3.7.4 Mitigation Measures

GHG-1 The project developer shall apply all GHG reduction improvements, included in Table 15, during construction of the proposed project.

3.7.5 Level of Significance After Mitigation

With implementation of Mitigation Measure GHG-1, the proposed project will not have a significant impact on GHG emissions.

In addition to the GHG reduction improvements listed in GHG-1, the Thousand Palms 278 Specific Plan (SP00386) includes a number of sustainable design features that are outlined above in Section 3.3.4, Air Quality Mitigation Measures, that when combined with the residential improvement, will allow the proposed community to meet the County's goals for GHG reduction.

3.8 Hazards and Hazardous Materials

3.8.1 Sources

The following sources were utilized to support the conclusions made in this section:

- Tetra Tech, *Phase I Environmental Site Assessment Report,* August 2011.
- Envirostor website accessed October 25, 2016.

3.8.2 Environmental Setting

Phase I Environmental Site Assessment

A Phase I Environmental Site Assessment (ESA) was conducted in July, 2011 for the project site to identify whether Recognized Environmental Conditions (RECs) are present on the property. RECs include the presence or likely presence of any hazardous substances or petroleum products on a property under conditions that indicate an existing release, a past release, or a material threat of release of any hazardous substances or petroleum products into structures on the property or into the ground, groundwater, or surface water of the property, based on ASTM standards. The assessment involved site reconnaissance, a site history evaluation, regulatory agency review, reporting and recommendations. The State Department of Substances Control (DTSC) Envirostor website was accessed on October 25, 2016 to determine if any sites with RECs or potential Environmental Concerns (PECs) have been identified since 2011. The website did not identify any new sites in the vicinity of the Thousand Palms 278 (SP00386) project site.

Site Reconnaissance

Reconnaissance of the site was conducted on 27 July 2011. The site was observed to consist of abandoned agricultural lands, undeveloped desert scrub and trails present on the project site. Features primarily located in APN 693-180-001 suggest past uses for agriculture. Dirt roads likely created by off-road users cross all three parcels. An above ground concrete structure was also noted in the northwest corner of APN 693-180-001. A well did not appeared to be associated with this feature. A large basin lined with plastic that was observed in a degraded condition was observed in the northwest corner of APN 693-180-001. A road made from what appears to be crushed asphalt seems to originate at Ramon Road and bisects the site in a northwest to southeast fashion. The crushed asphalt road terminates at a water well that has been welded closed just south of Ramon Road. SCE and IID transmission lines are found on the eastern boundary of the site. An SCE substation is found to the north of the site, north of Ramon Road. No other utilities are likely at the site.

In addition to the results of the 2011 Phase I ESA, The Department of Toxic Substances Control (DTSC). Envirostor website was accessed to ascertain whether any new RECs or Potential Environmental Conditions (PECs) have been identified at or near the project site. No new RECs or PECs have been reported.

Regulatory Agency Review

Federal, State, regional, and local records were reviewed to assess whether the site or properties in the vicinity have experienced significant unauthorized releases of hazardous substances or other events with potentially adverse environmental effects. A review of the sites listed within the EDR-Radius Map with GeoCheck® was conducted. Tetra Tech identified those sites from the EDR report which were potential RECs. Results of the review are as follows:

- The subject property was not listed on the databases searched.
- Tri-Palms Estate, located at 32700 Desert Moon Drive, approximately ¼ mile west of the site's western boundary was listed on the Leaking Storage Tank (LUST) and CORTESE database. A gasoline spill with a report date of 1950 was listed as impacting soils only. A closure/no further action letter from the Regional Water Quality Control Board-Colorado River Basin was issued on 22 January, 1999. Further information regarding the site was found using the GeoTracker website operated by the State Water Resources Control Board (SWRCB) at http://geotracker.swrcb.ca.gov. The site's clean up status was identified on this website as completed and case closed. The site is listed on the HAZNET database as waste oil and mixed oil storage site with transfer off-site. No treatment of this waste is recorded to be on site. The Tri-Palms Estate is also listed as a permitted underground storage tank (UST) facility with one-1,000 gallon UST onsite. There are no indications of any unauthorized releases at the site. Therefore, this site is not considered to be a REC to the subject property.

Site History Evaluation

Information regarding the history of the site was obtained from review of historical aerial photographs (1953, 1959, 1978, 1984, 1996, 2006, and 2010) and topographical maps (1941, 1947, 1958, and 1972). Early maps and aerial photos depict the site as undeveloped desert scrub habitat. The first signs of agricultural practices were noted in 1978. The northwest portion of APN 693-180-001 was occupied by a basin and a dark spot suggesting the well and above ground concrete structure appear in the southwestern corner of APN 693-180-001. No changes to the site were observed in the 1984 and 1996 aerial photographs. By 2002, aerial photographs depict minimal signs of agricultural practices on the site and no other signs of development were observed. The 2006 aerial photographs depict the addition of many trails, presumably made by off-road vehicles, bisecting the site. The 2010 aerial depicts a crushed asphalt road that originates at Ramon Road and runs diagonally through the site from northwest to southeast.

Due to previous agricultural usage at the subject property, soil in the vicinity may have been contaminated with organochlorine pesticide residues (such as DDT) and fertilizer by-products (such as perchlorate). This previous agricultural use is a de minimus condition and is not considered to be a REC.

3.8.3 Impacts

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
HAZARDS AND HAZARDOUS MATERIALS -- Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☒	☐
b) Create a significant hazard to the public or the environment through reasonable foreseeable upset and accident condition involving the release of hazardous materials into the environment?	☐	☐	☒	☐
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☐	☒
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☐	☒
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	☐	☐	☐	☒

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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 of where residences are intermixed with wildlands?	☐	☐	☐	☒

a-b. **Less Than Significant Impact.** The Thousand Palms 278 Specific Plan (SP00386) would consist of residential development, Community Center, open space and neighborhood parks, and a community shared solar array and a flood control channel. Activities typically associated with the transport, storage, or generation of large quantities of hazardous or combustible chemicals, of which are more common with light industrial activities, would not occur within the project site as the applicant is not proposing light industrial uses that would otherwise create such activities.

Residential

The project's residential component would pose little risk of an accidental release of hazardous substances, as most household substances are small in quantity (per household) and typically consist of cleaning solvents, paints, detergents and sanitizing agents used for household chores and maintenance. During construction of all components of the project, however, small quantities of hazardous materials, (e.g., hydrocarbon fuels, hydraulic fluids, coolants) would be used in the operation and maintenance of construction vehicles and equipment that may be stored on site. In addition, best management practices (BMP) specific towards construction waste management as administered through the project's Stormwater Pollution Prevention Plan (SWPPP) would be required as a mandatory procedure to be exercised by the project developer, construction superintendent and all construction staff during project construction (also see Section 3.9 *Hydrology and Water Quality*). Nonetheless, all hazardous materials would be stored, handled, and disposed of in accordance with local ordinances and State and federal regulatory requirements to reduce the risk of an accidental spill. Lastly, and upon project completion of construction, all hazardous materials would be removed from the project site. Therefore, since the project's residential component poses

little risk of an accidental release of hazardous substances, impacts are expected to be less than significant.

Community Open Space

A Water Quality Management Plan (WQMP) developed for long-term operations for the project site would encompass the entire development area and the various land uses including the open space areas. BMPs as set forth in the project's WQMP would include BMPs for the control of stormwater runoff that may contain fertilizers and other chemicals generally used to maintain parks, reducing potential impacts to less than significant.

Shared Solar Generating Facility

The project's proposed 8.01-acre shared solar generating facility would also be required to comply with BMPs administered through a post-construction WQMP. These BMPs would be specific towards the cleaning, washing and disposal of cleaning fluids for photovoltaic solar panels. Therefore, since the project's shared solar generating facility component poses little risk of an accidental release of hazardous substances, impacts are expected to be less than significant.

During the field survey for the Phase I ESA, a piece of what appears to be transite pipe (6-inch diameter) was observed adjacent to the concrete structure (see Exhibit 3, Photograph 6) protruding out of the ground in the northwest corner of APN 693-180-001. Transite pipe was commonly used in the past as irrigation and water supply pipe. The use of asbestos to manufacture transite was phased out in the 1980s. Previously transite was made of cement with varying amounts (12 to 50 percent) of asbestos fiber to provide tensile strength.

Agricultural practices were first observed in aerial photos from 1978, so it is likely that the transite pipe could contain asbestos. Therefore, to ensure safe removal of the pipe without releasing asbestos, implementation of Mitigation Measure HAZ-1 will require a licensed asbestos surveyor to analyze the pipe and propose removal options, and HAZ-2 will require proper disposal of waste containing asbestos. With implementation of the foregoing mitigation measures, the project will have a less than significant impact regarding the release of hazardous materials.

c. **No Impact.** There are no existing or proposed schools within one-quarter mile of the project site. The nearest schools are Xavier College Preparatory High School, located at 34-200 Cook Street, approximately 1.3 miles southeast of the project site and Della S. Lindley Elementary School, located at 31-495 Robert Road, approximately 1.27 miles northwest of the project site. As a consequence, no impacts associated with hazardous emissions or the release of hazardous materials are expected to occur due to project development.

d. **No Impact.** The Phase I ESA's regulatory agency database review did not identify any sites pursuant to Government Code Sec. 65962.5 on the project site or within a one-mile radius. Tri-Palms Estate, located at 32700 Desert Moon Drive, located 1/8 to ¼ mile west of the site's western boundary was listed on the Leaking Storage Tank (LUST) and CORTESE database. Further information regarding the site was found using the GeoTracker website operated by the State Water Resources Control Board (SWRCB) at http://geotracker.swrcb.ca.gov. The site's clean up status was identified on this website as completed and case closed. The Tri-Palms Estate is also listed as a permitted underground storage tank (UST) facility with one-1,000 gallon UST onsite. There were no indications of any unauthorized releases at the site. On October 24, 2016, the Department of Toxic Substances Control (DTSC) Envirostor website was accessed to determine if any new RECs or PECs were located at the site or in the project vicinity. No sites have been identified. The data from Envirostor is included in Appendix E.1. The site is not considered to be a REC to the subject property. Therefore, no impacts in regard to the project being on or near to a site pursuant to Government Code Sec. 65962.5 is considered less than significant.

e. **No Impact.** The Palm Springs International Airport is located approximately 7 miles west of the project site, and the project is outside of the Airport Land Use Commission (ALUC) Compatibility Plan Zone boundaries for the airport. The Bermuda Dunes Airport is located approximately 6.4 miles southeast of the project site, and the project outside the ALUC Compatibility Plan Zone boundaries for the airport. Therefore, the project's proximity to the airports would not result in a safety hazard for people residing or working in the project area.

f. **No Impact.** There are no private airports located near the project site.

g. **Less than Significant.** The project site will be developed with the main access from Ramon Road. The main road through the project site will traverse the center of the site from north to south and veer southwest along the west side of the solar facility, connecting with an existing roadway in the neighborhood to the south, forming the emergency secondary access for the project site (see Exhibit 6). Therefore, with two points of ingress/egress, project impacts on emergency services/access would be less than significant.

h. **No Impact.** The project site will not expose people or structures to a significant risk of loss, injury or death involving wildland fires. The project site is located in an area designated as having a low wildland fire potential and is surrounded by sparse desert vegetation. The entire roadway will have a maximum right-of-way of 76 feet in order to support emergency vehicles on site. As a consequence no significant adverse impacts on emergency response/evacuation plans are anticipated.

3.8.4 Mitigation Measures

HAZ-1 Prior to any movement of the transite pipe, the applicant shall hire a certified asbestos consultant to conduct an asbestos inspection to determine the extent of the underground transite piping and to discuss removal options. If it is concluded that the pipe contains asbestos, all removal must be done by a certified asbestos abatement contractor.

HAZ-2 Any waste containing asbestos at a level above 1% by weight shall be transported by California Department of Toxic Substances Control (DTSC) and Federal Department of Transportation (DOT) approved hazardous waste haulers to be disposed of at areas which are licensed by the Environmental Protection Agency (EPA) and DTSC to receive asbestos waste.

3.8.5 Level of Significance After Mitigation

With implementation of Mitigation Measures HAZ-1 and HAZ-2, the project would have a less than significant impact in regard to Hazards and Hazardous Materials.

3.9 Hydrology and Water Quality

3.9.1 Sources

The following sources were utilized to support the conclusions made in this section:

- *Technical Memorandum: Thousand Palms 278 – Flood Hazard Impacts Analysis*, prepared by Pace, April 2015. (Appendix G1)
- *Draft Hydraulic Analysis Technical Memorandum for the Thousand Palms 278 Solar Project*, Prepared by Pace, January 2016. (Appendix G2)
- The Altum Group, *Water Supply Assessment and Verification, Thousand Palms 278 Specific Plan*, November 25, 2014. (Appendix G3)
- Coachella Valley Water District, *2015 Urban Water Management Plan Update*, July 1, 2016, http://www.cvwd.org/ArchiveCenter/ViewFile/Item/516.
- The Altum Group, *Preliminary Hydrology Report, Thousand Palms 278,* August 2016. (Appendix G4)

3.9.2 Environmental Setting

Topographic Setting

The project area is located southwest of the toe of the Thousand Palms Wash alluvial fan. A series of minor alluvial fans associated with other smaller canyons and washes from the Indio Hills also coalesce within the project area. These fans are composed of quaternary alluvial and aeolian deposits originating in the Indio Hills and the San Bernardino Mountains. Sediments originating in these mountains are carried downstream to the valley bottom and redistributed by the dominant winds. Sand deposits or sand dunes are usually found at the toes of these alluvial fans and can have a significant impact in the flooding patterns. In addition, due to the nature of these sediments, alluvial fans lack soil development and the ability to support vegetation, which makes the fan surface easily erodible during flood events.

A fan apex (concentration point) is usually located where the stream exits the canyon and the bed experiences a drastic reduction in its energy slope, thus causing sediments to accumulate. The predominant flood pattern in the project area is characterized by a combination of well-defined braided channels immediately downstream of each fan apex followed by large areas of sheet flow (shallow flooding) over the fan surfaces that collect at the fan toes and eventually flow southeast along the valley floor, parallel to the northern boundary of I-10. The fan slope varies between 2.5 percent near the fan apex to 0.5 percent near the far edges. As a result of this transition, well-defined channels gradually lose definition between the fan apex and the valley floor. This is reflected in the formation of a system of shallow, interconnected channels that irradiate from the apex and cover the entire fan surface. Previous studies by the Committee of Alluvial Fan flooding have classified the areas downhill of the Thousand Palms Wash alluvial fan apex as still active, with the potential for flooding in the topographic troughs.

Main Sources of Flooding

There are two main sources of flooding affecting the project area. The first corresponds to the floodwaters from the washes and canyons associated with the Indio Hills and are referred to as "fan flows." After leaving the southern margin of the Indio Hills, these flows travel across the floodplain in a north-south direction and enter the project area from the north.

The second source of flooding corresponds to the floodwaters from Morongo Wash, Long Canyon, Willow Hole, and East and West Wide Canyons. These flows combine at the bottom of the Coachella Valley and travel southeast along the north side of the I-10 and SPRR corridor. They are referred to as "riverine flows" and enter the project area to the southwest.

Under existing conditions, the fan flows from the Indio Hills merge south of the project site with the riverine flows from Morongo Wash, Long Canyon, Willow Hole, East and West Wide Canyons. Once

they merge, the combined flows continue to travel southeast along the north side of the I-10. Note, however, that even though the project area is affected by both types of flooding, the time to peak for each of these sources is not the same. Previous studies have found that the peak from riverine sources occurs after the time-to-peak for the fan flooding source, thus not increasing the combined peak flows (NHC, 2013).

Thousand Palms Flood Control Project

Steps to manage flooding from fan sources are currently underway as part of the Thousand Palms Flood Control Project led by CVWD. The project, originally conceptualized by the U.S. Army Corps of Engineers as The Whitewater River Flood Control Project, consists of a series of channels and levees north of the community of Thousand Palms aimed at collecting the flows from the fan surfaces and directing them to existing flood channels running through the Classic Club Golf Course and the Sun City Palm Desert development, and eventually into the Coachella Valley Stormwater Channel. Northwest Hydraulic Consultants (NHC) prepared a *Stormwater Management Plan for the Thousand Palms Flood Control Project*.

The NHC study also provided 100-year peak discharges and full hydrographs for two different storm centerings: Thousand Palms Canyon and Indio Hills. The study recommended that in areas lying in the vicinity of the Thousand Palms 278 project area, the peak flows from the Indio Hills centering should be used for the design of flood control facilities, as they provide the most conservative values. Table 17, *100-year Peak Flows at Concentration Points*, shows the peak flows in the Thousand Palms 278 project area.

Hydraulic Modeling

J.E.Fuller Hydrology and Geomorphology, Inc (Fuller) prepared the *Palm Creek Ranch and Thousand Palms 278 Geomorphic and Flood Hazard Assessment, Riverside County, CA*, in July 2015 that included a *Flowpath Uncertainty Assessment*. The report presents the MIKE FLOOD 2-d hydraulic model results for existing conditions and four potential avulsion ((change in flow direction) scenarios developed by Fuller hydrologists in their report.

Table 16 100-year Peak Flows at Concentration Points

Outlet Location	Peak Discharge (cfs) for Centering	
	Thousand Palms	Indio Hills
CP9	360	590
CP10	460	750
CP11	420	690
CP13 (Gravel Pit Wash)	2,270	3,820
CP14	530	840

Source: PACE, Draft Hydraulic Analysis Technical Memorandum for the Thousand Palms 278 Solar Project, Table 1, January 2016.

The *Flowpath Uncertainty Assessment* evaluated four different scenarios to test the impact of fan avulsion on the distribution of the flows over the project area. The results obtained from placing artificial levees were compared to the distribution of the same flows under existing conditions. For each of the four scenarios, the maximum, 100-year effective discharge was calculated across the several segments that make up the project boundaries. It was concluded that maximum flow depths modeled using a composite of flowpath uncertainty scenarios 1 through 4 should be used when designing flood control structures for the Thousand Palms 278 project. See results in the Impact section below.

Regulatory Setting

Federal Emergency Management Agency (FEMA)

The flooding in the Thousand Palms area is primarily due to alluvial fan flooding. Recognizing the magnitude of the regions fan flood hazard, FEMA and CVWD have historically worked together in addressing the alluvial fan flood hazard in this area.

The entire area is has been mapped as FEMA alluvial fan Zone AO floodplains, which could potentially impact structures and residents of the Thousand Palms 278 project area. Currently, fan flows from the Indio Hills travel in a southwestern direction across the vacant site as sheet flow. Development of the proposed project will redirect off-site flows due to development of project structure, landscaping, and drainage improvements. The proposed project is made up entirely of alluvial fan deposits. The alluvial deposits are prone to erosion during flood events, which can result in sediment deposition, uncertain flood flow paths, and uncertain flow distribution with an expansion of flows from the Indio Hills.

The alluvial fans are addressed in FEMA's Flood Insurance Study (FIS) for Coachella Valley and the "effective" Flood Insurance Rate Map (DFIRM) map panel(s), which show the flood hazard/zone classifications and flood hazard boundaries. Flood Zones are shown on Exhibit 16, *FEMA Flood Designations.* The applicable Indio Hills DFIRM panels include No's 06065C1615G, 06065C1605G, 06065C1685G and 06065C1695G. The DFIRM shows alluvial fan AO flood zones (100-year flood) through the project site with flood depths of one foot, and flood velocities of 5 feet per second (fps). The AO zones/boundaries through the project site will eventually be adjusted and reclassified when the project's flood control improvements are implemented and FEMA issues a Letter of Map Revision (LOMR).

A LOMR is FEMA's modification to an effective Flood Insurance Rate Map (FIRM), or Flood Boundary and Floodway Map (FBFM), or both. LOMRs are generally based on the implementation of physical measures that affect the hydrologic or hydraulic characteristics of a flooding source and thus result in the modification of the existing regulatory floodway, the effective Base Flood Elevations (BFEs), or the Special Flood Hazard Area (SFHA). The LOMR officially revises the FIRM.

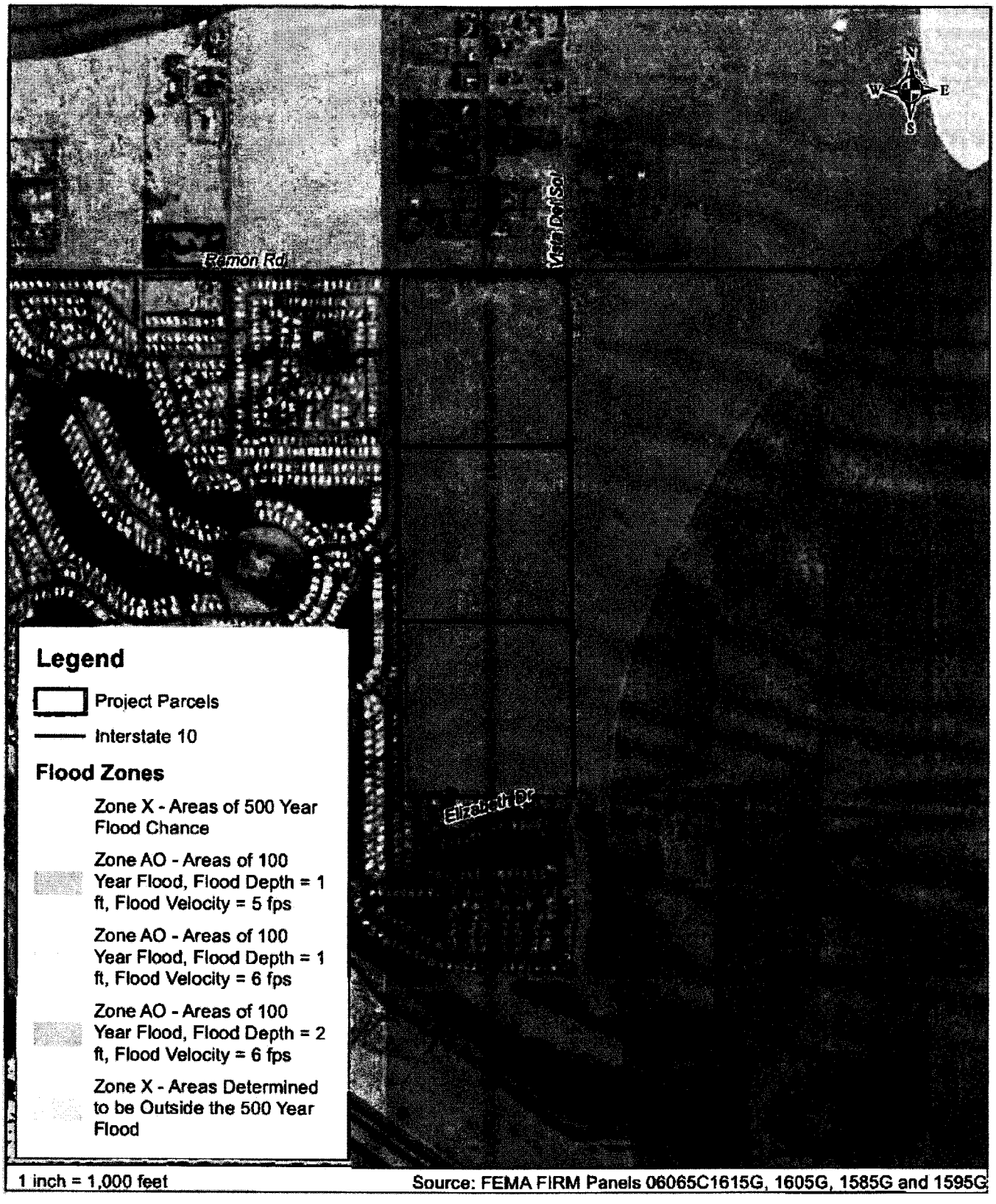
State - Waste Discharge Requirements

Project construction activities that would disturb one-acre or more could expose soils to erosion from rainfall, runoff, and wind; and an applicant whose site is greater than one-acre is required to prepare a Stormwater Pollution Prevention Plan (SWPPP). Wind erosion could result in the generation of fugitive dust which is addressed in Section 3.3 Air Quality. Erosion from rainfall and runoff is more problematic because pollutants from heavy equipment or construction related materials, such as diesel, gasoline, oils, grease, solvents, lubricants, or other petroleum products could mix with the water and run offsite.

Prior to site disturbance, an applicant and/or construction contractor must apply to the State Water Resources Control Board for coverage under the Construction General Permit (Order No. 99-08-DWQ) (CAS000002), which applies to all stormwater discharges from projects where clearing, grading, and excavation result in soil disturbance of at least one acre or more.

