substantial potential to reduce vehicle miles traveled and associated reductions in the use of transportation fuels, would not be realized.

5.11.3.3.2. Alternative 3 Mitigation Measures

No mitigation measures would be required under No Project/No Build alternative.

5.11.3.3.3. Alternative 3 Significance After Mitigation

There would be no change in conditions and no impacts under this No Project/No Build alternative.

5.11.3.3.4. Alternative 3 Cumulative Impacts

The Alternative 3 project would have no impact on energy or mineral resources, would not result in significant project-specific impacts related to these resources. Alternative 3 would not directly or indirectly induce growth in the project area or the region, but its potential to reduce congestion and accessibility would be lost to the community. The Alternative 3 project would not result in a cumulatively substantial increase in the long-term use of energy and would not use energy in a wasteful or inefficient manner. As a result, there would be no contribution to cumulative impacts to energy and mineral resources.

5.11.4. Environmentally Superior Alternative

As indicated by the calculations in Table 5-25 (See Section 5.17. Utilities and Service Systems) and discussed above, Alternative 3 would have no impacts to energy resources and, is therefore environmentally superior to the other alternatives in this regard. However, Alternative 3 does not meet the project's objectives. From the built

alternatives, Alternative 1 would have the least impact, followed by the Proposed Project, and Alternative 2. The Proposed Project would have less impact than the Alternative 2 in terms of power consumption and aggregate base, however, Alternative 2 will save a greater amount of fuel in the long-term and would connect more cities in the Valley. Although it would consume more electricity and aggregate base and disturb more surface area during construction. Under all development alternatives, impacts will be less than significant and will not require mitigation.

5.12. Noise

5.12.1. Introduction

As discussed in Section 4.12, CV Link is expected to generate both operational and construction noise on the land uses located near the multi-modal transportation facility, including established noise sensitive residential communities. Operational noise levels will include a variety of activities associated with bicycles, pedestrians and low-speed electric vehicles. While these activities on their own may not represent substantial noise generators, some alignments would be located adjacent to noise-sensitive land uses, such as the outdoor living areas (backyards) of single-family and multi-family residences, and therefore must be evaluated to assess the potential noise impacts. In addition, construction of the CV Link alignments will take place adjacent to noise-sensitive land uses and, therefore represent a temporary, short-term noise level increase on the existing ambient noise environment.

5.12.2. Existing Conditions

A project-specific Noise Study was conducted to evaluate short-term impacts associated with construction and the long-term operational and use impacts of the entire length of CV Link and its alternatives. The Noise Impact Analysis included noise measurements at a number of locations. These measurements were then used to calculate the Community Noise Equivalent Level (CNEL), which is the unit of sound used by local jurisdictions to set General Plan noise standards. The noise measurements for all jurisdictions except Rancho Mirage are provided in Section 4.12. The analysis also included measurement locations in Rancho Mirage, depicted in Table 5-16, below.

Table 5-16
Rancho Mirage 24-Hour Ambient Noise Level Measurements

					Energy Average Hourly Noise Level (dBA Leq)			CNEL
ID	**Date**	**Distance To CV Link**	**City**	**Description**	**Daytime**	**Evening**	**Nighttime**	
L9	3/23/2016	34'	Rancho Mirage	Located adjacent to the alignment on Frank Sinatra Drive near existing residential homes and a bike path.	61.0	60.0	56.5	64.2
L10	3/23/2016	702'	Rancho Mirage	Located on Peterson Avenue south of the future alignment of CV Link near existing residential homes.	47.7	48.9	45.6	53.0
L11	3/23/2016	21'	Rancho Mirage	Located in the parking lot of the Rancho Mirage Library near existing residential homes.	58.9	59.1	54.8	62.6
L12	3/23/2016	19'	Rancho Mirage	Located adjacent to the future alignment in the Rancho Mirage Community Park.	45.6	44.9	44.9	51.6

As shown in Table 5-16, ambient noise levels in Rancho Mirage at modeled locations do not currently exceed the City standard of 65 dBA CNEL.

The following discussion analyzes whether the alternatives to the Proposed Project will result in substantial increases in ambient noise levels. This assessment utilizes local noise standards and applicable daytime exceptions as the foundation for significance thresholds related to "established" noise standards. The assessment of vibration impacts was conducted using information on anticipated vibration during construction and operation of the project and its alternatives.

5.12.3. Alternatives Impact Analysis

5.12.3.1. Alternative 1

5.12.3.1.1. Alternative 1 Impacts

Alternative 1 Project Summary
Under this Alternative, CV Link would be constructed from Palm Springs through Cathedral City as it would under the Proposed Project, and terminate on the west boundary of Rancho Mirage. It would resume again on its east boundary in Palm Desert, and be interrupted once again at and would not be constructed in Indian Wells, before resuming in La Quinta and continuing easterly to the eastern terminus in the community of Thermal, consistent with the Proposed Project.

a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

b) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?

Under Alternative 1, neither Rancho Mirage nor Indian Wells would participate in the project. As shown in Table 4.12-8, noise level standards would not be exceeded at any location along the CV Link alignments. With the implementation of Alternative 1, therefore, overall noise levels would be less than significant. Alternative 1 would result in Route termini at the western and eastern boundaries of both Rancho Mirage and Indian Wells. These termini are proposed at locations near existing residential development on the west boundary of both cities, and the east boundary of Indian Wells. The locations of the termini could result in somewhat increased noise generation, insofar as CV Link users may stop at these locations and engage in conversation before turning around or moving onto city streets. However, since normal conversation occurs in the acceptable noise range of approximately 65 dBA, the impacts to surrounding residents would not be significant.

Even so, the noise prediction model calculated the additional noise that would result from the full implementation of CV Link. The results of that analysis are shown in Table 4.12-8, which indicates that operational noise will not exceed the noise standards established by each jurisdiction and will therefore not result in significant increases in ambient noise levels. Impacts measured against the General Plan or Municipal Code standards are therefore expected to be less than significant, as are permanent impacts to the noise environment.

In addition to this, the permanent increase in ambient noise level in Alternative 1's project vicinity would not be significant. In Table 4.12-6, pedestrian and golf cart activities were measured and used as the reference given that these activities would be most similar to CV Link's activities. CV Link peak operations noise levels would be 50.3 dBA Leq at a distance of 50 feet and would result in a less than significant impact to the existing (ambient) noise environment since this noise increase would still fall below the established thresholds.

c) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels.

Alternative 1 will generate vibrations associated with construction, which would occur at a level comparable to the Proposed Project in all jurisdictions except Rancho Mirage and Indian Wells. Alternative 1, similar to the Proposed Project, will be built in sections over a four-year period. As a result, it is expected that groundborne vibration from construction would cause intermittent, localized but short-term intrusion into the noise environment.

Construction vibration levels for Alternative 1 would be equivalent to those analyzed for the Proposed Project, except in the cities of Rancho Mirage and Indian Wells, where construction would not occur. In order to assure a conservative determination in its analysis, the project-specific Noise Impact Analysis used the Caltrans standard to determine the impact likely from vibration during construction of Alternative 1. Caltrans has established a threshold for construction vibration levels capable of building damage approaching 0.12 in/sec PPV. Construction vibration levels approaching 0.089 in/sec PPV will not exceed this threshold for building damage at the residential homes near the project alignment. Therefore, the potential for vibration to cause building damage is less than significant. Finally, Alternative 1's construction will be restricted to daytime hours, as required by each jurisdiction's Municipal Code. As a result, impacts will be limited to the least sensitive daytime hours.

Grading activities, construction equipment and trucks hauling project materials would have the potential to generate low levels of groundborne vibration within the Alternative 1 project area and vicinity. As described in Section 4.12, the vibration caused by construction equipment within 100 feet or sensitive receptors could result in perceptible vibration levels for residents, but would not have the potential to damage structures and would be intermittent and of short duration. Construction occurring at distances ranging from 25 to 125 feet from the project site, would result in construction vibration velocity levels ranging from 0.008 in/sec PPV at 25 feet to 0.089 in/sec PPV at 125 feet. Using the Caltrans construction vibration standard for human annoyance, the construction activities will exceed the vibration standard of 0.01 in/sec PPV at receiver locations within 100 feet of large bulldozers during construction. If used as part of the project, large bulldozers within 100 feet of nearby sensitive residential or school land uses would be represent a significant impact. Mitigation measures provided in Section 4.12 are provided to reduce construction vibration levels to the greatest extent possible, however, large bulldozers could operate within proximity to residences in Alternative 1. As a result, impacts associated with groundborne vibration during construction will remain significant and unavoidable.

Pile Driving Impacts

The CV Link project includes the construction of several bridges, with which pile driving may be associated, although drilled piles are also under consideration. A vibratory impact analysis was prepared to supplement the project noise impact study and evaluate potential impacts from this construction technique.

The results of this impact pile driving vibration analysis indicate that the vibration levels due to pile driving will exceed the Caltrans 0.12 in/sec PPV building damage threshold at up to two locations, at the Deep Canyon bridge in Indian Wells and the Thunderbird Channel bridge on Highway 111 in Rancho Mirage, and represent potentially significant vibration impacts. Under Alternative 1, these bridges would not occur. Additionally, vibration levels exceeding the Caltrans barely perceptible human annoyance threshold of 0.01 in/sec PPV will occur at sensitive receiver locations within a 400-foot radius of the pile locations, and result in potentially significant vibration levels at up to 55 receiver locations along the CV Link Route. Therefore, if pile driving is selected as the means of constructing bridge piles, mitigation measures were included in Section 4.12 to reduce these impacts to less than significant levels. Under Alternative 1, the same impacts would occur, except that Indian Wells would not experience pile driving activities at the Deep Canyon or the Point Happy locations. Therefore, under Alternative 1, impacts associated with pile driving vibration would be less in the two cities, but would remain in the other jurisdictions. However, the mitigation measures provided in Section 4.12 are demonstrated to reduce the impacts to less than significant levels, and the same would occur under Alternative 1.

d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project.

Alternative 1 would result in potential short-term noise associated with construction, including construction crew commutes, delivery of construction materials, and the use of construction equipment to construct the pathway. Under this Alternative, construction crew commutes and deliveries of construction materials to individual segments would occur in all jurisdictions except Rancho Mirage and Indian Wells. As with the Proposed Project, however, the impacts to noise levels on local streets would not significantly impact the noise environment, since activities would be spread across the Route's alignments at different times for short periods.

Site preparation, grading, and paving activities under Alternative 1 would occur in all the jurisdictions except Rancho Mirage and Indian Wells. The noise model determined that the noise levels during site preparation would be 84.2 dBA Lmax (maximum hourly noise level) at a distance of 50 feet; that the grading activities would generate a noise level of 89.7 dBA Lmax (maximum hourly noise level) at a distance of 50 feet; and that the paving phase of construction would result in a noise level of 82.8 dBA Lmax (maximum hourly noise level) at a distance of 50 feet. Therefore, the loudest construction period can be expected to be the grading phase, with maximum intermittent noise levels of 89.7 dBA Lmax. In addition to the noise generated by mobile construction equipment, noise may also be generated from stationary source equipment at staging areas. These areas are estimated to have the potential to generate noise levels of up to 80.0 dBA Lmax at a distance of 50 feet. As with the Proposed Project, construction noise levels of 89.7 dBA would be reduced to 83.7 dBA at 100 feet, and 77.7 dBA at 200 feet from the source to the receiver.

The implementation of Alternative 1 will result in temporary and periodic noise increases that will exceed local standards in the participating cities. Consistent with the Proposed Project, Alternative 1 construction activities will occur during daylight hours, when noise sensitivity is less, but will still be significant and require mitigation. The construction activities under Alternative 1 would require mitigation measures, consistent with the mitigation measures included in Section 4.12. As determined in Section 4.12, temporary increases to ambient noise levels in the project vicinity result in significant and unavoidable impacts even with the incorporation of mitigation measures detailed in Section 4.12.6, and would remain under Altenrative 1, although the impacts would not occur in Rancho Mirage or Indian Wells.

e) For a project within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, exposure of people residing or working in the project area to excessive noise levels.

f) *For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?*

Neither Rancho Mirage nor Indian Wells are located within two miles of any of the three local airports. Implementation of Alternative 1, as shown on Exhibit 4.13.1, would result in the remaining alignments being located outside of the 60 dBA CNEL noise contour boundary of the Palm Springs International Airport; outside the 55 dBA CNEL noise contour boundary of the Jacqueline Cochrane Regional Airport; and within the 55 dBA CNEL noise level contour boundary of the Bermuda Dunes airport. As stipulated by the County's airport noise standard, no exterior noise mitigation is required since CV Link will be situated in areas with acceptable noise levels generated by each airport.

5.12.3.1.2. Alternative 1 Mitigation Measures

Alternative 1 would be subject to the same construction noise and vibration mitigation measures as the Proposed Project. Significant, unmitigated impacts could still result.

5.12.3.1.3. Alternative 1 Significance After Mitigation

As with the Proposed Project, with the implementation of construction- related mitigation measures, Alternative 1 would have significant and unavoidable noise impacts.

5.12.3.1.4. Alternative 1 Cumulative Impacts

Operational noise levels resulting from Alternative 1 would not exceed city or county standards for sensitive receptors, nor would they result in substantial permanent increases in ambient noise levels in the project vicinity above levels existing without the project. Although Alternative 1 operations would marginally increase noise levels along the Alternative 1 CV Link alignment, no additional noise levels would be expected to occur, since development of this alternative, and the Proposed Project, will occur in areas that are essentially built out, and adjacent to unbuildable floodplains. Even so, temporary construction noise impacts would be classified as significant and unavoidable given the level of disturbance, but would be of short duration and not affect operational noise levels. Therefore, noise impacts associated with Alternative 1 would not be cumulatively considerable.

5.12.3.2. Alternative 2

5.12.3.2.1. Alternative 2 Impacts

Alternative 2 Project Summary
Under Alternative 2, all the cities from Palm Springs to Coachella would be part of CV Link, including the cities of Rancho Mirage and Indian Wells. This alternative would result in the inclusion of the City of Rancho Mirage alignments in project development, and provide a single, continuous route between Palm Springs and Coachella.

a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

b) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?

Under Alternative 2, CV Link alignments would pass through both Rancho Mirage and Indian Wells, as well as all other participating jurisdictions. As shown in Table 4.12-8, operational noise level standards would not be exceeded at any location under the Proposed Project, which includes all the cities except Rancho Mirage. The noise analysis also studied the impacts of the alignments traversing Rancho Mirage, by conducting noise measurements in that city, as cited in Table 5-16, above. The analysis also considered the same noise levels described in Section 4.12 for the operational noise of the proposed Route, and assigned those noise levels to the measured locations in Rancho Mirage.

Under Alternative 2, the noise prediction model calculated the additional noise that would result from the full implementation of CV Link,. The results of that analysis for all jurisdictions except Rancho Mirage are shown in Table 4.12-8 and show that CV Link operational noise will not exceed the noise standards established by each jurisdiction and will therefore not result in significant increases in ambient noise levels. In Rancho Mirage, operational noise levels were also modeled, and found to also fall below the city's Municipal Code standards, as shown below.

Table 5-17
CV Link Operation Noise Levels in Rancho Mirage

Meas. Location[1]	Jurisdiction	Land Use[2]	Exterior Noise Level Limits After Ambient Adjustment (dBA Leq)[3]			Project Noise Levels (dBA Leq)[4&9]	Threshold Exceeded?[5]			Significant Impact?
			Daytime	Evening	Nighttime		Daytime	Evening	Nighttime	
L9	Rancho Mirage	Med. Dens. Res.	65	60	60	57.7	No	No	No	No
L10	Rancho Mirage	Low Dens. Res.	55	50	50	40.1	No	No	No	No
L11	Rancho Mirage	CV Link	-[8]	-[8]	-[8]	60.7	No	No	No	No[6]
L12	Rancho Mirage	CV Link	-[8]	-[8]	-[8]	73.4	No	No	No	No[6]

[1] See Exhibit 4.12-2.
[2] Based on the General Plan land use maps of each jurisdiction.
[3] These levels represent the highest allowable noise level in each jurisdiction for a use or activity adjacent to a sensitive receptor. Not all portions of CV Link are adjacent to sensitive receptors, and thus each jurisdiction's standards may not apply in all locations. The exterior noise level limits are adjusted based on each jurisdictions' criteria indicated on Table 4.12-2.
[4] Project-only operational noise levels are calculated in the CadnaA noise prediction model and provided in Appendix 7.2 of the Noise Impact Analysis.
[5] Do the Project-only operational noise levels at each measurement location exceed the ambient adjusted exterior noise level limits for the given jurisdiction
[6] The measurement location is located at the proposed CV Link alignment and does not represent sensitive land uses which would be impacted by the Project-related operational noise levels.
[7] The jurisdiction's Municipal Code does not include evening hours.
[8] The measurement location represents the future CV Link alignment, and therefore, no exterior noise standards are identified since the land use is not noise-sensitive.
"Daytime," "Evening," and "Nighttime" hours are based on the municipal code of each jurisdiction as previously shown on Table 4.12.1.
[9] The Proposed Project's operational noise levels are less than the allowable noise levels. For this reason there is no significant impact as a result of CV Link operation.

In addition, the permanent increase in ambient noise levels in Alternative 2's project vicinity would not be significant. Table 4.12-7 demonstrated that pedestrian, bicyclist and LSEV activities are an appropriate reference and most similar to CV Link's activities. On this basis, peak ambient noise levels would be 50.3 dBA Leq at a distance of 50 feet, which would result in a less than significant impact to the existing noise environment with a noise increase that would still fall below the established thresholds.

As shown in Table 5-18 below, the addition of Rancho Mirage CV Link alignments to the Route will not exceed local noise standards in that city.

Table 5-18
Project-Related Operational Noise Levels in Rancho Mirage

Meas. Location	Juris-diction	Land Use	Exterior Noise Level Limits After Ambient Adjustment (dBA Leq)			Project Noise Levels (dBA Leq)	Threshold Exceeded?			Significant Impact?
			Daytime	Evening	Nighttime		Daytime	Evening	Nighttime	
L9	Rancho Mirage	Med. Dens. Res.	65	60	60	57.7	No	No	No	No
L10	Rancho Mirage	Low Dens. Res.	55	50	50	40.1	No	No	No	No
L11	Rancho Mirage	CV Link	-[8]	-[8]	-[8]	60.7	No	No	No	No[6]
L12	Rancho Mirage	CV Link	-[8]	-[8]	-[8]	73.4	No	No	No	No[6]

In addition, an analysis was conducted to determine if the noise generated by the Proposed Project and the alternatives, when added to the ambient noise conditions at each of the monitoring location, would result in impacts to adjacent receptors. The Federal Interagency Committee on Noise (FICON) developed guidance to be used for the assessment of project-generated increases in noise levels that consider the ambient noise level. The FICON guidance specifically defines the equivalent average noise level (Leq) as a noise metric for evaluating project-related noise level increases, and therefore, represents an appropriate threshold for evaluating the significance of the hourly operational activities of CV Link (i.e., Leq). Detailed information on FICON standards is provided in Section 4.12.

Under Alternative 2, Rancho Mirage would be included in the project. As shown in Table 5-19 Through 5-21, below, the ambient noise levels in Rancho Mirage would increase up to 1.7 dBA Leq during the daytime hours; by 2.0 dBA Leq during the evening hours; and by up to 3.7 dBA Leq during nighttime hours. Operational noise level contributions under Alternative 2 will be below the FICON significance thresholds described in Table 4.12-9. Therefore, the increases at the sensitive receiver locations will be less than significant under this Alternative.

Table 5-19
Daytime Operational Noise Level Contributions (dBA LEq) in Rancho Mirage

Receiver Location[1]	Total Project Operational Noise Level[2]	Measurement Location[3]	Reference Ambient Noise Levels[4]	Combined Project and Ambient[5]	Project Contribution[6]	Threshold Exceeded?[7]
L9	57.7	L9	61.0	62.7	1.7	No
L10	40.1	L10	47.7	48.4	0.7	No
L11	60.7	L11	-[8]	-[8]	-[8]	-[8]
L12	73.4	L12	-[8]	-[8]	-[8]	-[8]

[1] See Exhibit 4.12-2 for the sensitive receiver locations.
[2] Total Project operational noise levels as shown on Table 4.12-8.
[3] Reference noise level measurement locations as shown on Exhibit 4.12-2.
[4] Observed daytime ambient noise levels as shown on Table 4.12-6.
[5] Represents the combined ambient conditions plus the Project activities.
[6] The noise level increase expected with the addition of the proposed Project activities.
[7] Significance Criteria as defined by FICON.
[8] The measurement location represents the future CV Link alignment, and therefore, the land use is not noise-sensitive.
"n/a" = The jurisdiction's Municipal Code does not include evening hours.

Table 5-20
Evening Operational Noise Level Contributions (dBA LEq) in Rancho Mirage

Receiver Location[1]	Total Project Operational Noise Level[2]	Measurement Location[3]	Reference Ambient Noise Levels[4]	Combined Project and Ambient[5]	Project Contribution[6]	Threshold Exceeded?[7]
L9	57.7	L9	60.0	62.0	2.0	No
L10	40.1	L10	48.9	49.4	0.5	No
L11	60.7	L11	-[8]	-[8]	-[8]	-[8]
L12	73.4	L12	-[8]	-[8]	-[8]	-[8]

[1] See Exhibit 4.12-2 for the sensitive receiver locations.
[2] Total Project operational noise levels as shown on Table 4.12-8.
[3] Reference noise level measurement locations as shown on Exhibit 4.12-2.
[4] Observed evening ambient noise levels as shown on Table 4.12-6.
[5] Represents the combined ambient conditions plus the Project activities.
[6] The noise level increase expected with the addition of the Proposed Project activities.
[7] Significance Criteria as defined by FICON.
[8] The measurement location represents the future CV Link alignment, and therefore, the land use is not noise-sensitive.
"n/a" = The jurisdiction's Municipal Code does not include evening hours.

Table 5-21
Nighttime Operational Noise Level Contributions (dBA LEq) in Rancho Mirage)

Receiver Location[1]	Total Project Operational Noise Level[2]	Measurement Location[3]	Reference Ambient Noise Levels[4]	Combined Project and Ambient[5]	Project Contribution[6]	Threshold Exceeded?[7]
L9	57.7	L9	56.5	60.2	3.7	No
L10	40.1	L10	45.6	46.7	1.1	No
L11	60.7	L11	-[8]	-[8]	-[8]	-[8]
L12	73.4	L12	-[8]	-[8]	-[8]	-[8]

[1] See Exhibit 4.12-2 for the sensitive receiver locations.
[2] Total Project operational noise levels as shown on Table 4.12-8.
[3] Reference noise level measurement locations as shown on Exhibit 4.12-2.
[4] Observed nighttime ambient noise levels as shown on Table 4.12-6.
[5] Represents the combined ambient conditions plus the Project activities.
[6] The noise level increase expected with the addition of the Proposed Project activities.
[7] Significance Criteria as defined by FICON.
[8] The measurement location represents the future CV Link alignment, and therefore, the land use is not noise-sensitive.
"n/a" = The jurisdiction's Municipal Code does not include evening hours.

With the implementation of Alternative 2, therefore, overall noise levels would be less than significant across all jurisdictions.

c) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels.

Alternative 2 will generate vibration associated with construction, which would occur consistent with the Proposed Project in all jurisdictions including Rancho Mirage. Alternative 2, will be constructed in the same manner as the Proposed Project will be built in sections over a four-year period. As a result, it is expected that ground-borne vibration from construction would cause intermittent, localized intrusion into the noise environment. Under this alternative, staging areas could occur on the north bank east of Frank Sinatra Drive near single family homes; along the Butler-Abrams Trail behind a mobile home park; west of the library; and on Highway 111 in a commercial area. All but the Highway 111 location would result in impacts to sensitive receptors.

Grading activities, construction equipment and trucks hauling project materials would have the potential to generate low levels of ground-borne vibration within the Alternative 2 project area and vicinity. As described in Section 4.12, the vibration caused by construction equipment within 100 feet of sensitive receptors could result in perceptible vibration levels for residents, but would not have the potential to damage structures. Consistent with the Proposed Project, mitigation measures proposed in Section 4.12 would be applied to Alternative 2 to reduce potential impacts. However, the impacts associated with the use of large bulldozers in proximity to sensitive receptors would result in significant vibration levels. As a result, impacts associated with groundborne vibration during construction will remain significant and unavoidable under this Alternative, as they would under the Proposed Project.

Pile Driving Impacts

The CV Link project includes the construction of several bridges, with which pile driving may be associated, although drilled piles are also under consideration. A vibratory impact analysis was prepared to supplement the project noise impact study and evaluate potential impacts from this construction technique.

The results of this impact pile driving vibration analysis indicate that the vibration levels due to pile driving will exceed the Caltrans 0.12 in/sec PPV building damage threshold at up to two locations, at the Deep Canyon bridge in Indian Wells and the Thunderbird Channel bridge on Highway 111 in Rancho Mirage, and represent potentially significant vibration impacts. Under Alternative 2, these bridges would occur. Additionally, vibration levels exceeding the Caltrans barely perceptible human annoyance threshold of 0.01 in/sec PPV will occur at sensitive receiver locations within a 400-foot radius of the pile locations, and result in potentially significant vibration levels at up to 55 receiver locations along the CV Link Route. Therefore, if pile driving is selected as the means of constructing bridge piles, mitigation measures were included in Section 4.12 to reduce these impacts to less than significant levels. Under Alternative 2, the same impacts would occur, and would include all bridges proposed within the Route. Therefore, under Alternative 2, impacts associated with pile driving vibration would be consistent with the Proposed Project in all jurisdictions. However, the mitigation measures provided in Section 4.12 are demonstrated to reduce the impacts to less than significant levels, and the same would occur under Alternative 2.

d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project.