A SWPPP includes a list of the BMPs that would be implemented to prevent soil erosion and the discharge of construction-related pollutants that could contaminate nearby water resources. The SWPPP may include, but is not limited to, the following BMPs:

- Temporary Soil Stabilization: sandbag barriers, straw bale barriers, sediment traps, and fiber rolls;
- Temporary Sediment Control: hydraulic mulch and geotextiles;
- Wind Erosion Control: water of the construction site, straw mulch;
- Tracking Control: staging/storage area and street sweeping;
- Non-stormwater Management: clear water diversion and dewatering; and
- Waste Management and Materials Pollution Control: vehicle and equipment cleaning, concrete waste management, and contaminated soil management.



The Altum Group

FEMA Flood Designations
Thousand Palms 278 Environmental Assessment (SP00386)

Exhibit 16

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A project proponent is also required to prepare and implement a Water Quality Management Plan (WQMP) for the project site that must be comprehensive enough to encompass the various land uses proposed for the project site that includes Best Management Practices (BMPs) to be implemented during post construction operations at the project site to ensure compliance with Regional Water Quality Control Board (RWCQB) water quality standards.

Because these components are different land uses, the WQMP must include site specific BMPs. Such WQMP BMP protocol applicable to the project would include the following:

- Education for Property Owners, Operators, Tenants, Occupants, or Employees;
- Activity Restrictions;
- Irrigation System and Landscape Maintenance;
- Street Sweeping Private Streets and Parking Lots; and,
- Drainage Facility Inspection and Maintenance.

A WQMP must also include Structural Source Control BMPs specific towards landscape and irrigation system design, MS4 stenciling and signage and protection of slopes and channels.

3.9.3 Impacts

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
HYDROLOGY AND WATER QUALITY – Would the project:				
a) Violate any water quality standards or waste discharge requirements?	☐	☒	☐	☐
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 off-site?	☐	☒	☐	☐
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 or amount 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 substantially 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 Hazard 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 flows?	☐	☒	☐	☐
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 mudflow?	☐	☐	☐	☒

a. **Less than Significant Impact with Mitigation Incorporated.** Project construction activities could expose soils to erosion from rainfall, runoff, and wind. Wind erosion could result in the generation of fugitive dust, which is addressed in Section 3.3 *Air Quality*. Erosion from rainfall and runoff is more problematic because pollutants from heavy equipment or construction related materials, such as diesel, gasoline, oils, grease, solvents, lubricants, or other petroleum products could mix with the water and run offsite.

The Colorado River Basin Regional Water Quality Control Board (CRWQCB) has adopted strict regulations for the control and release of stormwater into the Whitewater Storm Channel. Therefore, the applicant must prepare a SWPPP to be implemented throughout the project construction period. The SWPPP must describe best management practice (BMPs) for the control and treatment of runoff from the project site as discussed in the Environmental Setting section above.

A copy of the SWPPP prepared by a Qualified SWPPP Developer (QSD) and implemented by a Qualified SWPPP Practitioner (QSP) must be maintained and updated at the project site and available for review during the entirety of the construction period. It is possible that as planning areas are developed and new planning areas start construction, modifications to the SWPPP may be made to address unique conditions in a specific planning area. This is allowed under the SWPPP requirements.

Project site runoff will be collected in nine water quality retention basins to be strategically located in each Planning Area to control on-site flows. Storm channels will be developed on the project site boundaries as shown in Exhibit 10, Chapter 2, to convey off-site storm flows around the site. During long term operation, the project will be required to maintain the site

under a post construction WQMP to be prepared by a QSD that addresses all potential runoff and ongoing maintenance of BMPs related to project retention basins and flood channels.

Mitigation Measure HWQ-1 requires the preparation and implementation of the SWPPP during project construction and implementation of the WQMP for post construction. The project's impact in regard to violating any water quality standards or waste discharge requirements will be reduced to less than significant with the proper operation and maintenance of structural BMPs, and continued use of non-structural BMPs such as education programs for local residents (generally undertaken by CVWD). Therefore, the proposed project will not violate any water quality standards and impact will be less than significant.

b. **Less Than Significant Impact.** Groundwater is the principal source of municipal water supply in the Coachella Valley. CVWD serves domestic water to most of the developed portions of the Coachella Valley and along both sides of the Salton Sea in Imperial Valley. CVWD obtains water from both the upper and lower Whitewater River subbasins and the Mission Creek subbasin. A common groundwater source, the Whitewater River subbasin, is shared by CVWD, Desert Water Agency, the cities of Indio and Coachella, Myoma Dunes Water Company and numerous groundwater users with private wells.

The groundwater supply of the Whitewater River Subbasin consists of a combination of natural runoff, inflows from adjacent basins, returns from groundwater, recycled water, and imported water use. The supply is supplemented with artificial recharge with imported SWP Exchange and Colorado River Water. The long-term average of natural inflow from mountain-front runoff is about 46,000 AFY.

The 2015 UWMP estimates CVWD's service area urban water demand at 101,723 AFY. Projected urban water demand in the Update for the year 2040 is 250,600 AF. Adding groundwater recharge and non-potable water demands (agriculture, golf course and municipal), the CVWD UWMP demand estimates for 2015 and 2040 are 588,700 AFY and 689,400 AFY respectively.

Table 18, *Water Supplies – Projected,* shows projected Urban Water Supply, based on the 2015 UWMP. The UWMP projects that the percentage of water from each of the water supply sources will change significantly by 2040, relative to 2020 conditions.

The total water demand for the proposed project is estimated to be 409 AFY, which represents less than two tenths of a percent (0.16 percent) of the 2040 anticipated urban water demand (250,600 AF) in the Coachella Valley (See Table 6-1.) Given an estimated 28.8 Million Acre Feet (MAF) of combined storage in the Whitewater River Subbasin (DWR 1964) and CVWD's groundwater management planning efforts, (2015 UWMP Update, 2010 CVWMP Update, and the 2014 Status Report), the Aquifer is sufficient to supply the Project and other present and anticipated needs for normal years, single dry years, and multiple dry years over the next

twenty years. Therefore, the proposed project will have a less than significant impact on groundwater resources.

Table 17 Water Supplies - Projected

Water Supply	Additional Detail on Water Supply	Projected Water Supply (AF)				
		2020	2025	2030	2035	2040 (opt)
Groundwater	Potable urban use	113,400	102,100	112,700	106,600	101,000
Purchased or Imported Water	Treated Canal water for potable urban use in the East Valley[1]	0	18,000	18,000	31,000	40,000
Urban Potable Subtotal		113,400	120,100	130,700	137,600	141,000
Purchased or Imported Water	Untreated Canal water for non-potable urban use in East Valley[1]	1,200	11,000	17,000	26,300	33,300
Desalinated Water	Desalinated drain water for non-potable urban use	0	5,000	10,000	15,000	20,000
Urban Non-potable Subtotal		1,200	16,000	27,000	41,300	53,300
Recycled Water	WRP-7[2]	3,400	3,700	4,000	4,300	4,600
Recycled Water	WRP-10[2]	10,900	11,300	11,700	12,100	12,500
Recycled Water	WRP-4[2,3]	0	12,700	15,100	17,500	19,200
Recycled Water Subtotal		14,300	27,700	30,800	33,900	36,300
Total Retail Supply[1]		128,900[4]	163,800[4]	188,500[4]	212,800[4]	230,600[4]
Purchased or imported Water	Sale of Canal water to IWA for potable use	5,000	10,000	20,000	20,000	20,000
Total Wholesale Supply[2]		5,000[4]	10,000[4]	20,000[4]	20,000[4]	20,000[4]
Total Water Supply		133,900	173,800	208,500	232,800	**250,600**

Source: CVWD, 2015 Urban Water Management Plan Update, Table 6-12, July 2016.

Notes:

1. Total Colorado River allotment will increase from 397,000 AF in 2016 to 459,000 AF in 2026. Colorado River water supply does not quite total up because of nonurban supply (private wells) not shown on this table and projected wholesale to other agencies.
2. Recycled water safe yield is based on total projected flows at each WWTP; surface discharge and percolated wastewater effluent is not included in the reasonably available supply estimates.
3. Assumes tertiary treatment is not available until after 2020 at WRP-4.
4. Total water demand estimates are derived from Table 4-4 of the 2015 WQMP.
5. Note: New row was added to Table 18 from Table 4-4 of the 2015 WQMP to show total overall supply of Retail and Wholesale supplies combined.

c. **Less Than Significant Impact with Mitigation Incorporated.** Development of the proposed project will redirect flood flows that currently sheet flow through the project site.

d. **Less Than Significant Impact with Mitigation Incorporated.** The project site is prone to flooding during storm events under existing conditions. The drainage plan has been designed for the project to control on-site and off-site flows. Project improvements associated with the proposed Thousand Palms 278 Specific Plan (SP00386) project consist of: 1) off-site

improvements along Ramon Road, including new curb and gutter; a storm channel that skirts the site boundary on the north (Ramon Road) and on the east (Vista de Oro) to convey flows around the site; 3) a storm channel along the west and south around the Solar Field site (Planning Area 5); 4) site grading, including import of soil to raise the site out of the floodplain; and 5) a series of 9 retention basins strategically developed throughout the project site. Mitigation Measure HWQ-2 requires that the site be developed with the types of improvements outlined herein (storm channel, retention basins, etc.) and in accordance with Final Grading/Drainage Plans as approved by the County of Riverside.

The proposed flood control channel, as shown in Exhibit 9, will intercept off-site stormwater flow along Ramon road and the west side of the property, then convey the flow easterly and then southerly where the stormwater flow will be discharged, spread out and ultimately resume its pre-developed velocity and depth as the stormwater flow reaches the property line. This stormwater channel is an interim facility only, as the future CVWD levee will ultimately protect the site from stormwater flow.

On-site stormwater flow will be retained within nine retention basins. A large basin is planned for Planning Area 5, the community solar generating facility, with the capacity to retain the on-site runoff. Eight additional retention basins will be developed throughout the project site. Combined, the retention basins are designed to contain 125 percent storm flows for the 100-year storm.

Although the project is within a flood hazard zone, the project's improvements to control on- and off-site storm flows will reduce impacts associated with flooding. Additionally, improvements will convey the storm flows in a manner that will bypass the project site, but ultimately drain south of the site, complimentary to existing conditions. Mitigation Measure HWQ-2 requires that the site be developed with the types of improvements outlined herein (storm channel, retention basins, etc.) and in accordance with Final Grading/Drainage Plans as approved by the County of Riverside and FEMA. Therefore, the proposed drainage improvements will not significantly increase runoff to the existing stormwater system and impacts will be less than significant.

e. **Less Than Significant Impact with Mitigation Incorporated.** See response to 3.9.3.d regarding alteration of the existing drainage pattern on the project site. The potential for substantially increasing or creating new sources of polluted runoff are addressed in response to 3.9.3.a.

f. **Less Than Significant Impact with Mitigation Incorporated.** The potential to substantially degrade water quality is discussed in response 3.9.3.a.

g. **Less Than Significant Impact with Mitigation Incorporated.** The entire area is presently mapped as FEMA alluvial fan Zone AO floodplains, which could potentially impact structures and residents on the proposed project site. Currently, fan flows from the Indio Hills flow in a

southwestern direction across the vacant site as sheet flow. Development of the proposed project will redirect off-site flows due to development of project structure, landscaping, and drainage improvements. The proposed project is made up entirely of alluvial fan deposits. The alluvial deposits are prone to erosion during flood events, which can result in sediment deposition, uncertain flood flow paths, and uncertain flow distribution with an expansion of flows from the Indio Hills.

Project drainage improvements described above for Impact 3.9.3 (d/e), are designed to reduce impacts associated with flooding. The project site will be graded to direct flows to onsite retention basins. Offsite flows will be redirected around the site via flood control channels. Ultimately, flood flows from Indio Hills will be conveyed to the drainage south of the project, north of the I-10 Freeway, complimentary to existing conditions. Therefore, drainage improvements associated with the proposed project will reduce impacts associated with flooding onsite and redirect offsite flows in a manner that will not significantly alter the existing drainage pattern in the project area.

The Thousand Palms Flood Control Project, led by CVWD, will include a series of channels and levees north of the community of Thousand Palms aimed at collecting the flows from the fan surfaces and directing them to existing flood channels running through the Classic Club Golf Course and the Sun City Palm Desert development, and eventually into the Coachella Valley Stormwater Channel. This project will significantly reduce flood flows in the project area, further reducing impacts associated with flood hazards on the project site. However, until that time the project applicant must demonstrate that flood control channels, storm drains, retention basins, and other flood related facilities are developed in accordance with Final Grading/Drainage Plans as approved by the County of Riverside and FEMA through the Letter of Map Revision process.

Therefore, the project will have a less than significant impact associated with flood hazards.

h. **Less Than Significant Impact with Mitigation Incorporated.** The potential for future structures to impede or redirect flood flows is addressed in responses 3.9.3.g and 3.9.3.i.

i. **Less Than Significant Impact.** The project site receives rainfall-runoff drainage from the Indio Hills to the north. The entire area is presently mapped as FEMA alluvial fan Zone AO floodplains. Currently, there are no improvements to safely convey flood flows away from the project site, but CVWD has a flood control project planned to address flooding issues in the project area. The proposed Thousand Palms Flood Control Project led by CVWD consists of a series of channels and levees north of the community of Thousand Palms, aimed at collecting the flows from the fan surfaces and directing them to existing flood channels running through the Classic Club Golf Course and Sun City Palm Desert development, and eventually into the Coachella Valley Stormwater Channel. Since the proposed project will be developed before

the Thousand Palms Flood Control Project is completed, interim drainage infrastructure is included in the design of the Thousand Palms 278 Specific Plan (SP00386). A flood control channel will intercept off-site storm flow along Ramon Road and convey flows easterly, and a flood control channel will intercept off-site storm flow along the west side of the project site, then convey the flow southerly. The stormwater flow will ultimately be discharged, spread out and ultimately resume its pre-developed velocity and depth as the stormwater flow reaches the property line. This stormwater channel is an interim facility only, as the future CVWD levee will ultimately protect the site from stormwater flow. Therefore, the proposed Thousand Palms Flood Control Project will reduce flooding impacts at the project site when it is developed at a future date.

In the interim, proposed drainage improvements to redirect offsite flows around the project site will reduce impacts associated with onsite flooding and reduce impacts associated with levee failure in the future associated with the flood control project.

j. **No Impact.** The project site is located too far inland to be inundated by a tsunami that may occur in the Pacific Ocean. Additionally, the project site is not near any bodies of water and is not near any substantial slopes; therefore the project site would not be inundated by a seiche or mudflow.

3.9.4 Mitigation Measures

HWQ-1 Prior to grading and construction, a project specific SWPPP shall be prepared by a qualified SWPPP Developer (QSD) and implemented by a Qualified SWPPP Practitioner (QSP). The SWPPP shall include wind, erosion and sediment control BMPs and materials/waste management BMPs applicable to the project site and maintained and updated at the project site and available for review during the entirety of the construction period for all project phases of development. A post construction WQMP shall also be prepared by the QSD in administering post construction BMPs related to the ongoing maintenance of project retention basins, flood channels, flood walls, levees, berms, drop structures and underground culverts. The WQMP shall be prepared and approved by the State Water Resources Control Board prior to construction.

HWQ-2 Prior to construction of any habitable structures, the project applicant shall demonstrate that flood control channels, storm drains, retention basins, and other flood related facilities be developed in accordance with Final Grading/Drainage Plans as approved by the County of Riverside and FEMA through the Letter of Map Revision process.

3.9.5 Level of Significance After Mitigation

With implementation of Mitigation Measure HWQ-1 and HWQ-2, impacts associated with Hydrology and Water Quality will be less than significant.

3.10 Land Use and Planning

3.10.1 Sources

The following sources were utilized to support the conclusions made in this section:

- County of Riverside General Plan, *Land Use Element,* Updated December 15, 2015.

3.10.2 Environmental Setting

The project site is located within the unincorporated Community of Thousand Palms in Riverside County. Thousand Palms is north of the City of Palm Desert, on the north side of Interstate 10. Thousand Palms is located within the Sphere of Influence of the City of Cathedral City, but the applicant is not seeking annexation into the City. Based on the Plan of Service (Ralph Anderson and Associates, 2013) prepared for Cathedral City's Sphere of Influence within the Thousand Palms Planning Area, the City defers to the County General Plan land use designations for all vacant areas in Thousand Palms.

The project site is directly adjacent to residential development on its western and southern boundary. The northern boundary abuts Ramon Road and residential development is located north of Ramon Road. IID and SCE substations are located northeast of the project site, and above-ground power lines run along the eastern property boundary. The land east of the project site is vacant. The northern third is designated as a CVMSHCP Conservation Area and the southern two thirds are zoned for residential uses.

The project site is located within the County's Western Coachella Valley Plan Area, a part of the larger County of Riverside General Plan. Under existing conditions, the project site is designated as Medium Density Residential (MDR), which allows for a density of 2-5 dwelling unit per acre with lot sizes ranging from 5,500 to 20,000 square feet; typical lot sizes are 7,200 square feet. Exhibit 5 in Chapter 2, *Project Description,* shows the land use designations for the project site and surrounding properties. The north third of the site is zoned R-3-6,000, One Family Dwelling Units, with minimum 6,000 square foot lots. The lower two thirds of the site are zoned R-1, One Family Dwellings, with minimum 7,200 square foot lots.

3.10.3 Impacts

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
LAND USE AND PLANNING – Would the project:				
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?	☐	☐	☒	☐

a. **No Impact.** There are presently no residential units within the boundaries or directly east of the project site. Residential development is located north of the project site but the properties are separated from the site by Ramon Road. The existing Shenandoah Springs/Tri Palm Estates community is adjacent to the western and southern site boundaries, surrounded by a perimeter wall. Due to the existing conditions surrounding the site, including vacant land and residential communities, the development of the Thousand Palms 278 Specific Plan (SP00386) would not divide any established communities.

b. **Less Than Significant Impact.** The existing land use designation for the project site in the Western Coachella Valley Specific Plan is Medium Density Residential and zoned for R-1 and R-3-6,000. The applicant is proposing a General Plan Amendment and Change of Zone to Specific Plan for the project site to allow for mixed development of residential, open space, and the solar facilities. Overall, the gross residential density would be 5 dwelling units per acre, which is consistent with the existing land use designations, but if only the Planning Areas that include residential development are analyzed, which includes approximately 89.95 acres, the actual residential density would be 6.56 dwelling units per acre, which exceeds the Medium Density Residential designation threshold of 2-5 du/ac. The current zoning designations for the project site require minimum lot sizes between 6,000 and 7,200 square feet, but the residential Planning Areas would be developed with a variety of housing options with a range of lot sizes up to 7,200 square feet. The remaining area of the project site will be developed with drainage improvements, open space areas, the main access road, and the community solar facility. With approval of the Thousand Palms 278 Specific Plan (SP00386), the land use and zoning designations will be Specific Plan, as allowed in the County's General Plan.

Cathedral City Sphere of Influence

Additionally, the project site is within the City of Cathedral City's Sphere of Influence (SOI). Based on the Plan of Service (Ralph Anderson and Associates, 2013) prepared for Cathedral City's SOI within Thousand Palms, the City defers to the County General Plan land use designations for all vacant areas in Thousand Palms. Therefore, the existing land use designations that were analyzed above, also apply to the SOI, and no additional analysis is necessary.

CVMSHCP

The Thousand Palms CVMSHCP Conservation Area is located east of the Northern third of the eastern property boundary but is separated by a 160-foot wide SCE power line corridor, providing adequate buffer between the residential neighborhoods in Thousand Palms 278 (SP00386) and the conservation area.

c. **Less Than Significant Impact.** The project site is located in proximity to but not adjacent to the Thousand Palms Conservation Area, and thus the project is not subject to CVMSHCP Land Use Adjacency Guidelines. The purpose of these guidelines are to avoid or minimize indirect effects from development adjacent to Conservation Areas. Adjacency is defined as being "shared by a common boundary with any parcel in a Conservation Area." The project site is separated from the Conservation Area by the SCE power line corridor as shown in Exhibit 14 in Section 3.4, *Biological Resources*. Therefore, the project would have a less than significant impact on the Conservation Area.

3.10.4 Mitigation Measures

See Mitigation Measure BIO-3 in Section 3.4 Biological Resources for adjacency guidelines.

3.10.5 Level of Significance After Mitigation

With implementation of Mitigation Measure BIO-3, the project will have a less than significant impact associated with Land Use and Planning.

3.11 Mineral Resources

3.11.1 Sources

The following sources were utilized to support the conclusions made in this section:

- Riverside County General Plan, *Multipurpose Open Space Element,* updated December 15, 2015.

3.11.2 Environmental Setting

The County of Riverside has extensive deposits of clay, limestone, iron, sand, and aggregates. Mineral deposits are important to many industries, including construction, transportation and chemical processing. Classification of land within California is based on a priority list that was established by the State Mining and Geology Board (SMGB) in 1982. The SMGB has also established Mineral Resource Zones (MRZ) to designate lands that contain mineral deposits. The project site is within an MRZ-3 zone, which is an area where available geologic information indicates that mineral deposits likely exist, however, the significance of the deposits is undetermined.

3.11.3 Impacts

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
MINERAL RESOURCES – Would the project:				
a) 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?	☐	☐	☒	☐
b) 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?	☐	☐	☒	☐

a. **Less than Significant.** As shown on Riverside County General Plan Figure OS-6, Mineral Resource Zones, the project site is located in MRZ-3 which is defined as an area of mineral deposits of unknown significance. However, alluvial fans are often sources of suitable aggregate material. There are a number of aggregate mine sites permitted in the Coachella Valley and nearby Imperial Valley, including a site approximately 2.5 miles north of Ramon Road – Cal Portland Thousand Palms plant. Therefore, the development of the project site would not have an adverse effect on the ability to recover resources.

b. **Less than Significant.** The project site is not designated as a mineral resources recovery site in the Riverside County General Plan, the Thousand Palms 278 Specific Plan (SP00378), or other land use plan. Therefore, the development of the project site would not have an adverse effect on the ability to recover resources.

3.11.4 Mitigation Measures

No mitigation measures are required.

3.11.5 Level of Significance After Mitigation

The project will have no impact on mineral resources.

3.12 Noise

3.12.1 Sources

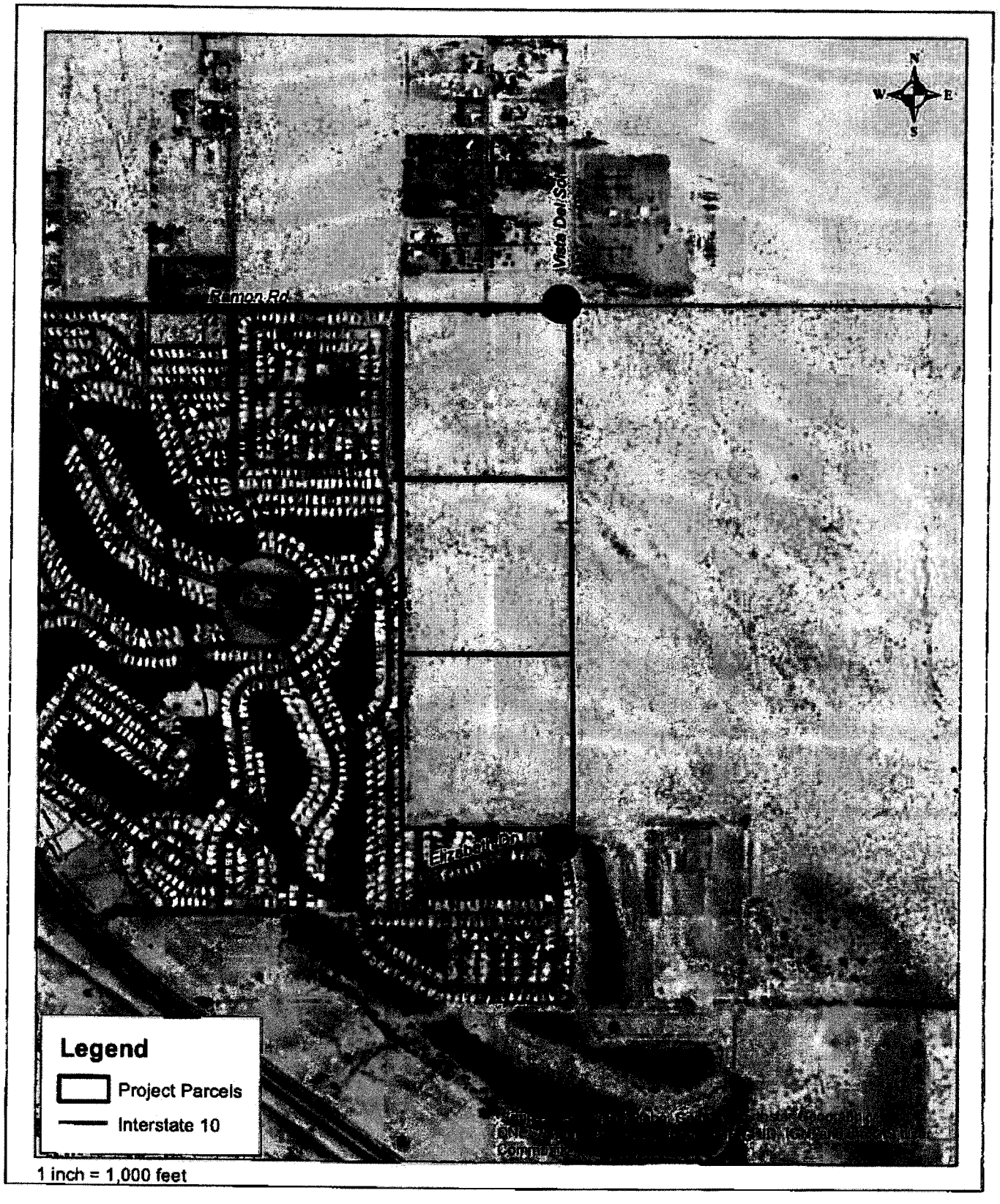
The following sources were utilized to support the conclusions made in this section:

- Giroux and Associates, *Noise Impact Analysis Thousand Palms Project,* January 2018
- Riverside County Air Port Land Use Commission, *New Compatibility Plan, http://www.rcaluc.org/Plans/New-Compatibility-Plan, accessed August 8, 2016.*

3.12.2 Environmental Setting

The project site is located south of Ramon Road in the unincorporated community of Thousand Palms. The project site is directly adjacent to the Shenandoah Springs/Tri Palm Estates residential community on its western and southern boundary. The northern portion of the eastern property boundary is proximate to the Thousand Palms Conservation Area but is separated by the 160-foot wide SCE power line corridor. The northern boundary abuts Ramon Road and residential development is located north of Ramon Road. Exhibit 14 in Section 3.4, *Biological Resources,* shows the relationship between the project site and the conservation area. The nearest schools are Xavier College Preparatory High School, located at 34-200 Cook Street, approximately 1.3 miles southeast of the project site and Della S. Lindley Elementary School, located at 31-495 Robert Road, approximately 1.27 miles northwest of the project site. The proposed project is a residential development with 590 dwelling units, a Community Center, a shared solar generating facility, and open space which includes neighborhood parks and a trail around the solar facility.