Under Alternative 2, construction noise would result in all communities, including Rancho Mirage. The adjacent receptors to the Route in Rancho Mirage include single and multi-family homes, mobile homes, the library and Community Park, and golf course and commercial land uses.

Alternative 2 would result in potential short-term noise associated with construction, including construction crew commutes, delivery of construction materials, and the use of construction equipment to construct the pathway. Under this alternative, construction crew commutes and deliveries of construction materials to individual segments would occur in all jurisdictions. As with the Proposed Project, however, the impacts to noise levels on local streets would not significantly impact the noise environment, since activities would be spread across the Route's alignment at different times for short periods.

Site preparation, grading, and paving activities under Alternative 2 would occur in all the jurisdictions. The noise model determined that the noise levels during site preparation would be 84.2 dBA Lmax (maximum hourly noise level) at a distance of 50 feet; that the grading activities would generate a noise level of 89.7 dBA Lmax (maximum hourly noise level) at a distance of 50 feet; and that the paving phase of construction would result in a noise level of 82.8 dBA Lmax (maximum hourly noise level) at a distance of 50 feet. Therefore, the loudest construction period can be expected to be the grading phase, with noise levels of 89.7 dBA Lmax. In addition to the noise generated by mobile construction equipment, noise will also be generated from stationary source equipment at staging areas. These areas are estimated to have the potential to generate noise levels of up to 80.0 dBA Lmax at a distance of 50 feet. As with the Proposed Project, construction noise levels of 89.7 dBA would be reduced to 83.7 dBA at 100 feet, and 77.7 dBA at 200 feet from the source to the receiver.

The implementation of Alternative 2 will result in temporary and periodic noise increases that will exceed local standards in all the cities. Consistent with the Proposed Project, Alternative 2 construction activities will occur during daylight hours, when noise sensitivity is less, but will still be significant and require mitigation. The construction activities under Alternative 2 would require mitigation measures, consistent with the mitigation measures included in Section 4.12. As with the Proposed Project, implementation of these mitigation measures, will provide some relief yet temporary impacts associated with temporary or periodic increases in noise levels during construction of Alternative 2 would be significant and unavoidable.

e) For a project within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, exposure of people residing or working in the project area to excessive noise levels.

f) *For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?*

Implementation of Alternative 2, as shown on Exhibit 4.13.1, would result in the project alignments being located outside of the 60 dBA CNEL noise contour boundary of the Palm Springs International Airport; outside the 55 dBA CNEL noise contour boundary of the Jacqueline Cochrane Regional Airport; and within the 55 dBA CNEL noise level contour boundary of the Bermuda Dunes airport. As detailed by the County's airport noise standard no exterior noise mitigation is required since CV Link is located in areas with acceptable noise levels generated by each airport.

5.12.3.2.2. Alternative 2 Mitigation Measures

Alternative 2 would be subject to the same construction noise and vibration mitigation measures as the Proposed Project. Significant, unmitigated construction noise and vibration impacts could still result.

5.12.3.2.3. Alternative 2 Significance After Mitigation

As with the Proposed Project, with the implementation of construction-related mitigation measures, Alternative 2 would not be sufficiently mitigated and impacts would be significant.

5.12.3.2.4. Alternative 2 Cumulative Impacts

Operational noise levels resulting from Alternative 2 would not exceed city or county standards for sensitive receptors, nor would they result in substantial permanent increases in ambient noise levels in the project vicinity above levels existing without the project. Although Alternative 2 operations would marginally increase noise levels along the Route, no additional noise would be expected to be generated, since development of this alternative, and the Proposed Project, will occur in areas that are essentially built out, and/or adjacent to unbuildable floodplains. Long-term noise impacts associated with the Alternative 2 would not be cumulatively considerable. Nonetheless, temporary, construction-related impacts to the noise environment would be considered significant and unavoidable even after the implementation of the mitigation measures set out in Section 4.12.6.

5.12.3.3. Alternative 3

5.12.3.3.1. Alternative 3 Impacts

Alternative 3 Project Summary
Alternative 3 would result in no construction or implementation of the CV Link project. There would be no change in the existing environment. Levee tops, streets, parks and golf courses would remain in their current condition.

a) Exposure of persons to or generation of noise levels in excess of standard established in the local general plan or noise ordinance, or applicable standards of other agencies.

Under this alternative no changes are proposed. The public will not be subjected to an increase in noise generation.

b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels.

Under this alternative no changes are proposed. The public will not be subjected to an increase in groundborne vibration or other CV Link noise generation.

c) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project.

There will be no change under Alternative 3 and conditions will remain the same. There would be no increase to temporary ambient noise levels.

d) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project.

There will be no proposed change under Alternative 3 and conditions will remain the same. There would be no increase to permanent ambient noise levels.

e) For a project within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, exposure of people residing or working in the project area to excessive noise levels.

f) *For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?*

There will be no proposed change under Alternative 3 and conditions will remain the same. There would be no impact to the airport land use plan.

5.12.3.3.2. Alternative 3 Mitigation Measures

Since no construction would occur, no mitigation measures would be necessary.

5.12.3.3.3. Alternative 3 Significance After Mitigation

Since no construction would occur, there would be no noise impacts associated with Alternative 3.

5.12.3.3.4. Alternative 3 Cumulative Impacts

As described above, Alternative 3 would have no impacts associated with noise and vibration during both construction and operations given that no change is proposed. Therefore, Alternative 3 will not contribute to cumulative impacts associated with noise.

5.12.4. Environmentally Superior Alternative

Alternative 3 is the environmentally superior alternative, since no new temporary or permanent noise sources would result. However, Alternative 3 meets none of the project objectives. Alternative 1 would be the superior

development alternative, since it generates a moderate amount of noise and would not have the potential to generate additional noise in Rancho Mirage or Indian Wells. Alternative 2 would generate CV Link construction and operational noise across all cities. However, it is important to note that under all alternatives, operational noise levels will be less than significant, and construction noise levels could result in significant and unavoidable short-term construction-related impacts to the noise environment.

5.13. Population and Housing

5.13.1. Introduction

The following analysis evaluates potential project-related impacts of Alternatives 1, 2, and 3 as they pertain to population and housing. The analysis provides insight into the broader social and economic circumstances that may affect and be affected by CV Link.

5.13.2. Existing Conditions

The full buildout (Alternative 2) project area spans eight incorporated cities, unincorporated county land, and three Native American Reservations. Combined, these communities total approximately 350,091 residents and 184,292 housing units. An estimated 868 residents live in 310 housing units immediately adjacent to the proposed pathway. Please see Section 4.13 for detailed information about existing demographic and socio-economic conditions in the project area.

5.13.3. Alternative Impact Analysis

5.13.3.1. Alternative 1

5.13.3.1.1. Alternative 1 Impacts

Alternative 1 Project Summary
Under this Alternative, CV Link would be constructed from Palm Springs through Cathedral City as it would under the Proposed Project, and terminate on the west boundary of Rancho Mirage. It would resume again on its east boundary in Palm Desert, and be interrupted once again through Indian Wells, before resuming in La Quinta and continuing easterly to the eastern terminus in the community of Thermal, consistent with the Proposed Project.

Population
The jurisdictions with direct access to CV Link have a combined total population of approximately 326,609.[29] The jurisdictions without direct access to CV Link under Alternative 1, Rancho Mirage and Indian Wells, have a combined total population of 23,482.[30] Rancho Mirage and Indian Wells, however, are geographically close enough to CV Link that it is reasonable to expect residents could access CV Link from neighboring jurisdictions. They would contribute to overall use of CV Link and benefit from its regional connectivity. Therefore, despite the project not directly passing through Rancho Mirage and Indian Wells, the two cities are still considered part of the project area for analysis of population and housing impacts.

[29] Table E-1, City/County Population Estimates, California Department of Finance, January 1, 2016.
[30] Ibid.

Housing

The jurisdictions with direct access to CV Link have a total of 163,358 dwelling units.[31] The jurisdictions without direct access to Alternative 1, Rancho Mirage and Indian Wells, have a total of 20,934 dwelling units.

Under Alternative 1, an estimated 270 dwelling units and 756 residents would be immediately adjacent to CV Link. [32] No housing units in Rancho Mirage or Indian Wells would be immediately adjacent to CV Link.

a) *Will the project induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?*

Alternative 1 does not propose new housing or businesses, and will not directly induce substantial population growth in the area. Project construction, operation, and maintenance will create new jobs, but the region already contains a broad range of employment sectors, and it is expected that the regional labor force will fill most of these new positions. Workers from outside the Coachella Valley could commute daily or stay temporarily while the project is built. Spin-off companies, such as bike touring groups, could emerge as a result of the project, but their impact on regional employment levels will be minimal.

Alternative 1 will require extension of water, sewer, and electricity connections in some locations for restrooms and lighting. However, these utilities are already in place in most of the project vicinity, and major utility extensions that could induce future growth will not be required. Most of the project is proposed along existing rights-of-way, including channel levees, roadways, and trails, that are physically constrained and cannot accommodate adjacent growth.

As a recreational amenity, the project could positively affect property values, and vacant land in proximity to CV Link could be more appealing to developers and future residents. However, the project in and of itself will have no direct impact on land use plans or development proposals.

CV Link, as developed in Alternative 1, may function as a gathering place for community events and could attract visitors from outside the Coachella Valley, but it is not expected to attract permanent populations. Growth-inducing impacts will be less than significant.

b. *Will the project displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?*

Alternative 1 will not displace any housing or require the construction of replacement housing elsewhere. No impact will occur.

c) *Will the project displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?*

Alternative 1 will not displace any people or require the construction of replacement housing elsewhere. No impact will occur.

5.13.3.1.2. Alternative 1 Mitigation Measures

No significant adverse impacts will occur as a result of the Proposed Project. Therefore, no mitigation measures are necessary.

[31] 2010-2014 American Community Survey 5-Year Estimates.

[32] Based on Table 4.14-9, but eliminates 40 units in Indian Wells.

5.13.3.1.3. Alternative 1 Significance After Mitigation

No mitigation measures are required. No significant impacts will occur.

5.13.3.1.4. Alternative 1 Cumulative Impacts

Alternative 1 itself will not add new residential units or population to the area, but will serve as a recreational and transportation amenity for existing and future residents in the project area. Vacant land in proximity to CV Link could be developed in the future, and the number of housing units, hotel/motel rooms, permanent residents, and visitors using CV Link could increase over time. Approved residential development projects in the immediate project vicinity are described in Section 4.13.8. At buildout, these projects could add 2,838 residents to the CV Link project area. Alternative 1 will serve these and additional future residents and visitors in the project area. No significant cumulative impacts will occur.

5.13.3.2. Alternative 2

5.13.3.2.1. Alternative 2 Impacts

Alternative 2 Project Summary
Under Alternative 2, all the cities from Palm Springs to Coachella would be part of the project, including the cities of Rancho Mirage and Indian Wells. This alternative would result in the inclusion of the City of Rancho Mirage in project plans, and would eliminate all termini along the Route, creating one continuous path through the Valley.

Population
The jurisdictions that would have direct access to CV Link under this alternative have a combined total population of approximately 350,091.[33]

Housing
The jurisdictions that would have direct access to CV Link under this alternative have a total of 184,292 dwelling units.[34]

Under Alternative 2, an estimated 321 dwelling units and 899 residents would be immediately adjacent to CV Link. This includes 11 dwelling units in Rancho Mirage and 40 in Indian Wells.[35]

a) *Will the project induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?*

Alternative 2 does not propose housing or businesses and, therefore, will not directly induce population growth. It will generate new construction, maintenance, and operational jobs, but it is anticipated that workers already living in the Coachella Valley will fill most of these positions. Workers from outside the region may stay temporarily, but are not expected to move permanently as a result of the project. New spin-off businesses, such as bike tour companies, may emerge, but their impacts to regional employment and population growth will be minimal.

[33] Table E-1, City/County Population Estimates, California Department of Finance, January 1, 2016.
[34] 2010-2014 American Community Survey 5-Year Estimates.
[35] Based on Table 4.14-9.

Alternative 2 will require limited extensions of water, sewer, and electricity infrastructure for restrooms and lighting. However, infrastructure is already available along much of the corridor, and no major extensions will be required. The project will also involve construction of new overpasses and underpasses and paved surfaces, but they are designed for and restricted to alternative transportation, and none of the improvements will serve vehicular traffic or encourage or facilitate urban growth.

Alternative 2 is likely to serve as a venue for street fairs, walk/run competitions, and other community events. Visitors from outside the Coachella Valley could increase hotel occupancy rates, but are not expected to stay permanently. Growth inducing impacts will be less than significant.

b) Will the project displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?

Alternative 2 will not displace any housing, and no replacement housing will be required. No impact will occur.

c) Will the project displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?

Alternative 2 will not displace any people, and no replacement housing will be required. No impact will occur.

5.13.3.2.2. Alternative 2 Mitigation Measures

Alternative 2 will not result in significant impacts. No mitigation measures are necessary.

5.13.3.2.3. Alternative 2 Significance After Mitigation

No mitigation is required and, therefore, no residual impacts will occur.

5.13.3.2.4. Alternative 2 Cumulative Impacts

Alternative 2 will not add new dwelling units or businesses to the project area, and therefore, will not contribute to cumulative population or housing impacts. The project will serve as a recreational amenity and alternative transportation corridor for current and future residents. As described in Section 4.13.8, approved residential projects in the immediate project vicinity could generate 2,838 new residents at buildout. Alternative 2 will serve these and other future residents as growth occurs. No project-related cumulative impacts will occur.

5.13.3.3. Alternative 3

5.13.3.3.1. Alternative 3 Impacts

Alternative 3 Project Summary
Alternative 3 would result in no construction or implementation of the CV Link project. There would be no change in the existing environment. Levee tops, streets, parks and golf courses would remain in their current condition.

a) Will the project induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?

Alternative 3 will have no direct impact on housing or population. Existing housing and population conditions and trends would continue. Property values, job levels, hotel occupancy, and other components of local and regional economies would be unchanged. Alternative 3 will result in no growth inducing impacts.

b) Will the project displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?

Under Alternative 3, existing housing trends and conditions will continue. No housing will be displaced.

c) Will the project displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?

Under Alternative 3, no people will be displaced. Population and housing conditions will continue under existing conditions and trends.

5.13.3.3.2. Alternative 3 Mitigation Measures

No significant impacts will occur. Therefore, no mitigation measures are required.

5.13.3.3.3. Alternative 3 Significance After Mitigation

No mitigation is required, so no residual impacts will occur.

5.13.3.3.4. Alternative 3 Cumulative Impacts

Alternative 3 will not result in cumulative impacts. It represents a continuation of current population and housing trends.

5.13.4. Environmentally Superior Alternative

None of the build alternatives will result in the construction of new dwelling units, attract new permanent residents, or displace housing or population such that replacement housing is required elsewhere. In this regard, neither project alternative is environmentally superior.

Alternatives 1 and 2 have the potential to indirectly induce growth by bringing new jobs, increased property valuation, and increased tourism to the project area, consistent with the Proposed Project. Growth inducing impacts are expected to be less than significant under all build alternatives. Alternative 3, represents no action and, as such, will have no growth-inducing impacts. In this regard, Alternative 3 is environmentally superior, but does not meet any of the project objectives. Of the build alternatives, Alternative 2 would provide the greatest connectivity between land uses, and provide the greatest access between jobs and housing, and is thus the superior alternative.

5.14. Public Services

5.14.1. Introduction

This analysis evaluates the potential for the project alternatives to directly affect public services during construction and operational phases. The analysis considers whether construction and/or operation of the project would affect the ability of police, fire, and school service providers to maintain acceptable service or other performance objectives, resulting in the need for new or expanded facilities.

5.14.2. Existing Conditions

Law Enforcement Services
The RCSD will have direct responsibility for police services for that portion of the CV Link project in the unincorporated community of Thermal. The RCSD also provides law enforcement services under contract to several cities within the CV Link project area, including Palm Desert, Rancho Mirage, Indian Wells, La Quinta and Coachella. Palm Springs, Cathedral City and Indio operate their own local Police Departments with mutual aid agreements with the Riverside County Sheriff's Department.

Agua Caliente Band of Cahuilla Indians lands are provided service by the Palm Springs, Cathedral City and Rancho Mirage police department, based on the location of the land, for law enforcement services. The Cabazon Band of Mission Indians and Twenty-nine Palms Band of Mission Indians lands are located in the cities of Indio and Coachella and provided service by those cities' for law enforcement services. The Proposed Project is located within the service boundaries of the several law enforcement services providers (See Section 4.14.4 for details).

Fire Protection Services
In the CV Link planning area, the cities currently under contract with the Riverside County Fire Department (RCFD) include Rancho Mirage, Palm Desert, Indian Wells, La Quinta and Coachella. The cities of Palm Springs, Cathedral City and Indio have municipal fire departments.

Fire protection services will be provided to the CV Link project area by local fire stations. The CV Link alignments are located within the service boundaries of several fire protection service providers (See Section 4.14.4 for details).

Education
School districts that serve the project area include the Palm Springs Unified School District (PSUSD), Desert Sands Unified School District (DSUSD), and the Coachella Valley Unified School District (CVUSD). In addition, higher education is available through the College of the Desert, the University of California, Riverside, and California State University, San Bernardino. All three college programs are located in Palm Desert (See Section 4.14.4 Section for details).

Six schools are immediately adjacent to CV Link, while another 18 schools are within one-half mile of the Route (See Table 4.14-2 and 4.14-3 in Section 4.14.). There would be over 40,700 students attending public schools within one mile of CV Link, representing 54% of all public school students in the Coachella Valley.[36]

Parks
Each city within the CV Link project area operates and maintains local parks and golf courses. The cities of Palm Springs, Cathedral City, Rancho Mirage, Palm Desert, Indian Wells, La Quinta, Indio, and Coachella have designated land for parks and recreation in their General Plans. (See Section 4.14.4 for details).

Other Public Facilities
Other public facilities in the cities within the CV Link project area include city halls, the public libraries, museums, and medical/emergency facilities. The cities each operate a city hall and public library. However, Indian Wells presently participates in the Riverside County Free Library System and residents can access four nearby libraries.[37]

[36] CV Link Conceptual Master Plan (2016), Page 25
[37] Ibid.

Medical/Emergency Services
The Coachella Valley is served by three major medical facilities, smaller clinics, and physicians' offices. The major medical centers are Desert Regional Medical Center in Palm Springs, Eisenhower Medical Center in Rancho Mirage, and John F. Kennedy Memorial Hospital in Indio. In addition, there are numerous clinics, urgent care and similar facilities located throughout the Valley. Some are privately operated, and some are operated by the three hospitals.

5.14.3. Alternatives Impact Analysis

5.14.3.1. Alternative 1

5.14.3.1.1. Alternative 1 Impacts

Alternative 1 Project Summary
Under this Alternative, CV Link would be constructed from Palm Springs through Cathedral City as it would under the Proposed Project, and terminate on the west boundary of Rancho Mirage. It would resume again on its east boundary in Palm Desert, and be interrupted once again through Indian Wells, before resuming in La Quinta and continuing easterly to the eastern terminus in the community of Thermal, consistent with the Proposed Project.

a) *Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:*

- *Fire Protection?*
- *Police Protection*
- *Schools?*
- *Parks?*
- *Other Public Facilities?*

Fire Protection
During construction of Alternative 1, fire protection services would be needed in the unlikely event of worker injury or other accidental conditions. Because Alternative 1 would result in a somewhat shorter Route excluding alignments in Rancho Mirage and Indian Wells, the likelihood of fire, worker injury or other mishap would be marginally reduced. However, the potential will be temporary and once the project is completed, Alternative 1 would not result in substantial increases in the demand for fire protection services, as the project will not increase the service area population or result in habitable structures. As noted in Section 4.14, fire stations occur in close proximity to all segments of Alternative 1. Therefore, Alternative 1 would not significantly affect fire protection services.

Law Enforcement Services
Alternative 1 may require police services due to possible theft of construction equipment and/or vandalism that might occur during the construction period. However, once the project is completed, police services would only be required in case of a crime or violence within the project area. The existing police services in the respective cities along the Route would be sufficient to serve the project because Alternative 1 is not expected to increase the service area population. Because Alternative 1 would be somewhat shorter in length than the Proposed Project and Alternative 2, the potential for service calls could be marginally reduced. However, Alternative 1 would have a less than significant impact on police protection services with mitigation measures set forth in Section 4.14.

Education
Alternative 1 would not result in any impact to educational systems and institutions, as it would not affect enrollment at local schools. The six schools that are immediately adjacent to the Proposed Project will also have access to this alternative, since none of the schools occur in either Rancho Mirage or Indian Wells.

Other Public Facilities
Alternative 1 will require encroachment permits from City staffs where the Route occurs on City streets, but the level of work involved in preparing these encroachment permits will not significantly increase work loads for City staffs. Alternative 1 will not result in any impacts to public facilities.

5.14.3.1.2. Alternative 1 Mitigation Measures

The same construction-related mitigation measures provided for the Proposed Project will also apply to Alternative 1. Please see Section 4.14.6 Mitigation Measures for further reference.

5.14.3.1.3. Alternative 1 Significance After Mitigation

As with the Proposed Project, with the implementation of construction related mitigation measures, Alternative 1 would have less than significant impacts on public services.

5.14.3.1.4. Alternative 1 Cumulative Impacts

The geographic scope of cumulative impacts related to public services under Alternative 1 includes the cities of Palm Springs, Cathedral City, Palm Desert, La Quinta, Indio, and Coachella, and the unincorporated community of Thermal. As discussed above, construction of the Alternative 1 would require fire and police protection and emergency medical services in case of emergency situations. However, that demand would not result in an expansion of fire and police service facilities and emergency medical service facilities. Recommended mitigation set forth in Section 4.14 will secure the construction equipment and staging areas and further reduce the project related impacts to police protection services during construction phase. At buildout, the Alternative 1 demand for fire and police protection services would be de minimis. When considered with the growth expected in the Coachella Valley by 2040, the Alternative 1 project's need for emergency services will be minimal, and will not substantially increase the demand for these services. Therefore, cumulative impacts will be less than significant.

At buildout, the CV Link Alternative 1 project is expected to increase the number of visitors to parks and recreational facilities in the project area, but will not increase the permanent local population or the demand for schools. When compared to the population growth anticipated in the Coachella Valley, the demand for park services from existing residents and visitors using CV Link will be marginal compared to the demand for parks created by new residential development and its associated population increases. Therefore, cumulative impacts to parks and recreational facilities from the Alternative 1 project will be less than significant and not cumulatively considerable.

5.14.3.2. Alternative 2

5.14.3.2.1. Alternative 2 Impacts

Alternative 2 Project Summary
Under Alternative 2, all the cities from Palm Springs to Coachella would be affected by the Proposed Project, including the cities of Rancho Mirage and Indian Wells.

a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:

- *Fire Protection?*
- *Police Protection*
- *Schools?*
- *Parks?*
- *Other Public Facilities?*

Fire Protection
Under Alternative 2, fire protection (or paramedic) services would be needed in the event of a work site fire, worker injury or other accident during construction along all CV Link alignments. However, these potential calls for service will be temporary and end once the project is completed. Operation of the Alternative 2 project would not result in a substantial increase in the demand for fire protection services, as the project will not increase the service area population or result in habitable structures. There could be a limited increase in demand for paramedic or emergency medical response. As noted in Section 4.14, fire stations occur in proximity to all CV Link Alternative 2 alignments. Therefore, Alternative 2 would not significantly affect the fire protection services.

Law Enforcement Services
Alternative 2 may require police services due to possible theft of construction equipment and/or vandalism that might occur during the construction period. However, once the project is completed, police services would only be required in case of a crime within the project area. The existing police services in the respective cities along the Route would be sufficient to serve the project because Alternative 2 is not expected to increase the service area population. The potential for a need for police response will be equivalent to that of existing trails, sidewalks and parks now operating in the Valley. As it will for the Proposed Project, CVAG will work in cooperation with project area police chiefs to develop and implement a safety and security plan for CV Link.[38] Because Alternative 2 would be somewhat longer than the other alternatives, the potential for service calls could be marginally increased. However, Alternative 2 would have a less than significant impact on police protection services with the implementation of the same mitigation measure as for the Proposed Project, relating to construction staging area security.

Education
Alternative 2 would not result in any impacts to educational systems and institutions, as it would not affect enrollment at local schools. The six schools that are immediately adjacent to the Proposed Project under Alternative 2 will also have access to CV Link facilities.

Other Public Facilities
Other public facilities in the cities within the CV Link Alternative 2 project area include city halls, public libraries, museums, and medical/emergency facilities. The cities each operate a city hall and public library. However, Indian Wells presently participates in the Riverside County Free Library System and residents can access four nearby libraries, Palm Desert, La Quinta, and Indio libraries.

5.14.3.2.2. Alternative 2 Mitigation Measures

Please see Section 4.14.6, Mitigation Measures for further reference. There will be no need for any change or addition of mitigation measures under this alternative.

[38] CV Link Conceptual Master Plan (2016), Enforcement, Safety and Security

5.14.3.2.3. Alternative 2 Significance After Mitigation

Please see Section 4.14.6, Significance After Mitigation for further reference. Impacts under this alternative will remain less than significant after mitigation.

5.14.3.2.4. Alternative 2 Cumulative Impacts

Under Alternative 2, police and fire protection and medical services would be needed in the unlikely event of worker injury or other accidents from construction and operation. The demand for such services would increase the number of calls for fire, police or emergency medical services, which would add to their overall workload. However, CV Link provides a safety-enhanced multi-modal facilities that is designed to reduce hazards. Also, the need for fire and police service on CV Link is expected to be comparable to that generated at parks or trails within the Valley, which is not considerable. Therefore, Alternative 2 impacts to fire, police services, emergency medical, schools or other public services would not be cumulatively considerable.