Noise measurements were made in order to document existing baseline levels in the area. Exhibit 17, *Noise Measurement Locations,* shows the locations where noise measurements were taken. These noise measurement locations serve as a basis to determine noise exposure from ambient noise activities upon the proposed project. An on-site short term (15-minute) noise measurement was conducted by Giroux & Associates on Tuesday, November 25, 2014 from 2:45 p.m. to 3:15 p.m. These measurements ranged between 42 and 62 L_{eq}. Additional information of Noise Measurements taken for the proposed projects are included in Section 3.12.4, *Existing Conditions.*



The Altum Group

Noise Measurement Locations
Thousand Palms 278 Environmental Assessment (SP00386)

Exhibit 17

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Noise Terminology

Sound is a pressure wave created by a moving or vibrating source that travels through an elastic medium such as air. Noise is defined as an unwanted or objectionable sound. The effects of noise on people can include general annoyance, interference with speech communication, sleep disturbance, and in extreme circumstances, hearing impairment.

The unit of measurement used to describe a noise level is the decibel (dB). The human ear is not equally sensitive to all frequencies within the sound spectrum. Therefore, the "A-weighted" noise scale, which weights the frequencies to which humans are sensitive, is used for measurements. Noise levels using A-weighted measurements are written and abbreviated as "dBA."

Decibels are measured on a logarithmic scale, which quantifies sound intensity in a manner similar to the Richter scale used for earthquake magnitudes. Thus, a doubling of the energy of a noise source, such as a doubled traffic volume, would increase the noise levels by 3 dBA.

Average noise levels over a period of minutes or hours are usually expressed as dBA Leq, or the equivalent noise level for that period of time. For example, Leq(3) would represent a 3-hour average, and then no period is specified, a one-hour average is assumed.

Noise standards for land use compatibility are stated in terms of the Community Noise Equivalent Level (CNEL) and the Day-Night Average Noise Level (Ldn). CNEL is a 24-hour weighted average measure of community noise. CNEL is obtained by adding five decibels to sound levels in the evening (7:00 PM to 10:00 PM), and by adding ten decibels to sound levels at night (10:00 PM to 7:00 AM). This weighting accounts for the increased human sensitivity to noise during the evening and nighttime hours. Ldn is a very similar 24-hour average measure that weights only the nighttime hours.

It is widely accepted that the average healthy ear can barely perceive changes of 3 dBA; that a change of 5 dBA is readily perceptible, and that an increase (decrease) of 10 dBA sounds twice (half) as loud. This definition is recommended by the Caltran's *Traffic Noise Analysis Protocol for New Highway and Reconstruction Projects*.

Vibration Terminology

The rumbling sound caused by the vibration of room surfaces is called groundborne noise. The annoyance potential of groundborne noise is usually characterized with the A-weighted sound level. Groundborne vibration related to human annoyance is generally related to root mean square (rms) velocity levels expressed in VdB and peak particle velocity (PPV). In contrast to airborne noise, groundborne noise is not a phenomenon that most people experience every day. The background vibration velocity level in residential areas is usually 50 VdB or lower, well below the threshold of perception for humans which is around 65 VdB. Most perceptible indoor vibration is caused by sources within buildings such as operation of mechanical equipment, movement of people, or

slamming of doors. Typical outdoor sources of perceptible groundborne vibration are construction equipment, steel-wheeled trains, and traffic on rough roads. If the roadway is smooth, the vibration from traffic is rarely perceptible.

The peak particle velocity (PPV) which is defined as, the maximum instantaneous positive or negative peak of the vibration signal is the descriptor most utilized in the analysis of vibratory impacts to buildings.

3.12.3 Regulatory Setting

Federal Standards

Federal Noise Control Act of 1972

The U.S. Environmental Protection Agency (EPA) Office of Noise Abatement and Control was originally established to coordinate Federal noise control activities. After its inception, EPA's Office of Noise Abatement and Control issued the Federal Noise Control Act of 1972, establishing programs and guidelines to identify and address the effects of noise on public health, welfare, and the environment. In response, the EPA published *Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety* (Levels of Environmental Noise). The Publication recommended that the Ldn should not exceed 55 dBA outdoors or 45 dBA indoors to prevent significant activity interference and annoyance in noise-sensitive areas.

In addition, the Publication identified five dBA as an "adequate margin of safety" for a noise level increase relative to a baseline noise exposure level of 55 dBA Ldn (Note: there would not be a noticeable increase in adverse community reaction with an increase of five dBA or less from this baseline level). The EPA did not promote these findings as universal standards or regulatory goals with mandatory applicability to all communities, but rather as advisory exposure levels below which there would be no risk to a community from any health or welfare effect of noise.

In 1981, EPA administrators determined that subjective issues such as noise would be better addressed at lower levels of government. Consequently, in 1982 responsibilities for regulating noise control policies were transferred to State and local governments. However, noise control guidelines and regulations contained in EPA rulings in prior years remain in place by designated Federal agencies, allowing more individualized control for specific issues by designated Federal, State, and local government agencies.

State Standards

State of California Building Standards Code

The State of California has adopted noise standards in areas of regulation not preempted by the Federal government. State standards regulate noise levels of motor vehicles, sound transmission through buildings, occupational noise control, and noise insulation. Title 24 of the California Code of

Regulations, also known as the California Building Standards Code, establishes building standards applicable to all occupancies throughout the State. The code provides acoustical regulations for both exterior-to-interior sound insulation, as well as sound and impact isolation between adjacent spaces of various occupied units. Title 24 regulations state that interior noise levels generated by exterior noise sources shall not exceed 45 dBA Ldn/CNEL, with windows closed, in any habitable room for general residential uses.

Section 1208A, *Sound Transmission*, of the California Building Code requires acoustical evaluation and insulated building design and construction when exterior noise levels exceed 60 Ldn. New residential construction must be acoustically designed and constructed to reduce the intrusion of transportation noise and local fixed noise sources. The California Building Code requires a minimum Sound Transmission Class of 50 (STC50) and Impact Isolation Class 50 (IIC50) for multi-family attached residential dwelling units.

State of California General Plan Guidelines 2003

Though not adopted by law, the State of California General Plan Guidelines 2003, published by the California Governor's Office of Planning and Research (OPR) (OPR Guidelines), provides guidance for the compatibility of projects within areas of specific noise exposure. The OPR Guidelines identify the suitability of various types of construction relative to a range of outdoor noise levels and provide each local community some flexibility in setting local noise standards that allow for the variability in community preferences. Findings presented in the *Levels of Environmental Noise Document* (EPA 1974) influenced the recommendations of the OPR Guidelines, most importantly in the choice of noise exposure metrics (i.e., Ldn or CNEL) and in the upper limits for the normally acceptable outdoor exposure of noise-sensitive uses.

The OPR Guidelines include a Noise and Land Use Compatibility Matrix which identifies acceptable and unacceptable community noise exposure limits for various land use categories. Where the "normally acceptable" range is used, it is defined as the highest noise level that should be considered for the construction of the buildings which do not incorporate any special acoustical treatment or noise mitigation. The "conditionally acceptable" or "normally unacceptable" ranges include conditions calling for detailed acoustical study or construction mitigation to reduce interior exposure levels prior to the construction or operation of the building under the listed exposure levels. The County of Riverside, the jurisdiction which would apply for analysis of impacts to the proposed project has included these guidelines in the County's General Plan *Noise Element.* The County of Riverside's *Land Use Compatibility Guidelines* would also apply because the project is adjacent to a residential area of unincorporated county land (Del Webb Sun City Palm Desert).

California Environmental Quality Act

The California Environmental Quality Act Guidelines (Appendix G) establishes thresholds for noise impact analysis. Two of these standards apply to what is referred to as a "substantial increase" in

ambient noise levels. Neither the California Environmental Quality Act nor the *County of Riverside General Plan Noise Element* recognizes an official numerical increase as a "substantial increase". Industry-accepted standards for what is considered to be a "substantial increase" range from 3 dB to 12 dB. It should be noted that a change of 3 dB is considered to be "barely audible" to a trained ear and that a change of 5 dB is considered to be a readily audible change. Noise generated by transportation sources propagates differently than noise generated by point sources.

Traffic Noise

Roadway noise impacts would be considered significant if the project increases noise levels at a noise sensitive land use by 3 dBA CNEL and if: (1) the existing noise levels already exceed the residential land use compatibility standard for "normally acceptable" (65 dBA CNEL), or (2) the project increases noise levels from below the 65 dBA CNEL standard to above 65 dBA CNEL.

Stationary Noise

Project operations, including noise from loading and unloading activities, and parking lot noise etc., may produce an increase in noise levels which disturbs the peace and quiet of adjacent residential areas or causes discomfort/annoyance to area residents. Caltrans considers a 5 dBA increase to be "readily audible", which seems to correlate most closely to "substantial increase." For the purposes of this report, a substantial permanent increase in ambient noise levels due to stationary noise sources shall be considered 5 dBA L_{eq}.

California Department of Transportation (Caltrans)

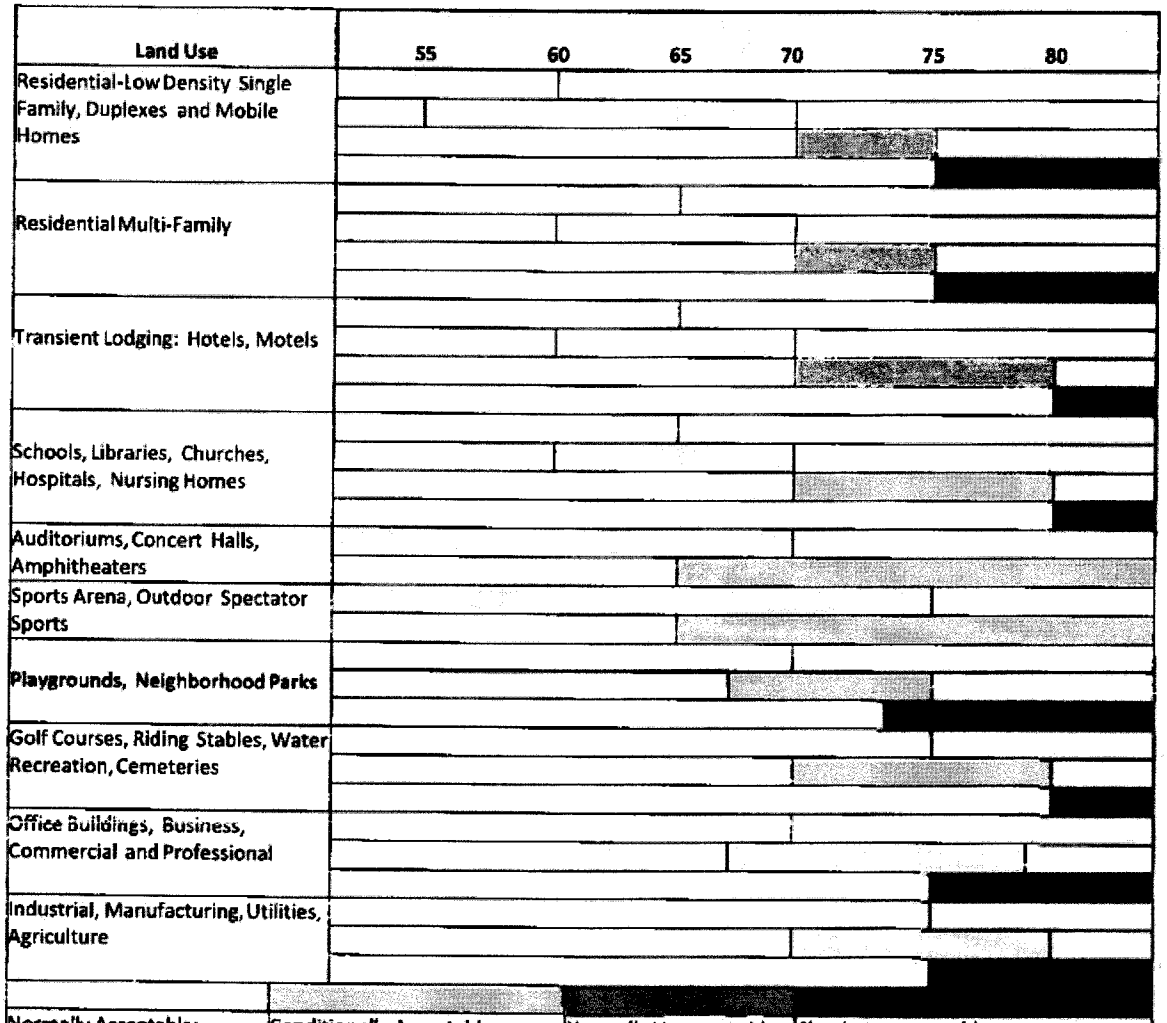
Although the proposed project is located in an unincorporated portion of Riverside County, the existing single-family detached residential dwelling units located north and west, of the project site are located within the jurisdiction of the County of Riverside. Therefore, impacts to the proposed project and other sensitive receptors located within the jurisdiction of the County are to be addressed in light of the County's policies, standards, and potential impacts to sensitive receptors.

Local Regulations

County of Riverside General Plan

The County of Riverside standards presented in Table 18, *Land Use Compatibility for Community Noise Exposure* are from the County's General Plan Noise Element and are used by planners to evaluate the suitability of a given existing or proposed land-use relative to its ambient noise exposure.

Table 18 Land Use Compatibility for Community Noise Exposure



Normally Acceptable:	Conditionally Acceptable:	Normally Unacceptable:	Clearly Unacceptable:
Specified land uses is satisfactory based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation or requirements.	New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning will normally suffice. Outdoor environment will seem noisy.	New construction and development should generally be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made with needed noise insulation features included in the design. Outdoor areas must be shielded.	New construction or development should generally not be undertaken. Construction costs to make the indoor environment acceptable would be prohibitive and the outdoor environment would not be usable.

Source: Giroux & Associates, *Table 1, Noise Impact Analysis,* January 2018.

The Noise Element states that an exterior noise exposure standard of 60 dB CNEL is the most desirable level for single-family residential uses while levels of 65 dB CNEL are desirable for usable outdoor space (patios, decks, pools, etc.) for multi-family developments. A level of 70 dB CNEL is considered "conditionally acceptable" for all residential uses. In a "conditionally acceptable" noise category, new construction should be undertaken only after a noise analysis has been made and needed noise insulation features have been incorporated.

According a memorandum issued by the Riverside County Public Health Department on November 23, 2009 by Steve Hinde, Senior Industrial Hygienist, the following direction for noise analysis is provided:

- To avoid future noise hazard, the maximum capacity design standard for highways and major roads shall be used for determining the maximum future noise level or, in the case of freeways and airports, the estimated conditions 20 years in the future may be used.
- The interior noise levels in residential dwellings shall not exceed 45 Ldn/CNEL in habitable rooms.
- The exterior noise level shall not exceed 65 Ldn/CNEL in usable outdoor space.

In areas of exterior noise levels up to 65 dB CNEL, the residential interior standard of 45 dB CNEL is readily achieved with single pane closed windows and mechanical ventilation. Double paned closed windows offer 25-30 dB CNEL exterior to interior noise attenuation and allow for an exterior noise loading of 70-75 dB CNEL. Use of dual paned windows is a standard building code requirement for residential development under the CalGREEN initiative. In areas of higher noise exposure, typical perimeter walls generally achieve 6-8 dB of noise level reduction. If necessary, a small amount of additional attenuation (increased set-back, partial structural screening, grade separation) may be necessary. Exterior noise levels of 70-75 dB CNEL can thus normally be mitigated to within General Plan/Building Code standards for noise-sensitive land uses.

If noise levels are anticipated to exceed these guidelines, noise mitigation must be evaluated and implemented where feasible before any land-use actions can be approved. While these guidelines are technically considered advisory, the inability to meet these guidelines with standard design would constitute a significant impact under CEQA. These guidelines are used in land-use decisions because noise control from transportation is controlled by state or federal agencies and is not locally regulated.

While the Noise Element guidelines apply to mobile transportation noise sources, stationary equipment noise crossing the boundary of adjoining uses is generally regulated by local noise standards because no state or federal pre-emption exists for such sources. For stationary noise sources located proximate to residential uses, the County of Riverside has adopted a noise exposure planning policy contained in Chapter 7 of the General Plan, and is shown in Table 19, *Stationary Source Land Use Exterior Noise Standards.*

Table 19 Stationary Source Land Use Exterior Noise Standards

Land Use	Time of Day	Exterior Standards
Residential	7 a.m. – 10 p.m.	65 dB L_{eq} (10 minute)
	10 p.m. – 7 a.m.	45 dB L_{eq} (10 minute)

Source: Giroux & Associates, Page 3, Noise Impact Analysis, January 2018.

Construction activity noise is restricted through County Noise Ordinance No. 847 to occur during hours of lesser sensitivity. There are no specific performance standards in the County's Code that apply to construction. Construction noise impacts are minimized by time restrictions placed on grading permits. Ordinance No 457.90, Section 1G of the Riverside County Building and Safety Department, states the following:

> *Whenever a construction site is within one-quarter (1/4) mile of an occupied residence(s), no construction activities shall be undertaken between the hours of 6:00 p.m. and 6:00 a.m. during the months of June through September and between the hours of 6:00 p.m. and 7:00 a.m. during the months of October through May.*

Other grading related conditions can also be placed on grading permits such as requiring the use of properly operating mufflers on all combustion equipment. Materials stockpiling and equipment and vehicle staging areas are also encouraged to be placed as far away from existing homes as is reasonably feasible.

County of Riverside General Plan

The County's Land Use Noise Compatibility Criteria is presented in Table 18. Policies that apply to the Project under the County's General Plan *Noise Element*.

Noise Sensitive Land Uses

Policy N 1.1: *Protect noise-sensitive land uses from high levels of noise by restricting noise-producing land uses from these areas. If the noise-producing land use cannot be relocated, then noise buffers such as setbacks, landscaping, or block walls shall be used.*

Policy N 1.4: *Determine if existing land uses will present noise compatibility issues with proposed projects by undertaking site surveys.*

Policy N 1.5: *Prevent and mitigate the adverse impacts of excessive noise exposure on the residents, employees, visitors, and noise-sensitive uses of Riverside County.*

Policy N 1.6: *Minimize noise spillover or encroachment from commercial and industrial land uses into adjoining residential neighborhoods or noise-sensitive uses.*

Policy N 1.8: *Limit the maximum permitted noise levels that cross property lines and impact*

Vehicular

Policy N 8.3: *Require development that generates increased traffic and subsequent increases in the ambient noise level adjacent to noise-sensitive land uses to provide for appropriate mitigation measures.*

3.12.4 Existing Conditions

Noise measurements were made in order to document existing baseline levels in the area. These help to serve as a basis to determine noise exposure from ambient noise activities upon the proposed project. Noise measurements are shown in Table 20, *Measured Noise Levels (dBA)*. An on-site short term (15-minute) noise measurement was conducted on Tuesday, November 25, 2014 from 2:45 p.m. to 3:15 p.m. The measurement location is shown in Exhibit 17 and the monitoring results are summarized below.

Table 20 Measured Noise Levels (dBA)

Meter	Leq	Lmax	Lmin	L10	L33	L50	L90
1	42	54	38	44	41	40	38
2	62	75	40	66	60	55	43

Source: Giroux & Associates, Page 4, Noise Impact Analysis, January 2018.

Monitoring experience shows that 24-hour weighted CNEL's are approximately equal to mid-afternoon Leq plus 2-3 dB (per guidance from *Caltrans Technical Noise Supplement, 2009*). This would equate to existing CNEL of 45-65 dB from the quietest to the loudest existing areas of the site.

At the southwestern corner of the site, noise levels at Meter 1 are quite low. Although development of the proposed project would cause an increase in localized noise, because residential uses are passive, it is improbable that the project noise could cause a 20 dB increase at this location.

Meter 2 is sited at approximately 50 feet south of Ramon Road and is representative of existing noise levels along the roadway. Although traffic noise is currently within recommended compatibility thresholds, it is likely, that with area growth, mitigation will be necessary for any residences fronting the roadway.

3.12.5 Impacts

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
NOISE – Would the project 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 permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☒	☐
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☒	☐	☐
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?	☐	☐	☐	☒

In addition to the thresholds identified in the table above, noise impacts are considered significant if:

1. They create violations of noise standards, or,
2. They substantially worsen an already excessive noise environment, or,
3. They substantially increase an existing quiet environment even if noise standards are not violated by the proposed action.

Two characteristic noise sources are typically identified with land use intensification such as that proposed for the proposed project. Initially, project construction activities, especially from heavy equipment, will create short-term noise increases near the project site. Upon completion, project-related traffic will cause an incremental increase in area-wide noise levels throughout the project area. Traffic noise impacts are generally analyzed both to ensure that the project will not adversely impact the acoustic environment of the surrounding community, as well as to ensure that the project site is not exposed to an unacceptable level of noise resulting from the ambient noise environment

acting upon the project. Needed buffer distances and propagation barriers must be evaluated to minimize the impact potential where such impacts exceed established impact significance thresholds. Typically, project-related, off-site noise impacts are evaluated as part of area-wide (community plan or specific plan) development planning. Therefore the focus of project's *Noise Impact Analysis* is the impact of the noise environment upon the project, and not the project upon regional noise patterns.

The terms "substantial" or "excessive" are not defined in most environmental compliance guidelines. Noise analysis methodology is accurate only to the nearest whole decibel and the human ear can only clearly detect changes of around 3 dB; changes of less than 3 dB, while audible under controlled circumstances, are not readily discernable in an outdoor environment. Thus, a change of 3 dB is considered as a barely audible change. Most people can readily hear a change of 5 dB in an exterior environment. Based on the previous Riverside County General Plan, in Riverside County, an increase of 5 dB or greater in the noise exposure of sensitive receptors was considered a substantial change (Riverside County Integrated Project General Plan EIR, 2003[1]).

The EPA identifies 5 dBA as an "adequate margin of safety" for a noise level increase relative to a baseline noise exposure level of 55 dBA Ldn (meaning, there would not be a noticeable increase in adverse community reaction for an increase of 5 dBA or less from this baseline level). The EPA did not promote these findings as universal standards or regulatory goals with mandatory applicability to all communities.

The County of Riverside Environmental Impact Report No. 521 4.15-68 Public Review Draft, March 2014, promulgated noise exposure levels based upon Federal Transit Administration (FTA) methodology originally designed for mass transportation projects. The FTA methodology to evaluate incremental noise impacts from roadway traffic are based on the *Transit Noise Impact and Vibration Assessment, 2006*[2]. It includes incremental noise impact criteria based on EPA findings and studies of annoyance levels in communities affected by transportation noise. The FTA extended the EPA's incremental impact criterion to ambient levels above 55 dB. It found that as baseline ambient levels increase, it takes smaller and smaller increments to trigger community annoyance.