5.14.3.3. Alternative 3

5.14.3.3.1. Alternative 3 Impacts

Alternative 3 Project Summary
Alternative 3 would result in no construction or implementation of the CV Link project. There would be no change in the existing environment. Levee tops, streets, parks and golf courses would remain in their current condition.

a) *Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:*

- *Fire Protection?*
- *Police Protection*
- *Schools?*
- *Parks?*
  Other Public Facilities?

Fire Protection
Alternative 3 will result in the continuation of existing conditions. There would be no new CV Link facilities. There would be no additional population increase or demand for fire services. Therefore, there will be no impact to fire protection services.

Law Enforcement Services
Alternative 3 will result in the continuation of existing conditions. There would be no new CV Link facilities. There would be no additional population increase or demand for police services. Therefore, there will be no impact to police protection services.

Education
Alternative 3 would not result in any impacts to educational systems and institutions.

Other Public Facilities
Alternative 3 would not require any other public facilities. Alternative 3 will not result in any impacts to public facilities.

5.14.3.3.2. Alternative 3 Mitigation Measures

No mitigation measures will be required under Alternative 3.

5.14.3.3.3. Alternative 3 Significance After Mitigation

Therefore, there will be no impacts to public services under this alternative

5.14.3.3.4. Alternative 3 Cumulative Impacts

Under Alternative 3, no project-related cumulative impacts will occur.

5.14.4. Environmentally Superior Alternative

As discussed above, the near and long-term demand for police and fire protection, emergency medical services, educational and others services would be very limited but would be greatest under the Alternative 2 project scenario. Alternative 3 would preclude CV Link development and would therefore have no impacts on these services. However, Alternative 3 does not meet the project's objectives. In regards to long-term safety, the build alternatives would be ranked from most superior to less superior as follows: Alternative 1, which eliminates two cities and therefore generates a lower demand for service; the Proposed Project, which assumes one less city and a marginal potential reduction in calls for service, and Alternative 2, which because it would be the longest project Route, could require the most service. Overall, all alternatives, including the Proposed Project, result in less than significant impacts associated with public services.

5.15. Recreation

5.15.1. Introduction

As analyzed in Section 4.15, this discussion describes existing recreational resources at and in proximity to the CV Link project, and evaluates potential impacts on those recreational resources from the project alternatives.

5.15.2. Existing Conditions

Each city within the CV Link project area operates and maintains local parks and golf courses. The cities of Palm Springs, Cathedral City, Rancho Mirage, Palm Desert, Indian Wells, La Quinta, Indio, and Coachella have designated land for parks and recreation in their General Plans. (See Section 4.15.4 for details).

5.15.3. Alternatives Impact Analysis

5.15.3.1. Alternative 1

5.15.3.1.1. Alternative 1 Impacts

Alternative 1 Project Summary
Under this Alternative, CV Link would be constructed from Palm Springs through Cathedral City as it would under the Proposed Project, and terminate on the west boundary of Rancho Mirage. It would resume again on its east boundary in Palm Desert, and be interrupted once again through Indian Wells, before resuming in La Quinta and continuing easterly to the eastern terminus in the community of Thermal, consistent with the Proposed Project.

a) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facilities would occur or accelerated.

b) Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment.

Under Alternative 1, CV Link would not occur in Rancho Mirage or Indian Wells. One western terminus option at Rancho Mirage would provide access to Wolfson Park, which is located at the southeast corner of Frank Sinatra Drive and DaVall Road. Users of CV Link could still access this park, and the adjacent levee, from the western terminus. However, as CV Link is a transportation route, it is not expected that its users would impact the park significantly. This alternative, along with the Proposed Project, would also limit CV Link access to Rancho Mirage Community Park. The park, however, currently occurs adjacent to the levee, and can be accessed from that location. This condition would continue under this alternative.

Alternative 1 would also eliminate CV Link through Indian Wells. The primary recreational facility in that City is the Indian Wells Golf Resort, which occurs in and adjacent to the River. Users of CV Link could still access the golf course from the western terminus by using public streets, but would be precluded from access adjacent to the River. Under this alternative, there would be no need to consult with the golf course on design issues. As a result of implementation of this alternative, CV Link would have no impact on this recreational resource.

On the balance of the Route, the parks and other recreational facilities in the participating cities would remain accessible to the public. Potential Route conflicts to the Tahquitz Creek, Cimarron and Cathedral Canyon golf courses would be addressed in the final design, as required under the Proposed Project. The level of impact would be consistent with that of the Proposed Project, and the same mitigation measures would apply, with the exception of the consultation with the Indian Wells golf resort. These mitigation measures will not require modification and may be utilized to successfully mitigate the impacts since the Route will not change at this location. With the implementation of mitigation measures, impacts associated with recreation and recreational facilities would be less than significant.

5.15.3.1.2. Alternative 1 Mitigation Measures

Since Alternative 1 would result in the elimination of CV Link alignments within Indian Wells, mitigation measure REC-1 would not apply to the Indian Wells golf course, but would remain for the other jurisdictions, and would provide adequate mitigation to the potential impacts to the Cimarron, Cathedral Canyon and Tahquitz Creek golf courses, insofar as the balance of the CV Link Route would remain the same as in the Proposed Project.

5.15.3.1.3. Alternative 1 Significance After Mitigation

With implementation of the mitigation measures described above, impacts would be less than significant.

5.15.3.1.4. Alternative 1 Cumulative Impacts

CV Link is expected to have a cumulatively considerable positive or beneficial impact on individual and area-wide recreational amenities and resources, providing a multi-modal backbone facility that improves community linkage to its recreational amenities, while providing a new and unique facility for walking and jogging, or bicycling. The connectivity provided by the Proposed Project would be somewhat less under Alternative 1. However, since most CV Link users will still be able to connect through Rancho Mirage and Indian Wells on city streets, or existing levee roads, the overall cumulative benefit of having a Valley-wide pathway available for its users will still be positive. Importantly, the project is expected to have a cumulatively considerable beneficial impact on individual and area-wide recreational amenities and resources, providing a much needed multi-modal backbone facility that improves community linkage to its recreational amenities, while providing a new and unique facility for walking and jogging, or bicycling.

Under Alternative 1, the CV Link segments generally extending from Frank Sinatra Drive and extending along the stormwater channel and public streets, within Rancho Mirage are not included. Neither is those street and channel alignments planned in Indian Wells and generally extending from Fred Waring Drive on the west to Washington Street on the east. With the deletion of CV Link segments through Rancho Mirage and Indian Wells, Alternative 1 requires the selection of logical termini at Indian Wells, as have been selected for Rancho Mirage under the Proposed Project. The east and west Indian Wells termini are described below.

5.15.3.2. Alternative 2

5.15.3.2.1. Alternative 2 Impacts

Alternative 2 Project Summary
Under Alternative 2, all the cities from Palm Springs to Coachella would be part of the project, including the cities of Rancho Mirage and Indian Wells. This alternative would result in the inclusion of the City of Rancho Mirage in project plans, and would eliminate all termini along the Route, creating one continuous path through the Valley.

a) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facilities would occur or accelerated.

b) Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment.

Under Alternative 2, the CV Link project would occur through all eight cities in the Valley. Users of CV Link would have access to Wolfson Park and Rancho Mirage Community Park, as well as the incorporation of the Butler-Abrams Trail, which would undergo improvements that would reflect the CV Link design element while maintaining its level of service. Under this alternative, the project would provide the most connectivity and access for multi-modal transportation, and maximize recreational opportunities. As with the Proposed Project, this alternative would require concurrence from four golf courses, including Indian Wells Golf Resort, to assure that the final design would not conflict with golf play. The same mitigation measure as provided for the Proposed Project would apply.

5.15.3.2.2. Alternative 2 Mitigation Measures

The mitigation measure required of the Proposed Project would apply and be sufficient to mitigate the potential impacts that may occur as a result of the implementation of Alternative 2. The trail system and the two parks would be incorporated into CV Link and be enhanced and upgraded. The level of activity on trails and in parks would increase, but would not exceed the capacity of these facilities, which are not operating at capacity.

5.15.3.2.3. Alternative 2 Significance After Mitigation

With implementation of mitigation measures, impacts would be less than significant.

5.15.3.2.4. Alternative 2 Cumulative Impacts

CV Link is expected to have a cumulatively considerable positive or beneficial impact on individual and area-wide recreational amenities and resources, providing a multi-modal backbone facility that improves community linkage to recreational amenities, while providing a new and unique facility for walking and jogging, or bicycling. The connectivity provided by Alternative 2 would maximize recreational opportunities, and provide the best connectivity between recreational facilities. As a result, Alternative 2 would have the most cumulative benefits for recreational resources.

5.15.3.3. Alternative 3

5.15.3.3.1. Alternative 3 Impacts

Alternative 3 Project Summary
Alternative 3 would result in no construction or implementation of the CV Link project. There would be no change in the existing environment. Levee tops, streets, parks and golf courses would remain in their current condition.

a) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facilities would occur or accelerated.

b) Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment.

Alternative 3 would have no impact on recreational resources, because the CV Link project would not occur. The benefits of this regional recreational facility would also not occur. There would be no regional connectivity between cities beyond that currently provided by city streets.

5.15.3.3.2. Alternative 3 Mitigation Measures

Since no construction would occur, no mitigation measures would be required.

5.15.3.3.3. Alternative 3 Significance After Mitigation

Since there would be no project, there would also be no impact to recreational resources.

5.15.3.3.4. Alternative 3 Cumulative Impacts

Under Alternative 3, the lack of a regional multi-modal pathway could have cumulatively significant effects, insofar as there would be no facility between cities for walking, biking and jogging beyond that already available. The recreational benefits of the Proposed Project and its alternatives would be lost.

5.15.4. Environmentally Superior Alternative

From a recreational resources perspective, Alternative 2 is the environmentally superior alternative, because it would provide a continuous recreational opportunity from Palm Springs to Coachella, and connect to the maximum number of municipal recreational facilities. In descending order, the Proposed Project would be the next most superior alternative, and Alternative 1 would be the third most superior alternative. Although Alternative 2 will incorporate more area, the benefits of CV Link to the existing recreational resources will be greater than Alternative 1 and the Proposed Project, since it will provide a continuous recreational facility to be enjoyed by all the participating cities' residents and visitors

5.16. Transportation and Traffic

5.16.1. Introduction

This section of the EIR analyzes the potential impacts of the project alternatives on traffic and circulation, and assesses the potential impacts associated with the interface between pedestrians, bicyclists, LSEVs, and motor vehicles. As with the Proposed Project, a wide range of data and information, ranging from research and analysis conducted for specific projects in the area, to regional-scale planning and environmental documents, have been used in researching and analyzing the various project alternatives and their potential effects. [39, 40, 41] These include detailed analysis of major roadway facilities, as well as detailed analysis of future conditions.[42]

5.16.2. Existing Conditions

The physical conditions within the CV Link planning area are particularly well suited to the expanded use of alternative modes of travel, including walking, biking and LSEVs. While summer heat can deter some of these activities, there is a clear pattern of morning and evening walking and biking evident throughout the project planning area. These activities are supported by favorable terrain and excellent prevailing weather conditions. While outdoor activity during the summer season can pose a health risk, residents and visitors are well aware of the need to consider temperature and other conditions when exerting themselves and moderate their activities accordingly.

As discussed in Section 4.16, an assessment of existing conditions was conducted at the 33 locations where CV Link facilities would interface with the local roadway network. In addition to evaluating a wide variety of previous studies, traffic counts were updated in March 2016 and video and other monitoring of the subject intersections was also conducted for this analysis, including peak hour directional movements tabulated at at - grade access and/or at - grade crossing locations along the corridor for vehicles, bicyclists, LSEVs and pedestrians. Future (RivTAM 2040 Plus TPPS – CVAG Model) volumes by mode of travel with each alternative were then estimated at these locations.

Existing levels of service were analysed, as were long-term traffic and planned intersection and roadway improvements for each project alternative. With the critical conflict locations known – the places where bicycles, LSEV, pedestrians and vehicles will compete for shared space – a thorough evaluation of each location has been performed for each alternative based on Federal Highway and California State Highway best practice including LOS calculations; review of field geometry; and review of traffic controls proposed in conjunction with CV Link.

39 "CV Link Corridor Transportation Analysis"" prepared by Urban Crossroads, Inc. August 2016.
40 "CVAG Active Transportation Plan", Coachella Valley Association of Governments. 2016.
41 "CVAG Neighborhood Electric Vehicle Plan", Coachella Valley Association of Governments. 2014.
42 "RivTAM 2016 CVAG Region Update", Coachella Valley Association of Governments. 2016

For a detailed discussion of the existing conditions associated with this analysis, please see 4.16.4, Existing Conditions for further reference.

5.16.3. Alternatives Impact Analysis

The Traffic Impact Analysis prepared for the Proposed Project included analysis of alternatives as well. As shown in Table 5-22, the ridership of the CV Link project will be somewhat affected by which alternative is implemented.

Table 5-22
CV Link Annual Corridor Demand

	Proposed Project			**Alternative 2**			**Alternative 1**		
Month	Bike	LSEV	Ped	Bike	LSEV	Ped	Bike	LSEV	Ped
January	136,633	90,303	124,093	151,234	109,492	128,557	126,511	79,949	121,706
February	123,410	81,564	112,084	136,598	98,896	116,116	114,268	72,212	109,928
March	136,633	90,303	124,093	151,234	109,492	128,557	126,511	79,949	121,706
April	112,391	83,021	96,072	124,402	100,662	99,528	104,066	73,502	94,224
May	102,474	81,273	86,865	113,425	98,543	89,990	94,883	71,954	85,194
June	85,946	74,282	60,045	95,131	90,066	62,205	79,580	65,765	58,890
July	68,316	72,242	43,433	75,617	87,594	44,995	63,256	63,959	42,597
August	68,316	72,242	43,433	75,617	87,594	44,995	63,256	63,959	42,597
September	85,946	74,282	60,045	95,131	90,066	62,205	79,580	65,765	58,890
October	102,474	81,273	86,865	113,425	98,543	89,990	94,883	71,954	85,194
November	112,391	83,021	96,072	124,402	100,662	99,528	104,066	73,502	94,224
December	129,801	85,788	111,684	143,672	104,017	115,701	120,185	75,952	109,535
Annualized Yearly Trips	**1,264,731**	**969,594**	**1,044,784**	**1,399,888**	**1,175,627**	**1,082,367**	**1,171,045**	**858,422**	**1,024,685**

5.16.3.1. Alternative 1

5.16.3.1.1. Alternative 1 Impacts

Alternative 1 Project Summary
Under this Alternative, CV Link would be constructed from Palm Springs through Cathedral City as it would under the Proposed Project, and terminate on the west boundary of Rancho Mirage. It would resume again on its east boundary in Palm Desert, and be interrupted once again in the vicinity of the Indian Wells west city limits, before resuming in La Quinta and continuing easterly to the eastern terminus in the community of Thermal, consistent with the Proposed Project.

Therefore, Alternative 1 does not include alignments through the cities of Rancho Mirage or Indian Wells. The proposed Rancho Mirage termini have been previously discussed in Section 4.16 for the Proposed Project. Under Alternative 1, four CV Link termini are proposed on the west-end of Indian Wells north of Fred Waring Drive at the Whitewater River. The terminus at the easterly Indian Wells city limits will be located on the south side of Highway 111 at the La Quinta/Indian Wells city limits.

Table 5-23 describes the future conditions on locally affected intersections associated with the Alternative 1 project. Intersections occurring within Rancho Mirage and IndianWells are included because Alternative 1 termini occur within these cities and their inclusion provides context and overall connectivity. Users originating from Rancho Mirage and IndianWells will access CV Link in adjoining cities even if it does not occur within those cities, and these users have been estimated in the traffic model. Some CV Link users will also opt to proceed into and perhaps through either city on existing pedestrian and bicycle paths.

Table 5-23
Pedestrian And Bicycle Analysis For 2040 Alternative 1 Conditions

Jurisdiction	#	Intersection	Traffic Control[4]		PEDESTRIAN[1,2]								BICYCLE[3]							
					Without Improvements				With Project Improvements[6]				Without Improvements				With Project Improvements[6]			
			W/O Imp.	W/ Proj. Imp.[6]	Score/Delay		LOS		Score/Delay		LOS		Score		LOS		Score		LOS	
					AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
Palm Springs North	1	Palm Cyn. Dr. (SR-111) / San Rafael Dr.	TS	TS																
		- Eastbound Approach			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.24	2.51	B	B	2.24	2.51	B	B
		- Westbound Approach			2.25	2.28	B	B	2.25	2.28	B	B	2.70	2.66	B	B	2.70	2.66	B	B
		- Northbound Approach			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3.16	4.06	C	D	3.16	4.06	C	D
		- Southbound Approach			2.80	3.00	C	C	2.80	3.00	C	C	3.53	3.64	D	D	3.53	3.64	D	D
	2	Indian Cyn. Dr. / Sunrise Pkwy.	CSS	**TS**																
		- Eastbound Approach			N/A	N/A	N/A	N/A	2.44	2.61	B	B	N/A	N/A	N/A	N/A	2.95	2.98	C	C
		- Westbound Approach			N/A	N/A	N/A	N/A	2.62	2.78	B	C	N/A	N/A	N/A	N/A	2.96	3.75	C	D
		- Northbound Approach			**>80**	**>80**	**F**	**F**	3.18	3.49	C	C	N/A	N/A	N/A	N/A	2.96	3.37	C	C
		- Southbound Approach			**>80**	**>80**	**F**	**F**	3.18	3.51	C	D	N/A	N/A	N/A	N/A	0.00	0.20	A	A
	3	Sunrise Pkwy. / San Rafael Dr.	TS	TS																
		- Eastbound Approach			2.43	2.44	B	B	2.43	2.44	B	B	3.12	3.10	C	C	3.14	3.12	C	C
		- Westbound Approach			1.85	1.89	A	A	1.85	1.89	A	A	2.33	2.28	B	B	2.33	2.28	B	B
		- Northbound Approach			2.78	2.91	C	C	2.78	2.91	C	C	2.74	2.99	B	C	2.86	3.00	C	C
		- Southbound Approach			2.67	2.69	B	B	2.67	2.69	B	B	2.24	2.29	B	B	1.70	1.75	A	A
	4	Gene Autry Tr. / Via Escuela	TS	TS																
		- Eastbound Approach			2.13	2.29	B	B	2.15	2.29	B	B	3.17	3.26	C	C	3.20	3.28	C	C
		- Westbound Approach			2.03	2.09	B	B	2.04	2.09	B	B	3.10	3.28	C	C	3.10	3.28	C	C
		- Northbound Approach			2.82	2.89	C	C	2.84	2.88	C	C	3.20	3.52	C	D	3.21	3.53	C	D
		- Southbound Approach			3.02	3.11	C	C	3.04	3.11	C	C	3.13	3.15	C	C	0.99	1.00	A	A
	5	Clubhouse View / Vista Chino	TS	TS																
		- Eastbound Approach			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3.60	4.15	D	D	3.50	4.06	C	D
		- Westbound Approach			2.98	3.57	C	D	2.98	3.57	C	D	2.45	3.36	B	C	2.89	3.80	C	D
		- Northbound Approach			2.01	2.01	B	B	2.01	2.01	B	B	1.52	1.53	A	A	1.63	1.64	A	A

Table 5-23
Pedestrian And Bicycle Analysis For 2040 Alternative 1 Conditions

Jurisdiction	#	Intersection	Traffic Control[4]		PEDESTRIAN[1,2]								BICYCLE[3]							
					Without Improvements				With Project Improvements[6]				Without Improvements				With Project Improvements[6]			
			W/O Imp.	W/ Proj. Imp.[6]	Score/Delay		LOS		Score/Delay		LOS		Score		LOS		Score		LOS	
					AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
Palm Springs Central	6	Sunrise Wy. / N. Riverside Dr.	CSS	**TS**																
		- Eastbound Approach			N/A	N/A	N/A	N/A	1.83	1.92	A	A	N/A	N/A	N/A	N/A	1.37	1.46	A	A
		- Westbound Approach			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.39	1.39	A	A
		- Northbound Approach			**>80**	**>80**	**F**	**F**	2.82	2.91	C	C	N/A	N/A	N/A	N/A	2.24	2.39	B	B
		- Southbound Approach			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.54	1.67	A	A
	7	Sunrise Wy. / Mesquite Av.	TS	TS																
		- Eastbound Approach			2.15	2.15	B	B	2.15	2.15	B	B	2.64	2.62	B	B	2.64	2.62	B	B
		- Westbound Approach			2.40	2.48	B	B	2.40	2.48	B	B	3.01	3.36	C	C	1.51	1.86	A	A
		- Northbound Approach			2.72	2.85	B	C	2.72	2.85	B	C	3.06	3.26	C	C	3.06	3.26	C	C
		- Southbound Approach			2.79	2.96	C	C	2.79	2.96	C	C	1.54	1.85	A	A	1.54	1.85	A	A
	8	Farrel Dr. / Mesquite Av.	TS	TS																
		- Eastbound Approach			2.41	2.50	B	B	2.27	2.38	B	B	2.47	2.54	B	B	1.55	1.68	A	A
		- Westbound Approach			2.48	2.67	B	B	2.35	2.59	B	B	2.43	2.78	B	C	1.47	2.16	A	B
		- Northbound Approach			2.58	2.74	B	B	2.58	2.74	B	B	2.60	2.82	B	C	2.60	2.82	B	C
		- Southbound Approach			2.49	2.57	B	B	2.49	2.57	B	B	2.80	3.00	C	C	2.80	3.00	C	C
	9	El Cielo Rd. / Mesquite Av.	AWS	AWS	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	10	Crossley Rd. / 34th Av.	CSS	**TS**																
		- Eastbound Approach			N/A	N/A	N/A	N/A	1.81	1.79	A	A	N/A	N/A	N/A	N/A	1.91	1.88	A	A
		- Westbound Approach			N/A	N/A	N/A	N/A	1.82	1.89	A	A	N/A	N/A	N/A	N/A	2.01	2.04	B	B
		- Northbound Approach			**>80**	**>80**	**F**	**F**	2.67	2.72	B	B	N/A	N/A	N/A	N/A	0.86	1.07	A	A
		- Southbound Approach			**>80**	**>80**	**F**	**F**	2.65	2.66	B	B	N/A	N/A	N/A	N/A	0.80	0.72	A	A
Palm Springs Central	11	Golf Club Dr. / Tahquitz Creek	Y	**PB**																
		- Northbound Approach			16.80	**42.70**	C	**E**	2.39	2.52	B	B	N/A	N/A	N/A	N/A	0.46	0.81	A	A
		- Southbound Approach			16.80	**42.70**	C	**E**	2.39	2.53	B	B	N/A	N/A	N/A	N/A	0.44	0.39	A	A

Table 5-23
Pedestrian And Bicycle Analysis For 2040 Alternative 1 Conditions

Jurisdiction	#	Intersection	Traffic Control[4]		PEDESTRIAN[1,2]								BICYCLE[3]							
					Without Improvements				With Project Improvements[6]				Without Improvements				With Project Improvements[6]			
			W/O Imp.	W/ Proj. Imp.[6]	Score/Delay		LOS		Score/Delay		LOS		Score		LOS		Score		LOS	
					AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
Cathedral City	12	Cathedral Cyn. Dr. / Officer David Vasquez Rd.	TS	TS																
		- Westbound Approach			2.22	2.34	B	B	2.22	2.34	B	B	2.72	3.02	B	C	2.72	3.02	B	C
		- Northbound Approach			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.58	1.63	A	A	1.58	1.63	A	A
		- Southbound Approach			2.59	2.72	B	B	2.59	2.72	B	B	1.76	1.83	A	A	1.54	1.61	A	A
	13	Date Palm Dr. / Perez Rd.	TS	TS																
		- Eastbound Approach			2.63	2.78	B	C	2.63	2.78	B	C	3.17	3.40	C	C	3.17	3.40	C	C
		- Northbound Approach			2.84	2.98	C	C	2.84	2.98	C	C	3.42	3.93	C	D	3.10	3.61	C	D
		- Southbound Approach			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3.97	4.09	D	D	3.97	4.09	D	D
Rancho Mirage	14	Da Vall Dr. / Frank Sinatra Dr.	TS	TS																
		- Eastbound Approach			2.69	2.92	B	C	N/A	N/A	N/A	N/A	3.21	3.47	C	C	N/A	N/A	N/A	N/A
		- Westbound Approach			2.85	3.18	C	C	N/A	N/A	N/A	N/A	3.20	4.08	C	D	N/A	N/A	N/A	N/A
		- Southbound Approach			2.63	2.83	B	C	N/A	N/A	N/A	N/A	3.17	3.10	C	C	N/A	N/A	N/A	N/A
	15	SR-111 / Country Club Dr.	TS	TS																
		- Eastbound Approach			2.20	2.33	B	B	N/A	N/A	N/A	N/A	2.77	3.22	C	C	N/A	N/A	N/A	N/A
		- Westbound Approach			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3.94	4.07	D	D	N/A	N/A	N/A	N/A
		- Northbound Approach			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3.82	4.11	D	D	N/A	N/A	N/A	N/A
		- Southbound Approach			3.62	3.67	D	D	N/A	N/A	N/A	N/A	3.57	3.42	D	C	N/A	N/A	N/A	N/A
	16	SR-111 / Thunderbird Rd.	TS	TS																
		- Eastbound Approach			2.00	2.05	A	B	N/A	N/A	N/A	N/A	1.79	1.88	A	A	N/A	N/A	N/A	N/A
		- Westbound Approach			1.76	1.79	A	A	N/A	N/A	N/A	N/A	2.71	2.78	B	C	N/A	N/A	N/A	N/A
		- Northbound Approach			3.38	3.51	C	D	N/A	N/A	N/A	N/A	2.23	2.48	B	B	N/A	N/A	N/A	N/A
		- Southbound Approach			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3.70	3.74	D	D	N/A	N/A	N/A	N/A
	17	SR-111 / Paxton Dr.	TS	TS																
		- Westbound Approach			2.13	2.24	B	B	N/A	N/A	N/A	N/A	3.04	3.28	C	C	N/A	N/A	N/A	N/A
		- Northbound Approach			3.46	3.49	C	C	N/A	N/A	N/A	N/A	3.09	3.26	C	C	N/A	N/A	N/A	N/A
		- Southbound Approach			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3.80	3.65	D	D	N/A	N/A	N/A	N/A
	18	San Jacinto Dr. / Rancho Las Palmas	AWS	AWS	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