The FTA's incremental criteria for noise exposure become progressively more stringent as the baseline noise levels increase. This is appropriate given the logarithmic nature of sound (i.e., sound intensity increases exponentially as the decibel value increases). As a result, these criteria are more protective of communities with high noise exposure. The FTA significance thresholds adopted for use

[1] http://planning.rctlma.org/Portals/0/genplan/general_plan_2014/EnvironmentalImpactReport/09-07_Appendix_EIR-7_NoiseStudies2011-2013_2014-04-23.pdf and http://planning.rctlma.org/Portals/0/genplan/content/eir/volume1.html

[2] https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/FTA_Noise_and_Vibration_Manual.pdf

for this project are shown in Table 21, *Traffic Noise Incremental Noise Impact Criteria for Noise-Sensitive Exposure (CNEL, in dBA).*

Table 21 Incremental Traffic Noise Impact Criteria for Noise-Sensitive Exposure (CNEL, in dBA)

Existing Noise Exposure (CNEL, in dBA)	Allowable Noise Exposure Increment (CNEL, in dBA)
55-60	3.0 dB
60-65	2.0 dB
65-75	1.0 dB
>75	0.5 dB

Source: Giroux & Associates, Table 2, Noise Impact Analysis, January 2018.

A sensitive receptor is defined as any land use that is identified as sensitive to noise in the Noise Element of the Riverside County General Plan, including, but not limited to, residences, schools, hospitals, churches, rest homes, cemeteries or public libraries (Ordinance No. 847 Regulating Noise).

The noise exposure criteria in Table 21 are based upon a fixed reference distance. For the proposed project, a reference distance of 50 feet from centerline was used. In actuality, sensitive uses may be setback at a greater distance than 50 feet, or benefit from noise walls; both of which would reduce roadway noise levels experienced at sensitive uses.

Temporary noise generation will result during construction activities, particularly during grading. For projects within Riverside County, the duration and intensity of such noise is typically regulated by time constraints placed on grading and heavy equipment operations. This was discussed previously in the *Environmental Setting* section under the Riverside County General Plan discussion.

While violation of an environmental ordinance would be considered a significant impact, compliance is not necessarily evidence of a less-than-significant impact. A variety of jurisdictions have therefore adopted numerical noise performance standards as further thresholds of construction activity noise impact significance. For example, it has been suggested that if construction equipment noise does not trigger hearing protection requirements for equipment operators close to the equipment, it would not be harmful to the general public farther away. The OSHA hearing protection threshold is 85 dB (8-hour average). This level is recommended as a secondary significance threshold for the proposed project.

a. Less Than Significant Impact.

Exterior Noise – Off-Site Traffic

The exterior noise standard for single family exterior recreational uses is 65 dBA CNEL in usable outdoor space such as backyards, decks, patios, etc. Homes along the northern site perimeter will be subject to traffic noise from Ramon Road.

Long-term noise concerns from the increase of residential uses at the project site are primarily based on vehicular operations on project area roadways. These concerns were addressed using the California specific vehicle noise curves (CALVENO) in the federal roadway noise model (*FHWA Highway Traffic Noise Prediction Model, FHWA-RD-77-108*). The model calculates the Leq noise level for a reference set of input conditions, and then makes a series of adjustments for site-specific traffic volumes, distances, speeds, or noise barriers.

As previously discussed, the FTA study includes incremental noise impact criteria based on EPA findings and studies of annoyance levels in communities affected by transportation noise. The FTA extended the EPA's incremental impact criterion to ambient levels above 55 dB. It found that as baseline ambient levels increase, it takes smaller and smaller increments to trigger community annoyance.

For roadway segments up to 60 dB CNEL noise level at 50 feet from centerline a +3 dB increase is permitted, but after a 75 dB CNEL background noise level anything over a +0.5 dB CNEL increase is considered significant. Table 22, *Potentially Significant Roadway Segments,* summarizes the calculated 24-hour CNEL level at 50 feet from the roadway centerline along project adjacent roadway segments for existing conditions, with and without project.

Table 22 Potentially Significant Roadway Segments

Roadway	Significant in Existing Time Frame	Significant in Future Time Frame	With Project Future Noise Level (dB CNEL)
Ramon Rd/ Monterey-Via Las Palmas	Yes	Yes	67.2
Monterey/ North of Varner	Yes	Yes	67.9
South of Ramon	Yes	Yes	67.2

Source: Giroux & Associates, Page 13, Noise Impact Analysis, January 2018.

The noise analysis for these scenarios utilized data from the project traffic analysis, prepared by Trames Solutions Inc., in 2016 for this project. The data provides traffic noise impacts associated with the additional projected vehicle trips resulting from the entire proposed development to surrounding roadways compared to the existing conditions. Table 23, *Existing Conditions Plus Project Traffic Noise Impact Analysis (dB CNEL at 50 feet from centerline),* also provides the adopted allowable incremental threshold as compared to actual project impact.

Noise impacts and mitigation are analyzed for general plan roadway design levels rather than upon project specific traffic forecasts. For this analysis, Ramon Road, which is in the project vicinity, is designated as an arterial roadway and therefore, the roadway conditions from Table 23 were used.

Table 23 Existing Conditions Plus Project Traffic Noise Impact Analysis (dB CNEL at 50 feet from centerline)

Roadway Segment	Existing	Existing+ Project	Allowable Increase[1]	Project Net Increase[1]	Significant?
Ramon Road					
West of Bob Hope	67.8	67.9	1.0	0.1	No
East of Bob Hope	66.1	66.5	1.0	0.4	No
I10-Varner	63.8	64.5	2.0	0.6	No
Varner-Monterey	64.3	65.0	2.0	0.7	No
Monterey-Las Palmas	61.5	65.1	2.0	3.6	Yes
East of Via Las Palmas	60.2	60.6	2.0	0.4	No
Bob Hope Drive					
South of Ramon	66.7	66.7	1.0	0.0	No
North of Ramon	67.0	67.2	1.0	0.2	No
Varner Road					
East of Ramon	65.0	65.0	2.0	0.0	No
West of Monterey	63.4	63.4	2.0	0.0	No
East of Monterey	64.3	64.8	2.0	0.5	No
Monterey Avenue					
South of Dinah Shore	68.7	68.9	1.0	0.2	No
Dinah Shore to I10	70.4	70.6	1.0	0.3	No
North of Varner	65.0	66.5	1.0	1.6	Yes
South of Ramon	63.7	65.7	1.0	2.0	Yes
Via Las Palmas					
South of Ramon	DNE	62.9	-	-	No
North of Ramon	53.4	53.4	3.0	0.0	No
Dinah Shore Drive					
West of Monterey	68.2	68.3	1.0	0.1	No
East of Monterey	67.0	67.2	1.0	0.2	No

Source: Giroux & Associates, Table 5, Noise Impact Analysis, January 2018.

Notes:

1. Based on background noise levels per FTA methodology (Transit Noise Impact and Vibration Assessment, 2006) DNE=does not exist without project.

Table 24, *Future Conditions Plus Project Traffic Noise Impact Analysis (dB CNEL at 50 feet from centerline)*, shows the same data for the future time frame, with and without project. Because the future time frame would include cumulative area projects and anticipated traffic growth, project related impacts would likely decrease compared to existing conditions. The incremental increase in traffic attributed to the project would become smaller and more diluted as ambient noise levels increase due to regional growth.

Table 24 Future Conditions Plus Project Traffic Noise Impact Analysis (dB CNEL at 50 feet from centerline)

Roadway Segment	Existing	Existing+ Project	Allowable Increase[1]	Project Net Increase[1]	Significant?
Ramon Road					
West of Bob Hope	69.2	69.3	1.0	0.1	No
East of Bob Hope	67.0	67.3	1.0	0.3	No
I10-Varner	66.0	66.4	1.0	0.4	No
Varner-Monterey	66.0	66.5	1.0	0.5	No
Monterey-Las Palmas	65.3	67.2	1.0	1.9	Yes
East of Via Las Palmas	61.1	61.4	2.0	0.3	No
Bob Hope Drive					
South of Ramon	68.9	68.9	1.0	0.0	No
North of Ramon	68.7	68.8	1.0	0.1	No
Varner Road					
East of Ramon	67.8	67.8	1.0	0.0	No
West of Monterey	64.1	64.1	2.0	0.0	No
East of Monterey	68.0	68.2	1.0	0.2	No
Monterey Avenue					
South of Dinah Shore	70.0	70.1	1.0	0.1	No
Dinah Shore to I10	71.9	72.1	1.0	0.2	No
North of Varner	66.8	67.9	1.0	1.1	Yes
South of Ramon	65.9	67.2	1.0	1.3	Yes
Via Las Palmas					
South of Ramon	DNE	62.9	-	-	No
North of Ramon	54.0	54.0	3.0	0.0	No
Dinah Shore Drive					
West of Monterey	69.5	69.6	1.0	0.1	No
East of Monterey	69.5	69.6	1.0	0.1	No

Source: Giroux & Associates, Table 6, Noise Impact Analysis, January 2018.

Notes:

1. Based on background noise levels per FTA methodology (Transit Noise Impact and Vibration Assessment, 2006) DNE=does not exist without project.

The noise levels presented in Tables 23 and 24 are based on a distance of 50 feet from the centerline of each evaluated roadway and assume no noise protection. As such, potential impact conclusions based on these tables do not consider the fact that sensitive receptors along the roadways could experience reduced noise impacts if located a greater distance than 50 feet from the roadway centerline or that homes could be noise protected by an existing sound wall. There may be no sensitive uses adjacent to the impacted alignments. The following discussion provides specific information regarding existing sensitive receptor land uses located along roadway segments potentially impacted by increased traffic noise levels resulting from the proposed project implementation:

Ramon Rd/ Monterey to Via Las Palmas

Existing traffic on Ramon Road is very low, such that the addition of any additional traffic provides for a more marked increase than for other roadways with heavier current utilization. There are no sensitive uses on Ramon Road west of Monterey Ave. However, there are continuous mobile home parks and RV parks along the southern alignment from Monterey Avenue to the project site. All uses are single story. In general, the adjacent mobile homes are at an elevation 2-3 feet lower than the roadway. There is either a 4-5 foot noise wall or a shorter noise wall but a 2-3 foot berm at the Ramon Road property line. The combination of lower elevation, berms and noise walls would provide 3-5 dB of noise mitigation. Because the future with project noise level is between Monterey Avenue and Valas Palmas is only marginally over 65 dB (67.2 dB), even very minimal protection afforded by the sound walls and berms would ensure the receivers experience a future traffic noise level below the desirable 65 dB CNEL guideline. Therefore, although the With Project traffic noise levels could be potentially significant, the existing combination of below roadway elevation, 4-5 block walls with no berms or 3-4 foot walls atop of a 2 foot berm (effectively providing at least 5-feet of noise protection) would ensure that traffic noise at any adjacent receiver would be below the 65 dB CNEL guideline.

Monterey Avenue/ Ramon Road to Varner Road

Many residential uses, primarily mobile home parks, are located along the eastern roadway perimeter. All sensitive uses are single story and a 5-6 foot block wall at the property line separates the homes from the roadway. Maximum With Project noise levels are 67 dB CNEL. Because Monterey is almost 100 feet wide, all the impacted homes are setback by distances greater than 50 feet (generally 65-70 feet). Between the increased setback which would provide at least 1 dB of noise attenuation and the existing noise/privacy wall which would provide about 5 dB of attenuation, the future With Project noise levels would be less than the 65 dB CNEL exterior residential noise guideline. There is no mitigation required to ensure the adjacent residences are not subjected to traffic noise exceeding the recommended residential noise compatibility guideline.

On Site Noise

Traffic noise levels calculated based on the anticipated new project related traffic as detailed in the project's *Traffic Impact Analysis* would provide a maximum noise level of 63 dB on Via Las Palmas south of Ramon at 50 feet from roadway centerline. This is within the recommended 65 dB CNEL recommended exterior residential noise guideline for new development.

The exposure criteria for new residential construction require that the interior noise environment, attributable to outside sources, be limited to 45 dB CNEL. Homes with energy

efficient windows generally provide 30 dB of noise attenuation with closed windows. Therefore, exterior noise levels of up to 75 dB would provide for an acceptable interior noise level with closed windows.

If window closure is a necessary condition to meet the interior standard, the building code requires provision of supplemental ventilation. The requirement can be met with a fresh air inlet duct on the return air plenum on the furnace fan. The recommended ventilation rate is 15 CFM per person of fresh make-up air as per Title 24 of the California Code of Regulations. Assuming a four-person occupancy in any livable space, the supplemental ventilation system should be sized to deliver 60 CFM of fresh air.

b. **Less Than Significant Impact With Mitigation Incorporated.** Construction activities generate ground-borne vibration when heavy equipment travels over unpaved surfaces or when they involve soil movement. The effects of ground-borne vibration include discernable movement of building floors, rattling of windows, shaking of items on shelves or hanging on walls, and rumbling sounds. Within the "soft" sedimentary surfaces of much of Southern California, ground vibration is quickly damped out. Because vibration is typically not an issue, very few jurisdictions have adopted vibration significance thresholds. Vibration thresholds have been adopted for major public works construction projects, but these relate mostly to structural protection (cracking foundations or stucco) rather than to human annoyance.

The closest sensitive receptors to the project site are the residences located directly south and west of the project site. The closest dwelling units west of the project site are approximately 10 feet from the project boundary and the closest dwelling units south of the project are approximately 20 feet from the project boundary. To determine potential impacts of the project's construction activities, estimates of vibration levels induced by the construction equipment at various distances are presented in Table 25, *Approximate Vibration Levels*.

Table 25 Approximate Vibration Levels

Equipment	Approximate Vibration Levels (VdB)[1]				
	25 feet	50 feet	100 feet	350 feet	1000 feet
Large Bulldozer	87	81	75	64	55
Loaded Truck	86	80	74	63	54
Jackhammer	79	73	67	56	47
Small Bulldozer	58	52	46	35	26
Pile Driver	93	87	81	70	61

Source: Giroux & Associates, Table 4, Noise Impact Analysis, January 2018.
Notes:
1. FTA Transit Noise & Vibration Assessment, Chapter 12, Construction, May, 2006)

Vibration is most commonly expressed in terms of the root mean square (RMS) velocity of a vibrating object when considering vibration annoyance potential. RMS velocities are expressed in units of vibration decibels (VdB). The range of VdB is as follows:

65 VdB	threshold of human perception
72 VdB	annoyance due to frequent events
80 VdB	annoyance due to infrequent events
100 VdB	minor cosmetic damage

A pile driver would not be used for project development, so the construction equipment that is anticipated to create the maximum potential vibration is a large bulldozer. The stated vibration source level in the FTA Handbook for such equipment is 86 VdBA at 100 feet from the source.

The onsite construction equipment that will create the maximum potential vibration is a large bulldozer. The stated vibration source level in the FTA Handbook for such equipment is 81 VdBA at 50 feet from the source. With typical vibrational energy spreading loss, the vibration annoyance standard is met at 56 feet. Effects of vibration perception such as rattling windows could only occur at the nearest residential structures, though vibration resulting from project construction would not exceed cosmetic damage thresholds.

Regardless, large bulldozers will not likely operate directly at the shared property line with the perimeter homes. Any fine grading at the property line should be performed with small bulldozers which are seen above to have 30 VdB less vibration potential. Therefore, to ensure adequate vibration annoyance protection the following mitigation measure (NOI-1) is recommended:

- Only small to medium bulldozers shall be permitted to operate within 56 feet of the nearest residences[3].

With implementation of Mitigation Measure NOI-1, Vibration impacts associated with construction activities would be less-than-significant.

c. **Less Than Significant Impact.** Long-term noise concerns from the increase of residential uses at the project site are primarily based on vehicular operations on project area roadways. These concerns were addressed using the California specific vehicle noise curves (CALVENO) in the federal roadway noise model. Table 26, *Traffic Noise Impact Analysis*, summarizes the calculated 24-hour CNEL level at 50 feet from the roadway centerline along the project

[3] Caterpillar defines small to medium bulldozers as typically in the 80-310 hp range which is used to designate the lower range for dozer vibration in this analysis. Large dozers are typically 312 -850 hp. https://www.cat.com/en_US/products/new/equipment/dozers.html

adjacent roadway segments. Two time frames were evaluated; existing conditions with and without project, and future conditions with and without project. Noise analysis for these scenarios utilized data from the project Traffic Impact Analysis (Appendix H), was prepared by Trames Solutions Inc., (2014).

Table 26 Traffic Noise Impact Analysis

Roadway Segment [1,2]	Existing	Existing	Existing+ Project	2020	2020 +Project	2020+ Project+ Cumulative
Ramon Rd/	W of Bob Hope	69.8	70.0	70.3	70.5	70.8
	Bob Hope-I-10	68.3	68.7	68.8	69.2	69.6
	I-10-Varner	66.0	66.8	66.5	67.2	67.5
	Varner-Monterey	65.4	66.4	65.9	66.8	67.4
	E of Monterey	65.3	68.3	65.7	68.6	70.0
	W of Via Las Palmas	62.6	67.2	63.1	67.4	67.5
	E of Via Las Palmas	61.9	62.4	62.4	62.8	63.1
Bob Hope Dr/	S of Ramon	68.9	69.1	69.4	69.6	70.0
	N of Ramon	68.5	68.5	69.0	69.0	69.4
Varner Rd/	E of Ramon	61.1	63.1	58.7	61.6	61.0
	W of Monterey	63.4	63.4	65.5	65.5	66.4
	E of Monterey	62.3	62.3	62.8	62.8	64.3
Monterey/	S of Dinah Shore	70.7	70.9	71.2	71.4	71.6
	Dinah Shore to I-10	72.4	72.7	72.8	73.1	73.5
	N of Varner	66.8	68.6	67.3	69.0	70.0
	S of Ramon	65.9	68.1	66.4	68.4	69.5
Via Las Palmas /	S of Ramon	- [3]	59.8	- [3]	59.8	59.8
	N of Ramon	49.7	49.7	50.2	50.2	50.2
Dinah Shore Dr/	W of Monterey	70.3	70.4	70.8	70.9	72.2
	E of Monterey	68.4	68.6	68.8	69.0	70.1

Source: Giroux & Associates, Table 3, Noise Impact Analysis, December 31, 2014.

Notes:

1. Analysis is CNEL in dB at 50 feet from the centerline
2. Noise analysis for these scenarios utilized data from the project traffic analysis, was prepared by Trames Solutions Inc., (2014).
3. DNE = does not exist

A "significant" traffic noise impact would occur if project-related traffic were to increase noise levels by +5 dB or more. As seen in Table 27, *Project Noise Impact Analysis,* the largest project related impact is +4.6 dB CNEL on Ramon Road by the project site. Ramon Road is currently very lightly utilized (only about 2,500-3,000 vehicle trips per day) and therefore even a small increase in vehicular use causes a relatively large noise impact. The next largest noise impact is +3.0 dB CNEL at Ramon Road east of Monterey Avenue. All other project related traffic noise increases are generally less than +2.0 dB.

As discussed prior, long-term increases in ambient noise caused by increased traffic was calculated utilizing the CALVENO model, which calculates the Leq noise level for a reference set of input conditions, then makes a series of adjustments for site-specific traffic volumes, distances, and speeds. Upon modeling of the potential ambient increases, and finding the potential for unacceptable ambient increases for the With Project conditions, additional onsite evaluation was required from Giroux and Associates to analyze more realistic potentials for actual noise increases based upon the existing environment (e.g. existing noise walls, topography, dirt berms, elevations, etc.) which the noise modeling does not appropriately capture. As discussed in the Noise Impact Analysis for the proposed project, the lower elevation of the potential sensitive receptors along Ramon Road, coupled with existing noise walls and berms, would ensure the proposed project would not contribute to a significant increase in ambient noise due to an increase in traffic. Further, along Monterey Avenue, given the greater setback distances from the roadway, as well as an existing 5-6 foot tall block wall at the property lines, no significant increases in ambient noise would occur.

Cumulative increases are defined as the difference between "future with project and cumulative development" and existing traffic noise levels. As seen in Table 27, the largest cumulative impacts are again on Ramon Road in the project vicinity, and the significance thresholds are not exceeded. The project related traffic noise increases are less than the significance threshold, therefore, the impacts associated with an increase in ambient noise levels associated with the project will be less than significant.

Table 27 Project Noise Impact Analysis

Roadway Segment[1]	Existing	Project Only Existing[1]	Project Only 2020	Cumulative Impacts
Ramon Rd/	W of Bob Hope	0.2	0.1	1.0
	Bob Hope-I-10	0.4	0.4	1.4
	I-10-Varner	0.7	0.6	1.4
	Varner-Monterey	1.0	0.9	2.0
	E of Monterey	3.0	2.8	4.7
	W of Via Las Palmas	4.6	4.3	4.9
	E of Via Las Palmas	0.5	0.4	1.2
Bob Hope Dr/	S of Ramon	0.2	0.2	1.1
	N of Ramon	0.0	0.0	0.9
Varner Rd/	E of Ramon	1.9	3.0	-0.1
	W of Monterey	0.0	0.0	2.9
	E of Monterey	0.0	0.0	2.0
Monterey/	S of Dinah Shore	0.2	0.2	0.9
	Dinah Shore to I-10	0.3	0.3	1.1
	N of Varner	1.8	1.7	3.2
	S of Ramon	2.1	2.0	3.6

Table 27 Project Noise Impact Analysis Continued

Roadway Segment[1]	Existing	Project Only Existing[1]	Project Only 2020	Cumulative Impacts
Via Las Palmas/	S of Ramon2	-	-	-
	N of Ramon	0.0	0.0	0.4
Dinah Shore Dr/	W of Monterey	0.1	0.1	1.9
	E of Monterey	0.2	0.2	1.7

Source: Giroux & Associates, Table 4, Noise Impact Analysis, December 31, 2014.

Notes:

1. Analysis is CNEL in dB at 50 feet from the centerline
2. Does not exist without project

d. Less Than Significant Impact With Mitigation Incorporated. There are existing residential uses along the project boundary, primarily along the western and southern perimeter. For indoor noise environments, the highest noise level that permits relaxed conversation with 100 percent intelligibility throughout the room is 45 dB. Speech interference is considered to be intolerable when normal conversation is precluded at 3 feet, which occurs when background noise levels exceed 60 dB. With closed dual-paned windows, an exterior noise level of 75 dB at receptor locations would maintain an acceptable interior noise environment and an exterior noise level of 85-90 dB would provide an indoor noise level of 55-60 with closed windows. In some cases, this noise reduction could be maintained only on a temporary basis, since it requires that windows remain closed at all times assuming homes have air conditioning. For the proposed project, a significant noise impact would occur if noise levels remained above the 85 dB exterior noise level and 60 dB interior noise level speech interference thresholds.

Table 28, *Project Related Construction Noise Levels at the Closest Noise Sensitive Receptor,* shows the typical range of construction activity noise generation as a function of equipment used in various building phases. The table identifies the highest (Lmax) noise levels associated with each type of equipment, then adjusts this noise level for the extent of equipment usage (usage factor), which is represented as Leq.

As indicated in Table 28, construction equipment noise levels associated with construction of the closest project buildings site would range between 65 and 82 dBA (Leq) at any receptor. Such noise levels would be slightly below the indoor speech interference threshold. Construction activity, although temporary at any given location, can be substantially disruptive to adjacent uses during the construction period and is judged to be potentially significant. It should be noted that construction noise levels would be sporadic rather than continuous, because different types of construction equipment would be used throughout the construction process. The *Noise Impact Analysis* estimated noise levels associated with proposed project construction and compared daytime construction noise levels at sensitive receptors against the speech interference threshold.

Table 28 Project Related Construction Noise Levels at the Closest Noise Sensitive Receptor

Principal Noise Sources	Reference Noise Level, Lmax in dBA at 50 feet[1]	Assumed Usage Factor	Noise Level Adjustment Factor for Usage	Leq Noise Level Adjusted for Usage @ 50'
Jackhammer	89	20%	-7	82
Crane	81	16%	-8	73
Dozer	82	40%	-4	78
Excavator	81	40%	-4	77
Forklift, Front End Loader	79	40%	-4	75
Generator	81	50%	-3	78
Grader	85	40%	-4	81
Other Equipment (>5 hp)	85	50%	-3	81
Cement/Mortar Mixer	79	40%	-4	65
Paver	77	50%	-3	74
Roller	80	20%	-7	73
Tractor	84	40%	-4	80
Truck	80	40%	-4	76
Welder	74	40%	-4	70

Source: Giroux & Associates, Table 3, Noise Impact Analysis, January 2018.

Notes:

1. Reference noise levels and equipment usage factors are based on noise measurements collected during a roadway tunnel project (FHWA, 2011) and found in the FHWA Noise Construction Handbook

The potential for construction-related noise to adversely affect nearby residential receptors would depend on the location and proximity of construction activities to these receptors. As shown in Exhibit 3 in the Project Description section of this EA, there are no sensitive receptors on the north or west of the project site, therefore, noise associated with construction activity in either of these planning areas would be less than significant. To the west, along the westerly boundary of Planning Area 1, existing residences on the adjacent site are separated from the property line by an approximate 100-foot setback. Therefore, short-term intermittent noise generated during construction would generally fall below the threshold identified above when there are construction activities in Planning Area 1. Along the southerly boundary of the project site in Planning Area 5, short term, intermittent noise generated during construction of the flood control channel and solar field could be significant intermittently depending on the type of equipment and location of the construction activity. Finally, to the west, along the westerly boundary of Planning Area 3, existing residences on the adjacent site are separated from the property line by an approximate 10-foot setback. Therefore, in this planning area, short-term intermittent noise generated during construction of the flood control channel and

residences within the approximate 150-feet east of the westerly project boundary, could also be significant intermittent noise generated during construction.

Compliance with County Ordinance No. 457.90 time limits as well as implementation of Mitigation Measures NOI-2 through NOI-9, which specify best management practices to reduce noise from heavy equipment including the limiting of hours to those of lesser sensitivity, would reduce any construction impact but not to a less-than-significant level. Therefore, an additional mitigation measure (Mitigation Measure NOI-10) has been proposed that would require construction contractors working in Planning Areas 3 and 5 to provide a schedule of construction activities to the Tri-Palms Estates Homeowners Association office prior to commencement of construction activities. Because noise impacts would be short-term, temporary and intermittent, and generally only adversely affect residences adjacent to Planning Areas 3 and 5, and with implementation of these mitigation measures, impacts would be minimized.

e. **No Impact.** The Palm Springs International Airport is located approximately 7 miles west of the project site, and the proposed project is outside of the Airport Land Use Commission (ALUC) Noise Compatibility Contours for this airport. The Bermuda Dunes Airport is located approximately 6.4 miles southeast of the project site, and the project outside the ALUC Noise Compatibility Contours for this airport. Therefore, there will be no impact.

f. **No Impact.** No private airstrips are located in the vicinity of the project site. Therefore, there will be no impact.

3.12.6 Mitigation Measures

Construction Measures

NOI-1 To ensure adequate vibration annoyance protection, only small bulldozers shall be permitted to operate within 56 feet of the nearest project structures. Note: Caterpillar defines small to medium bulldozers as typically in the 80-310 hp range which is used to designate the lower range for dozer vibration in this analysis. Large dozers are typically 312 -850 hp. https://www.cat.com/en_US/products/new/equipment/dozers.html

NOI-2 Compliance with construction time limits of Riverside County Ordinance No. 457, Section 1G that prohibits construction activities between the hours of 6 p.m. and 6 a.m. during the months of June through September, and between 6 p.m. and 7 a.m. during the months of October through May. Site entry gates shall be closed and locked during restricted hours.

NOI-3 Construction equipment, stationary and mobile, shall be equipped with properly operating and maintained muffling devices. No equipment shall be permitted to have an un-muffled

exhaust. If possible, install an upgraded muffler/silencer of the engine to reduce engine noise.

NOI-4 Install ambient sensitive backup indicators on all equipment that requires backup indicators to reduce back up noise if the equipment operates within 200 feet of any noise-sensitive land use.

NOI-5 Establish an effective communication plan to address the local residents; the plan shall address a timeline for construction notification, the method of notification, and how often progress reports will be provided. The Plan should establish a public information hotline to minimize public complaints regarding noise levels. The construction contractor shall designate a Noise Disturbance Coordinator to respond to any public complaints related to noise generation.

NOI-6 To the extent feasible, the noisiest operations shall be scheduled to occur simultaneously in the construction program to avoid prolonged periods of annoyance.

NOI-7 The construction contractor shall locate equipment staging in areas that will create the greatest distance between construction-related noise sources and noise sensitive receptors nearest the project site during all project construction.

NOI-8 No music or electronically reinforced speech from construction workers shall be audible at noise-sensitive property.

NOI-9 All project workers exposed to noise levels above 85 dB shall be provided with personal protective equipment for hearing protection (i.e., earplugs and/or earmuffs); areas where noise levels are routinely expected to exceed 85 dB shall be clearly posted with signs requiring hearing protection be worn.

NOI-10 Prior to commencement of grading and/or construction activities along the westerly project boundary in Planning Area 3 and along the southerly boundary in Planning Area 5, the applicant shall notify the Tri Palms Estates Homeowners Association office and provide a schedule of construction activities so affected residents are aware when construction is to occur adjacent to these property boundaries.

3.12.7 Level of Significance After Mitigation

With Implementation of Mitigation Measures NOI-1 through NOI-10, the project will have a less than significant impact on noise levels.

3.13 Population and Housing

3.13.1 Sources

The following sources were utilized to support the conclusions made in this section:

- Ralph Anderson and Associates, *Draft Report of Fiscal Analysis and Plan for Services for the City of Cathedral City Sphere of Influence within the Unincorporated Community of Thousand Palms,* March 18, 2013.
- Southern California Association of Governments, 5th Cycle Regional Housing Needs Assessment Final Allocation Plan, 2014-2021, August 29. 2012.
- County of Riverside General Plan, *Land Use Element,* Updated December 15, 2015.

3.13.2 Environmental Setting

The latest population recorded for the Thousand Palms community is 7,715, based on the 2010 Census. This number does not provide adequate analysis for existing conditions, so we have utilized the Cathedral City Plan of Service for the Sphere of Influence (SOI) in Thousand Palms, which includes the project area. Table 29, *Thousand Palms Population Projections Through Build Out,* shows the population growth for the Thousand Palms community in five year increments until build out in 2042-2043.

Table 29 Thousand Palms Population Projections

Year	Estimated Population
2012-13 (Base Year)	7,715
2017-18 (5 Years)	9,489
2022-23 (10 Years)	10,579
2027-28 (15 Years)	18,250
2032-33 (20 Years)	22,815
2037-38 (25 Years)	27,380
2042-43 (Build Out	31,945

Source: Ralph Anderson and Associates, Plan of Services for SOI Thousand Palms, Chapter III, March 18, 2013.

Since the Thousand Palms 278 Specific Plan (SP00386) project is anticipated to be built out by 2024, the population in Thousand Palms would be approximately 10,579 people at build out of the project, based on the 2022-2023 population projection. The build out population in the SOI is based on proposed development within the SOI and Riverside County General Plan land use designations.

The project site is designated as Medium Density Residential (MDR) in the Riverside County General Plan, which allows for a density of 2-5 dwelling unit per acre.

SCAG Regional Housing Needs Assessment

Riverside County is represented by two sub-regional councils of governments: the Western Riverside Council of Governments (WRCOG) and the Coachella Valley Association of Governments (CVAG). Through delegation agreements with SCAG, both of these sub-regions assumed responsibility for administering the RHNA distribution among the individual jurisdictions within their respective sub-regions. A local jurisdiction's "fair share" of regional housing need is the number of additional dwelling units that would be required to accommodate the anticipated growth in households, replace expected demolitions and conversion of housing units to non-housing uses, and achieve a future vacancy rate that allows for the healthy functioning of the housing market.

Table 30, *RHNA Assessment 2014-2021 Riverside County Unincorporated Area,* presents the RHNA allocation for Riverside County for the 8 year planning period as approved by SCAG in October, 2012.

Table 30 RHNA Assessment 2014-2021 Riverside County Unincorporated Area

Income Category				TOTAL Housing Need
Very Low	Low	Moderate	Above Moderate	
6,377	4,871	5,531	12,725	30,303

Source: Southern California Association of Governments, 5th Cycle Regional Housing Needs Assessment Final Allocation Plan, 2014-2021, August 29. 2012.

According to the 2014-2021 SCAG RHNA, approximately 30,303 new housing units are needed to accommodate anticipated population growth in the unincorporated area of Riverside County, which includes the project site.

Riverside County General Plan

The Riverside County General Plan identifies the location, distribution and density of land uses within the County. General Plan land use densities are expressed in dwelling units per acre. The Riverside County General Plan Land Use Map consists of five broad Foundation Component land uses: Agriculture, Rural, Rural Community, Open Space, and Community Development. Each of these Foundation Components is subdivided into more detailed land use designations at the area plan level. In addition, the General Plan Land Use map includes a number of overlays which allow residential uses.

3.13.3 Impacts

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
POPULATION AND HOUSING – Would the project:				
a) 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)?	☐	☐	☒	☐
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

a. **Less than Significant.** The proposed project will include the construction of up to 590 dwelling units. Using 3.02 persons per household for the Thousand Palms area, as assumed in the Water Supply Assessment prepared for the project, the project could introduce approximately 1,782 residents to the area, spread out over the next 8 years until anticipated buildout in 2024. The project would make up approximately 17 percent of the total estimated population of the Thousand Palms area in 2024. This is a considerable amount of residents to be added to the area; however, the project will be built in five phases over eight years, therefore growth would be gradual. The project would also be required to provide its own infrastructure and to provide for additional public services as needed (see Public Services section for further discussion).

The Thousand Palms 278 Specific Plan (SP00386) would assist the County in meeting the RHNA allocation by providing a variety of housing types in carrying ranges based on square footage. The project includes 590 new homes of varying price points in unincorporated Riverside County. The Regional Housing Needs Assessment shows that the unincorporated area of Riverside County, where the project is located, is in need of 30,303 homes by 2021. The project would contribute to this need by adding approximately 2percent of the needed homes to the unincorporated Riverside County area.

Additionally, the project site will be designated as Medium High Density Residential (MHDR), and will have an average density of 6.56 dwelling units per acre. Overall, the gross residential density of 6.56 dwelling units per acre, is consistent with the existing General Plan land use designations for population density. Therefore, the project's overall design is consistent with the Riverside County General Plan Land Use Element and, by providing adequate

infrastructure to sustain the project and provide for additional public services as needed, as well as providing for additional homes to meet the County's RHNA needs, the project would have a less than significant impact on population growth.

b. **No Impact.** The project site is currently vacant with no existing homes and no persons living onsite. The project would not displace housing. There would be no impact.

c. **No Impact.** The project site is currently vacant with no existing homes and no persons living onsite. The project would not displace people. There would be no impact.

3.13.4 Mitigation Measures

No mitigation measures are necessary.

3.13.5 Level of Significance After Mitigation

The project would result in less than significant impacts on Population and Housing.

3.14 Public Services

3.14.1 Sources

The following sources were utilized to support the conclusions made in this section:

- Email questionnaire received from the Fire Protection District of the Riverside County Fire Department, dated November 2014.
- Email questionnaire received from the Captain Kevin Vest from the Riverside County Sheriff's Station in Palm Desert, dated October 2014.
- Email questionnaire received from the Facilities Department of Palm Springs Unified School District (PSUSD)dated October 2014
- Palm Springs Unified School District Facilities Planning and Development FAQ/Developer Fees (Effective June 2016)
- Riverside County Library System website, http://rivlib.info/riverside-county-library-system/, accessed November 2016
- GreenPlay, LLC, *Desert Recreation District Master Plan*, November, 2015.

3.14.2 Environmental Setting

Fire Protection

The Riverside County Fire Department would provide fire services to the new community. The nearest fire station to the site is Station No. 35 located at 31920 Robert Road, approximately 1.25

miles west of the project site. The station is equipped with a Type I Fire Engine with 3-person staffing. The response time to the project site is estimated at 4 minutes.

Police Protection

The Riverside County Sheriff's Department would provide law enforcement services to the new community. The nearest Sheriff's station to the site is the Palm Desert Station located at 73705 Gerald Ford Drive, approximately 3.30 miles south of the project site. This station covers the western half of the Coachella Valley's unincorporated areas and the cities of Indian Wells, Palm Desert and Rancho Mirage to provide police services. There are 152 sworn and 40 non-sworn personnel assigned to this station. The current ratio of officers to population is about 0.85 officers per 1,000 residents. The desired ratio is 1 officer per 1,000 residents. Response times to the project area are as follows:

Priority 1 calls 8.0 minutes
Priority 2 calls 22.9 minutes
Priority 3 calls 40.0 minutes
Priority 4 calls 44.5 minutes

Schools

The project site is located within the Palm Springs Unified School District (PSUSD). Schools that would serve the site include the following:

Della Lindley Elementary	Nellie N. Coffman Middle	Rancho Mirage High School
31-495 Robert Road	34-603 Plumley Road	31-001 Rattler Road
Thousand Palms, CA 92276	Cathedral City, CA 92234	Rancho Mirage, CA 92270

Della Lindley currently has a capacity of 620 students; Nellie Coffman has a 1,045 student capacity and Rancho Mirage High has a capacity of 1,166.

Parks

Riverside County

Riverside County operates several regional parks within the County. The nearest regional park to the project site is the Lake Cahuilla Recreation Area, which is a 710 acre park, located southeast of La Quinta. The project site is approximately 13 miles northwest of this park.

Desert Recreation District

The community of Thousand Palms is located within the boundaries of Desert Recreation District (DRD) for local recreation services. DRD operates the Thousand Palms Community Center and Park located at 31-189 Robert Road in Thousand Palms, less than a mile west of the project site.

Other Public Facilities

The Art Samson Community Library, located at 31189 Robert Road in the Thousand Palms Community, would serve the project site for library services. The library is open five days per week and provides such resources as public computers and free wireless internet, in addition to books, periodicals and reference material.

3.14.3 Impacts

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
PUBLIC SERVICES				
a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new of 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?	☐	☐	☒	☐

a. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered government facilities:

Fire Protection – Less Than Significant With Mitigation Incorporated.

The addition of approximately 590 residential units to the project area would increase the need for fire services. Station No. 35, which is the station that would first respond in an emergency, would likely need new staff and an additional Type I Fire Engine due to the additional demand from the project. Additionally, the project would be required to pay Development Impact Fees (DIF fees), to assist in providing revenue to acquire or construct necessary public facilities, in accordance with the County Ordinance No. 659.

Police Protection – Less Than Significant With Mitigation Incorporated.

According to the Sheriff's Department, substantial development in the project area would negatively impact law enforcement services unless it occurs after staffing levels have increased back to 1 officer per 1,000 residents. There are no programs in place to address

these cumulative effects other than the Board of Supervisors commitment to increase staffing levels in the unincorporated county patrol areas. To serve the project, an additional patrol deputy may be required. In addition, the project would be required to pay Development Impact Fees (DIF fees), to assist in providing revenue to acquire or construct necessary public facilities, in accordance with the County Ordinance No. 659.

Schools – Less Than Significant.

The student generation factor for grades K-12 for single family units in Thousand Palms is 0.6431, meaning potentially 379 K-12 students (185 in K-5; 85 in 6-8; and 109 in 9-12) would be generated by the proposed project. This type of student generation would require additional facilities as PSUSD is currently impacted at both elementary and middle schools in this area. PSUSD reports that additional classrooms will be required to provide educational services to the proposed project. The project would be required to pay school fees at the rate of $3.48 per square foot to offset impacts to schools. Upon payment of the requisite fees, the project would have a less than significant impact to schools.

Parks – Less Than Significant.

The proposed project could increase additional demand for parks and recreation services. Riverside County charges DIF fees for regional parks and trails. The project would be subject to the payment of these fees as provided in County Ordinances. Additionally, the project has a 2 acre park, at the southerly end of the residential areas, a 2.5 acre Community Center in the center of the development and two additional 0.25 acre parks in each residential planning area. The availability of these facilities to residents of this development will substantially reduce the usage of public parks.

Park Discussion

Passed in 1975, this State of California law (CGC, Section 66477) enables the County of Riverside to require that developers set aside land, donate conservation easements or pay fees for park improvements as condition of approval for a tract or parcel map. The proposed project includes approval of Tentative Parcel Map No. 37191 to create 6 parcels from a site with currently 3 parcels.

The goal of the Quimby Act is to require developers to help mitigate the impacts of development that introduces new users for park and recreational facilities. The revenues generated through the Quimby Act, however, cannot be used for the operation or maintenance of park facilities. The Quimby fees must be paid and/or land directly conveyed to the local public agency that will provide the community's park and recreation services. For Riverside County, Ordinance No. 460 -Regulating the Division of Land.

Ordinance No. 460 establishes the key provisions addressing the division of land in Riverside County and requires the dedication of parkland or in lieu fees. The established ratio is the dedication of 3 acres of parkland per 1,000 population, or payment of a fee in-lieu of such dedication, is necessary for the "public interest, convenience, health, welfare and safety." The fee and/or land dedications or improvements can only be used to provide neighborhood and community parks that would serve the proposed development. Finally, County Land Use Policy LU 25.4 requires that new development meet or exceed the parkland requirements as established in the Quimby Act and County enabling ordinances.

Other Public Facilities – Less Than Significant.

The proposed project would create additional demand for library services. Payment of DIF fees would offset any impacts to this library. Impacts would be less than significant.

3.14.4 Mitigation Measures

In addition to the payment of Development Impact Fees, including Quimby fees for parks, the following mitigation measure for police and fire services shall be implemented:

PS-1 The project applicant will pay the required development impact fees to the County of Riverside to adequately compensate for the amount of staff members and facilities needed for police and fire services.

3.14.5 Level of Significance After Mitigation

Upon implementation of Mitigation Measure PS-1, the project would result in less than significant impacts to public services.

3.15 Recreation

3.15.1 Sources

The following sources were utilized to support the conclusions made in this section:

- Riverside County Parks, website http://www.rivcoparks.org/, accessed August 2016
- Desert Recreation District, website http://www.myrecreationdistrict.com/, accessed August 2016
- Email communication with Troy Strange, Director of Planning and Public Works, Desert Recreation District, August 11, 2016.

3.15.2 Environmental Setting

Riverside County

Riverside County operates several regional parks within the County. The nearest regional park to the project site is the Lake Cahuilla Recreation Area, which is a 710 acre park, located southeast of La Quinta. The project site is approximately 13 miles northwest of this park.

Desert Recreation District

The community of Thousand Palms is located within the boundaries of Desert Recreation District (DRD) for local park services. DRD operates the Thousand Palms Community Center and Park located at 31-189 Robert Road in Thousand Palms, less than a mile west of the project site.

Project Open Space and Recreation

Parks and recreational amenities are an important component of the community. The project features a 2.5-acre Community Center located in the center of the community in Planning Area 6, the Community Center will include a 3,500-4,000 square foot club house, swimming pool, spa pool, and covered picnic facilities. In addition, each Planning Area will include two small (.25 acre) pocket parks along the Collector Road which will provide exercise stations and shaded seating with play areas for children. A dog park (0.5 acre) located in Planning Area 4 and a Neighborhood Park (0.5 acre) in Planning Area 3 are provided immediately north of and adjacent to the Shared Solar Generating Facility/retention basin. A 20-foot wide jogging path with exercise stations will encompass the perimeter of the retention area (Planning Area 5). In addition, a network of pedestrian walkways and bicycle lanes will link the main entrance of the community at Ramon Road, with all of the park and recreation areas in the community.

Additionally, the main Collector Street, which runs the length of the project site, includes a bicycle/golf cart lane and landscaped parkway that serves as the principal motorized and non-motorized corridor that interconnects all planning areas within the new community. The main Collector Street will also be bounded by a series of strategically placed small parks and rest areas, each approximately one-quarter acre in size. Specific locations and design of all recreational amenities will be determined during detailed site planning associated with the design of each subdivision within the project.

3.15.3 Impacts

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
RECREATION				
a) Would the project 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) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	☐	☒	☐

a. **Less than Significant Impact.** The proposed project could increase additional demand for parks and recreation services. Riverside County and the DRD require 5.0 acres of developed active parkland for every 1,000 residents to satisfy Quimby Act requirements (Riverside County Ordinance No. 460). The project includes 590 dwelling units. According to the US Census, the current average household size in the Thousand Palms area is an estimated 3.02 persons. As a result, at build out, the 590 dwelling units would be expected to generate an on-site population of about 1,782. DRD uses a multiplier of 2.97 persons per dwelling unit for areas within their jurisdiction. Based on calculations provided by DRD, the project would be required to provide 8.73 acres of developed active parkland. The project is providing 22 acres of open space, parkland, trails, and recreational facilities. As stated in Ordinance 460 Section 10.35 (l) (7) (d) (2) the project can receive 50 percent credit for private recreational spaces. In addition to Quimby Act Requirements, Riverside County charges DIF fees for regional parks and trails. The project would be subject to the payment of these fees and Quimby Act requirements; therefore, the project would result in less than significant impacts on existing public parks and recreation facilities.

b. **Less than Significant with Mitigation Incorporated.** The project is providing 22 acres of open space, parkland, trails, recreational facilities and landscape parkways. Environmental impacts resulting from the construction and long-term use of the landscape and hardscape areas would be minor in nature and generally limited to maintenance and the use of mowers and leaf blowers. This is a temporary, intermittent impact and at that level would be less than significant.

3.15.4 Mitigation Measures

No mitigation measures are required.

3.15.5 Level of Significance After Mitigation

No mitigation measures are required.

3.16 Transportation and Traffic

3.16.1 Sources

The following sources were utilized to support the conclusions made in this section:

- *Thousand Palms Traffic Impact Analysis, County of Riverside*, prepared by Trames Solutions, Inc, August 2016.

3.16.2 Environmental Setting

The *Thousand Palms Traffic Impact Analysis, County of Riverside*, was prepared to evaluate the traffic impacts of the proposed Thousand Palms 278 Specific Plan (SP No. 00386). The project consists of 590 single family dwelling units on approximately 118 acres in the unincorporated community of Thousand Palms in the Coachella Valley. Exhibit 2 in Chapter 2 *Project Description*, shows the vicinity of the project site in relation to surrounding area.

Project Phasing

The estimated build-out of the Specific Plan is 2024 and is intended to be built as a single phase beginning in 2016. Phasing referred to in the Project Description is intended to describe the incremental an orderly extension of infrastructure and is not meant to imply that the project will be built in phases. The future traffic analysis was based on eight years of background (ambient traffic conditions) with a growth rate of 2 percent per year for a total ambient growth rate of 16 percent for 2024 conditions.

Study Area

The project site is generally located south of Ramon Road and east of Monterey Avenue in the County of Riverside and includes intersections of Collector or higher classification streets with another Collector roadway or higher classification street, at which the proposed project will add 50 or more peak hour trips. The intersections selected for study in a Scoping Agreement between the project traffic engineer and the County's Traffic and Land Management Agency include the following:

- Ramon Road at:
  - Bob Hope Drive
  - Varner Road
  - Monterey Avenue
  - Project Driveway/Via Las Palmas (north side of Ramon Road)

- Monterey Avenue at:
  - Varner Road
  - I-10 Ramps (eastbound)
  - Dinah Shore Drive

Existing Delay and Level of Service

Table 31, *Level of Service at Signalized and Unsignalized Intersections*, shows the levels of service delay methodology for determining the function of intersections, where LOS A represents free flowing traffic, while LOS F represents unacceptable stopped delays.

Table 31 Level of Service at Signalized and Unsignalized Intersections

Level of Service	Average Total Delay per Vehicle (seconds)	
	Signalized	Unsignalized
A	0 to 10.00	0 to 10.00
B	10.00 to 20.00	10.01 to 15.00
C	20.00 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

Source: Thousand Palms Traffic Impact Analysis, Trames Solutions, Inc., Page 12, August 2016.

The Riverside County General Plan has established Level of Service (LOS) "C" as the County-wide target along all County maintained roads and conventional state highways. As an exception, LOS "D" may be 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 the traffic study prepared for the project, LOS "D" was determined to be the maximum allowable threshold for the intersection operations. Therefore, LOS "E" or "F" is considered unacceptable and would require improvement measures.

Existing intersection LOS calculations were based on manual AM and PM peak hour turning movement in Table 32, *Intersection Analysis for Existing (2016) Conditions.*

Table 32 Intersection Analysis for Existing (2016) Conditions

ID	Intersection	Traffic Control	Delay (seconds)		Level of Service	
			AM	PM	AM	PM
1	Bob Hope Drive/Ramon Road	TS	31.9	35.9	C	D
2	Varner Road/Ramon Road	TS	34.2	36.8	C	D
3	Monterey Avenue/Ramon Road	TS	35.6	38.5	D	D
4	Monterey Avenue/Varner Road	TS	30.5	41.1	C	D
5	Monterey Avenue/I-10 EB Ramps	TS	25.7	13.0	C	B
6	Monterey Avenue/Dinah Shore Drive	TS	36.4	37.1	D	D
7	Via Las Palmas/Ramon Road	CSS	10.0	9.7	A	A

Source: Table 2-1, Thousand Palms Traffic Impact Analysis, Trames Solutions, Inc., Table 2-1 August 2016.
Notes:
TS = Traffic Signal, CSS = Cross Street Stop.