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Pedestrian And Bicycle Analysis For 2040 Alternative 1 Conditions

Jurisdiction	#	Intersection	Traffic Control[4]		PEDESTRIAN[1,2]								BICYCLE[3]							
					Without Improvements				With Project Improvements[6]				Without Improvements				With Project Improvements[6]			
					Score/Delay		LOS		Score/Delay		LOS		Score		LOS		Score		LOS	
			W/O Imp.	W/ Proj. Imp.[6]	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
	19	Bob Hope Dr. / Rancho Las Palmas	TS	TS																
		- Eastbound Approach			2.43	2.42	B	B	N/A	N/A	N/A	N/A	3.36	3.33	C	C	N/A	N/A	N/A	N/A
		- Westbound Approach			2.01	2.02	B	B	N/A	N/A	N/A	N/A	3.02	3.05	C	C	N/A	N/A	N/A	N/A
		- Northbound Approach			2.96	3.16	C	C	N/A	N/A	N/A	N/A	3.17	3.68	C	D	N/A	N/A	N/A	N/A
		- Southbound Approach			3.03	3.23	C	C	N/A	N/A	N/A	N/A	3.68	3.85	D	D	N/A	N/A	N/A	N/A
	20	Bob Hope Dr. / Avenida Las Palmas	TS	TS																
		- Eastbound Approach			2.07	2.07	B	B	N/A	N/A	N/A	N/A	3.16	3.16	C	C	N/A	N/A	N/A	N/A
		- Westbound Approach			2.08	2.17	B	B	N/A	N/A	N/A	N/A	3.26	3.52	C	D	N/A	N/A	N/A	N/A
		- Northbound Approach			2.96	3.14	C	C	N/A	N/A	N/A	N/A	3.14	3.63	C	D	N/A	N/A	N/A	N/A
		- Southbound Approach			2.95	3.14	C	C	N/A	N/A	N/A	N/A	3.49	3.61	C	D	N/A	N/A	N/A	N/A
	21	Bob Hope Dr. / Commercial Dwy. (No At-Grade Xing)	CSS	CSS + **PB**																
		- Westbound Approach			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
		- Northbound Approach			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
		- Southbound Approach			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Rancho Mirage	22	SR-111 / Bob Hope Dr.	TS	TS																
		- Eastbound Approach			1.79	1.81	A	A	N/A	N/A	N/A	N/A	2.06	2.08	B	B	N/A	N/A	N/A	N/A
		- Westbound Approach			2.84	3.07	C	C	N/A	N/A	N/A	N/A	3.67	3.93	D	D	N/A	N/A	N/A	N/A
		- Northbound Approach			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4.14	4.23	D	D	N/A	N/A	N/A	N/A
		- Southbound Approach			3.54	3.69	D	D	N/A	N/A	N/A	N/A	2.78	3.09	C	C	N/A	N/A	N/A	N/A
	23	SR-111 / Magnesia Falls Dr.	TS	TS																
		- Eastbound Approach			2.05	2.03	B	B	N/A	N/A	N/A	N/A	3.10	3.07	C	C	N/A	N/A	N/A	N/A
		- Westbound Approach			2.56	2.62	B	B	N/A	N/A	N/A	N/A	3.66	4.22	D	D	N/A	N/A	N/A	N/A
		- Northbound Approach			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3.99	3.99	D	D	N/A	N/A	N/A	N/A
		- Southbound Approach			3.77	3.86	D	D	N/A	N/A	N/A	N/A	2.81	2.90	C	C	N/A	N/A	N/A	N/A

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Pedestrian And Bicycle Analysis For 2040 Alternative 1 Conditions

Jurisdiction	#	Intersection	Traffic Control[4]		PEDESTRIAN[1,2]								BICYCLE[3]							
					Without Improvements				With Project Improvements[6]				Without Improvements				With Project Improvements[6]			
			W/O Imp.	W/ Proj. Imp.[6]	Score/Delay		LOS		Score/Delay		LOS		Score		LOS		Score		LOS	
					AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
Palm Desert	24	Monterey Av. / Park View Dr.	TS	TS																
		- Eastbound Approach			2.28	2.39	B	B	N/A	N/A	N/A	N/A	3.67	3.91	D	D	N/A	N/A	N/A	N/A
		- Westbound Approach			2.34	2.35	B	B	N/A	N/A	N/A	N/A	3.25	3.32	C	C	N/A	N/A	N/A	N/A
		- Northbound Approach			3.36	3.59	C	D	N/A	N/A	N/A	N/A	3.32	3.92	C	D	N/A	N/A	N/A	N/A
		- Southbound Approach			3.39	3.54	C	D	N/A	N/A	N/A	N/A	3.45	3.43	C	C	N/A	N/A	N/A	N/A
	25	San Pablo Av. / Magnesia Falls Dr.	AWS	AWS	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	26	San Pablo Av. / Alumni Dr.	AWS	AWS	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	27	Portola Av. / Magnesia Falls Dr.	TS	TS																
		- Eastbound Approach			2.30	2.36	B	B	2.30	2.36	B	B	3.31	3.45	C	C	3.31	3.45	C	C
		- Westbound Approach			2.34	2.37	B	B	2.34	2.37	B	B	2.97	3.41	C	C	2.97	3.41	C	C
		- Northbound Approach			3.00	3.41	C	C	3.00	3.41	C	C	3.43	4.18	C	D	3.43	4.18	C	D
		- Southbound Approach			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Indian Wells	28	El Dorado Dr. / Fred Waring Dr.	TS	TS																
		- Eastbound Approach			3.51	3.65	D	D	N/A	N/A	N/A	N/A	3.61	3.88	D	D	N/A	N/A	N/A	N/A
		- Westbound Approach			3.45	3.66	C	D	N/A	N/A	N/A	N/A	3.10	3.28	C	C	N/A	N/A	N/A	N/A
		- Northbound Approach			2.52	2.78	B	C	N/A	N/A	N/A	N/A	3.71	4.38	D	**E**	N/A	N/A	N/A	N/A
		- Southbound Approach			2.35	2.37	B	B	N/A	N/A	N/A	N/A	2.99	2.99	C	C	N/A	N/A	N/A	N/A
La Quinta	29	Dune Palms Rd. / Corporate Ctr. Dr.	CSS	**TS**																
		- Eastbound Approach			N/A	N/A	N/A	N/A	1.98	2.00	A	A	N/A	N/A	N/A	N/A	2.48	2.56	B	B
		- Northbound Approach			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.93	4.11	C	D
		- Southbound Approach			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.39	1.17	A	A

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Pedestrian And Bicycle Analysis For 2040 Alternative 1 Conditions

Jurisdiction	#	Intersection	Traffic Control[4]		PEDESTRIAN[1,2]								BICYCLE[3]							
					Without Improvements				With Project Improvements[6]				Without Improvements				With Project Improvements[6]			
			W/O Imp.	W/ Proj. Imp.[6]	Score/Delay		LOS		Score/Delay		LOS		Score		LOS		Score		LOS	
					AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
Indio	30	Monroe St., south of I-10 EB Ramps	-	-																
		- Northbound Approach			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
		- Southbound Approach			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	31	Av. 44, east of Palo Verde St.	-	**HA WK**																
		- Eastbound Approach			**>80**	**>80**	**F**	**F**	2.28	2.54	A	A	N/A	N/A	N/A	N/A	2.45	2.65	B	B
		- Westbound Approach			**>80**	**>80**	**F**	**F**	2.28	2.54	A	A	N/A	N/A	N/A	N/A	2.80	3.17	C	C
		- Northbound Approach			N/A	N/A	N/A	N/A	1.71	1.71	A	A	N/A	N/A	N/A	N/A	0.47	0.47	A	A
		- Southbound Approach			N/A	N/A	N/A	N/A	1.71	1.71	A	A	N/A	N/A	N/A	N/A	0.47	0.47	A	A
Coachella	32	Dillon Rd., west of SR-86S SB Ramps	-	**HA WK**																
		- Eastbound Approach			**>80**	**>80**	**F**	**F**	3.06	3.26	C	C	N/A	N/A	N/A	N/A	2.19	2.69	B	B
		- Westbound Approach			**>80**	**>80**	**F**	**F**	3.06	3.26	C	C	N/A	N/A	N/A	N/A	1.84	2.05	A	B
		- Northbound Approach			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.31	2.31	B	B
		- Southbound Approach			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.31	2.31	B	B
Coachella	33	Tyler St. / Avenue 50	AWS[5]	**TS**																
		- Eastbound Approach			N/A	N/A	N/A	N/A	2.93	3.09	N/A	N/A	N/A	N/A	N/A	N/A	3.11	4.09	C	D
		- Westbound Approach			N/A	N/A	N/A	N/A	2.88	3.07	N/A	N/A	N/A	N/A	N/A	N/A	3.55	3.53	D	D
		- Northbound Approach			N/A	N/A	N/A	N/A	2.26	2.35	N/A	N/A	N/A	N/A	N/A	N/A	3.85	3.80	D	D
		- Southbound Approach			N/A	N/A	N/A	N/A	1.74	1.74	N/A	N/A	N/A	N/A	N/A	N/A	2.94	2.93	C	C

[1] Delay and level of service calculated using Syncrho 9 analysis software. **BOLD** = LOS does not meet the applicable jurisdictional requirements (i.e., unacceptable LOS).
[2] Per the 2010 Highway Capacity Manual, the pedestian score and level of service for the pedestrians crossing each subject approach (i.e. "Eastbound" pedestrians are those crossing the Eastbound vehicular approach) are shown for signalized intersections. For cross-street stop controlled intersections, the pedestrian delay and level of service are shown for pedestrians crossing a traffic stream not controlled by a stop sign. It should be noted that pedestrian level of service measures at all-way stop controlled intersections are not evaluated since pedestrian LOS is defined for pedestrians crossing a traffic stream not controlled by a stop sign (Exhibit 8-2 of HCM2010)
[3] Per the 2010 Highway Capacity Manual, the bicycle LOS score for the segment is used to estimate facility LOS. One score is needed for each direction of travel of interest for each segment on the facility for signalized intersections.
For unsignalized intersections, bicycle level of service measures are not evaluated per Exhibit 8-2 of HCM2010.
[4] TS = Traffic Signal; CSS = Cross Street Stop; AWS = All-Way Stop; Y = Crosswalk Yield; PB = Push Button Cross Walk Lights (Solar Powered); HAWK = High-Intensity Activated crossWalK beacon
[5] Based on field observations, the intersection of Tyler St. - Magnolia / Avenue 50 - Tyler St. is stop controlled for the NB, SB, and EB approach. The WB approach is uncontrolled. This type of traffic control setup is not supported in Synchro. Therefore, for the purpose of this report this intersection is evaluated as an all-way stop control.
[6] See project improvements identified in the ntersection analysis table for Auto/LSEV.

Potential Reduction in Vehicle Miles Traveled

The addition of an integrated and safe option for bicycle travelers, LSEV users, and pedestrians in the Coachella Valley is projected to induce travel by these modes and reduce automobile vehicle miles traveled. The 2040 annualized corridor demand for Alternative 1 includes approximately 1.2 million bike trips, 860,000 LSEV trips, and 1 million pedestrian trips. For Alternative 1, the potential reduction is estimated to be 6.4 million annual motor vehicle miles.

a) *Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit.*

During the development of the CV Link project, including Alternative 1, the project planners and proponents reviewed transportation-related planning and technical documents of the various local jurisdictions to harmonize the Link design with local transportation planning and regulations. These included a review of the various General Plan Circulation Elements (and related elements), the SCAG Regional Transportation Plan, Riverside County Transportation Commission Congestion Management Plan, the CVAG Active Transportation Plan and other plans, ordinances and polices with which the project might conflict. It is also important to note that as the project proponent, CVAG is acting on behalf of its member jurisdictions and have provided input and secured concurrence throughout the plan development process.

Alternative 1 for CV Link, which does not include alignments through Rancho Mirage or Indian Wells, will not conflict with any of the various plans regulating transportation infrastructure construction or operation in the participating jurisdictions. Rather, the project builds off of – and is meant to complement – existing transportation plans, including and especially those associated with the provision of multi-modal facilities. Careful consideration has also been given to not conflict with the policies and ordinances of the cities of Rancho Mirage or Indian Wells. As shown in Table 5-23 above, with project and other already programmed improvements, all affected intersections within the Alternative 1 project will operate at acceptable levels of service in 2040. Therefore, Alternative 1 will have a less than significant impact on local plans implementing the circulation system.

b) *Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways.*

Alternative 1 interfaces with and crosses only one CMP roadway, Monterey Avenue at Parkview Drive, which would remain in the project under Alternative 1. As previously discussed in Section 4.16, impacts to levels of service for this CMP roadway in the near and long-term will be less than significant. Furthermore, Alternative 1 serves to implement the multi-modal performance standards set forth in the CMP, as well as helping to address long-term LOS deficiencies and improving local and regional air quality. Alternative 1 will be consistent with and will facilitate the achievement of CMP goals and programs. In this regard, the project will have a less than significant impact on CMP facilities and will have a beneficial impact in helping to achieve CMP goals.

c) *Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks.*

Alternative 1 will have a negligible impact on air traffic patterns, will not increase levels of air travel or traffic, and will not introduce a use at a location that could result in substantial safety risks.

d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).

CV Link designs and facilities have been developed in compliance with the American Association of State Highway and Transportation Officials (AASHTO) Guide for the Development of Bicycle Facilities and the National Association of City Transportation Officials (NACTO) Urban Street Design Guide also provide additional bikeway guidance not included in the California Highway Design Manual. CV Link also complies with the Americans With Disabilities Act (ADA).

CV Link, including Alternative 1, is designed specifically to optimize safe and efficient multi-modal transportation along the entire Route, and incorporates a wide range of safety-related designs that maximize safety for all users. Design features, including curves, ramp slope, barrier design and location, signage and lighting, have been designed to ensure safety on the Link. HAWK and other vehicular and multi-modal traffic controls will improve safety for all users at CV Link at-grade crossings of public streets.

Indian Wells East and West Termini

Alternative 1 does not include the cities of Rancho Mirage and Indian Wells. Section 4.16 analysed the effects of the Rancho Mirage east and west-end termini, specifically evaluating curves, intersection and rest area locations and designs, and alternative routes of travel at these termini. The analysis in Section 4.16 indicates that CV Link facilities will not introduce any substantial increase in travel-related hazards. The same analysis was also conducted for the east and west-end Indian Wells termini, which would be built under Alternative 1. Both east and west Indian Wells termini associated with Alternative 1 are discussed below. Whichever termini are ultimately chosen and constructed will include signage informing Link users of available legal bike routes and golf cart routes in the City of Indian Wells.

West Indian Wells Termini

The deletion of the above described Indian Wells CV Link alignments will also affect how the Link is terminated on the west side of the city. To this end, a variety of possible termini were considered that depend upon different Route alignments and end points. Each of the four west end termini being considered, and potential impacts, is described below and is also shown on Exhibit 2-20.

Terminus A: This terminus would be located on the south (right) bank of the channel at the planned Kelsey Circle access point located within the Desert Rose development in Palm Desert. This terminus would be signed, would be of adequate width to allow LSEV turn-around and otherwise provide a safe, direct departure from CV Link onto Kelsey Circle. This would allow safe travel through the Desert Rose development to Fred Waring Drive, where CV Link pedestrians and bicyclists (walking their bikes) can proceed west on the existing sidewalk. For those users who wish to proceed east along the north side of Waring Drive, there is a narrow but adequate sidewalk for pedestrians and bicyclists who walk their bikes. There is no bike lane along this portion of Waring Drive, and within Indian Wells bicycles are prohibited on this street. There would be no design features or conditions that would substantially increase hazards for CV Link users.

Terminus B: This terminus would be located approximately 700-800 feet southeast of Terminus A at the intersection of the old (now abandoned) and partially paved Eldorado Drive alignment, which currently provides CVWD access to the channel and SCE access to an adjoining substation. This terminus would be signed, would be of adequate width to allow LSEV turn-around and other Link improvements, including an extension of pavement to the channel maintenance road, would provide a safe, direct departure from CV Link onto the existing mostly paved segment of vacated Eldorado Drive. CV Link users can proceed south to Fred Waring Drive, where CV Link pedestrians and bicyclists (walking their bikes) can proceed west on the existing sidewalk. Indian Wells has prohibited bicycles on this segment of Waring Drive. For those users who wish to proceed east along the north side of Waring Drive, farther east there is a narrower but adequate continuation of sidewalk for pedestrians

and bicyclists who walk their bikes. There is no designated bike lane along this portion of Waring Drive. There would be no design features, such as sharp curves or other design features or conditions that would substantially increase hazards for CV Link users.

Terminus C: This terminus would be located on the north (left) bank of the channel and essentially due north of Terminus B on the south side of the channel. Terminus C would be reached by an in-channel path that would cross the wash and ramp back up onto the north (left) bank channel service road. Signage would be provided at and in advance of the terminus indicating the end of the Link at this location. Users (including LSEVs) would necessarily backtrack from this location, having no other alternative that would allow them to proceed further. Facilities would be adequate to facilitate LSEV turn-around. There would be no design features, such as sharp curves or other design features or conditions that would substantially increase hazards for CV Link users.

Terminus D: This terminus is the easterly most of the four options considered. It would continue southeast along the north (left) bank of the channel to the north side of Fred Waring Drive, where it would proceed east on an existing sidewalk or along the adjoining flood control apron to a point west of the intersection of Fred Waring Drive and Eldorado Drive. From the channel, CV Link users can proceed west along the north side of Waring Drive, farther east there is a narrow but adequate continuation of sidewalk for pedestrians and bicyclists who walk their bikes; no on-street bike path is provided. For those users who wish to proceed east along the north side of Waring Drive, a narrow but adequate continuation of sidewalk is available for pedestrians and bicyclists who walk their bikes to proceed to the intersection of Waring Drive and Eldorado Drive (a short distance of approximately 900 feet). As noted, bicycles are prohibited on this segment of Waring Drive in Indian Wells. This intersection is fully improved and signalized, with crosswalks serving all four corners. CV Link users can then proceed south along the existing striped bike lane and sidewalk located on the west side of Eldorado Drive. There is no designated bike lane along this portion of Waring Drive. There would be no design features, such as sharp curves or other design features or conditions that would substantially increase hazards for CV Link users.

In summary, the impact analysis assumes that CV Link users will make choices with regard to proceeding through Indian Wells at the above-described termini, or reverse direction and change routes. In the event CV Link users opt to proceed through Indian Wells, then the existing network of streets, sidewalks, and other paths and trails are expected to safely accommodate this travel. As noted, notice in the form of signage will be placed at both termini clearly stating CV Link has terminated and does not extend beyond this location within Indian Wells. As noted, bicycles are prohibited on this segment of Waring Drive in Indian Wells. Signage is planned at the termini to provide CV Link users with information about the City of Indian Wells' available bicycle and golf cart facilities and routes.

East Indian Wells Terminus

The east Indian Wells terminus developed for Alternative 1 has been designed to bring CV Link users to the Indian Wells/La Quinta city limit on the south side of Highway 111. The terminus will be reached by a spur path coming south from the WWR Channel path alignment and along the west end of the Point Happy commercial development to the signalized intersection of Plaza La Quinta and Highway 111. From this point, the path will cross Highway 111 and continue west along the south side of the highway to the city limits. There are crosswalks across the north and east legs of this intersection, so Link users would have to cross the intersection to access the existing crosswalk and then proceed across the existing crosswalk at the entrance to the adjoining shopping center on the south side of Highway 111 and then proceed west. Alternatively, a new crosswalk would need to be constructed across the west leg of this intersection that mirrors the existing crosswalk on the east leg. In either case, existing improvements and those associated with CV Link would provide safe conveyance of CV Link users across this intersection. There would be no design features, such as sharp curves, lack of striping or other design features or conditions that would substantially increase hazards for CV Link users.

Just west of this east terminus, Indian Wells provides a dedicated pedestrian bridge over the Deep Canyon Channel, as well as a generous parkway with sidewalks continuing west. Bicyclists would have to walk their bikes from the Plaza La Quinta/Highway 111 intersection to and across pedestrian bridge. Indian Wells has designated Highway 111 as a Class III bike path but its General Plan indicates that golf carts (and presumably other LSEVs) are not permitted on Highway 111. The CV Link Master Plan calls for signage in advance of potential bottlenecks such as this, which will forewarn LSEV users (and where appropriate other CV Link users) that they cannot be accommodated farther along the route.

The same design features cited above, including connections for users to existing sidewalks, crosswalks and intersection improvements, are applied to these termini, which will ensure that CV Link users can safely return on CV Link facilities or transition to city on-street and other public mufti-modal facilities located within Eldorado Drive, Highway 111 and Miles Avenue. Alternative 1 will not result in substantial or significant increases in hazards.

e) Result in inadequate emergency access.

The CV Link Conceptual Master Plan was developed in cooperation and coordination with police chiefs and emergency services managers and a variety of design components were identified critical to adequate emergency access. Several access points to CV Link will be provided to ensure an efficient emergency response. CV Link, including Alternative 1, will be included in the 911-response system and mile-markers will be placed along the Route. Signage major streets, overcrossings, and undercrossing will also be provided. Therefore, Alternative 1 will have a less than significant impact on emergency access either along the Route or on adjacent streets.

f) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.

The CV Link project, including Alternative 1, was developed based, in part, on a review of transportation-related planning and technical documents of the various local jurisdictions in order to harmonize the Link design with local transportation planning, facilities and regulations. CV Link would result in the construction of bicycle, pedestrian and LSEV facilities, and would also provide enhanced access to employment centers, institutional uses (schools, civic centers, etc.), business districts, and parks and open space areas. CV Link will also enhance access to regional and local transit facilities. CVAG has also adopted the 2016 CVAG Active Transportation Plan, which updates regional policies and programs, and harmonizes them with those of state and federal programs supporting development of multi-modal and active transportation facilities.

Alternative 1 does not conflict with, but rather complements, the adopted policies, plans, and programs of the participating jurisdictions as they relate to public transit, bicycle, or pedestrian facilities. The project also serves to enhance, rather than decrease, the performance and safety of these multi-modal facilities.

5.16.3.1.2. Alternative 1 Mitigation Measures

As noted in Section 4.16, CV Link provides new and enhanced multi-modal transportation infrastructure that will reduce motor vehicle traffic and vehicle miles traveled, and reduce impacts to the local roadway network and preserve capacity. Beneficial effects of the Alternative 1 project will be immediate and will increase over time with the growth in CV Link use and its interconnection with other multi-modal facilities. CV Link and programmed roadway and intersection improvements will ensure that initially and through 2040, CV Link Alternative 1 facilities will reduce traffic and improve roadway and intersection performance, maintaining acceptable levels of service. The same general mitigation measures provided for the Proposed Project will also apply to Alternative 1. Please see Section 4.16.6 Mitigation Measures for further reference.

5.16.3.1.3. Alternative 1 Significance After Mitigation

Alternative 1 will have a less than significant adverse impact on transportation facilities and operations. The project provides transportation facilities that address a wide range of transportation and policy needs. The project will not result in any significant adverse impacts transportation infrastructure or operations, now and through 2040. Rather, Alternative 1 will have significant beneficial impacts on local and regional traffic and to achieving the goals and policies of CVAG, its member jurisdictions, as well as state and federal transportation agencies.

5.16.3.1.4. Alternative 1 Cumulative Impacts

Alternative 1 will have a less than considerable adverse cumulative impact on local and regional transportation facilities and operations. The project provides much needed multi-modal transportation facilities that address an identified need for a larger and more diverse multi-modal transportation network in the Coachella Valley. Therefore, the project will not result in any cumulatively considerable adverse impacts but, rather, Alternative 1's contributions will have cumulatively considerable beneficial effects on local and regional traffic.

5.16.3.2. Alternative 2

5.16.3.2.1. Alternative 2 Impacts

Alternative 2 Project Summary
Under Alternative 2, all the cities from Palm Springs to Coachella would be part of the project. The impacts associated with Alternative 2 are comparable to those associated with the Proposed Project. This alternative would eliminate the need for termini and create one continuous CV Link Route through the Valley. The CV Link alignments located in Rancho Mirage are generally surrounded by stormwater channel, residential (some gated), institutional (library), commercial, and golf course uses. The Rancho Mirage alignments generally follow the Whitewater Stormwater Channel in the northwest and southeast areas of the City, but alignments are also located along portions of Highway 111 between Country Club Drive to Paxton Street, and Bob Hope Drive to Parkview Drive.

Several alignments were analyzed for the Rancho Mirage portion of the Route, including two for the segment between Frank Sinatra Drive and Country Club Drive, and two alignments between Rancho Mirage Community Park and Bob Hope Drive.

The two alignments for Frank Sinatra Drive to Country Club Drive are as follow:

- Left bank: Repave existing channel bottom crossing north of Frank Sinatra Drive to left back, cross at existing Da Vall Drive signals, and using the Butler-Abrams Trail continue past Wolfson Park along the left back to an existing channel bottom crossing back out to the existing Butler-Abrams Trail,
- Right bank: Construct an at-grade crossing and build a new path along the right bank channel maintenance road.