3.16.3 Impacts

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
TRANSPORTATION/TRAFFIC – Would the 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?	☐	☒	☐	☐
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?	☐	☒	☐	☐
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?	☐	☒	☐	☐

a/b. Less Than Significant With Mitigation Incorporated.

Project Trip Generation

Trip generation represents the amount of traffic attracted and produced by a development. The trip generation for the project is based on the specific land uses planned for project site. Table 33, *Project Trip Generation Rates* shows the rates for the proposed project. Trip generation rates are based on data collected by the Institute of Transportation Engineers (ITE). Table 34, *Project Trip Generation*

Summary, shows the number of morning and evening trips that would be generated by the 590 dwelling units. The daily and peak hour trip generation for the project are approximately 5,617 trip-ends per day with 442 vehicles per hour during the AM and 590 vehicles during the PM peak hour.

Table 33 Project Trip Generation Rates

Land Use	Quantity	Peak Hour Trip Rates						Daily
		AM			PM			
		In	Out	Tota l	In	Out	Tota l	
Single Family	590	0.19	0.56	0.75	0.63	0.37	1.00	9.52

Source: Thousand Palms Traffic Impact Analysis, Trames Solutions, Inc., Table 3-1, August 2016.

Table 34 Project Trip Generation Summary

Land Use	Quantity	Peak Hour Trip Rates						Daily
		AM			PM			
		In	Out	Total	In	Out	Total	
Single Family	590	112	330	442	372	218	590	5,617

Source: Thousand Palms Traffic Impact Analysis, Trames Solutions, Inc., Table 3-2, August 2016.

Existing Plus Project Traffic Conditions

Table 35, *Intersection Analysis for Existing Plus Project Conditions*, shows that study area intersections are projected to operate at acceptable levels of service D or better during the peak hours with the existing lane and intersection configurations, and traffic controls. Meaning that when adding project to existing conditions, no road or intersection improvements are required to be made by the project.

Table 35 Intersection Analysis for Existing Plus Project Conditions

ID	Intersection	Traffic Control	Delay (seconds)		Level of Service	
			AM	PM	AM	PM
1	Bob Hope Drive/Ramon Road	TS	32.5	36.9	C	D
2	Varner Road/Ramon Road	TS	34.2	37.4	C	D
3	Monterey Avenue/Ramon Road	TS	37.6	39.9	D	D
4	Monterey Avenue/Varner Road	TS	30.7	40.2	C	D
5	Monterey Avenue/I-10 EB Ramps	TS	26.0	13.3	C	B
6	Monterey Avenue/Dinah Shore Drive	TS	36.7	38.4	D	D
7	Project DwyVia Las Palmas/Ramon Road	CSS	31.1	22.1	D	C

Source: Thousand Palms Traffic Impact Analysis, Trames Solutions, Inc., Table 3-3, August 2016.
Notes:
TS = Traffic Signal, CSS = Cross Street Stop.

Existing Plus Ambient Plus Project Conditions

Under this scenario, study area intersections will operate at LOS D or better except for the project driveway via Las Palmas/Ramon Road. Table 36, *Intersection Analysis for Existing Plus Ambient Plus Project (2024) Conditions*, shows the results of this analysis. Under this scenario, the project would add new trips at the project driveway-Via Las Palmas and Ramon Road, as the project driveway does not currently exist. With the level of service dropping to LOS E, improvements are required, and for this condition, the improvement is the replacement of a controlled stop (stop sign) with a traffic signal, and adding turn lanes on Ramon Road.

Table 36 Intersection Analysis for Existing Plus Ambient Plus Project (2024) Conditions

ID	Intersection	Traffic Control	Delay (seconds)		Level of Service	
			AM	PM	AM	PM
1	Bob Hope Drive/Ramon Road	TS	37.7	39.1	D	D
2	Varner Road/Ramon Road	TS	36.7	39.2	D	D
3	Monterey Avenue/Ramon Road	TS	38.7	40.8	D	D
4	Monterey Avenue/Varner Road	TS	31.0	41.3	C	D
5	Monterey Avenue/I-10 EB Ramps	TS	36.1	20.4	D	C
6	Monterey Avenue/Dinah Shore Drive	TS	38.8	45.3	D	D
7	Project Dwy-Via Las Palmas/Ramon Road	CSS	44.1	27.4	E	D
	With Improvements	CSS to TS	16.3	14.3	B	B

Source: Thousand Palms Traffic Impact Analysis, Trames Solutions, Inc., Table 4-1, August 2016.
Notes:
TS = Traffic Signal, CSS = Cross Street Stop.

Existing Plus Ambient Plus Project Plus Cumulative Conditions

The cumulative analysis includes existing traffic conditions plus the project's contribution, then adding the ambient growth rate (2 percent per year) and other approved or proposed projects in the study area. Table 37, *Cumulative Project Trip Generation Summary*, shows the projects, type of land use and daily trips.

Table 38, *Intersection Analysis for Existing Plus Ambient Plus Project Plus Cumulative (2024) Conditions*, shows that under cumulative conditions with ambient growth and the project at full build-out, the project would contribute to the reduction in level of service at two intersections. The first is already accounted for in Table 36 where the project will be responsible for the replacement of the stop- controlled intersection at the driveway with a traffic signal, as the project driveway represents a new leg of that intersection, as well as project trips. Project trips listed in Table 37 are shown in Exhibit 18, *Cumulative Development Locations*.

or project build-out conditions plus cumulative, the following intersections would operate at an unacceptable level of service during the peak hours under existing geometry (lane configurations):

- Monterey Avenue/Dinah Shore Drive (#6)
- Project Driveway-Via Las Palmas/Ramon Road (#7)

Table 37 Cumulative Project Trip Generation Summary

ID	Project Name	Quantity	Daily Trips
1	PP 20485 Warehousing	36,000 SF	
2	PP 23159 Warehousing	16,400 SF	
3	CUP 03692 Manufacturing	7,050 SF	
4	TR 30199 Palm Creek Ranch		
	Single Family	375 DU	3,570
	Detached Apartment	160 DU	1,064
5	TR 29150 Single Family	257 DU	2,447
6	TR 29151 Single Family	105 DU	1,000
7	TR 32440	30 DU	286
8	North City Specific Plan Planning Area 1	Mixed use Residential, Commercial	52,300
9	SP 391 Age Restricted Single Family	1,200	4,128
10	SP 392		
	Residential Condo/Townhouse	1,411 DU	8,198
	Elementary School	424 Students	547
	Shopping Center	338,140	14,993
		Total Cumulative Trips	**88,746**

Source: Table 3-5, Thousand Palms Traffic Impact Analysis, Trames Solutions, Inc., August 2016.

Table 38 Intersection Analysis for Existing Plus Ambient Plus Project Plus Cumulative (2024) Conditions

ID	Intersection	Traffic Control	Delay (seconds)		Level of Service	
			AM	PM	AM	PM
1	Bob Hope Drive/Ramon Road	TS	46.3	40.8	D	D
2	Varner Road/Ramon Road	TS	54.6	52.1	D	D
3	Monterey Avenue/Ramon Road	TS	42.5	53.1	D	D
4	Monterey Avenue/Varner Road	TS	50.8	42.6	D	D
5	Monterey Avenue/I-10 EB Ramps	TS	46.1	27.7	D	C
6	Monterey Avenue/Dinah Shore Drive	TS	40.4	**65.9**	D	E
	With Improvements	TS	40.0	47.9	D	D
7	Project Dwy-Via Las Palmas/Ramon Road	CSS	**48.8**	29.7	E	D
	With Improvements	TS	16.2	14.2	B	B

Source: Table 4-2, Thousand Palms Traffic Impact Analysis, Trames Solutions, Inc., August 2016.

Notes:

TS = Traffic Signal, CSS = Cross Street Stop.

The following improvements are proposed to mitigate the deficient intersections to allow them to operate at acceptable levels of service:

- Monterey Avenue / Dinah Shore Drive (#6) - Construct a third eastbound left turn lane and eliminate the eastbound right turn lane.
- Project Driveway/Ramon Road (#7) – Installation of a traffic signal with turn lanes on Ramon Road.

With improvements, these intersections would operate at LOS D (Monterey Avenue / Dinah Shore Drive) and LOS B (Project Driveway/Ramon Road) respectively.

Freeway Ramp Analysis for 2024 Conditions

The Cumulative Conditions were then evaluated for their impact on the I-10 Freeway on- and off-ramps at Monterey Avenue. The density and level of service at the I-10/Monterey Avenue on and off-ramps were evaluated based on the existing number of travel lanes, number of lanes at the on and off ramps both at the analysis junction and at upstream and downstream locations (if applicable) and acceleration/deceleration lengths at each merge/diverge point. The merge/diverge area level of service thresholds for each density range utilized in the project's TIA are shown in Table 39, *Freeway Ramp Level of Service and Density Range*.

Table 39 Freeway Ramp Level of Service and Density Range

Level of Service	Density Range (pc/mi/ln)[1]
A	0.0 – 10.0
B	10.1 – 20.0
C	20.1 – 28.0
D	28.1 – 35.0
E	>35.0
F	Demand Exceeds Capacity

Source: Thousand Palms Traffic Impact Analysis, Trames Solutions, Inc., Page 39, August 2016.

Notes:
pc/mi/ln = passenger cars per mile per lane.

The freeway ramp analysis results for 2024 conditions are summarized in Table 40, *Freeway Ramp Analysis for Existing Plus Ambient Plus Project Plus Cumulative (2024) Conditions*. As shown on Table 39, the freeway ramps analyzed for study area were found to operate at an acceptable LOS (LOS "D" or better) during the peak hours, and no mitigation is recommended.

Table 40 Freeway Ramp Analysis for Existing Plus Ambient Plus Project Plus Cumulative (2024) Conditions

Freeway	Ramp Location	Lanes on Freeway[1]	Ramp Volumes		Density[2]		LOS[3]	
			AM	PM	AM	PM	AM	PM
I-10 Westbound	Loop On-Ramp at Monterey Avenue	3	361	878	21.2	33.3	C	D
	Slip On-Ramp at Monterey Avenue	3	209	233	22.1	33.1	C	D
I-10 Eastbound	Off Ramp at Monterey Avenue	4	579	870	16.4	25.3	B	C
	On Ramp at Monterey Avenue	3	1,334	1,032	25.4	30.3	C	D

Source: Thousand Palms Traffic Impact Analysis, Trames Solutions, Inc., Page 39, August 2016.

Notes:

1. Existing ramp locations consist of 1 lane (on/off ramps).
2. Density is measured by passenger cars per lane (pc/mi/ln)
3. Density and level of service calculated using the following analysis software: HCS2010, Version 6.6

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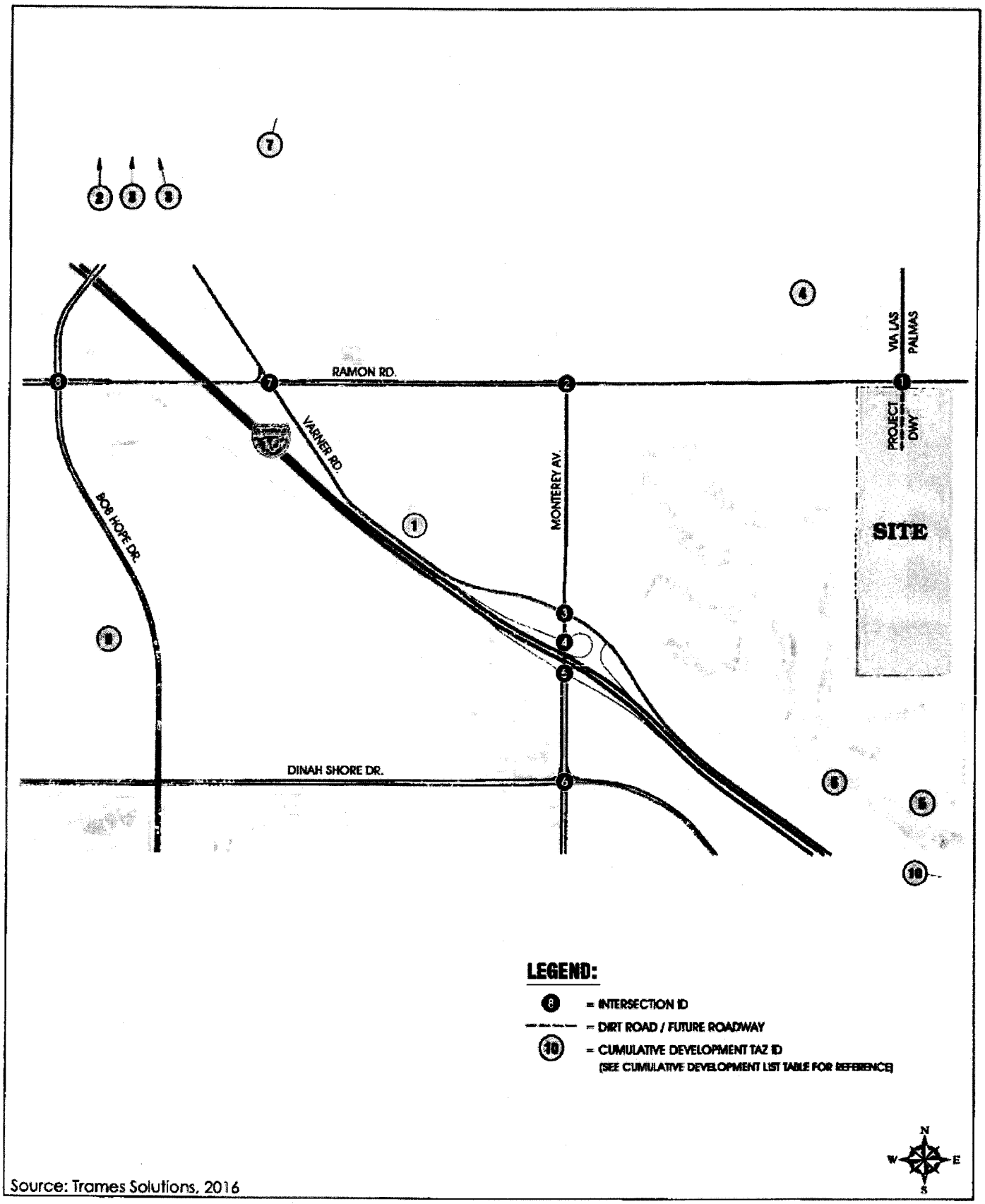

Source: Trames Solutions, 2016

The Altum Group

Cumulative Developments
Thousand Palms 278 Environmental Assessment (SP00386)

Exhibit 18

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As described above, there is one main point of access to the project site on Ramon Road that will be stop controlled in the opening year, but ultimately will be replaced with a traffic signal, with intersection improvements. These include the following:

- Construct Ramon Road at its ultimate half-section width as an arterial between the westerly and easterly project boundaries.
- Construct a 300-foot (minimum) eastbound right turn lane along Ramon Road at the project access.
- Construct a 150-foot (minimum) westbound left turn lane along Ramon Road at the project access.
- Construct a traffic signal at the intersection of the project access point and Ramon Road when warranted.

The intersection improvements are included in Section 3.16.4 Mitigation Measures and when implemented will ensure that impacts are less than significant.

c. **Less Than Significant.** The Palm Springs International Airport is located approximately 7 miles west of the project site, and the project is outside of the Airport Land Use Commission (ALUC) Compatibility Plan Zone boundaries for the airport. The Bermuda Dunes Airport is located approximately 6.4 miles southeast of the project site, and the project outside the ALUC Compatibility Plan Zone boundaries for the airport. Therefore, the project's proximity to the airports would not result in a safety hazard for people residing or working in the project area.

d. **Less Than Significant With Mitigation Incorporated.** There is one main point of access to the project site on Ramon Road that will be stop controlled in the opening year, but ultimately will be replaced with a traffic signal, with intersection improvements (see Table 36). These are included at the end of the discussion in 3.16.3 a/b above, and repeated in Section 3.16.4, Mitigation Measures below.

In addition, the project site includes a secondary access on the south side of the site, south of Planning Area 5. This access will be for emergencies only as it connects to an existing neighborhood. Therefore, proposed Specific Plan 278 would not result in a substantial increase in hazards due to design features, and with implementation of the road improvements listed above, the impact would be less than significant.

e. **Less Than Significant.** In addition, the project site includes a Community Emergency Access Road which will provide a secondary access for emergency situations only. This access is at the southwest corner of the site, south of Planning Area 5 that connects to the existing neighborhood to the south through a gate that will remain locked except in the event of an emergency. The applicant has secured permission from that neighborhood homeowners

association to use this access point. Therefore, the proposed project would not result in the creation of an inadequate emergency access.

f. **Less Than Significant Impact.** The Specific Plan calls for an internal circulation plan that includes bike/golf cart lanes on all collector and local streets. The County's *Western Coachella Valley Area Plan Trails and Bikeway System* (December 2015), shows a Class I Bike Path which is separated from roadways by landscaped strips or other barriers along Ramon Road in the vicinity of the project. In some cases, where appropriate, a Class I Bike Path may be designed and signed to also permit golf carts.

However, there are special circumstances on the site along Ramon Road where stormwater flows from the 1000 Palms Wash are intercepted at the northwest corner of the site and conveyed in a storm drain system that will be located along the Ramon Road frontage, then at the northeast corner of the site, the storm drain system will turn southerly and exit the site. Because of this storm drain system, a Class I Bike Path is not feasible, and therefore, the project's Circulation Plan calls for the following:

- An unpaved trail (decomposed granite) to take pedestrians between the project site and the 1000 Palms Conservation Area (see Exhibit 14 in Section 3.4, Biological Resources), that would take the place of the Class I Bike Path.
- Move the Bike Path onto Ramon Road as a combined 8-foot wide Class II Bike/Golf Cart Lane.

The Bike Path on Ramon Road south of the I-10 Freeway is a Class II facility. The applicant will work out the details on the pedestrian trail and bike paths to the satisfaction of the County Transportation and Land Management Agency (TLMA) for the transition in the bike lane from Class I to Class II. Therefore, there would be no significant impact regarding adopted policies, plans and programs regarding bicycle or pedestrian facilities.

SunLine Transit Agency operates the bus service in the Coachella Valley. 1000 Palms is served by Line #32 which runs along Ramon Road between 1000 Palms and Cathedral City then ultimately into Palm Springs via Vista Chino. Line #32 also runs from 1000 Palms to Highway 111 in Palm Desert alternating between Bob Hope Drive and Monterey Avenue. The proposed project would not adversely affect these routes.

3.16.4 Mitigation Measures

The following measures are warranted under Existing Plus Ambient Plus Project Plus Cumulative (2024) Conditions. The actual timing of the installation of the traffic signal will be determined in consultation with Riverside County Transportation and Land Management Agency (TLMA).

TIA-1 Construct a traffic signal at the intersection of the project access point and Ramon Road when warranted. The scenario in which this is warranted is in Existing Plus Ambient Plus Project Plus Cumulative (2024) Conditions. The actual timing of the installation of the traffic signal will be determined in consultation with Riverside County Transportation and Land Management Agency (TLMA).

TIA-2 At Monterey Avenue and Dinah Shore Drive, construct a third eastbound left turn lane and eliminate the eastbound right turn lane. The scenario in which this is warranted is in Existing Plus Ambient Plus Project Plus Cumulative (2024) Conditions. The timing of the installation of the traffic signal will be determined in consultation with Riverside County Transportation and Land Management Agency (TLMA).

The development of the new community will be done incrementally in response to market conditions. However, certain improvements should be made up front in order to functionally serve the community while enhancing its marketability to future residents. Therefore, the following measures shall be implemented during construction of initial infrastructure improvements. These are depicted graphically in Exhibit 19, *On-Site Circulation Recommendation.*

TIA-3 Construct Ramon Road at its ultimate half-section width as an arterial between the westerly and easterly project boundaries.

TIA-4 Construct a 300-foot (minimum) eastbound right turn lane along Ramon Road at the project access.

TIA-5 Construct a 150-foot (minimum) westbound left turn lane along Ramon Road at the project access.

TIA-6 Minimum sight distances shall be verified at the project access points to ensure sight distance is adequate for public safety.

Other traffic-related improvements recommended in the project's TIA include the following measures that will be implemented incrementally as the internal roads are being built.

TIA-7 Onsite traffic signing and striping shall be implemented in conjunction with detailed construction plans for the project.

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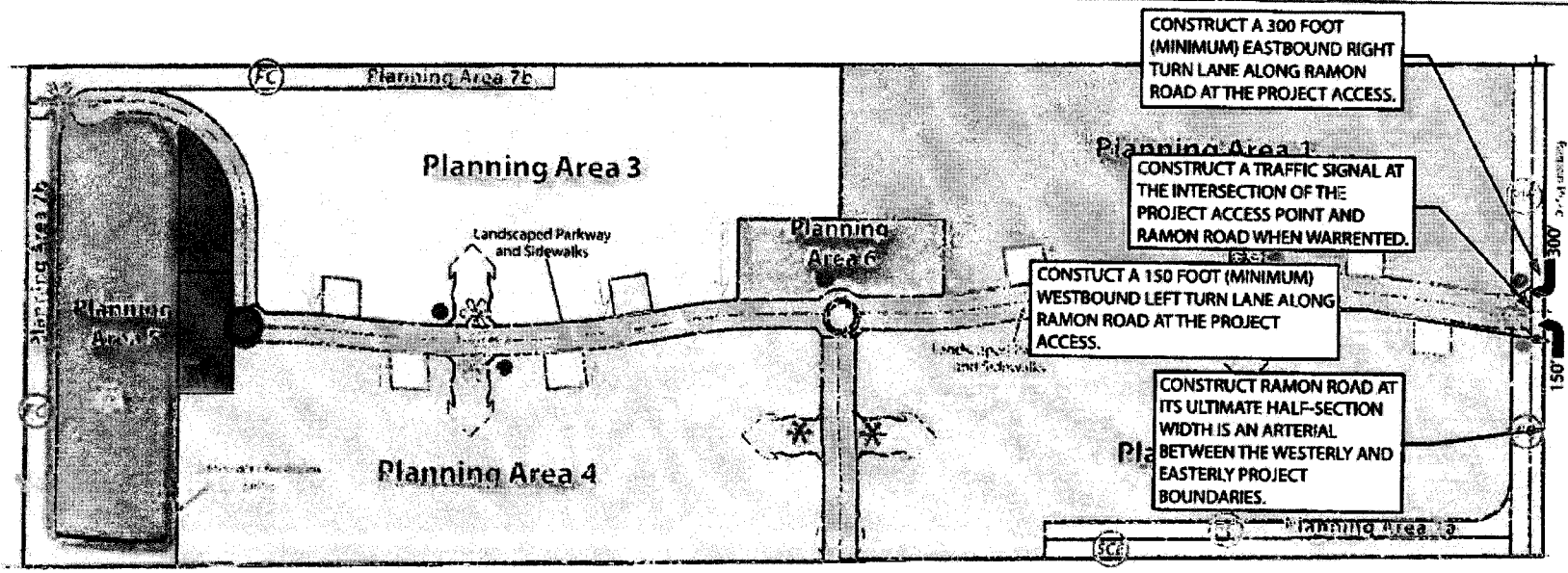

Land Use Summary

Planning Area	Land Use	Acreage	Target Density	Density Range	Target Dwelling Units
[redacted]	Residential	28.07		5-8 du/ac	179 du
	Pocket Park/Rest Area	0.58			
Total For Planning Area 1		28.32	5.47 du/ac		
[redacted]	Residential	29.36		3-6 du/ac	175 du
	Pocket Park/Rest Area	3.00			
Total For Planning Area 2		32.86	7.08 du/ac		
3	Residential	20.32		5-8 du/ac	130 du
	Pocket Park/Rest Area	0.50			
	Neighborhood Park	1.20			
Total For Planning Area 3		22.02	5.76 du/ac		
4	Residential	27.35		5-8 du/ac	176 du
	Pocket Park/Rest Area	0.50			
	Neighborhood Park	3.00			
Total For Planning Area 4		30.85	7.66 du/ac		
[redacted]	PF (Solar / Retention / Open Space)	7.94			
	Landscape/Recreation Buffer	0.47			
Total For Planning Area 5		8.41			
[redacted]	CV-R (Community Center)	3.56			
7a	PF (Storm Water Channel / Parkway)	3.47			
7b	PF (Storm Water Channel / Parkway)	6.82			
	Collector Road / Access Road / East Side Road	8.66			
	Ramon Road Dedication	3.04			
Planning Areas Total*		117.80	5.45 du/ac (Avg.)	5-8 du/ac	580 du
	Residential Total	80.85	5.50 du/ac (Avg.)	5-8 du/ac	580 du
	*Open Space Total	7.17			

Legend:

- (FC) Flood Control Channel
- Main Project Access
- Community Emergency Ingress and Egress
- Neighborhood Entry (Potential for Gates)
- Secondary Neighborhood Entry (Potential for Gates)
- Emergency Access (Potential Secondary Exit)
- (PW) Parkway
- Pocket Park
- Neighborhood Park
- Community Park
- Possible Trail Linkage
- Dog Park
- Solar Arrays/Retention Area
- Monumentation
- Main Collector Road
- 116' Roundabout
- 102' Roundabout
- Multi-Purpose Pedestrian Trail
- (SCE) Southern California Edison Easement

The Altum Group

Conceptual Land Use Plan
Thousand Palms 278 Environmental Assessment (SP00386)

Exhibit 19

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TIA-8 Provide stop sign controls at all internal intersections.