The two alignments from Paxton Road to Rancho Mirage Library are as follows:

- Cross Highway 111 at Paxton Road and proceed east along the south (right) bank of the Whitewater Stormwater Channel to the West Magnesia Falls Channel,
- Continue east on the south side of Highway 111, cross the West Magnesia Falls bridge, pass under the bridge and proceed on the east (right) channel bank to the Whitewater Stormwater Channel.

The two alignments from Rancho Mirage Library to Bob Hope Drive are as follows:

- A connector from the channel alignment, through the west end of the Rancho Mirage Community Park and east along the San Jacinto Drive right-of-way, through The River development to the signal at Bob Hope Drive
- A continuation of the channel alignment from the Library and east along the south (right) bank of the stormwater channel, then south along the west side of Bob Hope Drive to Highway 111.

The two alignments from Bob Hope Drive to Parkview Drive are as follows:

- Two Highway 111 alignments are proposed on the north and south side of this street, with the north alignment tying directly into planned CV Link facilities in Parkview Drive.
- The south Highway 111 alignment would proceed southeast to Desert Drive, turning south and providing two alignments to the East Magnesia Falls Channel.

Alternative 2 also proposes additional CV Link access and/or at grade crossings to be located as follows:

- Rancho Mirage Racquet Club: new gated neighborhood access,
- Golden State Street: new gated neighborhood access,
- Country Club Drive: new facility,
- Rancho Las Palmas Shopping Center at Bob Hope Drive frontage: new community access, and
- Barbara Drive/Highway 111: new local access; an undercrossing of Highway 111 on the Parkview Channel would facilitate this connection.

In addition, enhanced signals are proposed for crossings of Country Club Drive, Thunderbird Road, and Paxton Drive. New bridges are proposed for Thunderbird Channel and West Magnesia Falls Channel. Enhanced traffic signals would be used on Monterey Avenue at Parkview Drive.

Future Performance of Rancho Mirage Roadways

Da Vall Drive at Frank Sinatra Drive (#14), the crossing for the alignment alternative uses the channel bottom to existing signals at Da Vall Drive and a left bank alignment, passing through the Wolfson Park. This intersection is projected to experience acceptable operation (LOS “D” or better) for 2040 conditions.

At the intersection of SR-111 at Country Club Drive (#15), crosswalk improvements are included for the north and west legs of the intersections for Alternative 2. This intersection is projected to experience acceptable operation (LOS “D” or better) for 2040 conditions.

Crosswalk upgrades are planned for the west leg of intersection #16 (SR-111/Thunderbird Road) and the south leg of intersection #17 (SR-111/Paxton Road). Enhanced signals are proposed for crossings of Country Club Drive, Thunderbird Road, and Paxton Drive. This intersection is projected to experience acceptable operation (LOS “D” or better) for 2040 conditions.

For the intersection of San Jacinto Drive at Rancho Las Palmas (#18), one alignment would include reconfiguration of the intersection to accommodate CV Link lanes. This intersection is projected to experience acceptable operation (LOS “D” or better) for 2040 conditions.

On-Street CV Link lanes are proposed along Bob Hope Drive which include the study area intersections of Bob Hope Drive/Rancho Las Palmas Drive (#19), Bob Hope Drive/Avenida Las Palmas (#20) and Bob Hope Drive/Commercial Driveway-entrance of the Rancho Las Palmas Shopping Center (#21). Other project design features include a crosswalk with push button at the intersection of Bob Hope Drive/Commercial Driveway (#21).

CV Link includes lanes on SR-111 and Bob Hope Drive (#22), with a modified east leg crosswalk at the intersection. Other traffic signal project design features include a northbound right turn overlap phase to maintain acceptable intersection operations.

For the intersection of SR-111 at Magnesia Falls Drive (#23), crosswalk improvements are planned for CV Link. Other traffic signal project design features include a westbound right turn overlap phase to maintain acceptable intersection operations.

All other segment and alignment improvements discussed as part of the Proposed Project will apply to Alternative 2.

Potential Reduction in Vehicle Miles Traveled

The addition of an integrated and safe option for bicycle travelers, LSEV users, and pedestrians in the Coachella Valley is projected to induce travel by these modes and reduce automobile vehicle miles traveled (VMT). The 2040 annualized corridor demand for Alternative 2 includes approximately 1.4 million bike trips, 1.2 million LSEV trips, and 1.1 million pedestrian trips. For Alternative 2, the potential reduction is estimated to be 9.1 million annual motor vehicle miles.

Table 5-24, below, sets forth the levels of service at all project intersections under Alternative 2.

Table 5-24
Pedestrian And Bicycle Analysis For 2040 Alternative 2 Conditions

Jurisdiction	#	Intersection	Traffic Control[4]		PEDESTRIAN[1,2]								BICYCLE[3]							
					Without Improvements				With Project Improvements[6]				Without Improvements				With Project Improvements[6]			
			W/O Imp.	W/ Proj. Imp.[6]	Score/Delay		LOS		Score/Delay		LOS		Score		LOS		Score		LOS	
					AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
Palm Springs North	1	Palm Cyn. Dr. (SR-111) / San Rafael Dr.	TS	TS																
		- Eastbound Approach			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.24	2.51	B	B	2.24	2.51	B	B
		- Westbound Approach			2.25	2.28	B	B	2.25	2.28	B	B	2.70	2.66	B	B	2.70	2.66	B	B
		- Northbound Approach			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3.16	4.06	C	D	3.16	4.06	C	D
		- Southbound Approach			2.80	3.00	C	C	2.80	3.00	C	C	3.53	3.64	D	D	3.53	3.64	D	D
	2	Indian Cyn. Dr. / Sunrise Pkwy.	CSS	**TS**																
		- Eastbound Approach			N/A	N/A	N/A	N/A	2.44	2.61	B	B	N/A	N/A	N/A	N/A	2.95	2.98	C	C
		- Westbound Approach			N/A	N/A	N/A	N/A	2.62	2.78	B	C	N/A	N/A	N/A	N/A	2.96	3.75	C	D
		- Northbound Approach			**>80**	**>80**	**F**	**F**	3.18	3.49	C	C	N/A	N/A	N/A	N/A	2.96	3.37	C	C
		- Southbound Approach			**>80**	**>80**	**F**	**F**	3.18	3.51	C	D	N/A	N/A	N/A	N/A	0.00	0.20	A	A
	3	Sunrise Pkwy. / San Rafael Dr.	TS	TS																
		- Eastbound Approach			2.42	2.43	B	B	2.42	2.43	B	B	3.12	3.10	C	C	3.12	3.10	C	C
		- Westbound Approach			1.85	1.89	A	A	1.85	1.89	A	A	2.33	2.28	B	B	2.33	2.28	B	B
		- Northbound Approach			2.78	2.91	C	C	2.78	2.91	C	C	2.74	2.99	B	C	2.85	2.99	C	C
		- Southbound Approach			2.67	2.69	B	B	2.67	2.69	B	B	2.24	2.29	B	B	1.70	1.75	A	A
	4	Gene Autry Tr. / Via Escuela	TS	TS																
		- Eastbound Approach			2.12	2.28	B	B	2.14	2.28	B	B	3.17	3.26	C	C	3.14	3.26	C	C
		- Westbound Approach			2.03	2.09	B	B	2.04	2.09	B	B	3.10	3.28	C	C	3.10	3.28	C	C
		- Northbound Approach			2.82	2.88	C	C	2.84	2.88	C	C	3.20	3.52	C	D	3.20	3.52	C	D
		- Southbound Approach			3.02	3.11	C	C	3.04	3.11	C	C	3.13	3.15	C	C	0.99	1.00	A	A
	5	Clubhouse View / Vista Chino	TS	TS																
		- Eastbound Approach			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3.60	4.15	D	D	3.49	4.04	C	D
		- Westbound Approach			2.98	3.56	C	D	2.98	3.56	C	D	2.45	3.36	B	C	2.88	3.79	C	D
		- Northbound Approach			2.01	2.01	B	B	2.01	2.01	B	B	1.52	1.53	A	A	1.63	1.64	A	A

Table 5-24
Pedestrian And Bicycle Analysis For 2040 Alternative 2 Conditions

Jurisdiction	#	Intersection	Traffic Control[4]		PEDESTRIAN[1,2]								BICYCLE[3]							
					Without Improvements				With Project Improvements[6]				Without Improvements				With Project Improvements[6]			
			W/O Imp.	W/ Proj. Imp.[6]	Score/Delay		LOS		Score/Delay		LOS		Score		LOS		Score		LOS	
					AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
Palm Springs Central	6	Sunrise Wy. / N. Riverside Dr.	CSS	**TS**																
		- Eastbound Approach			N/A	N/A	N/A	N/A	1.83	1.92	A	A	N/A	N/A	N/A	N/A	1.37	1.46	A	A
		- Westbound Approach			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.39	1.39	A	A
		- Northbound Approach			**>80**	**>80**	**F**	**F**	2.82	2.91	C	C	N/A	N/A	N/A	N/A	2.24	2.39	B	B
		- Southbound Approach			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.55	1.67	A	A
	7	Sunrise Wy. / Mesquite Av.	TS	TS																
		- Eastbound Approach			2.15	2.15	B	B	2.15	2.15	B	B	2.64	2.62	B	B	2.64	2.62	B	B
		- Westbound Approach			2.40	2.48	B	B	2.40	2.48	B	B	3.01	3.36	C	C	1.51	1.86	A	A
		- Northbound Approach			2.72	2.85	B	C	2.72	2.85	B	C	3.06	3.26	C	C	3.06	3.26	C	C
		- Southbound Approach			2.79	2.96	C	C	2.79	2.96	C	C	1.54	1.85	A	A	1.54	1.85	A	A
	8	Farrel Dr. / Mesquite Av.	TS	TS																
		- Eastbound Approach			2.41	2.50	B	B	2.27	2.38	B	B	2.47	2.54	B	B	1.55	1.68	A	A
		- Westbound Approach			2.48	2.67	B	B	2.35	2.59	B	B	2.43	2.78	B	C	1.47	2.16	A	B
		- Northbound Approach			2.58	2.74	B	B	2.58	2.74	B	B	2.60	2.82	B	C	2.60	2.82	B	C
		- Southbound Approach			2.49	2.57	B	B	2.49	2.57	B	B	2.80	3.00	C	C	2.80	3.00	C	C
	9	El Cielo Rd. / Mesquite Av.	AWS	AWS	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	10	Crossley Rd. / 34th Av.	CSS	**TS**																
		- Eastbound Approach			N/A	N/A	N/A	N/A	1.81	1.79	A	A	N/A	N/A	N/A	N/A	1.91	1.88	A	A
		- Westbound Approach			N/A	N/A	N/A	N/A	1.82	1.89	A	A	N/A	N/A	N/A	N/A	2.01	2.04	B	B
		- Northbound Approach			**>80**	**>80**	**F**	**F**	2.67	2.72	B	B	N/A	N/A	N/A	N/A	0.86	1.07	A	A
		- Southbound Approach			**>80**	**>80**	**F**	**F**	2.65	2.66	B	B	N/A	N/A	N/A	N/A	0.80	0.72	A	A
	11	Golf Club Dr. / Tahquitz Creek	Y	**PB**																
		- Northbound Approach			16.80	**42.70**	C	**E**	2.39	2.52	B	B	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
		- Southbound Approach			16.80	**42.70**	C	**E**	2.39	2.53	B	B	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Cathedral City	12	Cathedral Cyn. Dr. / Officer David Vasquez Rd.	TS	TS																
		- Westbound Approach			2.22	2.34	B	B	2.22	2.34	B	B	2.72	3.02	B	C	2.72	3.02	B	C
		- Northbound Approach			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.58	1.63	A	A	1.58	1.63	A	A
		- Southbound Approach			2.59	2.72	B	B	2.59	2.72	B	B	1.76	1.83	A	A	1.54	1.61	A	A

Table 5-24
Pedestrian And Bicycle Analysis For 2040 Alternative 2 Conditions

Jurisdiction	#	Intersection	Traffic Control[4]		PEDESTRIAN[1,2]								BICYCLE[3]							
					Without Improvements				With Project Improvements[6]				Without Improvements				With Project Improvements[6]			
			W/O Imp.	W/ Proj. Imp.[6]	Score/Delay		LOS		Score/Delay		LOS		Score		LOS		Score		LOS	
					AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
	13	Date Palm Dr. / Perez Rd.	TS	TS																
		- Eastbound Approach			2.63	2.78	B	C	2.63	2.78	B	C	3.17	3.40	C	C	3.17	3.40	C	C
		- Northbound Approach			2.84	2.98	C	C	2.84	2.98	C	C	3.42	3.93	C	D	3.10	3.61	C	D
		- Southbound Approach			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3.97	4.09	D	D	3.97	4.09	D	D
Rancho Mirage	14	Da Vall Dr. / Frank Sinatra Dr.	TS	TS																
		- Eastbound Approach			2.69	2.92	B	C	2.69	2.92	B	C	3.21	3.47	C	C	3.21	3.47	C	C
		- Westbound Approach			2.85	3.18	C	C	2.85	3.18	C	C	3.20	4.08	C	D	3.20	4.08	C	D
		- Southbound Approach			2.63	2.83	B	C	2.63	2.83	B	C	3.17	3.10	C	C	3.17	3.10	C	C
	15	SR-111 / Country Club Dr.	TS	TS																
		- Eastbound Approach			2.20	2.33	B	B	2.20	2.33	B	B	2.77	3.22	C	C	2.77	3.22	C	C
		- Westbound Approach			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3.94	4.07	D	D	2.43	2.56	B	B
		- Northbound Approach			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3.82	4.10	D	D	2.32	2.60	B	B
		- Southbound Approach			3.62	3.67	D	D	3.62	3.67	D	D	3.57	3.42	D	C	3.57	3.42	D	C
	16	SR-111 / Thunderbird Rd.	TS	TS																
		- Eastbound Approach			2.00	2.05	A	B	2.00	2.05	A	B	1.79	1.88	A	A	1.79	1.88	A	A
		- Westbound Approach			1.76	1.79	A	A	1.76	1.79	A	A	2.71	2.78	B	C	2.71	2.78	B	C
		- Northbound Approach			3.37	3.51	C	D	3.37	3.51	C	D	2.23	2.48	B	B	2.22	2.48	B	B
		- Southbound Approach			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3.70	3.73	D	D	3.70	3.73	D	D
	17	SR-111 / Paxton Dr.	TS	TS																
		- Westbound Approach			2.13	2.23	B	B	2.13	2.23	B	B	3.04	3.27	C	C	3.04	3.27	C	C
		- Northbound Approach			3.46	3.49	C	C	3.46	3.49	C	C	3.09	3.26	C	C	1.81	1.97	A	A
		- Southbound Approach			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3.80	3.65	D	D	3.80	3.65	D	D
	18	San Jacinto Dr. / Rancho Las Palmas	AWS	AWS	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	19	Bob Hope Dr. / Rancho Las Palmas	TS	TS																
		- Eastbound Approach			2.43	2.42	B	B	2.43	2.42	B	B	3.36	3.33	C	C	3.36	3.33	C	C
		- Westbound Approach			2.01	2.02	B	B	2.01	2.02	B	B	3.02	3.05	C	C	3.02	3.05	C	C
		- Northbound Approach			2.96	3.16	C	C	N/A	3.16	N/A	C	3.17	3.68	C	D	1.46	1.97	A	A
		- Southbound Approach			3.03	3.23	C	C	N/A	3.23	N/A	C	3.68	3.85	D	D	2.19	2.35	B	B

Table 5-24
Pedestrian And Bicycle Analysis For 2040 Alternative 2 Conditions

Jurisdiction	#	Intersection	Traffic Control[4]		PEDESTRIAN[1,2]								BICYCLE[3]							
					Without Improvements				With Project Improvements[6]				Without Improvements				With Project Improvements[6]			
			W/O Imp.	W/ Proj. Imp.[6]	Score/Delay		LOS		Score/Delay		LOS		Score		LOS		Score		LOS	
					AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
	20	Bob Hope Dr. / Avenida Las Palmas	TS	TS																
		- Eastbound Approach			2.07	2.07	B	B	2.07	2.07	B	B	3.16	3.16	C	C	3.16	3.16	C	C
		- Westbound Approach			2.08	2.17	B	B	2.08	2.17	B	B	3.26	3.52	C	D	3.26	3.52	C	D
		- Northbound Approach			2.96	3.14	C	C	N/A	3.14	N/A	C	3.14	3.63	C	D	1.64	2.14	A	B
		- Southbound Approach			2.95	3.15	C	C	N/A	3.15	N/A	C	3.50	3.62	C	D	2.00	2.12	A	B
	21	Bob Hope Dr. / Commercial Dwy. (No At-Grade Xing)	CSS	CSS + **PB**																
		- Westbound Approach			N/A	N/A	N/A	N/A	1.75	1.78	A	A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
		- Northbound Approach			**>80**	**>80**	**F**	**F**	2.86	3.29	A	A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
		- Southbound Approach			**>80**	**>80**	**F**	**F**	2.86	3.29	A	A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
RanchoMirage	22	SR-111 / Bob Hope Dr.	TS	TS																
		- Eastbound Approach			1.79	1.81	A	A	1.79	1.81	A	A	2.06	2.08	B	B	2.06	2.08	B	B
		- Westbound Approach			2.84	3.07	C	C	2.84	3.07	C	C	3.67	3.95	D	D	3.37	3.63	C	D
		- Northbound Approach			N/A	N/A	N/A	N/A	3.75	3.79	D	D	4.14	4.23	D	D	2.64	2.73	B	B
		- Southbound Approach			3.54	3.69	D	D	3.54	3.69	D	D	2.77	3.08	C	C	2.77	3.08	C	C
	23	SR-111 / Magnesia Falls Dr.	TS	TS																
		- Eastbound Approach			2.05	2.03	B	B	2.05	2.03	B	B	3.10	3.07	C	C	3.10	3.07	C	C
		- Westbound Approach			2.56	2.62	B	B	2.56	2.62	B	B	3.66	4.22	D	D	3.66	4.22	D	D
		- Northbound Approach			N/A	N/A	N/A	N/A	3.80	3.87	D	D	3.99	3.99	D	D	2.49	2.49	B	B
		- Southbound Approach			3.77	3.86	D	D	3.77	3.86	D	D	2.82	2.90	C	C	2.07	2.15	B	B
Palm Desert	24	Monterey Av. / Park View Dr.	TS	TS																
		- Eastbound Approach			2.28	2.39	B	B	2.28	2.39	B	B	3.68	3.91	D	D	3.68	3.91	D	D
		- Westbound Approach			2.34	2.35	B	B	2..34	2.35	**F**	B	3.25	3.32	C	C	3.25	3.32	C	C
		- Northbound Approach			3.36	3.59	C	D	3.36	3.59	C	D	3.32	3.93	C	D	3.32	3.93	C	D
		- Southbound Approach			3.39	3.54	C	D	3.39	3.54	C	D	3.45	3.43	C	C	3.45	3.43	C	C
	25	San Pablo Av. / Magnesia Falls Dr.	AWS	AWS	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	26	San Pablo Av. / Alumni Dr.	AWS	AWS	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Table 5-24
Pedestrian And Bicycle Analysis For 2040 Alternative 2 Conditions

Jurisdiction	#	Intersection	Traffic Control[4]		PEDESTRIAN[1,2]								BICYCLE[3]							
					Without Improvements				With Project Improvements[6]				Without Improvements				With Project Improvements[6]			
			W/O Imp.	W/ Proj. Imp.[6]	Score/Delay		LOS		Score/Delay		LOS		Score		LOS		Score		LOS	
					AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
	27	Portola Av. / Magnesia Falls Dr.	TS	TS																
		- Eastbound Approach			2.30	2.36	B	B	2.30	2.36	B	B	3.31	3.45	C	C	3.31	3.45	C	C
		- Westbound Approach			2.34	2.37	B	B	2.34	2.37	B	B	2.97	3.42	C	C	2.97	3.42	C	C
		- Northbound Approach			3.00	3.41	C	C	3.00	3.41	C	C	3.43	4.18	C	D	3.43	4.18	C	D
		- Southbound Approach			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Indian Wells	28	El Dorado Dr. / Fred Waring Dr.	TS	TS																
		- Eastbound Approach			3.51	3.64	D	D	3.51	3.64	D	D	3.60	3.87	D	D	3.60	3.87	D	D
		- Westbound Approach			3.45	3.65	C	D	3.45	3.65	C	D	3.09	3.27	C	C	3.09	3.27	C	C
		- Northbound Approach			2.52	2.78	B	C	2.52	2.78	B	C	3.71	**4.38**	D	**E**	2.21	2.88	B	C
		- Southbound Approach			2.35	2.37	B	B	2.35	2.37	B	B	2.99	2.99	C	C	2.99	2.99	C	C
La Quinta	29	Dune Palms Rd. / Corporate Ctr. Dr.	CSS	**TS**																
		- Eastbound Approach			N/A	N/A	N/A	N/A	1.98	2.00	A	A	N/A	N/A	N/A	N/A	2.48	2.56	B	B
		- Northbound Approach			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.92	4.10	C	D
		- Southbound Approach			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.39	1.16	A	A
	30	Monroe St., south of I-10 EB Ramps	-	-																
		- Northbound Approach			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
		- Southbound Approach			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Indio	31	Av. 44, east of Palo Verde St.	-	**HAWK**																
		- Eastbound Approach			**>80**	**>80**	**F**	**F**	2.29	2.54	A	A	N/A	N/A	N/A	N/A	2.45	2.65	B	B
		- Westbound Approach			**>80**	**>80**	**F**	**F**	2.29	2.54	A	A	N/A	N/A	N/A	N/A	2.80	3.17	C	C
		- Northbound Approach			N/A	N/A	N/A	N/A	1.71	1.71	A	A	N/A	N/A	N/A	N/A	0.47	0.47	A	A
		- Southbound Approach			N/A	N/A	N/A	N/A	1.71	1.71	A	A	N/A	N/A	N/A	N/A	0.47	0.47	A	A
Coachella	32	Dillon Rd., west of SR-86S SB Ramps	-	**HAWK**																
		- Eastbound Approach			**>80**	**>80**	**F**	**F**	3.06	3.26	C	C	N/A	N/A	N/A	N/A	2.19	2.69	B	B
		- Westbound Approach			**>80**	**>80**	**F**	**F**	3.06	3.26	C	C	N/A	N/A	N/A	N/A	1.84	2.05	A	B
		- Northbound Approach			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.31	2.31	B	B
		- Southbound Approach			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.31	2.31	B	B

Table 5-24
Pedestrian And Bicycle Analysis For 2040 Alternative 2 Conditions

Jurisdiction	#	Intersection	Traffic Control[4]		PEDESTRIAN[1,2]								BICYCLE[3]							
					Without Improvements				With Project Improvements[6]				Without Improvements				With Project Improvements[6]			
			W/O Imp.	W/ Proj. Imp.[6]	Score/Delay		LOS		Score/Delay		LOS		Score		LOS		Score		LOS	
					AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
Coachella	33	Tyler St. / Avenue 50	AWS[5]	**TS**																
		- Eastbound Approach			N/A	N/A	N/A	N/A	2.93	3.09	N/A	N/A	N/A	N/A	N/A	N/A	3.11	4.09	C	D
		- Westbound Approach			N/A	N/A	N/A	N/A	2.88	3.07	N/A	N/A	N/A	N/A	N/A	N/A	3.55	3.53	D	D
		- Northbound Approach			N/A	N/A	N/A	N/A	2.26	2.35	N/A	N/A	N/A	N/A	N/A	N/A	3.85	3.80	D	D
		- Southbound Approach			N/A	N/A	N/A	N/A	1.74	1.74	N/A	N/A	N/A	N/A	N/A	N/A	2.94	2.93	C	C

[1] Delay and level of service calculated using Syncrho 9 analysis software. **BOLD** = LOS does not meet the applicable jurisdictional requirements (i.e., unacceptable LOS).
[2] Per the 2010 Highway Capacity Manual, the pedestian score and level of service for the pedestrians crossing each subject approach (i.e. "Eastbound" pedestrians are those crossing the Eastbound vehicular approach) are shown for signalized intersections. For cross-street stop controlled intersections, the pedestrian delay and level of service are shown for pedestrians crossing a traffic stream not controlled by a stop sign. It should be noted that pedestrian level of service measures at all-way stop controlled intersections are not evaluated since pedestrian LOS is defined for pedestrians crossing a traffic stream not controlled by a stop sign (Exhibit 8-2 of HCM2010)
[3] Per the 2010 Highway Capacity Manual, the bicycle LOS score for the segment is used to estimate facility LOS. One score is needed for each direction of travel of interest for each segment on the facility for signalized intersections.
For unsignalized intersections, bicycle level of service measures are not evaluated per Exhibit 8-2 of HCM2010.
[4] TS = Traffic Signal; CSS = Cross Street Stop; AWS = All-Way Stop; Y = Crosswalk Yield; PB = Push Button Cross Walk Lights (Solar Powered); HAWK = High-Intensity Activated crossWalK beacon
[5] Based on field observations, the intersection of Tyler St. - Magnolia / Avenue 50 - Tyler St. is stop controlled for the NB, SB, and EB approach. The WB approach is uncontrolled. This type of traffic control setup is not supported in Synchro. Therefore, for the purpose of this report this intersection is evaluated as an all-way stop control.
[6] See project improvements identified in the ntersection analysis table for Auto/LSEV.

a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit.