Finally, regarding the proposed Bike/Golf Cart Lane, the following Mitigation Measure would address the optimum location of the Bike Lane along Ramon Road:

TIA-9 The Applicant shall work with the County Transportation and Land Management Agency (TLMA) on the optimal location for the Bike Lane to be developed along Ramon Road as part of the project related road improvements.

3.16.5 Level of Significance After Mitigation

Implementation of Mitigation Measures TRANS 1 through TRANS-9 will ensure that the project's impacts on the road network will be less than significant.

3.17 Tribal Cultural Resources

3.17.1 Sources

The following sources were utilized to support the conclusions made in this section:

- CRM TECH, *Historical/Archaeological Resources Survey Report Thousand Palms 278 Project*, November 21, 2014. (Appendix C)
- CRM TECH, *Phase II Cultural Resources Archaeological Testing and Evaluation Program on Site 33-004729 (CA-RIV-4729) and a Portion of Site 33-000785 (CA-RIV-785) within the 'Thousand Palms SP 278' Project Area*, July, 2015.
- County of Riverside, AB 52 Consultation Letters and Summary, October 2017.

3.17.2 Environmental Setting

On August 8, 2014, CRM TECH submitted a written request to the State of California's Native American Heritage Commission (NAHC) for a records search in the commission's sacred lands file. A request was also submitted to the Agua Caliente Tribal Historic Preservation Office on August 22 for a records search in the Agua Caliente Register. Following the NAHC recommendations, CRM TECH contacted a total of 23 tribal representatives in the region in writing on August 25 to solicit local Native American input regarding any potential cultural resources concerns over the proposed project. The following individuals/organizations were contacted at the recommendation of the NAHC:

- Doug Welmas, Chairperson, Cabazon of Mission Indians
- Mary Ann Green, Chairperson, Augustine Band of Cahuilla Mission Indians
- Shane Chapparosa, Chairman, Los Coyotes Band of Mission Indians
- William Madrigal, Jr., Cultural Resources Manager, Morongo Band of Mission Indians
- Joseph Hamilton, Chairman, Ramona Band of Cahuilla Mission Indians

- Matthew Krystal, Cultural Resources Manager, Torres-Martinez Desert Cahuilla Indians
- Mary Resvaloso, Chairperson, Torres-Martinez Desert Cahuilla Indians
- Judy Stapp, Director of Cultural Affairs, Cabazon Band of Mission Indians
- John Marcus, Chairman, Santa Rosa Band of Mission Indians
- Tribal Administrator, Los Coyotes Band of Cahuilla and Cupeno Indians
- Environmental Director, Los Coyotes Band of Cahuilla and Cupeno Indians
- Robert Martin, Chairperson, Morongo Band of Mission Indians
- Manuel Hamilton, Vice Chairperson, Ramona Band of Cahuilla Indians
- Patricia Garcia, Tribal Historic Preservation Officer, Agua Caliente Band of Cahuilla Indians
- John Gomez, Environmental Coordinator, Ramona Band of Mission Indians
- Karen Kupcha, Augustine Band of Cahuilla Mission Indians
- Terry Hughes, Tribal Administrator, Santa Rosa Band of Mission Indians
- Luther Salgado, Chairperson, Cahuilla Band of Indians
- Jeff Grubbe, Chairperson, Agua Caliente Band of Cahuilla Indians
- Ernest H. Siva, Tribal Elder, Morongo Band of Mission Indians
- Yvonne Markle, Environmental Office Manager for the Cahuilla
- Gabriella Rubalcava, Environmental Director for Santa Rosa Band of Cahuilla Indians
- Alicia Reed, Interim Cultural Resources Coordinator/Tribal Secretary for the Torres Martinez Desert Cahuilla Indians

Of the 23 tribal representatives contacted, three responses were received. Judy Stapp, Director of Cultural Affairs for the Cabazon Band of Mission Indians, stated that the tribe had no specific information regarding any sacred, religious, or culturally significant sites in or near the project area. Mary Ann Green, Chairperson of the Augustine Band of Cahuilla Indians, similarly identified no specific cultural resources that might be affected by this project, but encouraged further consultation with other tribes in the area and the implementation of Native American monitoring during the project. In addition, she requested immediate notification of any cultural resources discovered during the project. Pattie Garcia, Agua Caliente Tribal Historic Preservation Officer, identified the project location as a part of the tribe's Traditional Use Area, and stated that tribal records show the presence of known cultural resources at this location.

Regulatory Setting

Assembly Bill 52 (AB 52)

AB 52, which went into effect on July 1, 2015 requires a lead agency to consider a project's impacts on Tribal Cultural Resources (TCRs). TCRs as defined in Public Resources Code § 21074 are as follows:

(a) "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 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.

(b) A cultural landscape that meets the criteria of subdivision (a) is a tribal cultural resource to the extent that the landscape is geographically defined in terms of the size and scope of the landscape.

(c) A historical resource described in Section 21084.1, a unique archaeological resource as defined in subdivision (g) of Section 21083.2, or a "nonunique archaeological resource" as defined in subdivision (h) of Section 21083.2 may also be a tribal cultural resource if it conforms with the criteria of subdivision (a).

Under AB 52, the CEQA Lead Agency is required to begin consultation with California Native American Tribes that are traditionally and culturally affiliated with the geographic area of the proposed project. Tribal consultation can be initiated once a project application is deemed complete. Once the Lead Agency has contacted necessary tribal governments, tribes have 30 days to respond with comments or requesting consultation. "Consultation" is the meaningful and timely process of seeking, discussing, and considering carefully the views of others, in a manner that is cognizant of all parties' cultural values and, where feasible, seeking agreement. Consultation between government agencies and Native American tribes shall be conducted in a way that is mutually respectful of each party's sovereignty. Consultation shall also recognize the tribes' potential needs for confidentiality with respect to places that have traditional tribal cultural significance. Consultation concludes when either: the parties agree on measures to mitigate or avoid significant impacts to TCRs or a party, in good faith and after reasonable effort, concludes that a mutual agreement cannot be reached.

On August 8, 2014, the State of California's Native American Heritage Commission (NAHC) was contacted for a records search in the commission's sacred lands file. A request was also submitted to the Agua Caliente Tribal Historic Preservation Office on August 22 for a records search in the Agua Caliente Register. Following the NAHC recommendations, CRM TECH contacted a total of 23 tribal representatives in the region in writing on August 25 to solicit local Native American input regarding any potential cultural resources concerns over the proposed project.

Senate Bill 18 (SB 18)

SB 18 took effect on March 1, 2005 with the purpose of protecting Native American Cultural Places. Under SB 18, government agencies are responsible for contacting California Native American Tribes before adopting or amending a General Plan, Specific Plan, or when designating land as open-space. Contact with the tribes is meant to establish meaningful consultation between tribal governments and local governments at the earliest possible point in the planning process to avoid potential conflicts. The bill enables tribes to act as the caretakers of cultural places that are essential elements in tribal cultural traditions, heritages and identities.

National American Heritage Commission (NAHC) created a list of Tribal Governments that must be contacted when initiating SB 18. Local agencies can receive a list of tribes in the region of a specific project from NAHC. Once a government agency contacts the necessary tribes, a 90-day comment period begins and tribes can respond and request consultation during that period. If consultation is requested, ongoing negotiations will take place between the government agency and tribal government with efforts to preserve a cultural place. Upon an agreement, the government agency must sent a referral notification 45 days prior to taking action on the General Plan/Specific Plan adoption or amendment. If no consultation is requested, the 45-day referral period is included in the 90-day comment period and no further action is necessary for approval of the discretionary action.

3.17.3 Impacts

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
TRIBL CULTURAL RESOURCES – Would the project:				
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:				
i) 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	☐	☐	☒	☐
ii) 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	☐	☒	☐	☐

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.				

a.i. **Less Than Significant Impact.** The Phase I Cultural Resources Assessment performed for the project site by CRM Tech identified a total of five prehistoric archaeological sites (33-000785, 33-004729, 33-015429, 33-015430, and 33-023976), one historic-period site (33-023975), and one prehistoric isolate (33-023977) within the project area. These archaeological resources were evaluated against the California Register criteria to determine their qualifications as "historical resources," and the following resource qualified as a "historical Resource:

Site 33-000785: Site 33-000785 was treated with an archaeological testing program in 1992, and was subsequently determined to be significant under CEQA provisions because of its archaeological data potential and the Native American traditional cultural value embodied in the cremation remains. While the cremation remains and artifacts discovered then were collected during the testing program, additional cremation remains and artifacts were found at the site as a result of the latest study. These new finds further enhance the archaeological data potential and traditional cultural value of the site, and reinforce its eligibility for the California Register. Site 33-000785, therefore, qualifies as a "historical resource."

During the Phase II Cultural Resources Archaeological Testing and Evaluation Program conducted by CRM Tech in 2015, field procedures conducted at the portion of Site 33-000785 within the current project area yielded a limited quantity of artifacts consisting of only 30 potsherds, 21 of which were recovered from the surface and the other 9 were recovered within the first 5 cm of excavated soils. No indication of any intact cultural features or intensive use of the area was observed. Based on the results of this testing program, and the results of the 1992 testing and 1993 data recovery programs that were conducted on the site, it appears unlikely that significant cultural resources are present in this portion of the site. Since it was concluded that no significant "historical resources" are present on the portion of Site 33-000785 that is within the project site, development of the project would result in a less than significant impact.

a.ii. **Less Than Significant Impact with Mitigation Incorporated.** The County of Riverside underwent consultation with Native American Tribes, consistent with State regulations, to ensure that development of the project would not adversely impact Tribal Cultural Resources on the project site.

SB18

The County was required to consult with Native American tribes under SB 18 because a General Plan Amendment is proposed for the project and the proposed project is a Specific Plan. In compliance with SB18, in a letter dated April 3, 2015 the County requested a list from the NAHC of tribes whose historical extent includes the project area. Based on the list provided by NAHC, project notices were sent on April 21, 2015 to 10 Native American Tribal representatives. A letter dated May 4, 2015 was received from the Torres Martinez Desert Cahuilla Indians deferring to the Agua Caliente Band of Cahuilla Indians. SB 18 consultation was requested by the Soboba Band of Luiseno Indians in a letter dated June 4, 2015. On August 13, 2015, Soboba deferred to the Agua Caliente Band of Cahuilla Indians. The Agua Caliente Band of Cahuilla Indians requested consultation in a letter dated May 29, 2015. Formal Consultation with the Agua Caliente Band of Cahuilla Indians in discuss below.

AB 52

In compliance with Assembly Bill 52 (AB52), notices regarding this project were mailed to all requesting tribes on July 20, 2015 and to Twenty-Nine Palms Band of Mission Indians on November 16, 2016. No response was received from the Rincon Band of Luiseno Indians. In a letter dated August 13, 2015 Soboba deferred to Agua Caliente. On August 27, 2015 the Agua Caliente Band of Cahuilla Indians requested consultation and on November 22, 2016 the Twenty-Nine Palms Band of Mission Indians requested consultation.

Twenty-Nine Palms Band of Mission Indians

Consultation with Twenty-Nine Palms took place on November 30, 2016 and January 19, 2017. The Tribe requested that an approved Tribal monitor be present during ground disturbing activities. The County also supplied the Tribe with the cultural reports and conditions of approval that were prepared for the project.

Agua Caliente Band of Cahuilla Indians

Consultation took place with Agua Caliente on August 29, 2015, April 2, 2015, March 1, 2016 and May 25, 2017. At these meetings, Agua Caliente requested a copy of the record search, a copy of the cultural report, all cultural resource documentation and a monitor from Agua Caliente to be present during any ground disturbing activities associated with this project. The final conditions of approval were provided to the tribe and a consultation closure letter was received from them dated June 8, 2017.

Agua Caliente identified Tribal Cultural resources within the project boundaries. During the meetings held between the Tribe, applicant, County of Riverside, and CRM Tech, An agreement was reached that implementation of Mitigation Measures TCR-1 and TCR-2 would

reduce impacts on Tribal Cultural Resources associated with the Agua Caliente Band of Cahuilla Indians to less than significant.

Additionally, implementation of Mitigation Measure CR-2 and CR-5 will ensure that any unknown subsurface Tribal Cultural Resources present on the project site are not significantly impacted during ground disturbing activities. Therefore, the proposed project will have a less than significant impact on Tribal Cultural Resources.

3.17.4 Mitigation

TCR-1 Prior to the issuance of grading permits, the developer/permit applicant shall enter into a contract and retain a Native American Monitor from the Agua Caliente Band of Cahuilla Indians. The Native American Monitor shall be on-site during all initial ground disturbing activities and excavation of each portion of the project site including clearing, grubbing, tree removals, grading, trenching, stockpiling of materials, rock crushing, structure demolition and etc. The Native American Monitor shall have the limited authority to temporarily divert, redirect or halt the ground disturbance activities to allow identification, evaluation, and potential recovery of cultural resources in coordination with the appropriate Cultural Resources Professional such as an Archaeologist, Historic Archaeologist, Architectural Historian and/or Historian.

TCR-2 Prior to the issuance of grading permits, the developer/ permit applicant shall grant to the Agua Caliente Band of Cahuilla Indians, a conservation easement over a portion of APN 693180001 situated in the extreme northwest corner of the parcel. This easement is for the protection of unnamed cultural resources and prohibits all of the following on any portion of the land subject to said easement: grading; excavation; placement of soil, sand, rock, gravel, or other material; clearing of vegetation; construction, erection, or placement of any building or structure; vehicular activities; trash dumping; or use for any purpose other than open space.

The following mitigation measures from Section 3.5, *Cultural Resources,* are required to ensure impacts to TCRs are less than significant:

CR-2 If during ground disturbance activities, cultural resources are discovered that were not assessed by the archaeological reports and/or environmental assessment conducted prior to project approval, the following procedures shall be followed:

1. All ground disturbance activities within 100 feet of the discovered cultural resource shall be halted until a meeting is convened between the developer, the project archaeologist, the Native American tribal representative (or other appropriate ethic/cultural group representative), and the County Archaeologist to discuss the significance of the find.

2. At the meeting, the significance of the discoveries shall be discussed and after consultation with the Native American tribal (or other appropriate ethnic/cultural group representative) and the archaeologist, a decision is made, with the concurrence of the County Archaeologist, as to the appropriate mitigation for the cultural resource.
3. Further ground disturbance shall not resume within the area of the discovery until an agreement has been reached by all parties as to the appropriate preservation or mitigation measures.

NOTE: A cultural resources site is defined, for this condition, as being three or more artifacts in close association with each other, but may include fewer artifacts if the area of the find is determined to be of significance due to it sacred or cultural importance

CR-5 If in the event that human remains are uncovered during grading, trenching or from construction activities, no further disturbance shall occur until the Riverside County Coroner has made a determination of origin and disposition pursuant to PRC Section 5097.98. The Riverside County Coroner must be notified of the find immediately. If the human remains are determined to be prehistoric, the coroner will notify the NAHC, which will determine and notify a Most Likely Descendant (MLD). The MLD shall complete the inspection of the site within 48 hours of notification and may recommend scientific removal and nondestructive analysis of human remains and items associated with Native American burials.

3.17.5 Level of Significance After Mitigation

With implementation of Mitigation Measures TCR-1 and TCR-2, and Mitigation Measures CR-2 and CR-5 from Section 3.5, the project will have a less than significant impact and TCRs.

3.18 Utilities and Services

3.18.1 Sources

The following sources were utilized to support the conclusions made in this section:

- *Draft Water Supply Assessment and Verification*, Thousand Palms 278 Specific Plan, prepared by The Altum Group, November 2014

3.18.2 Environmental Setting

Water and Wastewater

CVWD is a multifaceted agency that delivers irrigation and domestic (drinking) water, collects and recycles wastewater, provides regional stormwater protection, replenishes the groundwater basin,

and promotes water conservation. CVWD maintains over 1,000 miles of sewer pipelines and more than 30 lift stations that collect and transport wastewater to the nearest water reclamation facility. The district operates six reclamation plants in the Valley, and three of those plants are equipped to treat wastewater to meet State standards for non-potable water for irrigation, which reduces the amount of groundwater utilized. CVWD's service area covers approximately 1,000 square miles from the San Gorgonio Pass to the Salton Sea. CVWD will supply water and wastewater services to the proposed residential development.

Solid Waste Service

Burrtec Waste and Recycling Services is the solid waste collector for the Thousand Palms area. Solid waste generated by the project would be sent first to the Coachella Transfer station where it will be sorted. Waste will then either be recycled or sent to any of the six County landfills operated by the Riverside County Department of Waste Resources.

3.18.3 Impacts

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
UTILITIES AND SERVICE SYSTEMS – Would the project:				
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 stormwater drainage 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?	☐	☐	☒	☐

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	☐	☐	☒	☐
g) Comply with federal, state, and local statutes, and regulations related to solid waste?	☐	☐	☒	☐

a. **Less than Significant Impact.** The project will not exceed wastewater treatment requirements applicable by the CRWQCB for the regional wastewater treatment plant operated by CVWD because the project is a residential project that will only generate domestic wastewater (rather than commercial or industrial wastewater). Additionally, CVWD is required to comply with the applicable Regional Water Quality Control Board requirements. The project would have a less than significant impact. See also discussion under 3.17.3.e below.

b. **Less than Significant Impact.** The project would be served by CVWD for potable water services. The project would require the construction of new water lines on the site to serve the residences with potable water. The Conceptual Water Plan (Exhibit 11) identifies a proposed 12 inch backbone water main within the collector road connected to an existing 12 inch to 18 inch water main in Ramon Road, as well as a connection to the existing 12 inch water main within Les Road. The domestic water system within each planning area will include 8 inch water mains in a looped configuration with a connection to the 12 inch backbone water main. Future water services and meter boxes will be provided to each lot for domestic water and fire sprinkler service. Separate water services and meter boxes will be provided for common area landscaping. Fire hydrants will be provided throughout the residential planning areas, at the Community Center and along the Collector Road as required. The project would have a less than significant impact regarding the construction of water facilities.

The project would also be served by CVWD for wastewater services. CVWD's wastewater collection system consists of approximately 1,100 miles of 6-inch through 36-inch diameter sewers, and includes 35 sewage lift stations and associated force mains. The system contains trunk sewers, generally 10 inches in diameter and larger, that convey the collected wastewater flows to CVWD's treatment facilities. CVWD also operates six water reclamation plants (WRPs), three of which generate recycled water for irrigation of golf courses and large landscaped areas. The proposed project would require the construction of new sewer lines on the site to serve the residences with wastewater facilities (see *Exhibit 11, Conceptual Sewer Plan*). The project would have a less than significant impact regarding the construction of wastewater facilities.

c. **Less than Significant Impact.** The project is within an area that is subject to alluvial flooding. Currently, there are no improvements to safely convey flood flows arund the project site, but CVWD has a flood control project planned to address flooding issues in the project area. The proposed Thousand Palms Flood Control Project led by CVWD consists of a series of channels and levees north of the community of Thousand Palms, aimed at collecting the flows from the fan surfaces and directing them to existing flood channels running through the Classic Club Golf Course and Sun City Palm Desert development, and eventually into the Coachella Valley Stormwater Channel. Since the proposed project will be developed before the Thousand Palms Flood Control Project, interim drainage infrastructure is included in the design of the Thousand Palms 278 Specific Plan (SP00386). A flood control channel will intercept off-site storm flows along Ramon Road and convey then easterly, and a flood control channel will intercept off-site storm flow along the west side of the project site, then convey the flow easterly. These channels are shown on Exhibit 10 in Chapter 2. Stormwater flows will be discharged, spread out and ultimately resume pre-developed velocities and depths as the stormwater flows reach the property line. This stormwater channel is an interim facility only, as the future CVWD levee will ultimately protect the site from stormwater flow.

Project drainage improvements described above are designed to reduce impacts associated with flooding. The project site will be graded to direct flows to nine onsite retention basins. Offsite flows will be redirected around the site via flood control channels as described above. Ultimately, flood flows from Indio Hills will be conveyed to the drainage south of the project, north of the I-10 Freeway, complimentary to existing conditions. Therefore, the proposed drainage improvements will not significantly increase runoff to the existing stormwater system and no new stormwater drainage facilities are needed beyond drainage improvements associated with the proposed project.

d. **Less than Significant Impact.** CVWD's domestic water is supplied by wells, which withdraw water from the Whitewater River and Mission Creek Subbasins. According to the Water Supply Assessment prepared for the project and approved by CVWD in 2014, there is enough water available to serve the proposed project. The analysis of the project's water demands results in an estimated total domestic water demand (indoor and outdoor) of approximately 409 acre-feet per year (AFY). The projected indoor water demand is 111 AFY, including residential and the Community Center indoor water demands. The projected outdoor water demand is 298 AFY, including residential landscaping, open space areas, the swimming pool at the clubhouse, and paseos. The project's total estimated water demand of 409 AFY amounts to about 0.12 (0.12 percent) of a percent of the 2035 projected urban water demand, and 0.06 percent (0.06 percent) of the total 2035 CVWD Service Area projected water demand. The project would not have a significant impact on water supplies in the area; however, the project would nevertheless employ measures and programs applicable to new development in the

CVWD service area according to CVWD Water Management Plan Updates, current CVWD Ordinances, and CVWD's Development Design Manual (DDM). Water conservation efforts will include but not be limited to:

- Participation in budget based tiered rates limiting turf via CVWD's Landscape Ordinance;
- Landscape design that incorporates drought-tolerant, desert-friendly and native fauna;
- Irrigation design that ensures optimal irrigation efficiency;
- Installation of efficient indoor plumbing and energy efficient appliances;
- Connection to the sewer system so that sewage is recycled for reuse on golf courses; and
- Submitting payment for CVWD's supplemental imported water supply charge.

e. **Less than Significant Impact.** The project would not require the expansion of an existing wastewater treatment plant. WRP-10 in Palm Desert would serve the project site for wastewater treatment. The combined secondary wastewater treatment design capacity of this WRP is 18 mgd. WRP-10 treats an annual average daily flow of 10.8 mgd from the activated sludge plant. The project would generate a small percentage of wastewater, approximately 0.11 mgd, and would not cause the WRP to exceed its capacity. The project would have a less than significant impact.

f. **Less than Significant Impact.** Burrtec Waste and Recycling Services is the solid waste collector for the Thousand Palms area. Solid waste generated by the project would be sent first to the Coachella Transfer station or Edom Hill Transfer Station. Waste will then be transferred to larger transfer trailers for hauling to any of the six County landfills operated by the Riverside County Department of Waste Resources. These landfills are still open and operating and have capacity remaining for the County's solid waste. The project would contribute a small amount to these landfills and would have a less than significant impact.

g. **Less than Significant Impact.** The project's solid waste facilities will be designed to comply with federal, State and local statutes and regulations including the County Integrated Waste Management Plan (CIWMP). The project would have less than significant impact.

3.18.4 Mitigation Measures

HWQ-1 Prior to grading and construction, a project specific SWPPP shall be prepared by a qualified SWPPP Developer (QSD) and implemented by a Qualified SWPPP Practitioner (QSP). The SWPPP shall include wind, erosion and sediment control BMPs and materials/waste management BMPs applicable to the project site and maintained and updated at the project site and available for review during the entirety of the construction period for all

project phases of development. A post construction WQMP shall also be prepared by the QSD in administering post construction BMPs related to the ongoing maintenance of project retention basins and flood channels. The WQMP shall be prepared and approved by the State Water Resources Control Board prior to construction.

3.18.5 Level of Significance After Mitigation

With implementation of the mitigation measures listed above, the project would have a less than significant impact on utilities and service systems.

3.19 Mandatory Findings of Significance

3.19.1 Sources

The following sources were utilized to support the conclusions made in this section:

3.19.2 Environmental Setting

3.19.3 Impacts

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
MANDATORY FINDINGS OF SIGNIFICANCE				
a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	☒	☐	☐
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	☐	☒	☐	☐
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☒	☐	☐

a. **Less than Significant with Mitigation Incorporated.** A Biological Assessment and Cultural Resources Assessments were completed to determine whether the project site would have significant impacts to plant and animal species or any historical or prehistorical resources.

Biological Resources

The biological assessment cites various species for which the site provides potential habitat. These are summarized below.