During the development of the CV Link project, including Alternative 2, the project planners and proponents reviewed transportation-related planning and technical documents of the various local jurisdictions to harmonize the Link design with local transportation planning and regulations. These included a review of the various General Plan Circulation Elements (and related elements), the SCAG Regional Transportation Plan, Riverside County Transportation Commission Congestion Management Plan, the CVAG Active Transportation Plan and other plans, ordinances and polices with which the project might conflict. It is also important to note that as the project proponent, CVAG is acting on behalf of its member jurisdictions and have provided input and secured concurrence throughout the plan development process.

Alternative 2 for CV Link will not conflict with any of the various plans regulating transportation infrastructure construction or operation in the participating jurisdictions, because on-road facilities will be integrated into, and conform to each jurisdiction's existing standards for roadway construction. The project builds off of and is meant to complement existing transportation plans, including and especially those associated with the provision of multi-modal facilities. In addition, the project and its alternatives support each jurisdiction's non-motorized transportation plans, by improving existing or proposed trails and pathways that are part of those plans. As shown in Table 5-24 above, with project improvements, all affected intersections within Alternative 2 will operate at acceptable levels of service with improvements. Therefore, Alternative 2 will have a less than significant impacts on plans and policies in all the affected jurisdictions.

b) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways.

Alternative 2 interfaces with and crosses a CMP roadway, Monterey Avenue at Parkview Drive. It also crosses Highway 111 at Country Club Drive, which is also a CMP roadway. As previously discussed in Section 4, impacts to levels of service for CMP roadway Monterey Avenue in the near and long-term will be less than significant. Furthermore, Alternative 2 includes a crossing of CMP Highway 111 at Country Club Drive, which will also continue to operate at acceptable levels of Service in 2040. CV Link serves to implement the multi-modal performance standards set forth in the CMP, as well as helping to address long-term LOS deficiencies and improving local and regional air quality. Alternative 2 will be consistent with and will facilitate the achievement of CMP goals and programs. In this regard, the project will have a less than significant impact on CMP facilities and will have a beneficial impact in helping to achieve CMP goals.

c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks.

Alternative 2 will have a negligible impact on air traffic patterns, will not increase levels of air travel or traffic, and will not introduce a use at a location that could result in substantial safety risks.

d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).

CV Link designs and facilities have been developed in compliance with the American Association of State Highway and Transportation Officials (AASHTO) Guide for the Development of Bicycle Facilities and the National Association of City Transportation Officials (NACTO) Urban Street Design Guide also provide

additional bikeway guidance not included in the California Highway Design Manual. CV Link also complies with the Americans With Disabilities Act (ADA).

CV Link, including Alternative 2, is designed specifically to optimize safe and efficient multi-modal transportation along the corridor, and incorporates a wide range of safety-related designs that maximize safety for all users. Design features, including curves, ramp slope, barrier design and location, signage and lighting, serve to ensure safety on the Link. HAWK and other vehicular and multi-modal traffic controls will improve safety for all users at CV Link at-grade crossing of public streets. Alternative 2 will not result in substantial or significant increases in hazards. Under Alternative 2, there would be no termini in Rancho Mirage or Indian Wells, as the pathway would occur continuously from Palm Springs through Coachella.

e) Result in inadequate emergency access.

The CV Link Master Plan was developed in cooperation and coordination with police chiefs and emergency services managers and a variety of design components were identified critical to adequate emergency access. Several access points to CV Link will be provided to ensure an efficient emergency response. The Link, including Alternative 2, will be included in the 911-response system and mile-markers will be placed along the Route. Signage major streets, overcrossings, and undercrossing will also be provided. Therefore, the CV Link Alternative 2 will have a less than significant impact on emergency access either along the Route or on adjacent streets.

f) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.

The CV Link project, including Alternative 2, was developed based, in part, on a review of transportation-related planning and technical documents of the various local jurisdictions in order to harmonize the Link design with local transportation planning, facilities and regulations. CV Link would result in the construction of bicycle, pedestrian and LSEV facilities, and would also provide enhanced access to employment centers, institutional uses (schools, civic centers, etc.), business districts, and parks and open space areas. CV Link will also enhance access to regional and local transit facilities. CVAG has also adopted the 2016 CVAG Active Transportation Plan, which updates regional policies and programs, and harmonizes them with those of state and federal programs supporting development of multi-modal and active transportation facilities.

Alternative 2 does not conflict with, but rather complements, the adopted policies, plans, and programs of the participating jurisdictions as they relate to public transit, bicycle, or pedestrian facilities. The project also serves to enhance, rather than decrease, the performance and safety of these multi-modal facilities.

5.16.3.2.2. Alternative 2 Mitigation Measures

The same general mitigation measures provided for the Proposed Project will also apply to Alternative 2. Please see Section 4.16.6 Mitigation Measures for further reference.

5.16.3.2.3. Alternative 2 Significance After Mitigation

Alternative 2 will have a less than significant adverse impact on transportation facilities and operations. The project provides transportation facilities that address a wide range of transportation and policy needs. The project will not result in any significant adverse impacts. Rather, Alternative 2 will have significant beneficial impacts to local and regional traffic and to achieving the goals and policies of CVAG, its member jurisdictions, as well as state and federal transportation goals

5.16.3.2.4. Alternative 2 Cumulative Impacts

Alternative 2 will have a less than considerable adverse cumulative impact on local and regional transportation facilities and operations. The project provides much needed multi-modal transportation facilities that address an

identified need for a larger and more diverse multi-modal transportation network in the Coachella Valley. Therefore, the project will not result in any cumulatively considerable adverse impacts but, rather, Alternative 2's contributions will have cumulatively considerable beneficial effects on local and regional traffic.

5.16.3.3. Alternative 3

5.16.3.3.1. Alternative 3 Impacts

Alternative 3 Project Summary
Alternative 3 would result in no construction or implementation of the CV Link project. There would be no change in the existing environment. Levee tops, streets, parks and golf courses would remain in their current condition. Under Alternative 3, the Valley's existing transportation/traffic environment would remain because the project would not be built.

a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit.

No project will be built under this alternative, therefore there will be no conflicts with an applicable plan, ordinance or policy related to transportation or traffic. Neither does Alternative 3 serve to help the local communities achieve their multi-modal transportation goals.

b) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways.

No project will be built under this alternative, therefore there will be no conflicts with an applicable congestion management plan. Neither does Alternative 3 serve to help the local communities achieve all of their congestion management plan goals.

c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks.

No project will be built under this alternative, therefore there will be no change in air traffic patterns or increased safety risks.

d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).

No project will be built under this alternative, therefore there will be no increased hazards due to design features or incompatible uses.

e) Result in inadequate emergency access.

No project will be built under this alternative, therefore there will be no impact to emergency access.

f) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.

No project will be built under this alternative, therefore there will be no conflicts with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities

5.16.3.3.2. Alternative 3 Mitigation Measures

No project would be constructed; therefore mitigation measures are not required.

5.16.3.3.3. Alternative 3 Significance After Mitigation

No project would be constructed; therefore there will be no impacts.

5.16.3.3.4. Alternative 3 Cumulative Impacts

No project would be constructed; therefore there will be no impacts.

5.16.4. Environmentally Superior Alternative

The environmentally superior alternative with regard to transportation and traffic is Alternative 2. Alternative 2 has the potential to result in the greatest increase in back-bone multi-modal transportation and the greatest reduction in average daily motor vehicle trips and VMTs, which in turn will have the most positive impact on the regional transportation network. In addition, Alternative 2 is the only Alternative that fully accomplishes the Project Objective to provide an extensive and interconnected multi-modal transportation facility, by providing continuous (fully interconnected) access to CV Link facilities without the interuptions caused by termini in Rancho Mirage and or Indian Wells (as with the Proposed Project and Alternative 1).

The Proposed Project is the second most beneficial, followed by Alternative 1 for their respective average daily motor vehicle trips and VMT reduction potentials. The No Project Alternative will result in no change to the existing transportation/traffic environment and constraints and impacts associated with the regional transportation network will continue without the benefits that could otherwise be realized under at least one of the "build" alternatives. The No Project Alternative will not meet any of the projects objectives. However, all alternatives, including the Proposed Project, result in less than significant impacts associated with transportation and traffic.

5.17. Utilities and Service Systems

5.17.1. Introduction

As discussed in Section 4.17, this section details potential impacts on utilities and service systems that could occur as a result of implementing the project alternatives and examines the level of impact these alternatives will have on utilities and public services. Utilities and service systems discussed in this section include water, wastewater service, solid waste facilities, electricity, natural gas, and telecommunications.

5.17.2. Existing Conditions

Water Service
Domestic water demands will be served by CVWD, DWA, CWA and IWA. All of these providers supply their costumers primarily through wells extracting groundwater. The Coachella Valley's principal groundwater basin is the Whitewater River Subbasin, which has an estimated storage capacity of approximately 30 million acre-feet (AF). In addition to natural groundwater sources, CVWD, DWA, IWA, and CWA have water-recycling programs to supply recycled water to their service areas. Since 1965, recycled water has been a priority water supply in the Valley. Based on the Coachella Valley Water Management Plan, CVWD and DWA provide more than 14,000 AF per year of recycled water for golf course and greenbelt irrigation purposes from four wastewater treatment facilities.

Wastewater Service
The project site is located within the jurisdictions of CVWD, DWA, the City of Coachella (Coachella Sanitary District), the City of Palm Springs, and Valley Sanitary District (VSD). CVWD is the primary wastewater service provider for most of the Coachella Valley.[43]

All districts are subject to wastewater treatment standards established by the Regional Water Quality Control Board. All components of the Proposed Project will be required to design facilities consistent with local and Regional Board standards. Rest areas with restrooms and drinking fountains within the wastewater treatment service areas of the respective provider will be connected to their sewer systems and subject to their wastewater treatment standards.

Solid Waste
Burrtec Waste and Recycling Services provides solid waste and recycling collection services for the cities of Cathedral City, Rancho Mirage, Palm Desert, Indian Wells, La Quinta, Indio, Coachella and the unincorporated community of Thermal. Palm Springs Disposal Services (PSDS) provides solid waste collection and disposal services to the City of Palm Springs.

Solid waste that is collected from these communities, including the planning area, will be directed to one of several existing landfills, which are the Badlands Sanitary Landfill in Moreno Valley, Mecca II in Mecca, and Lamb Canyon in Beaumont. These landfills accept a variety of materials, including construction and demolition materials and agricultural ash.[44]

Electricity
Southern California Edison (SCE) and Imperial Irrigation District (IID) provide electricity to the CV Link planning area, and support elements of CV Link, such as path and security lighting, EV charging stations, WiFi equipment, security cameras, rest areas, restrooms, and control systems. Electric services are already available and will be extended where needed by local electric providers. Further discussion of electric service is provided in Section 4.11.5 Energy and Mineral Resources.

5.17.3. Alternatives Impact Analysis

5.17.3.1. Alternative 1

5.17.3.1.1. Alternative 1 Impacts

Alternative 1 Project Summary
Under this Alternative, CV Link would be constructed from Palm Springs through Cathedral City as it would under the Proposed Project, and terminate on the west boundary of Rancho Mirage. It would resume again at its east boundary in Palm Desert, and be interrupted once again at Indian Wells, before resuming in La Quinta and continuing easterly to the eastern terminus in the community of Thermal, consistent with the Proposed Project.

For analysis purposes, utility impacts for Alternative 1 were derived using the percentage difference in alignment length from the Proposed Project. Based on this approach, the estimated utility demand for Alternative 1 will be 8% less than the Proposed Project and is discussed below.

Electricity
The total estimated power consumption for Alternative 1 would be 8% less than the Proposed Project, which would be approximately 675,552 kWh. Of this total, only 10.21% will be provided by SCE or IID (67,555 kWh)

[43] Coachella Valley Water Management Plan Update (2010)
[44] Ibid.

which is 7,563 kWh less demand for utility grid power than the Proposed Project. Therefore, impacts will be less than the Proposed Project and less than significant, overall. Further discussion of electric service is provided in Section 4.11.5, Energy Resources.

a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board.

Alternative 1 would result in a shorter Route by excluding Rancho Mirage and Indian Wells alignments. Under this alternative, it has been assumed that the same number of restrooms, located at rest areas outside Rancho Mirage and Indian Wells, would be constructed, resulting in the same wastewater treatment demand as the Proposed Project (i.e. 800 gallons per day of wastewater at each restroom or 1,168,000 gallons per year for all four restrooms). As described above, the wastewater generated by the project will be conveyed to existing treatment plants operated by multiple providers. All these providers operate in conformance to Regional Board standards. As a result, Alternative 1 would not result in an exceeding of wastewater treatment requirements.

b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.

d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed.

e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments.

Water Service

Alternative 1 would require water use during construction, primarily for periodic dust control on access roads and during earthmoving activities. However, this water use would be temporary in nature and would not generate wastewater that would require treatment or disposal. During construction, the total estimated water demand for Alternative 1 will be approximately 79.49 acre-feet per year. Water supplied to the rest stops for toilet and drinking water is assumed to be consistent with that provided for the Proposed Project, or approximately 4.48 acre-feet per year. It is further estimated that the operational water demand including landscape irrigation will be approximately 11.83 acre-feet per year. According to the Coachella Valley Integrated Water Management Plan (2010), the projected Valley-wide water demand for 2020 is 719,100 acre-feet per year. Based on this, Alternative 1's modest demand of 16.31 acre-feet per year constitutes a 0.0022% increase in demand. Alternative 1 is anticipated to have less impact to water services than the Proposed Project.

Wastewater Service

Limited amounts of wastewater will be produced during construction and operation of the Alternative 1. The restrooms along CV Link would generate minimal amounts of wastewater. It is assumed that approximately 25% of 2,500 Link users passing a restroom will use these facilities. Assuming the use of ultra-low flush toilets that use 1.28 gallons per flush, the four planned restrooms and drinking water demand, and assuming an adjoining link demand of 2,500 users per day (See project Traffic Report), a wastewater generation of 800 gallons per restroom per day would result, or 1,168,000 gallons per year. It is assumed that the same number of restrooms would occur under Alternative 1. Therefore, wastewater generation associated with Alternative 1 will be approximately 1,168,000 per year. Alternative 1 is anticipated to generate similar amount of wastewater as the Proposed Project, and impacts will remain less than significant.

Construction activities for this alternative, if carried away by surface water, may contain sediments, trash and debris, oil and grease, fuels, lubricants, paints, and miscellaneous chemicals. To minimize their impacts, a set of "construction BMPs" will be designed and implemented as part of the project's NPDES permitting process, as it would for the Proposed Project, which will effectively reduce any pollutants of concern that may enter nearby

receiving waters and/or wastewater treatment plants (also see Section 4.9, Hydrology and Water Resources). Portable toilets would be utilized only during construction (a limited timeframe) and waste would be disposed of according to required regulations.

Therefore, impacts will be less than significant and require no mitigation.

c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.

As with the Proposed Project, Alternative 1 would introduce new impervious surfaces in the project area through the construction or expansion of the various Route alignments and access roads, bridges, and new foundations and structures at rest areas. Portions of the Route occur on existing streets and on existing concrete trails and paths in city parks and similar facilities. Project components would require soil compaction and installation of concrete pathway and pads at rest areas. The surface area of the proposed CV Link Alternative 1 alignments would result in a minor decrease in impervious areas, compared to the Proposed Project, due to the elimination of Indian Wells. Impervious surfaces created on existing levees, which are currently compacted dirt or asphalt, are expected to drain into the adjoining stormwater channels. The increase in runoff will not significantly impact these facilities, and will be similar to current conditions. The covering of the top of levees will serve to lessen the potential for sediments and silts from the existing levee top to be carried into the channel. Since Alternative 1 would decrease the amount of impervious surfaces, it would not create a significant change in the amount or location of additional storm runoff water.

Alternative 1 will not require or result in the construction of new stormwater drainage facilities or expansion of existing facilities. Alternative 1 will run along existing storm water drainage facilities at several locations; however, the function of the existing facilities will remain intact. Therefore, Alternative 1 impacts on local and regional drainage facilities will be less than significant.

f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs.

Alternative 1 Construction Impacts

A variety of potential solid waste could be generated during Alternative 1 construction. These include sediments, trash and debris, oil and grease, fuels, lubricants, concrete waste and similar materials.

Soil and vegetative matter from excavations and land-clearing for Alternative 1 Route and bridge foundations would be screened and separated for use as backfill materials at the project sites to the maximum extent possible, consistent with the Proposed Project. Soils and vegetative matter unsuitable for backfill use would be disposed of at appropriate disposal sites. All construction debris would be placed in appropriate onsite containers and periodically disposed of in accordance with all applicable regulations. Non-hazardous construction materials that cannot be reused or recycled would be acceptable for disposal at municipal Riverside County landfills.

Any hazardous material used during construction would be recycled, treated, and/or disposed of in accordance with federal, State, and local laws (See Section 4.8, Hazards and Hazardous Materials). Construction related solid waste generation will be approximately 2,875 tons per year (approximately equal to the Proposed Project), however, it will be a short-term and local and/or regional landfills would have sufficient permitted capacity to accommodate the project's construction related solid waste disposal needs.

Alternative 1 Operational Impacts

Alternative 1 operations would generate trash and debris, including trash, dog waste, fertilizers and other chemicals from landscaped areas. However, these will be in a small quantity and would not affect existing landfill capacities.

The amount of solid waste estimated to be generated Alternative 1 would be similar to Proposed Project, or 2,875 tons per year, because the total number of CV Link users would remain the same (2,500 people).

Each of the three landfills serving the study area has more than 50 percent capacity available. Due to the number and available capacity of the landfills serving the project area, it can be assumed that the solid waste generated from the construction of Alternative 1 could be accommodated by the existing landfills in Riverside County.

The solid wastes generated from Alternative 1 during construction and operational phases will be transferred by the applicable solid waste disposal provider (Palm Springs Disposal Services, Waste Management of the Desert, and Burrtec Waste and Recycling Services). Once sorted, solid waste is transported to regional landfills, including Lambs Canyon, Mecca II, and Badlands, which are operated by the County of Riverside. Less than significant impacts would occur from the Alternative 1 and no mitigation is required.

g) Comply with federal, state, and local statutes and regulations related to solid waste.

Alternative 1 would generate approximately 2,875 tons per year of solid waste during construction and operations. Construction related solid waste would include the one-time disposal of material that could not be recycled or reused. Operation and maintenance of Alternative 1 alignments are not anticipated to produce a large amount of solid waste.

In addition, as discussed above, landfills within the project area have sufficient capacity to accept anticipated project solid waste. Riverside County has adopted a Countywide SRRE that establishes goals, programs, and methodologies for achieving 50 percent diversion of solid waste from landfills. Each of the waste management agencies that serve the project area also provides recycling services.

Therefore, no impacts would occur from the Alternative 1 and no mitigation is required.

5.17.3.1.2. Alternative 1 Mitigation Measures

No mitigation measures would be required under Alternative 1.

5.17.3.1.3. Alternative 1 Significance After Mitigation

Impacts associated with Alternative 1 would be less than significant.

5.17.3.1.4. Alternative 1 Cumulative Impacts

Construction, operation, and maintenance activities associated with Alternative 1 would generates approximately 2,875 tons per year of solid waste, which will not significantly impact the ability of Riverside County, or the cities of Palm Springs, Cathedral City, Palm Desert, La Quinta, Indio, and Coachella and other service providers from effectively delivering services such as utilities and emergency services in the project area. Alternative 1 would make a less than significant contribution to cumulative impacts to those services.

5.17.3.2. Alternative 2

5.17.3.2.1. Alternative 2 Impacts

Alternative 2 Project Summary
Under Alternative 2, all the cities from Palm Springs to Coachella would be affected by the Proposed Project, including the cities of Rancho Mirage and Indian Wells. This alternative would result in the inclusion of the City

of Rancho Mirage in project plans, and would eliminate all termini along the Route, creating one continuous path through the Valley.

Similar to the Proposed Project, Alternative 2 will require utility systems and services during construction and operation. The addition of Rancho Mirage will increase the proposed Route length by approximately 4.95 miles and the total alignments length by 6.72 miles, which will not substantially increase demands for such services.

For analysis purposes, utility impacts for Alternative 2 were derived using the percentage difference in alignment length from the Proposed Project. Based on this fact, the estimated utility demand for Alternative 2 will be 11.232% greater than the Pproposed Pproject and is discussed below.

Electricity
The total estimated power consumption for Alternative 2 would be 11.23% greater than the Proposed Project, which would be approximately 819,527 kWh. Alternative 2 will also be served by SCE and IID and of 819,527 kWh total power consumption, only 11.23% will be provided by SCE or IID (83,687 kWh) which is 8,569 kWh greater than the Proposed Project. Further discussion of electric service is provided in Section 4.11.5., Energy and Mineral Resources.

a. Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board.

The buildout of the Alternative 2 will not result in increased wastewater flows except at four restrooms and forty-four drinking fountain facilities that will not exceed wastewater treatment requirements of the Regional Water Quality Control Board. Under this alternative, it has been assumed that the same number of restrooms, located at rest areas would be constructed, resulting in the same wastewater treatment demand as the Proposed Project (i.e. 800 gallons per day of wastewater at each restroom or 1,168,000 gallons per year for all four restrooms) . As described above, the wastewater generated by the project will be conveyed to existing treatment plants operated by multiple providers. All these providers operate in conformance to Regional Board standards. As a result, Alternative 2 would not result in an exceeding of wastewater treatment requirements.

All of the local providers of sanitary sewage treatment have capacity to accommodate these flows, and are all subject to wastewater treatment standards established by the Regional Water Quality Control Board. All wastewater managing components of the Alternative 2 will be required to design facilities consistent with Regional Board standards. These standards and requirements will assure that impacts associated with wastewater treatment requirements will be less than significant. Alternative 2 will not exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board (CRRWQCB), and no mitigation is required.

Construction activities associated with Alternative 2 and the other build alternatives have the potential to discharge sediments, trash and debris, oil and grease, fuels, lubricants, paints, and miscellaneous chemicals into local soils and surface waters. To minimize these impacts construction BMP will be implemented as part of the project's stormwater permitting process, which will effectively reduce any pollutants of concern that may enter nearby receiving waters and/or wastewater treatment plants (also see Section 4.9, Hydrology and Water Resources). Portable toilets would be utilized only during construction and waste would be disposed of according to required regulations.

b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.

d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed.

e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments.

Water Service
Alternative 2 would require water use during construction, primarily for periodic dust control on access roads and during earthmoving activities. However, this water use would be temporary in nature and would not generate wastewater that would require treatment or disposal. During construction, the total estimated water demand for the Alternative 2 is approximately 96.10 acre-feet. For project operations, annual water demand from toilet use and drinking water would be approximately 4.48 acre-feet per year, consistent with the Proposed Project. It is further estimated that the operational water demand including landscape irrigation will be approximately 14.30 acre-feet per year. According to the Coachella Valley Integrated Water Management Plan (2010), the projected Valley-wide water demand for 2020 is 719,100 acre-feet per year. Based on this, Alternative 2's demand of 18.8 acre-feet per year constitutes a 0.0026% increase in demand. Alternative 2 is anticipated to have greater impact to water services than the Proposed Project. However, this increase is negligible and will have a less than significant impact on Valley-wide water supplies.

Wastewater Service
Limited amounts of wastewater will be produced during construction and operation of Alternative 2. The restrooms along the CV Link Route would generate minimal amounts of wastewater. Similar assumptions were made for Alternative 2, therefore, approximately 25% of Link users passing a restroom will use these facilities. Assuming the use of ultra-low flush toilets that use 1.28 gallons per flush, the four planned restrooms and drinking water demand, and assuming an adjoining link demand of 2,500 users per day (See project Traffic Report), yields a wastewater generation of 800 gallons per restroom per day or 1,168,000 gallons per year. Alternative 2 is anticipated to generate a similar amount of wastewater as the Proposed Project, therefore impacts are considered less than significant.

Construction crews would use portable sanitation facilities (portable toilets), generating relatively small volumes of wastewater for a limited time during the construction phase. Sanitation waste would be disposed of according to sanitation waste management practices. No other sources of wastewater are anticipated during the CV Link construction activities.

Construction activities for this alternative, if carried away by surface water, may contain sediments, trash and debris, oil and grease, fuels, lubricants, paints, and miscellaneous chemicals. To minimize their impacts, a set of "construction BMPs" will be designed and implemented as part of the project's NPDES permitting process, as it would for the Proposed Project, which will effectively reduce any pollutants of concern that may enter nearby receiving waters and/or wastewater treatment plants (also see Section 4.9, Hydrology and Water Resources). Portable toilets would be utilized only during construction (a limited timeframe) and waste would be disposed of according to required regulations.

c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.

The proposed Alternative 2 would introduce new impervious surfaces in the project area through the construction of the Route and access roads, bridges, and new foundations at rest areas. Portions of the Route occur on existing City streets and on existing concrete trails and paths in city parks and similar facilities. Project components would require soil compaction and installation of asphalt pathway and concrete pads at rest areas. The surface area of the proposed CV Link Alternative 2 Route would result in a small increase in impervious areas because of the addition of Rancho Mirage to the Route. Impervious surfaces created on existing levees, which are currently compacted dirt or asphalt, are expected to drain into the Whitewater River/Coachella Valley Stormwater Channel. The increase in runoff will not significantly impact these facilities, and will be similar to current conditions. The

covering of the top of levees will serve to lessen the potential for sediments and silts from the existing levee top to be carried into the channel. Since Alternative 2 would not substantially increase the amount of impervious surfaces, it would not create a significant change in the amount or location of additional storm runoff water.

Alternative 2 will not require or result in the construction of new storm water drainage facilities or expansion of existing facilities. Alternative 2 will run along existing storm water drainage facilities at several locations; however, the function of the existing facilities will remain intact. Therefore, the project-related impact will be less than significant and no mitigation is required.

f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs.

Alternative 2 Construction Impacts

A variety of potential solid waste could be generated during Alternative 2 construction. These include sediments, trash and debris, oil and grease, fuels, lubricants, concrete waste and similar materials.

Soil and vegetative matter from excavations and land-clearing for CV Link Alternative 2 Route and bridge foundations would be screened and separated for use as backfill materials at the project sites to the maximum extent possible, consistent with the Proposed Project. Soils and vegetative matter unsuitable for backfill use would be disposed of at appropriate disposal sites.

All construction debris would be placed in appropriate onsite containers and periodically disposed of in accordance with all applicable regulations. Non-hazardous construction materials that cannot be reused or recycled would be acceptable for disposal at municipal Riverside County landfills.

Any hazardous material used during construction would be recycled, treated, and/or disposed of in accordance with federal, State, and local laws (See Section 4.8., Hazards and Hazardous Materials). Construction related solid waste generation will be short-term and local and/or regional landfills would have sufficient permitted capacity to accommodate the project's construction related solid waste disposal needs.

Alternative 2 Operational Impacts

Alternative 2 operations would generate trash and debris, including trash, dog waste, fertilizers and other chemicals from landscaped areas. However, these will be in a small quantity and would not affect existing landfill capacities. The amount of solid waste estimated to be generated by CV Link Alternative 2 would be similar to Proposed Project, i.e. 2,875 tons per year, because the total number of CV Link users would remain the same (2,500 people).

Each of the three landfills serving the study area has more than 50 percent capacity available. Due to the number and available capacity of the landfills serving the project area, it can be assumed that the solid waste generated from the construction of Alternative 2 could be accommodated by the existing landfills in Riverside County.

The solid wastes generated from Alternative 2 during construction and operational phases will be transferred by the applicable solid waste disposal provider (Palm Springs Disposal Services, Waste Management of the Desert, and Burrtec Waste and Recycling Services). Once sorted, solid waste is transported to regional landfills, including Lambs Canyon, Mecca II, and Badlands, which are operated by the County of Riverside. Less than significant impacts would occur from the Alternative 2 and no mitigation is required.

g) Comply with federal, state, and local statutes and regulations related to solid waste.

Alternative 2 would generate waste during construction and operations. Construction related solid waste would include the one-time disposal of material that could not be recycled or reused. Operation and maintenance of CV Link Alternative 2 alignments are not anticipated to produce a large amount of solid waste.

In addition, as discussed above, landfills within the project area have sufficient capacity to accept anticipated project waste. Riverside County has adopted a Countywide SRRE that establishes goals, programs, and methodologies for achieving 50 percent diversion of solid waste from landfills. Each of the waste management agencies that serve the project area also provides recycling services.

The proposed Alternative 2 is not expected to generate a large amount of solid waste. Waste produced by construction activities and operational use of CV Link will be handled and disposed of by existing local solid waste service providers and will comply with federal, state, and local statutes and regulations related to solid waste. Therefore, no impacts would occur from the Alternative 2 and no mitigation is required.

5.17.3.2.2. Alternative 2 Mitigation Measures

Impacts associated with utilities and services will be less than significant and no mitigation measures are required.

5.17.3.2.3. Alternative 2 Significance After Mitigation

Impacts associated with utilities under Alternative 2 will be less than significant.

5.17.3.2.4. Alternative 2 Cumulative Impacts

Construction, operation, and maintenance activities associated with the proposed Alternative 2 would not significantly impact the ability of utility service providers, Riverside County, or the cities of Palm Springs, Rancho Mirage, Cathedral City, Palm Desert, Indian Wells, La Quinta, Indio, and Coachella and other service providers from effectively delivering services such as utilities in the project area. Alternative 2 would have less than significant contribution to cumulative impacts to those services.

5.17.3.3. Alternative 3

5.17.3.3.1. Alternative 3 Impacts

Alternative 3 Project Summary
Alternative 3 would result in no construction or implementation of the CV Link project. There would be no change in the existing environment. Levee tops, streets, parks and golf courses would remain in their current condition.

a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board.

Under Alternative 3, no construction and/or operational activities would be carried out to generate surface water that may contain sediments, trash and debris, oil and grease, fuels, lubricants, paints, miscellaneous chemicals. Conditions would be expected to remain the same and no new impacts would occur.

b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.

Under Alternative 3, no water would be required for periodic dust control on access roads, earthmoving activities, landscape irrigation, and toilets or drinking water fountains. Therefore, no project-related impacts will be anticipated and require no mitigation.

c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.

Under Alternative 3, no new impervious surfaces would be constructed on existing levees, which are currently compacted dirt or asphalt, therefore, no new runoff would impact these facilities. Alternative 3 will not require or result in the construction of new storm water drainage facilities or expansion of existing facilities.

d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed.

Alternative 3 would not require water for construction and operation. Therefore, there will be no water demand that would require new or expanded water supply resources or entitlements. No mitigation is required.

e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments.

Alternative 3 would not require water for construction and operation. In addition, under Alternative 3, no operational activities would be carried out that would generate wastewater. No project related impact is anticipated, therefore, no mitigation is required.

f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs.

Under Alternative 3, no solid waste would be generated. Therefore, Alternative 3 will not affect local and/or regional landfills capacities. No mitigation is required.

g) Comply with federal, state, and local statutes and regulations related to solid waste.

Alternative 3 would not generate waste during construction and operations. Therefore, no impacts would occur from this alternative and no mitigation is required.

5.17.3.3.2. Alternative 3 Mitigation Measures

No mitigation measures will be required under Alternative 3.

5.17.3.3.3. Alternative 3 Significance After Mitigation

No mitigation measures will be required under Alternative 3. Therefore, there will be no impacts associated with this alternative.

5.17.3.3.4. Alternative 3 Cumulative Impacts

No project-related cumulative impacts will occur.

5.17.4. Environmentally Superior Alternative

Table 5-25 summarizes the impacts from the Proposed Project and all alternatives on utility services. Alternative 3 proposes no construction and would, therefore, result in no water or power consumption and would not generate wastewater or solid waste. On this basis, Alternative 3 is environmentally superior to the other alternatives. However, alternative 3 does not meet any of the project's objectives.

The Proposed Project and Alternative 1 and 2 would result in power and water consumption during construction, which would be short-term. Alternative 2 would have 11.23% greater impacts than the Proposed Project, while Alternative 1 would have 8% reduced impact when compared to the Proposed Project with regard to electricity and water demand. Therefore, Alternative 1 is an environmentally superior alternative. Under all development alternatives, impacts will be less than significant and will not require mitigation.

Table 5-25
Comparison of Utility Demands for the Proposed Project and Alternatives

Categories	Phase/Units	Proposed Project	Alternative 1	Alternative 2	Alternative 3
Length		44.05	40.53	49	0
Percent increase/decrease			- 8%	+ 11.23%	- 100%
Electricity	Total power consumption (kwh per year)	734,296	675,552	819,527	
	Solar Panels Generation (kwh per year)	659,178	606,578	735,853	
	Electricity required by SCE & IID (kwh per year)	75,118	68,973	83,674	
Fuel	Fuel savings by the Project (gallons per year)	151,245	131,080	185,123	
Aggregate base	Required during construction (cubic yards)	112,231	103,252.52	124,834.54	
Water demand	Construction Phase (acre-feet)	86.4	79.49	96.10	
	Operational Phase (including restrooms, water fountains & landscape irrigation; acre-feet per year)	17.34	16.3	18.8	
Wastewater	gallons per year	1,168,000	1,168,000	1,168,000	
Solid waste	tons per year	2,875	2,875	2,875	

5.18. Conclusion and Overall Environmentally Superior Alternative

Each sub-section of this Alternative has analyzed the two build alternatives and the No Project alternative to consider which alternative is environmentally superior in each environmental category. The following tables provide summaries of these findings, and results in a conclusion regarding the overall environmentally superior alternative. Based on these summary tables, Alternative 3, the No Project alternative, would not result in any environmental impacts in most areas, with the exception of Air Quality and Greenhouse gases. In these two issue areas, there is no potential for the reduction in emissions resulting from reduced vehicle trips, and as a result Alternative 3 is the least environmentally superior alternative. Alternative 3, however, does not meet any of the project objectives.

Of the development alternatives, Alternative 1 is environmentally superior as it relates to its impacts on disturbance, while Alternative 2 provides the greatest reduction in air emissions and the greatest connectivity, and ranks second. Alternative 1 would represent a shorter route, and therefore would reduce impacts where the disturbance of land, floodways, and the use of materials would be involved. Alternative 2 would have the greatest impact in these areas, but would provide the most connectivity, and the greatest reduction in vehicle miles traveled, and associated reduction in use of fossil fuels.

Table 5-26
Environmentally Superior
Development Alternative Comparison

	Environmentally Superior Alternative			
Environmental Issue	**Proposed Project**	**Alternative 1**	**Alternative 2**	**Alternative 3**
Aesthetics		X		
Air Quality			X	
Biological Resources		X		
Cultural Resources		X		
Geology and Soils		X		
Greenhouse Gas Emissions			X	
Hazards and Hazardous Materials		X		
Hydrology and Water Quality		X		
Land Use and Planning			X	
Energy & Mineral Resources		X		
Noise		X		
Population and Housing			X	
Public Services		X		
Recreation			X	
Transportation and Traffic			X	
Utilities and Service Systems		X		

The Proposed Project results in significant and unavoidable impacts associated with construction noise and vibration during construction. Alternative 3, the No Project Alternative, would not result in any construction, and therefore would not have any resulting construction noise or construction vibration impacts. Among the development alternatives, Alternative 1 would have construction noise and vibration impacts in fewer jurisdictions, so these impacts would be reduced. However, the impacts in the participating jurisdictions would still remain significant and unavoidable, because construction noise and vibration would occur adjacent to sensitive receptors in each of these jurisdictions. Alternative 2 would result in the greatest construction noise and vibration impacts, insofar as all the jurisdictions from Palm Springs to Coachella would be impacted. On this basis, Alternative 1 is the environmentally superior alternative, in that it would reduce the area in which construction noise and construction vibration would occur. However, under all built alternatives, including the Proposed Project, construction noise and construction vibration would remain significant and unavoidable.

Discussion of Project Objectives and Alternatives:

The Table below summarizes whether the Proposed Project or any of the Project Alternatives meet project objectives. As shown in the Table, Alternative 3, the No Project Alternative, meets none of the project objectives because it does not result in a multi-modal facility, does not reduce GHG emissions, promote healthy living, make any improvements to prevent vehicle/pedestrian/bicycle conflicts, add any safe routes to school, or enhance flood control rights of way.

All the built alternatives meet the project objectives, although to differing degrees. Alternative 1 meets project objectives less effectively than the Proposed Project and Alternative 2, because it provides the least connectivity and reduces the accessibility of the project the most. Residents and visitors in Rancho Mirage and Indian Wells will be able to access the Route, but not as conveniently as if it occurred in those two jurisdictions. As a result, the objectives of the project for regional multi-modal transportation, GHG reduction, healthy living, improvements to prevent vehicle/pedestrian/bicycle conflicts, adding safe routes to school, or enhancing flood control rights of way will be implemented less successfully.

The Proposed Project would result in a middle ground in terms of project objectives, insofar as it would eliminate only Rancho Mirage from the project plans, and otherwise meet the project objectives for all the other jurisdictions.

Alternative 2 meets the project objectives to the greatest degree, insofar as it would implement the project from Palm Springs to Coachella, and provide a complete and uninterupted multi-modal facility, most significantly reduce GHG emissions, promote healthy living, make all improvements to prevent vehicle/pedestrian/bicycle conflicts, add the most safe routes to school, and enhance flood control rights of way to the greatest extent.

Finally, as discussed in Section 2.6, a number of alignments within CV Link and an expansion of bus service were considered and rejected as alternatives to the project. Detailed field surveys and reviews (including over 2,000 geocoded photos and walking or cycling the entire length of the proposed Route) informed the selection of each alignment chosen for the project. Route selection was also guided by more than 75 community meetings and events, and the preparation of design guidelines and elements reports. Consultations with local service providers and the flood control agencies, including the mapping of known utilities and right-of-way, also made certain routes infeasible.

CVAG also considered a transit alternative to CV Link. The Valley currently has a transit system, in the form of the SunLine Transit Agency, which provides public transit to all Valley cities and unincorporated County lands. The SunLine system is not at capacity, and has the ability, when demand warrants, to expand. The service is now available to residents and visitors, and its ridership is growing. However, the expansion of SunLine, or the creation of a separate bus service specifically tailored to tourist travel, would not meet the health benefit objectives of the project, add safe routes to school, or enhance flood control rights of way. Furthermore, any traditional highway/roadway modes of transportation will be constrained by increased traffic congestion and/or roadway blockages resulting from accidents or intentional closures. Accordingly, even a bussing system alternative will not achieve CV Link's objective of contributing towards reduced traffic congestion. CV Link represents a unique facility for the desert which would create a positive environment in which to enjoy the health and relaxation of walking, bicycling or hiking. A bussing alternative would provide none of these benefits, and would not meet primary objectives of the project. As a result, this alternative was rejected.

Table 5-27
Comparison of Project Objectives and Alternatives

Proposed Objectives	Proposed Project	Alternative 1	Alternative 2	Alternative 3
A. Create a regional multi-modal transportation facility that interconnects the highest intensity land use corridor in the Coachella Valley with neighborhoods, schools, parks, tourist destinations, retail centers, high density residential development, and employment centers, to enhance community livability and cohesiveness.	Yes	Yes	Yes	No
B. Help the Coachella Valley comply with the Global Warming Solutions Act (AB 32) and the Sustainable Communities and Climate Protection Act (SB 375) by encouraging zero-emission transportation technologies, transit, and active transportation.	Yes	Yes	Yes	No
C. Promote healthy lifestyles through the provision of infrastructure where people can safely travel and recreate by means of active transportation, which in turn can help to address public health problems such as childhood obesity and diabetes.	Yes	Yes	Yes	No
D. Limit conflicts between motor vehicle traffic, pedestrians and bicyclists, reduce injuries and fatalities, and create a pleasant user experience by providing grade-separated crossings (bridges and undercrossings) of major roadways to the greatest extent possible.	Yes	Yes	Yes	No
E. Support “safe routes to schools” efforts by providing connections to K-12 schools in three school districts and to higher education opportunities.	Yes	Yes	Yes	No
F. Optimize the use of underutilized flood control rights-of-way, enhance stormwater maintenance infrastructure, and improve emergency response access.	Yes	Yes	Yes	No

Comparison of Impacts Associated with Each Alternative

The Table below is provided to summarize the relative impacts of all project alternatives on each environmental issue area. With the exception of construction noise and construction vibration, all alternatives can reduce impacts to less than significant levels with implementation of the same mitigation measures as those implemented for the Proposed Project, as detailed in the discussion above.

Table 5-28
Comparison of Project Alternative Impacts

Environmental Issue/Impact	Proposed Project		Alternative 1		Alternative 2		Alternative 3	
	Before Mitigation	**After Mitigation**	**Before Mitigation**	**After Mitigation**	**Before Mitigation**	**After Mitigation**	**Before Mitigation**	**After Mitigation**
Aesthetics								
Scenic Vista	Potentially Significant	Less than significant	Potentially Significant	Less than Significant	Potentially Significant	Less than significant	No Impact	No Impact
Scenic Resource	Less than significant	Less than significant	Less than significant	Less than significant	Less than significant	Less than significant	No Impact	No Impact
Degrade the Existing Visual Character	Less than significant	Less than significant	Less than significant	Less than significant	Less than significant	Less than significant	No Impact	No Impact
Light and Glare	Potentially Significant	Less than significant	Potentially Significant	Less than Significant	Potentially Significant	Less than significant	No Impact	No Impact
Air Quality								
Air Quality Plan Implementation	Less than significant	Less than significant	Less than significant	Less than significant	Less than significant	Less than significant	No Impact	No Impact
Violate any Air Quality Standard	Potentially Significant	Less than significant	Potentially Significant	Less than Significant	Potentially Significant	Less than significant	No Impact	No Impact
Result in a Cumulatively Considerable Net Increase of any Criteria Pollutant	Less than significant	Less than significant	Less than significant	Less than significant	Less than significant	Less than significant	No Impact	No Impact
Sensitive Receptors	Less than significant	Less than significant	Less than significant	Less than significant	Less than significant	Less than significant	No Impact	No Impact
Odors	Less than significant	Less than significant	Less than significant	Less than significant	Less than significant	Less than significant	No Impact	No Impact
Biological Resources								
Special Status Species	Potentially Significant	Less than significant	Potentially Significant	Less than Significant	Potentially Significant	Less than significant	No Impact	No Impact
Riparian Habitat/Sensitive Natural Community	Less than significant	Less than significant	Less than significant	Less than significant	Less than significant	Less than significant	No Impact	No Impact
Conflict with Section 404 of the Clean Water Act	Potentially Significant	Less than significant	Potentially Significant	Less than Significant	Potentially Significant	Less than significant	No Impact	No Impact
Migratory Wildlife Corridors	Potentially Significant	Less than significant	Potentially Significant	Less than Significant	Potentially Significant	Less than significant	No Impact	No Impact
Local Policies or Ordinances	Less than significant	Less than significant	Less than significant	Less than significant	Less than significant	Less than significant	No Impact	No Impact
Conflict with Conservation Plans	Potentially Significant	Less than significant	Potentially Significant	Less than Significant	Potentially Significant	Less than significant	No Impact	No Impact
Cultural Resources								
Historical Resources	Less than significant	Less than significant	Less than significant	Less than significant	Less than significant	Less than significant	No Impact	No Impact
Archaeological Resources	Potentially Significant	Less than significant	Potentially Significant	Less than Significant	Potentially Significant	Less than significant	No Impact	No Impact
Paleontological Resources	Potentially Significant	Less than significant	Potentially Significant	Less than Significant	Potentially Significant	Less than significant	No Impact	No Impact
Human Remains	Potentially Significant	Less than significant	Potentially Significant	Less than Significant	Potentially Significant	Less than significant	No Impact	No Impact

Table 5-28
Comparison of Project Alternative Impacts

Environmental Issue/Impact	Proposed Project		Alternative 1		Alternative 2		Alternative 3	
	Before Mitigation	**After Mitigation**	**Before Mitigation**	**After Mitigation**	**Before Mitigation**	**After Mitigation**	**Before Mitigation**	**After Mitigation**
Tribal Cultural Resources	Potentially Significant	Less than significant	Potentially Significant	Less than Significant	Potentially Significant	Less than significant	No Impact	No Impact
Geology and Soils								
Expose People/Structures to Risk	Less than significant	Less than significant	Less than significant	Less than significant	Less than significant	Less than significant	No Impact	No Impact
Conflict with Alquist-Priolo Earthquake Fault Zoning (AP) Act	Less than significant	Less than significant	Less than significant	Less than significant	Less than significant	Less than significant	No Impact	No Impact
Seismic ground shaking	Less than significant	Less than significant	Less than significant	Less than significant	Less than significant	Less than significant	No Impact	No Impact
Liquefaction	Less than significant	Less than significant	Less than significant	Less than significant	Less than significant	Less than significant	No Impact	No Impact
Landslides	Potentially Significant	Less than significant	Potentially Significant	Less than Significant	Potentially Significant	Less than significant	No Impact	No Impact
Unstable Soil	Less than significant	Less than significant	Less than significant	Less than significant	Less than significant	Less than significant	No Impact	No Impact
Soil Erosion	Potentially Significant	Less than significant	Potentially Significant	Less than Significant	Potentially Significant	Less than significant	No Impact	No Impact
Expansive Soil	Potentially Significant	Less than significant	Potentially Significant	Less than Significant	Potentially Significant	Less than significant	No Impact	No Impact
Septic Tanks	No Impact	No Impact	No Impact	No Impact	No Impact	No Impact	No Impact	No Impact
Greenhouse Gas Emissions								
Significant impact on Environment	Less than significant	Less than significant	Less than significant	Less than significant	Less than significant	Less than significant	No Impact	No Impact
Consistency with Plans, Policies, and Regulations	Less than significant	Less than significant	Less than significant	Less than significant	Less than significant	Less than significant	No Impact	No Impact
Hazards and Hazardous Materials								
Transport, use or disposal or emit hazardous emissions	Potentially Significant	Less than significant	Potentially Significant	Less than Significant	Potentially Significant	Less than significant	No Impact	No Impact
Risk of Upset	Less than significant	Less than significant	Less than significant	Less than significant	Less than significant	Less than significant	No Impact	No Impact
Conflict with schools	Less than significant	Less than significant	Less than significant	Less than significant	Less than significant	Less than significant	No Impact	No Impact
Conflict with Government Code Section 65962.5	No Impact	No Impact	No Impact	No Impact	No Impact	No Impact	No Impact	No Impact
Conflict with Airport Land Use Plans	No Impact	No Impact	No Impact	No Impact	No Impact	No Impact	No Impact	No Impact
Conflict with Emergency Evacuation Plan	Less than significant	Less than significant	Less than significant	Less than significant	Less than significant	Less than significant	No Impact	No Impact
Wildland Fires	No Impact	No Impact	No Impact	No Impact	No Impact	No Impact	No Impact	No Impact
Hydrology and Water Quality								
Water Quality Standards	Potentially Significant	Less than significant	Potentially Significant	Less than Significant	Potentially Significant	Less than significant	No Impact	No Impact

Table 5-28
Comparison of Project Alternative Impacts

Environmental Issue/Impact	Proposed Project		Alternative 1		Alternative 2		Alternative 3	
	Before Mitigation	**After Mitigation**	**Before Mitigation**	**After Mitigation**	**Before Mitigation**	**After Mitigation**	**Before Mitigation**	**After Mitigation**
Groundwater	Less than significant	Less than significant	Less than significant	Less than significant	Less than significant	Less than significant	No Impact	No Impact
Alter the Existing Drainage Pattern (c and d)	Less than significant	Less than significant	Less than significant	Less than significant	Less than significant	Less than significant	No Impact	No Impact
Run-off capacity/pollution	Potentially Significant	Less than significant	Potentially Significant	Less than Significant	Potentially Significant	Less than significant	No Impact	No Impact
Water Quality	Less than significant	Less than significant	Less than significant	Less than significant	Less than significant	Less than significant	No Impact	No Impact
100-year Flood Hazard Risk: Housing	No Impact	No Impact	No Impact	No Impact	No Impact	No Impact	No Impact	No Impact
100-year Flood Hazard Risk: Structures	Potentially Significant	Less than significant	Potentially Significant	Less than Significant	Potentially Significant	Less than significant	No Impact	No Impact
Flooding	Potentially Significant	Less than significant	Potentially Significant	Less than Significant	Potentially Significant	Less than significant	No Impact	No Impact
Flooding: tsunami, sieche, mudflow	Potentially Significant	Less than significant	Potentially Significant	Less than Significant	Potentially Significant	Less than significant	No Impact	No Impact
Land Use and Planning								
Physically Divide an Established Community	Less than significant	Less than significant	Less than significant	Less than significant	Less than significant	Less than significant	No Impact	No Impact
Plan Consistency/Regulatory Conformance	Potentially Significant	Less than significant	Potentially Significant	Less than Significant	Potentially Significant	Less than significant	No Impact	No Impact
Conflict with Habitat Conservation Plan	Less than significant	Less than significant	Less than significant	Less than significant	Less than significant	Less than significant	No Impact	No Impact
Energy & Mineral Resources								
Electric Power	Less than significant	Less than significant	Less than significant	Less than significant	Less than significant	Less than significant	No Impact	No Impact
Fuel	Less than significant	Less than significant	Less than significant	Less than significant	Less than significant	Less than significant	No Impact	No Impact
Mineral resource	Less than significant	Less than significant	Less than significant	Less than significant	Less than significant	Less than significant	No Impact	No Impact
Noise								
Exposure People to Unacceptable Noise	Less than significant	Less than significant	Less than significant	Less than significant	Less than significant	Less than significant	No Impact	No Impact
Groundborne noise or vibration	Potentially Significant	Significant & Unavoidable	Potentially Significant	Significant & Unavoidable	Potentially Significant	Significant & Unavoidable	No Impact	No Impact
Temporary Ambient Noise Increase	Potentially Significant	Significant & Unavoidable	Potentially Significant	Significant & Unavoidable	Potentially Significant	Significant & Unavoidable	No Impact	No Impact
Permanent Ambient Noise Increase	Less than significant	Less than significant	Less than significant	Less than significant	Less than significant	Less than significant	No Impact	No Impact

Table 5-28
Comparison of Project Alternative Impacts

Environmental Issue/Impact	Proposed Project		Alternative 1		Alternative 2		Alternative 3	
	Before Mitigation	**After Mitigation**	**Before Mitigation**	**After Mitigation**	**Before Mitigation**	**After Mitigation**	**Before Mitigation**	**After Mitigation**
Temporary Ambient Noise Increase	Potentially Significant	Significant & Unavoidable	Potentially Significant	Significant & Unavoidable	Potentially Significant	Significant & Unavoidable	No Impact	No Impact
Airport land use plan or Private Airstrip	No Impact	No Impact	No Impact	No Impact	No Impact	No Impact	No Impact	No Impact
Population, Housing and Socio-Economic Resources								
Population Growth	No Impact	No Impact	No Impact	No Impact	No Impact	No Impact	No Impact	No Impact
Displace Housing/People	No Impact	No Impact	No Impact	No Impact	No Impact	No Impact	No Impact	No Impact
Public Services								
Fire	Less than significant	Less than significant	Less than significant	Less than significant	Less than significant	Less than significant	No Impact	No Impact
Police	Potentially Significant	Less than significant	Potentially Significant	Less than Significant	Potentially Significant	Less than significant	No Impact	No Impact
Schools	Less than significant	Less than significant	Less than significant	Less than significant	Less than significant	Less than significant	No Impact	No Impact
Parks	Less than significant	Less than significant	Less than significant	Less than significant	Less than significant	Less than significant	No Impact	No Impact
Other Public Facilities	Less than significant	Less than significant	Less than significant	Less than significant	Less than significant	Less than significant	No Impact	No Impact
Recreation								
Neighborhood and Regional Parks	Potentially Significant	Less than significant	Potentially Significant	Less than Significant	Potentially Significant	Less than significant	No Impact	No Impact
Recreational Facilities Expansion	Potentially Significant	Less than significant	Potentially Significant	Less than Significant	Potentially Significant	Less than significant	No Impact	No Impact
Transportation and Traffic								
Local Plans/Ordinances/ Policies	Potentially Significant	Less than significant	Potentially Significant	Less than Significant	Potentially Significant	Less than significant	No Impact	No Impact
Congestion Management Program	Less than significant	Less than significant	Less than significant	Less than significant	Less than significant	Less than significant	No Impact	No Impact
Change in Air Traffic Patterns	No Impact	No Impact	No Impact	No Impact	No Impact	No Impact	No Impact	No Impact
Design Features Hazards	Less than significant	Less than significant	Less than significant	Less than significant	Less than significant	Less than significant	No Impact	No Impact
Emergency Access	Less than significant	Less than significant	Less than significant	Less than significant	Less than significant	Less than significant	No Impact	No Impact
Public Transit, Plans, Programs	Less than significant	Less than significant	Less than significant	Less than significant	Less than significant	Less than significant	No Impact	No Impact
Utilities and Service Systems								
Conflict with Regional Water Quality Control Board	Less than significant	Less than significant	Less than significant	Less than significant	Less than significant	Less than significant	No Impact	No Impact

Table 5-28
Comparison of Project Alternative Impacts

Environmental Issue/Impact	Proposed Project		Alternative 1		Alternative 2		Alternative 3	
	Before Mitigation	**After Mitigation**	**Before Mitigation**	**After Mitigation**	**Before Mitigation**	**After Mitigation**	**Before Mitigation**	**After Mitigation**
New Water or Wastewater Treatment Facilities	Less than significant	Less than significant	Less than significant	Less than significant	Less than significant	Less than significant	No Impact	No Impact
Storm Water Drainage Facilities	Less than significant	Less than significant	Less than significant	Less than significant	Less than significant	Less than significant	No Impact	No Impact
Water Suppliers	Less than significant	Less than significant	Less than significant	Less than significant	Less than significant	Less than significant	No Impact	No Impact
Wastewater Treatment Plant Capacity	Less than significant	Less than significant	Less than significant	Less than significant	Less than significant	Less than significant	No Impact	No Impact
Landfill Capacity	Less than significant	Less than significant	Less than significant	Less than significant	Less than significant	Less than significant	No Impact	No Impact
Solid Waste Federal/State/Local Regulations	No Impact	No Impact	No Impact	No Impact	No Impact	No Impact	No Impact	No Impact

6. UNAVOIDABLE SIGNIFICANT IMPACTS

6.1 Introduction

CEQA Guidelines Section 15126.2 requires that an EIR "identify and focus on the significant environmental effects of the proposed project," and further determine which significant environmental effects, if any, which cannot be avoided, or for which no feasible mitigation measures are available.