Plant Species

The project site was found to have suitable habitat for four plant species, including:

glandular ditaxis (sp. Ditaxis clariana) - A very rare perennial herb that blooms from December through March. It is restricted to sandy environments in the Sonoran Desert and has been found in the Coachella Valley at elevations similar to those found at the project site. Since the glandular ditaxis is a perennial, it is likely that it would be detected during the plant surveys. It was not detected and therefore presumed to not occur on site.

ribbed cryptantha (sp. Cryptantha costata) - An uncommon ephemeral known to occur on sandy soils in the Coachella Valley. The project site can be considered suitable habitat for this species. It was not detected but the surveys were done following a winter of below-average precipitation when most ephemerals would not be detected.

flat-seeded spurge (sp. Chamaesyce platysperma) - An extremely rare ephemeral herb known to occur on sandy soils in the Sonoran Desert. There has been at least one specimen found in the Coachella Valley. It was not detected but the surveys were done following a winter of below-average precipitation.

Coachella Valley milk vetch (sp. Astragalus lentiginosus coachellae) - an uncommon, spring-blooming ephemeral herb that is known to occur on sandy soils in the Coachella Valley. No individuals of this subspecies were detected on or near the project site. The habitat is suitable, however, and no doubt this species would have been found had precipitation been at or above normal the previous winter.

The Coachella Valley milk vetch, is a covered species under the CVMSHCP and mitigation for take of this species is covered with the payment of the required mitigation fee.

Anthropod Species

Suitable habitat was observed on the project site for the Coachella giant sand treader cricket (sp. *Macrobaenetes valgum*), Coachella Valley Jerusalem cricket (sp. Stenopelmatus cahuilaensis) and Coachella Valley grasshopper (sp. *Spaniacris deserticola*) which are included in the CDFW Special Animals list. These species are covered under the CVMSHCP and

mitigation for take of this species is covered with the payment of the required mitigation fee. The USFWS has listed as endangered a fourth insect species, Casey's June beetle, (sp. *Dinacoma caseyi*), which is not covered under the CVMSHCP, but there was no suitable habitat found on the project site for this species.

Amphibians and Reptiles

Observed reptiles encountered included the side-blotched lizard (sp. *Uta stansburiana*), western whiptail (sp. *Cnemidophorus tigris*), desert iguana (sp. *Dipsosaurus dorsalis*), coachwhip (sp. *Masticophis flagellum*) and western shovel-nosed snake (sp *Chionactis occipitalis*). No individuals of the officially threatened Coachella Valley fringe-toed lizard, Uma inornata, were observed or detected. The fringe-toed lizard is a covered species under the CVMSHCP and mitigation for take of this species is covered with the payment of the required mitigation fee.

A concerted effort was made to locate sign of the officially listed desert tortoise (sp. *Goperhusagassizi*). However, no evidence of any kind was found and no direct observations were made. It is therefore concluded that this species does not occur within the project site and immediate vicinity at this time.

An intensive effort was also made to locate individuals or sign of the flat-tailed horned lizard, (sp. *Phrynosoma mcallii*). However, no individuals were observed and no sign (scat, tracks) was found. Nonetheless, during this study the habitat of the project site was found to be suitable. The inability to detect the flat-tailed horned lizard, a very cryptic species, does not necessarily indicate it is absent from the site. The state government considers the flat-tailed horned lizard a Species of Special Concern. The flat-tailed horned lizard is a covered species under the CVMSHCP and mitigation for take of this species is covered with the payment of the required mitigation fee.

Bird Species

Frequently observed birds within the project area were house sparrow (sp. *Passer domesticus*), white-winged dove (sp. *Zenaida asiatica*), mourning dove (sp. *Zenaida macroura*), house finch (sp. *Carpodacus mexicanus*) and common raven (sp. *Corvus corax*).

No observations of LeConte's thrasher (sp. *Toxostoma lecontei*) were recorded during the surveys. In the Coachella Valley this species is closely associated with golden cholla, an arborescent cactus that provides a nesting site for the thrasher. The cactus species is absent from the survey area, so it was concluded that the thrasher does not occupy the project site.

Two special-status avian species were observed within the project boundaries: the burrowing owl (sp. *Athene cunicularia*) and loggerhead shrike (sp. *Lanius ludovicianus*). Both species are discussed below in more detail.

Burrowing Owl

Three observations of the burrowing owl (BUOW) were recorded during the clearance surveys: May 10 and 11, 2013 and April 27, 2014. All three observations were of adult birds. No active burrows were found within or immediately adjacent to the project site during the surveys. The burrowing owl is protected in the United States by the Migratory Bird Treaty Act of 1918. Mitigation of impacts to the owl is required under the Act. The entire project site is considered potential habitat for this species.

The Federal Migratory Bird Act prohibits harming the owl, therefore mitigation of potential adverse impacts are required. At this time, both USFWS and CDFW approve the mitigation provided in the "*Staff Report on Burrowing Owl Mitigation*" prepared by the California Department of Fish and Game on March 7, 2012. Mitigation Measure BIO-1, is required under the MBTA, to reduce potential impacts to burrowing owls on the project site.

Loggerhead Shrike

The loggerhead shrike was observed on three occasions within the project site boundaries: May 10, 11, and 12, in 2013. No nests were found in spite of the fact that surveys were conducted during the breeding season. Nonetheless, the species is likely resident in the project area. It is considered a Species of Special Concern by the state of California and therefore protected under CEQA. Therefore, if construction activities are proposed during nesting season, Mitigation Measure BIO-2 shall be implemented in compliance with MBTA to reduce potential impacts to a less than significant level.

Mammals

Recorded mammals included the black-tailed jackrabbit (sp. *Lepus californicus*), Palm Springs ground squirrel (sp. *Spermophilus tereticaudus chlorus*), desert kangaroo rat (sp. *Dipodomys deserti*) and coyote (sp. *Canis latrans*). No individuals of the Palm Springs Pocket Mouse (sp. *Perognathuslongimembris bangsi*) were found.

One Palm Springs Ground Squirrel (sp. *Spermophilus tereticaudus chlorus*) was observed during the field survey, which is contained within the California Department of Fish & Game Special Animals Report (2013). The Palm Springs ground squirrel is considered a state Species of Special Concern. In the past it was considered a candidate species for listing by the United States Fish & Wildlife Service. It was found over most of the project site, particularly in the vicinity of paved roads. It is a covered species under the CVMSHCP and mitigation for take of this species is covered with the payment of the required mitigation fee.

Impacts to species observed on the project site that are covered under the CVMSHCP will be reduced with the applicant/developer's payment of the CVMSHCP mitigation fee. Mitigation Measures BIO-1 and BIO-2 will reduce impacts to the avian species observed on the project

site that are not covered under the CVMSHCP. Therefore, impacts to sensitive and special status species will be reduced to less than significant.

Cultural Resources

The Phase I Cultural Resources Assessment performed for the project site by CRM Tech identified a total of five prehistoric archaeological sites (33-000785, 33-004729, 33-015429, 33-015430, and 33-023976), one historic-period site (33-023975), and one prehistoric isolate (33-023977) within the project area. These archaeological resources were evaluated against the California Register criteria to determine their qualifications as "historical resources," and the results are discussed below.

Site 33-000785: Site 33-000785 was treated with an archaeological testing program in 1992, and was subsequently determined to be significant under CEQA provisions because of its archaeological data potential and the Native American traditional cultural value embodied in the cremation remains (Everson 1992a:62). While the cremation remains and artifacts discovered then were collected during the testing program, additional cremation remains and artifacts were found at the site as a result of this study. These new finds further enhance the archaeological data potential and traditional cultural value of the site, and reinforce its eligibility for the California Register. Site 33-000785, therefore, qualifies as a "historical resource."

During the Phase II Cultural Resources Archaeological Testing and Evaluation Program conducted by CRM Tech, field procedures conducted at the portion of Site 33-000785 within the current project area yielded a limited quantity of artifacts consisting of only 30 potsherds, 21 of which were recovered from the surface and the other 9 were recovered within the first 5 cm of excavated soils. No indication of any intact cultural features or intensive use of the area was observed. Based on the results of this testing program, and the results of the 1992 testing and 1993 data recovery programs that were conducted on the site, it appears unlikely that significant cultural resources are present in this portion of the site. Since it was concluded that no significant "historical resources" are present on the portion of Site 33-000785 that is within the project site, development of the project would result in a less than significant impact.

Site 33-004729: Site 33-004729 was also treated by the 1992 archaeological testing program, but was found not to be significant because it failed to offer a significant contribution to the archaeological records for the region. While additional artifacts were noted at the site during this study, these artifacts are similar in nature to what was found previously, and do not add significantly to the archaeological data potential of the site.

During the Phase II Cultural Resources Archaeological Testing and Evaluation Program conducted by CRM Tech, field procedures conducted at Site 33-4729 resulted in the recovery of 254 potsherds, 19 flaked stone pieces, 5 metate fragments, 5 mano fragments, 1 complete mano, 58 animal bone fragments, and 23 fire-affected rocks from the surface of the site area. A total of 12 excavation units were placed within Site 33-004729. Some excavation units were placed on or near surface artifacts but the main idea was to place them in areas where test units had not been dug previously. As a result of the excavations only 1 additional potsherd was recovered, and that from the first level (0-10 cm). None of the items in the artifact assemblage from Site 33-004729 has yielded any important archaeological data of scientific value, so development of the project would result in a less than significant impact.

Sites 33-015429, 33-015430, and 33-023976: These sites consist of a small numbers of ceramic artifacts, mostly fragmented sherds. The one notable artifact found at 33-015429, a nearly complete vessel, is of questionable–and perhaps modern Mesoamerican–origin, as are the sherds found at 33-015430. In any event, as ceramic scatters on the surface, the three sites belong to the most common type of prehistoric cultural remains in the Coachella Valley, and none of them exhibits any indication of a subsurface component. As such, they do not demonstrate the potential for important archaeological information, and do not meet the definition of "historical resources."

Site 33-023975: Site 33-023975 consists of a relatively small scatter of early 20th century household refuse, which is virtually ubiquitous on undeveloped land in much of southern California. Probably the result of one single episode of trash dumping, the site shows no potential to be closely associated to any persons or events of recognized historic significance. Therefore, Site 33-023975 does not qualify as a "historical resource" under CEQA.

Isolate 33-023977: Representing a single pot-drop with nine sherds, 33-023977 is considered an isolate instead of an archaeological site due to the lack of depositional context. As an isolate, it does not constitute a potential "historical resource."

Among the six archaeological sites and one isolate present within the project area, it was concluded that none of the resources qualifies as a "historical resource." Although no significant resources were found during the cultural assessment, development of the project has potential to uncover subsurface cultural deposits. Implementation of Mitigation Measures CR-1 through CR-3 will ensure that impacts to any cultural resources found during project development will be less than significant.

Tribal Cultural Resources

On August 8, 2014, CRM TECH submitted a written request to the State of California's Native American Heritage Commission (NAHC) for a records search in the commission's sacred lands

file. A request was also submitted to the Agua Caliente Tribal Historic Preservation Office on August 22 for a records search in the Agua Caliente Register. Following the NAHC recommendations, CRM TECH contacted a total of 23 tribal representatives in the region in writing on August 25 to solicit local Native American input regarding any potential cultural resources concerns over the proposed project.

Of the 23 tribal representatives contacted, three responses were received. Judy Stapp, Director of Cultural Affairs for the Cabazon Band of Mission Indians, stated that the tribe had no specific information regarding any sacred, religious, or culturally significant sites in or near the project area. Mary Ann Green, Chairperson of the Augustine Band of Cahuilla Indians, similarly identified no specific cultural resources that might be affected by this project, but encouraged further consultation with other tribes in the area and the implementation of Native American monitoring during the project. In addition, she requested immediate notification of any cultural resources discovered during the project. Pattie Garcia, Agua Caliente Tribal Historic Preservation Officer, identified the project location as a part of the tribe's Traditional Use Area, and stated that tribal records show the presence of known cultural resources at this location. Therefore, Ms. Garcia requested copies of all cultural resources documentation related to the project area for tribal review and the presence of an Approved Native American Cultural Resources Monitor during all ground-disturbing activities in the project area. In addition, she requested an informational meeting with representatives of Thousand Palms 278 LLC, the County of Riverside, and CRM TECH regarding the compliance process for this project. A meeting was held between the county, CRM TECH and Agua Caliente Tribal Representatives on November 24, 2014. An agreement was reached that implementation of Mitigation Measures CR-6 and CR-7 would reduce impacts on Tribal Cultural Resources to less than significant.

b. **Less than Signficant With Mitigation Incorporated.** The proposed project was evaluated for its cumulative contribution to impacts on the environment for all of the environmental issues outlined in the checklist. The project was found to either not contribute to cumulatively considerable impacts or impacts to such environmental issues as Air Quality, Geology and Soils, Greenhouse Gasses, Hazards and Hazardous Materials, Hydrology, Noise, Transportation can be mitigated to less than significant levels (see Mitigation Measures listed below).

c. **Less than Signficant With Mitigation Incorporated.** The project could result in environmental effects which could cause substantial adverse effects on human beings, either directly or indirectly. However, impacts associated with the proposed development can be mitigated through implementation of a number of measures Air Quality, Geology and Soils, Greenhouse Gasses, Hazards and Hazardous Materials, Hydrology, Noise, Transportation. Therefore, with implementation of mitigation listed below, impacts in this regard will be reduced to less than significant.

3.19.4 Mitigation Measures

Construction Related Measures

AQ-1 The following dust suppression techniques, or combination thereof, shall be implemented during construction activities to comply with SCAQMD Rule 403.1. Appropriate notes shall be included on any grading permit or building permit:

- All disturbed and unvegetated surfaces shall be watered three times daily to reduce dust. If portions of the construction site are to remain inactive longer than a period of 30 days, the exposed surfaces shall be seeded and watered until vegetative cover is grown, or otherwise stabilized in a manner acceptable to the County. Alternatively, an application of dust suppressants can be applied in sufficient quantity and frequency to maintain a stable surface.
- All unpaved on-site roads shall be watered periodically or chemically stabilized, and shall be paved if feasible based on daily vehicle usage.
- Public streets shall be swept daily to remove soil tracked onto the paved surface by vehicles leaving the construction site. Any visible soil track-out extending more than 50 feet from the access point shall be swept or washed twice per day and one sweeping or washing shall occur after the last truck of the day exits the site.
- Water spray shall be provided during loading and unloading for use on earthen materials.
- All material transported offsite shall be either sufficiently watered or securely covered to prevent excessive amounts of dust.
- All trucks hauling dirt, sand, gravel or soil shall be covered and shall maintain at least six inches of freeboard in accordance with Section 23114 of the California Vehicle Code.
- All vehicles on the construction site shall travel at speeds less than 15 miles per hour.
- All material stockpiles subject to wind erosion during construction activities, and which will not be utilized within three days, shall be stabilized with extra water, chemical stabilizers or temporary covers.

AQ-2 The following emissions controls and practices, or combination thereof, shall be applicable to all vehicles and construction equipment for the reduction of diesel exhaust emissions. The controls and practices shall be included in contractor specification documents, and shall be implemented during construction activities.

- During construction, ozone precursor emissions from all diesel-powered vehicles and construction equipment shall be controlled by maintaining equipment engines in good condition and in proper tune per manufacturers' specifications. Equipment

maintenance records and equipment design specification data sheets shall be kept on site during construction. Compliance with this measure shall be subject to periodic inspections by the County Building & Safety Department.

- All diesel-powered on-road trucks and off-road equipment shall be subject to five-minute idling time limits and/or shall be turned off when not in use for more than five minutes. Gasoline-powered equipment shall be turned off immediately when not in use.
- To reduce traffic congestion and resulting NOx emissions, the contractor shall submit a traffic control plan prior to issuance of grading permits. The plan shall provide detailed description of safe detours to prevent traffic congestion to the best of the project's ability, and it shall provide temporary traffic control measures during construction activities that will allow both construction and on-street traffic to move with less than five-minute idling times. The plan shall include, as necessary, appropriate and practicable, the following:
  - Utilize Tier 3-rated or better heavy equipment particularly for scrapers, excavators, dozers and graders.
  - Dedicated turn lanes for movement of construction trucks and equipment on and off site,
  - Scheduling lane closures, receipt of construction materials, and other construction-related activities that affect traffic flow on the arterial system to off-peak hours,
  - Rerouting of construction trucks away from congested streets or sensitive receptors,
  - Encouraging carpooling for construction workers.

Operations Related Measures

AQ-3 The developer shall utilize SCAQMD approved Rule 445 devices rather than wood burning fireplaces for any residential use.

AQ-4 Should development of the planned shared solar generating facility's connection to the Imperial Irrigation District (IID) grid not have been reached prior to the start of construction of the first house in the development, enough solar rooftop systems will be installed to meet at least 20 percent of the development's total electrical usage as provided in Section 3.7 *Greenhouse Gas,* Table 16, *Residential GHG Emissions Screening Table Summary.*

Project Design Features in Addition to Mitigation

The Specific Plan includes a number of amenities and design elements intended to meet the intent of the County and SCAG to develop a sustainable community. These elements are also intended to

reduce vehicle miles traveled in cars and reduce dependence on the grid for electrical energy. These are as follows:

- 8.01 acre Shared Solar Generating Facility or roof-top photovoltaic panels to generate 20 percent of the sites electrical needs.
- create a network of trails and sidewalks to encourage residents to walk through neighborhoods to parks and the Community Center
- provide pedestrian access along Ramon Road to connect to the nearby preserve
- provide a Class II bike lane along the frontage of the site on Ramon Road

In addition, the proposed SP 00386 project has a number of features that will result in a new community that is consistent with the SCAG RTP/SCS policies as well as the County's policies for air quality to assist with the regional attainment of goals in the AQMP. These include the following:

- Create a specific plan community that will accommodate a variety of lot sizes This will allow the site to be developed at a medium high density in order to accommodate some sustainable features as outlined here:
  - Be located adjacent to existing residential development, rather than leap-frogging to a more isolated site;
  - Create a walkable community by offering a network of trails and sidewalks that link internally to neighborhood parks, pocket parks and the on-site Community Center (see Exhibit in Chapter 2, *Project Description*);
  - Develop a shared solar generating facility to provide approximately 2 megawatts of power for the community;
  - Include a link (decomposed granite walking path) along the frontage of the site to access the nearby preserve to the east of the site; and
- Include a combined Bike/Golf Cart lane as part of the project's road improvements on Ramon Road, where residents can ride through the community; then onto the Class II bike lane. There are two small commercial areas in Thousand Palms. The first is located approximately 1 mile to the south at Monterey Avenue and Varner Road, and the second is approximately 1.5 miles to the southwest at Ramon Road and Varner Road.
- Energy and Water Efficiency Guidelines for development include:
  - Encourage building orientation to take advantage of passive energy (Solar and Wind);
  - Incorporate window efficiency to allow increased sunlight, while decreasing heat gain;
  - Install water heater pumps and insulate water pipes, to save water, energy, and reduce the time it takes to deliver hot water;
  - Employ fans to cool homes and attics thereby reducing air conditioning loads;

- Employ "Cool Roofs" technology to minimize heat transfer;
- To the extent practicable, use reflective building colors to minimize heat transfer.

Additional measures that stem from compliance with SCAQMD Rules for reductions in emissions of criteria pollutants, that are also identified in SCAG's RTP/SCS and the County's policies include:

- Construction of sidewalks within the project boundary and along the off-site roadway improvements.
- Construct all buildings to meet or exceed 2013 Title 24, Part 6 Standards and meet Green Building Code Standards (or the latest in place at the time of construction).
- Install all faucets, toilets and showers installed in the proposed structures utilize low-flow fixtures that would reduce indoor water demand by 20 percent per CalGreen Standards.
- Install ENERGY STAR-compliant appliances in all dwelling units.
- Use high-efficiency lighting (such as LED lighting that is 34 percent more efficient than fluorescent lighting) in all common areas.

Biological Resources

BIO-1 Mitigation provided in the "*Staff Report on Burrowing Owl Mitigation*" prepared by the California Department of Fish and Game on March 7, 2012 shall be implemented on the project site:

2. A preconstruction survey should take place at least 30 days prior to project grading to determine the location of active burrows on and within 550 yards of an approved project site. If no active burrows are found in the survey area grading may commence providing a biological monitor is onsite. The clearance survey in this report is valid through October 1, 2013, and an owl clearance survey is not recommended prior to that date.

3. A biological monitor, with the authority to halt or redirect grading, should be present whenever grading or construction vehicles are present and operating on a project site. The function of the monitor is to protect burrowing owls that arrive on or near the project site after the clearance survey and during the construction period.

4. The breeding season of the western burrowing owl is from February 1 through August 31 of each year. No construction disturbances of any kind should occur within 500 meters (550 yards) of an active burrow during this time period. Thus, on a project site, grading should take place from September 1 through January 30 of each year to avoid restriction or cancellation of grading because of the presence of burrowing owls during the breeding season.

5. Resident owls present on or near the project site outside the breeding season can, in some instances, be relocated to other sites by a permitted biologist under the authorization of the California Department of Fish & Wildlife.

BIO-2 If construction activities take place between February 15 and June 15, and if said construction activities are unavoidable to schedule outside of nesting season, the applicant/developer will be required to complete breeding surveys, to be conducted 30 days prior to any construction activities. If a nest is found, a buffer shall be established in which construction activities are prohibited until all young have fledged. A qualified biologist shall determine the width of the buffer.

Cultural Resources

CR-1 Prior to the issuance of grading permits, the developer/permit holder shall retain and enter into a monitoring and mitigation service contract with a qualified Archaeologist for services. The Project Archaeologist shall develop a Cultural Resources Monitoring Plan which must be approved by the County Archaeologist prior to issuance of grading permits. The Project Archaeologist shall be included in the pre-grade meetings to provide Construction Worker Cultural Resources Sensitivity Training including the establishment of set guidelines for ground disturbance in sensitive areas with the grading contractors and Native American Monitors. The Project Archaeologist shall manage and oversee monitoring for all initial ground disturbing activities and excavation of each portion of the project site including clearing, grubbing, tree removals, grading, trenching, stockpiling of materials, rock crushing, structure demolition and etc. The Project Monitor shall have the authority to temporarily divert, redirect or halt the ground disturbance activities to allow identification, evaluation, and potential recovery of cultural resources in coordination with the special interest monitors.

CR-2 If during ground disturbance activities, cultural resources are discovered that were not assessed by the archaeological reports and/or environmental assessment conducted prior to project approval, the following procedures shall be followed:

1. All ground disturbance activities within 100 feet of the discovered cultural resource shall be halted until a meeting is convened between the developer, the project archaeologist, the Native American tribal representative (or other appropriate ethic/cultural group representative), and the County Archaeologist to discuss the significance of the find.

2. At the meeting, the significance of the discoveries shall be discussed and after consultation with the Native American tribal (or other appropriate ethnic/cultural

group representative) and the archaeologist, a decision is made, with the concurrence of the County Archaeologist, as to the appropriate mitigation for the cultural resource.

3. Further ground disturbance shall not resume within the area of the discovery until an agreement has been reached by all parties as to the appropriate preservation or mitigation measures.

NOTE: A cultural resources site is defined, for this condition, as being three or more artifacts in close association with each other, but may include fewer artifacts if the area of the find is determined to be of significance due to it sacred or cultural importance

CR-3 Prior To Grading Permit Final (Archaeological Monitoring/Phase IV Report Submittal): The developer/holder shall prompt the Project Archaeologist to submit one (1) wetsigned paper copy and (1) CD of a Phase IV Cultural Resources Monitoring Report that complies with the Riverside County Planning Department's requirements for such reports for all ground disturbing activities associated with this grading permit. The report shall follow the County of Riverside Planning Department Cultural Resources (Archaeological) Investigations Standard Scopes of Work posted on the TLMA website.

Geology and Soils

GEO-1 Structures within the site shall be designed and constructed in accordance with the most current edition of the California Building Code.

GEO-2 The project applicant shall comply with all geotechnical recommendations outlined in the Preliminary Geotechnical Report.

Greenhouse Gas Emissions

GHG-1 The project developer shall apply all GHG reduction improvements, included in Table 16, during construction of the proposed project

Hazards and Hazardous Materials

HAZ-1 Prior to any movement of the transite pipe, the applicant shall hire a certified asbestos consultant to conduct an asbestos inspection to determine the extents of the underground transite piping and to discuss removal options. If it is concluded that the pipe contains asbestos, all removal must be done by a certified asbestos abatement contractor.

HAZ-2 Any waste containing asbestos at a level above 1% by weight shall be transported by California Department of Toxic Substances Control (DTSC) and Federal Department of Transportation (DOT) approved hazardous waste haulers to be disposed of at areas which are licensed by the Environmental Protection Agency (EPA) and DTSC to receive asbestos waste.