The CV Link project will result in the construction of 49± miles of multi-modal pathways from the City of Palm Springs in the west to the unincorporated community of Thermal in the east. The project will be constructed on existing flood control channel levee tops and streets, and through existing parks and golf courses.

Section 4 of this EIR analyzes all of the impacts of the various potential alignments of the route on a categorical basis. Based on this analysis, the proposed CV Link project will have the potential to significantly impact aesthetics, air quality during construction, biological resources, cultural resources, geotechnical resources and soils, hazards and hazardous materials, hydrology, noise, and traffic. Comprehensive mitigation measures have been developed to address all potential impacts, and have been provided in Section 4, as well as in the Mitigation Monitoring and Reporting Program for this EIR, with the exception of noise impacts during construction. The impacts associated with noise during construction are summarized below.

Noise Impacts During Construction

CV Link will be constructed in sections over a multi-year time frame. Noise from construction activities will intermittently impact the noise environment in the immediate area of each phase of construction.

In order to assess the noise impacts associated with the use of construction equipment on the Route, the Noise Impact Analysis used the Roadway Construction Noise Model (RCNM) noise prediction model to calculate the worst-case noise levels from the mobile and stationary equipment during construction activities (including over/under pass construction). The analysis was conducted for site preparation, grading, and paving activities. The noise model determined that the noise levels during site preparation would be 84.2 dBA Lmax (maximum hourly noise level) at a distance of 50 feet; that the grading activities would generate a noise level of 89.7 dBA Lmax (maximum hourly noise level) at a distance of 50 feet; and that the paving phase of construction would result in a noise level of 82.8 dBA Lmax (maximum hourly noise level) at a distance of 50 feet.

Noise levels decrease at a rate of 6 dBA for each doubling of distance from construction equipment. Therefore, the noise levels of 89.7 dBA generated during the grading phase and measured at 50 feet would be reduced to 83.7 dBA at 100 feet, and 77.7 dBA at 200 feet from the source to the receiver.

In addition to the noise generated by mobile construction equipment, noise will also be generated from stationary source equipment at staging areas. These areas are identified in the project design plans, and occur at multiple locations along the Route. Each area would be used during a portion of construction occurring nearest its location, and not for the entire construction period. Noise from these areas is considered stationary source (as opposed to mobile source) noise, and was estimated to have the potential to generate noise levels of up to 80.0 dBA Lmax (maximum hourly noise level) at a distance of 50 feet.

Therefore, the worst-case noise levels expected during the construction of the Proposed Project would by 89.7 dBA Lmax at a distance of 50 feet. The construction of CV Link may create temporary substantial noise increases to sensitive uses along the Route.

Implementation of the mitigation measures detailed in Section 4.12.6 would reduce noise impacts during construction to the extent feasible by requiring that activities be limited to the hours of the participating jurisdictions' municipal codes and that stationary equipment will be far from sensitive receptors. However, although construction hours exempt construction activities from violating noise standards, noise levels during construction may exceed local jurisdiction standards at locations immediately adjacent to sensitive receptors along the Route. There is no additional feasible mitigation for these noise levels, and construction noise impacts may at times be significant and unavoidable.

Vibration Impacts During Construction

CV Link will be constructed in sections, over a four year period. As a result, it is expected that ground-borne vibration from construction would cause intermittent, localized intrusion into the noise environment. Grading activities, construction equipment and trucks hauling project materials would have the potential to generate low levels of ground-borne vibration within the Project.

If used during construction, a large bulldozer would generate a peak source of vibration with a reference velocity of 0.089 in/sec PPV at a distance of 25 feet. The noise analysis used these reference measurements, and the anticipated equipment proposed for the project's construction to determine vibration levels during project construction.

At distances ranging from 25 to 125 feet from the project site, construction vibration velocity levels are expected to range from 0.008 in/sec PPV at 25 feet to 0.089 in/sec PPV at 125 feet. Using the Caltrans construction vibration standard for human annoyance, the Proposed Project construction activities will exceed the vibration standard of 0.01 in/sec PPV at receiver locations within 100 feet of large bulldozers during construction. If used as part of the project, large bulldozers within 100 feet of nearby sensitive residential or school land uses would be represent a significant impact. Mitigation measures are provided in Section 4.12 to reduce construction vibration levels to the greatest extent possible. However, large bulldozers could operate within proximity to residences. As a result, impacts associated with groundborne vibration during construction will remain significant and unavoidable.

7. IRREVERSIBLE COMMITMENT OF RESOURCES

7.1 Introduction

CEQA Section 15126.2(c) requires that an EIR address the potentially significant irreversible changes or irretrievable commitment of non-renewable resources that could occur from implementation of the Proposed Project. In general non-renewable resources imply energy resources, but may also pertain to the permanent loss of agricultural, biological, mineral and other natural resources. The use of non-renewable resources during short-term construction and long-term operation of the Proposed Project may be irreversible and irretrievable.

7.2 Analysis

The implementation of the CV Link project will result in the irretrievable and irreversible commitment of non-renewable natural resources, including energy resources such as petroleum, coal, water resources, and mineral resources used for construction materials, such as gravel, sand, asphalt, and metals.

Construction and operation of the proposed CV Link route will result in the permanent loss of fossil fuels for the production of petroleum or natural gas to fuel construction and maintenance vehicles, and to provide electricity to project lighting. As detailed in Section 4.12, the construction of CV Link could result in energy demand ranging from 84.96 million kwh to 95.58 million kwh in order to produce the concrete necessary for project construction. The operation of the route could generate energy demand of 819,527 kwh annually, for lighting and operation of project features, including the trash management system. However, the project also includes solar panel installations on 42 shade structures throughout the route. Once installed and operating, these shade structures would produce 735,840 kwh annually, resulting in a net project demand of 83,687 kwh for electricity. Therefore, the Proposed Project will generate 89.8% of the electrical power necessary to operate it.

The project has the potential to reduce motor vehicle fuel consumption, because of avoided vehicle trips, by 151,245± gallons annually by 2040, thus providing a long-term positive reduction in the consumption of energy resources.

The construction of the Proposed Project will require approximately 98,763 cubic yards of aggregate base for concrete. CV Link will also require approximately 410,960 cy of concrete, of which approximately 60 to 75% (246,576 to 308,200 cy) is comprised of aggregate. Therefore, total aggregate demand for the overall CV Link project is approximately 358,807 to 420,451 cy or 0.15% of permitted aggregate. Aggregate base is actively mined in the Coachella Valley, and supplies for the Proposed Project are expected to come from local sources. The Valley has a supply of aggregate to meet demand for 130 years, as estimated by the California Department of Conservation. The demand created by the proposed CV Link project will not represent a significant impact in that supply.

Finally, outside influences, such as the development of new and more efficient technologies are anticipated to reduce impacts on fossil fuel resources and other finite mineral resources. These efforts will minimize the irreversible or irretrievable loss

The construction of the Proposed Project will marginally change the physical environment, insofar as it will result in the addition of concrete to the tops of existing compacted flood control soil levees, and the striping and painting of on-street segments of the route. However, given that the route occurs on lands that are currently developed either as levees, streets, parks or golf courses, the impact on the affected land will not be significant.

As discussed in Section 4.4, the addition of concrete pathways at the locations planned for CV Link will not result in significant loss of biological resources. The project route does not propose facilities which will significantly permanently change habitat for sensitive species. The Proposed Project includes a segment in Palm Springs which will occur adjacent to critical habitat for Casey's June Beetle. As detailed in Section 4.4, however, the Proposed Project will fully mitigate its impact on this species through the implementation of a Habitat Conservation Plan that will preserve, restore or create 6.81 acres of habitat for the species, as well as a number of avoidance and minimization measures in conformance with the requirements of the Endangered Species Act. With approval of the Plan by the USFWS, and the other mitigation measures included in this EIR, the long term loss associated with biological resources will be less than significant.

As discussed in Section 4.10 of this EIR, the construction and implementation of CV Link will result in a demand for domestic water. It is estimated that the project's landscaped areas will generate a demand for 12.86 acre-feet annually. Water fountains and restrooms will result in a need for 4.48 acre-feet of water annually. This represents a 0.0024% increase in current water demand in the Valley, and will not result in a significant impact.

As described above, the Proposed Project will have a limited irreversible impact on irretrievable resources. However, since the CV Link project will not significantly add to constructed areas, will generate power through solar panel operation, and will mitigate its impacts to biological resources, any irreversible impacts will be less than significant.

8. GROWTH INDUCING IMPACTS

8.1 Introduction

Section 15126.2 of the CEQA Guidelines requires that an EIR consider and analyze a project's potential to induce growth. Growth inducement can be directly generated by a project, such as the extension of a roadway into a previously undeveloped area, or may indirectly impact growth and cause changes in the environment that could lead to growth. This section is based on the project description provided in Section 2 of this EIR, and the analysis of the various impact areas conducted in Section 4.

8.2 Growth Inducement

As described in this document, the construction and implementation of the Proposed Project will not result in new homes or businesses. The project could indirectly influence a future resident's decision to locate in the Coachella Valley, if that resident were to consider the Proposed Project an influencer in his or her decision to move to the area. However, the potential for the occurrence of a multi-modal transportation path across the Valley to encourage a large number of people to move to the area is remote.

Similarly, the implementation of the CV Link project could influence the decision of a tourist or part-time resident to visit the Valley, if the project were considered by that individual to be a touristic attraction. Although the Proposed Project will have the potential to provide a positive additional attraction for the tourism industry, its potential to attract, in and of itself, large numbers of tourists or part-time residents to the Valley is small.

Construction of the Proposed Project has the potential to attract workers and crew members to the area for a temporary construction opportunity. Economic analysis conducted early in the planning process estimated that the construction of CV Link would require 743 worker-years. Assuming a four year construction process, the Proposed Project will generate 186 construction jobs annually for four years.

Direct job creation resulting from the project, however, is not expected to be significant. It will be limited to maintenance and operational activities, and local residents are likely to be employed by the project. The project may result in some increase in indirect employment, as the Proposed Project will add an attraction for tourism in the Valley, which could result in an added economic multiplier. However, tourism remains one of the largest economic sectors in the region, and will remain so with or without the Proposed Project.

The Southern California Association of Governments predicts moderate to strong population growth in the Coachella Valley in the future, and these new residents will require employment. The 2016 SCAG projection for the incorporated cities of the Coachella Valley within the Route is that they will have a population of 536,200, or an increase of 197,688 people over 2014 conditions. These new residents will require employment. In the long term, the Proposed Project will also require a work force to cover maintenance, security and landscaping activities that will be part of the project's long term operation. As with the construction jobs, the jobs generated by maintenance and operation of the CV Link project are likely to be filled by local residents.

The proposed CV Link will occur in developed areas, where infrastructure is available to serve its needs, including domestic water, sanitary sewer and utilities. The Proposed Project will not require the extension of services, nor will it result in new or increased infrastructure beyond local connections to existing abutting facilities. As a result, the implementation of the Proposed Project will not induce growth by making new infrastructure available to other types of development.

CV Link is expected to reduce traffic, as discussed in Section 4 of this EIR. However, CV Link is not expected to reduce traffic to such a level as to induce the development of additional homes or businesses, beyond those forecast to be constructed through the natural growth process predicted by SCAG. As such, CV Link will not remove an existing impediment to growth in a manner that may result in direct or indirect growth inducing impacts.

In conclusion, as described throughout this document, the implementation of the CV Link project will not result in growth inducing impacts that could cumulatively impact the environment. No new infrastructure, services or utilities, beyond direct connection to adjacent existing facilities to accommodate project features, will be required for the Proposed Project, and its impacts on the local population will be less than significant.

9. ORGANIZATIONS, PERSONS, AND DOCUMENTS CONSULTED

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B. Environmental Planning Consultant

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Palm Desert, CA 92211

C. Biological Consultant

Amec Foster Wheeler Environment & Infrastructure, Inc.
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Riverside, California 92507

D. Cultural Consultant

CRM Tech
1016 East Cooley Drive, Suite A/B
Colton, CA 92324

E. Engineering Consultant / Noise and Traffic

Urban Crossroads
41 Corporate Park, Ste. 300
Irvine CA 92606

F. Geotechnical Consultant

Petra Geosciences, Inc.
42-240 Green Way, Suite E
Palm Desert, CA 92211

G. Hydrological Consultant

Stantec Consulting, Inc.
46 Discovery, Suite 250
Irvine, California 92618

H. Utilities

Desert Water Agency
Desert Valley Disposal
Coachella Valley Water District
Mission Springs Water District
City of Coachella, Coachella Water Authority
City of Indio Water Authority
Burrtec Waste and Recycling Services
Palm Springs Disposal Service
Palm Desert Disposal
Southern California Edison
Time Warner/Spectrum
Frontier Communications
The Gas Company
Southern California Gas Company
Verizon
Coachella Sanitary District
Valley Sanitary District
Imperial Irrigation District

I. Public Agencies

City of Desert Hot Springs
City of Cathedral City
City of Palm Springs
City of Rancho Mirage
City of Palm Desert
City of La Quinta
City of Indian Wells
City of Indio
City of Coachella
County of Riverside
College of the Desert
Caltrans
Riverside County Transportation Department
Riverside County Flood Control & Water Conservation District
Palm Springs Unified School District
Desert Sands Unified School District
Coachella Valley Unified School District
South Coast Air Quality Management District
Riverside County Airport Land Use Commission
Regional Water Quality Control Board

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L. Acronyms and Definitions

AASHTO	American Association of State Highway and Transportation Officials
AB	Assembly Bill
AB 32	The California Global Warming Solutions Act
ABOP	Antifreeze, Batteries, Oil and Latex Paint
ACBCI	Agua Caliente Band of Cahuilla Indians
ACEC	Area of Critical Environmental Concern
ACHP	Advisory Council on Historic Preservation
ACOE/USACE	US Army Corps of Engineers
ADA	Americans With Disabilities Act
ADL	Aerially Deposited Lead
AFY	Acre Feet per Year
APE	Area of Potential Effect
APN	Assessor's Parcel Number
ASCE	American Society of Civil Engineers
ATP	Active Transportation Plan
BFE	Base Flood Elevation
BIA	US Bureau of Indian Affairs
BLM	Bureau of Land Management
BMPs	Best Management Practices
C&D	Construction and Demolition
CA	Conservation Area
CAA	Federal Clean Air Act
CACP	Clean Air and Climate Protection
CadnaA	Computer Aided Noise Abatement
CAL FIRE	California Department of Forestry and Fire Protection
CAL-OSHA	California Occupational Safety and Health Administration
CALGreen	California Green Building Standards Code
Caltrans	California Department of Transportation
CAP	Climate Action Plan
CARB	California Air Resources Board
CBC	California Building Code
CCAA	California Clean Air Act
CCR	California Code of Regulations
CDAR	California Desert Association of Realtors
CDFW	California Department of Fish & Wildlife
CEC	California Energy Commission

CEQ	Council of Environmental Quality
CEQA	California Environmental Quality Act
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
CESA	California Endangered Species Act
CFC	California Fire Code
cfs	Cubic Feet Per Second
CGP	Construction General Permit
CH4	Methane
CHP	California Highway Patrol
CIDH	Cast-In-Drilled-Hole
CIWMP	County Integrated Waste Management Plan
CLOMR	Conditional Letter of Map Revision
CNDDB	California Natural Diversity Database
CNEL	Community Noise Equivalent Level
CNG	Compressed Natural Gas
CO	Carbon Monoxide
CO2	Carbon Dioxide
CO2e	Carbon Dioxide Equivalent
COD	College of the Desert
CRWQCB	California Regional Water Quality Control Board
CSC	CDFW Species of Special Concern
CSD	Community Service District
CSP	Community Sustainability Plan
CSUSB	California State University - San Bernardino
CSUSB PD	California State University - San Bernardino Palm Desert Campus
CVAG	Coachella Valley Association of Governments
CVATS	Coachella Valley Area Transportation System
CVC	Coachella Valley Campus
CVCC	Coachella Valley Conservation Commission
CVMSHCP	Coachella Valley Multiple Species Habitat Conservation Plan
CVSC	Coachella Valley Stormwater Channel
CVSIP	Coachella Valley State Implementation Plan
CVUSD	Coachella Valley Unified School District
CVWD	Coachella Valley Water District
CWA	Clean Water Act
CWA	Coachella Water Authority
CY	Cubic Yards
dB	Decibel
dBA	A-Weighted Decibel
DEIR	Draft Environmental Impact Report
DMG	California Department of Conservation Division of Mines and Geology
DSUSD	Desert Sands Unified School District
DTSC	State Department of Toxic Substance Control
EA	Environmental Assessment
EIC	Eastern Information Center
EIR	Environmental Impact Report
EO	Executive Order
EPA	Environmental Protection Agencies
eRED	Eligible Renewable Energy Resource Development
ESA	Endangered Species Act
FAA	Federal Aviation Administration

FAR	Federal Aviation Regulations
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
FICON	Federal Interagency Committee on Noise
FIFRA	Federal Insecticide, Fungicide and Rodenticide Act
FIRMs	Flood Insurance Rate Maps
GC	Golf Course/Golf Club
GCD	Golf Club Drive
GHG	Greenhouse Gases
GIS	Geographic Information Systems
GLO	U.S. Government Land Office
HAWK	High-Intensity Activated Crosswalk beacon (aka PHB)
HCM	Highway Capacity Manual
HCP	Habitat Conservation Plan
HEC-RAS	Hydraulic Engineering Center River Analysis System
HIA	Health Impact Assessment
HITS	Horses in the Sun
HMBPs	Hazardous Materials Business Plans
HWMP	Hazardous Waste Management Plans
Hz	Hertz
IBC	International Building Code
ICLEI	International Council for Local Environmental Initiatives
IFC	International Fire Code
IID	Imperial Irrigation District
ITE	Institute of Transportation Engineers
IWA	City of Indio Water Authority
JD	Jurisdictional Delineation
JOJ	James O. Jessie Unity Center
KMZ	Keyhole Markup Language Zipped
kv	Kilovolts
LAFCO	Local Agency Formation Commission
Ldn	Day-Night Average Sound Level
Leq	Average/Equivalent Noise Level
Lmax	Maximum Hourly Noise Level
LOS	Level of Service
LRA	Local Responsibility Area
LSEV	Low-speed Electric Vehicles
LST	Localized Significance Thresholds
MBTA	Migratory Bird Treaty Act
MCL	Maximum Containment Levels
mg/kg	Milligrams per Kilogram
MLD	Native American Most Likely Descendant
MMT	Million Metric Tons
MPO	Metropolitan Planning Organization
MRZ	Mineral Resource Zone
MSWD	Mission Springs Water District
MT	Metric Tons
MUTCD	California Manual of Uniform Traffic Control Devices
N2O	Nitrous Oxide
NAAQs	National Ambient Air Quality Standards
NACTO	National Association of City Transportation Officials

NAHC	State of California's Native American Heritage Commission
NCCP	Natural Communities Conservation Plan
NDPES	National Pollution Discharge Elimination System
NEPA	National Environmental Policy Act
NEV	Neighborhood Electric Vehicles
NHPA	National Historic Preservation Act
NO	Nitric Oxide
NO2	Nitrogen Dioxide
NOP	Notice of Preparation
NOx	Nitrogen Oxide
NPDES	National Pollution Discharge Elimination System
NPIAS	National Plan of Integrated Airport Systems
NPPA	The Native Plant Protection Act
NPS	National Park Service
NRHP	National Register of Historic Places
NSR	Noise Study Report
O3	Ozone
OHWM	Ordinary High Water Mark
P-C	Production-Consumption
Pb	Lead
PCC	Portland cement concrete
PCE	Tetrachloroethene – a common dry cleaning solvent
PHB	Pedestrian Hybrid Beacon (aka HAWK)
PM 10, 2.5	Particulate Matter (10 or 2.5 microns)
ppm	Parts per Million
PPV	Peak Particle Velocity
PRC	State of California's Public Resources Code
PSDS	Palm Springs Disposal Services
PSI	Pounds per Square Inch
PSNIC	Palm Springs Neighborhood Involvement Committee
PSUSD	Palm Springs Unified School District
PV	Photovoltaic
PWL	Sound Power Level
PWS	Public Water Supplier
DWA	Desert Water Agency
RCFCWCD	Riverside County Flood Control and Water Conservation District
RCFD	Riverside County Fire Department
RCIP	Riverside County Integrated Project
RCNM	Roadway Construction Noise Model
RCRA	Resources Conservation and Recovery Act
RCSD	Riverside County Sheriff's Department
RCTC	Riverside County Transportation Commission
RCWMD	Riverside County Waste Management Department
RivTAM	Riverside County Transportation Analysis Model
RMS	Root-Mean-Square
ROG	Reactive Organic Gases
RRFB	Rectangular Rapid Flashing Beacons
RTP	Regional Transportation Plan
RTPA	Regional Transportation Planning Agency
RW	Right of Way
RWQCB	Regional Water Quality Control Board

SAA	Streambed Alteration Agreement
SB	Senate Bill
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
SCE	Southern California Edison
SDC	Seismic Design Category
SDWA	Safe Drinking Water Act
SENEL	Single Event Noise Exposure Level
SER	Standard Environmental Reference
SFHA	Special Flood Hazard Area
SHPO	State Historic Preservation Officer
SIP	State Implementation Plans
SMARA	Surface Mining and Reclamation Act
SO2	Sulfur Dioxide
SPF	Standard Project Flood
SPRR	Southern Pacific Railroad
SRA	Safety Responsibility Area
SRA	Source Receptor Area
SRSJMNM	Santa Rosa and San Jacinto Mountains National Monument
SSAB	Salton Sea Air Basin
SWCRB	State Water Resources Control Board
SWMP	Storm Water Management Plan
SWP	State Water Project
SWPPP	Stormwater Pollution Prevention Plan
TC	Tahquitz Creek
THPO	Tribal Historic Preservation Officer
TMDLs	Total Maximum Daily Loads
TUMF	Transportation Uniform Mitigation Fee
UCR	University of California - Riverside
UCR Palm Desert	University of California - Riverside/Palm Desert
UFC	Uniform Fire Code
UPRR	Union Pacific Railroad
USFS	U.S. Forest Service
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
Vdb	Vibration Decibel
VMT	Vehicle Miles Traveled
VOC	Volatile Organic Compounds
VSD	Valley Sanitary District
WDR	Waste Discharge Requirements
WECS	Wind Energy Conversion Systems
WQAR	Water Quality Assessment Report
WSA	Water Supply Assessment
WSC	Waters of the State
WSE	Water Surface Elevation
WUS/WOUS	Waters of the United States
WWTP	Wastewater Treatment Plant