

4.0 Mitigation Monitoring and Reporting Plan

4.2 MITIGATION MONITORING AND REPORTING PLAN

This Mitigation Monitoring and Reporting Plan has been prepared for use in implementing mitigation for the:

Temescal Canyon Road Bridge Replacement and Road Realignment Project

The program has been prepared in compliance with State law and the Initial Study (IS) prepared for the project by the City of Lake Elsinore.

The California Environmental Quality Act (CEQA) requires adoption of a reporting or monitoring program for those measures placed on a project to mitigate or avoid adverse effects on the environment (Public Resource Code Section 21081.6). The law states that the reporting or monitoring program would be designed to ensure compliance during project implementation.

The monitoring program contains the following elements:

- 1) The mitigation measures are recorded with the action and procedure necessary to ensure compliance. In some instances, one action may be used to verify implementation of several mitigation measures.
- 2) A procedure for compliance and verification has been outlined for each action necessary. This procedure designates who would take action, what action would be taken and when, and to whom and when compliance would be reported.
- 3) The program has been designed to be flexible. As monitoring progresses, changes to compliance procedures may be necessary based upon recommendations by those responsible for the program. As changes are made, new monitoring compliance procedures and records would be developed and incorporated into the program.

This Mitigation Monitoring and Reporting Plan includes mitigation identified in the Initial Study.

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MITIGATION MONITORING AND REPORTING PLAN CHECKLIST

Project File Name: Temescal Canyon Road Bridge
Replacement and Road Realignment
Project

Applicant: City of Lake Elsinore

Prepared by: City of Lake Elsinore

Date: May 7, 2018

Mitigation Measure No. / Implementing Action	Responsible for Monitoring	Monitoring Frequency	Timing of Verification	Method of Verification	Verified Date/ Initials	Sanctions for Non- Compliance
AIR QUALITY						
AIR-01. During clearing, grading, earthmoving, or excavation operations, excessive fugitive dust emissions will be controlled by regular watering or other dust preventive measures using the following procedures, as specified in the South Coast Air Quality Management District (SCAQMD) Rule 403. All material excavated or graded will be sufficiently watered to prevent excessive amounts of dust. Watering will occur at least twice daily with complete coverage, preferably in the late morning and after work is done for the day. All material transported on site or off site will be either sufficiently watered or securely covered to prevent excessive amounts of dust. The area disturbed by clearing, grading, earthmoving, or excavation operations will be minimized so as to prevent excessive amounts of dust. These control techniques will be indicated in project specifications. Visible dust beyond the property line emanating from the project will be prevented to the maximum extent feasible.	City Engineer or designee	Throughout construction	During grading and construction	On-site inspection		Stop Work Order

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AIR-02. Project grading plans will show the duration of construction. Ozone precursor emissions from construction equipment vehicles will be controlled by maintaining equipment engines in good condition and in proper tune per manufacturers' specifications.	City Engineer or designee and Construction Contractor	Prior to authorization to begin construction	Prior to authorization to begin construction	Review of construction plans		Withhold Authorization to Begin Construction
		Throughout construction	During grading and construction	On-site inspection		Stop Work Order
AIR-03. All trucks that are to haul excavated or graded material on site will comply with State Vehicle Code Section 23114, with special attention to Sections 23114(b)(F), (e)(2), and (e)(4), as amended, regarding the prevention of such material spilling onto public streets and roads. The contractor shall provide periodic reporting documents to the City to prove and ensure compliance.	City Engineer or designee and Construction Contractor	Throughout construction	During grading and construction	On-site inspection and Contractor Reporting Documents		Stop Work Order
AIR-04. The contractor will adhere to the California Department of Transportation (Caltrans) Standard Specifications for Construction (Sections 14.9 02 and 14 9.03).	City Engineer or designee and Construction Contractor	Throughout construction	During grading and construction	On-site inspection		Stop Work Order
AIR-05. All construction vehicles both on and off site shall be prohibited from idling in excess of 5 minutes. This requirement shall be provided as a bid or contract specification with contractors.	City Engineer or designee and Construction Contractor	Throughout construction	During grading and construction	On-site inspection and review of reporting documents		Stop Work Order
AIR-06. Construction trucks shall use of 2010 model year diesel haul trucks that conform to 2010 U.S. EPA truck	City Engineer or designee and Construction Contractor	Review of bid and construction	During grading and construction	On-site inspection and review of		Stop Work Order

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standards or newer diesel haul trucks (e.g., material delivery trucks and soil import/export) during construction. This requirement shall be provided as a bid or contract specification with contractors. The contractor shall provide periodic reporting documents to the City to prove and ensure compliance.	Contractor	documents and throughout construction		reporting documents		
AIR-07. The contractor shall use Tier 4 emissions standards for off-road diesel-powered construction equipment with more than 50 horsepower. This requirement shall be provided as a bid or contract specification with contractors.	City Engineer or designee and Construction Contractor	Review of bid and construction documents and throughout construction	During grading and construction	On-site inspection		Stop Work Order
BIOLOGICAL RESOURCES						
BIO-01 Project construction and vegetation removal shall be completed outside of general bird breeding season (typically set as February 15 through August 31).	City Engineer or designee and Construction Contractor	Prior to authorization to begin construction	Prior to authorization to begin construction	Construction Plans		Withhold Authorization to Begin Construction
		Feb 15-Aug31	During grading and construction	Onsite Inspection		Stop Work Order
BIO-02 In the event that vegetation removal cannot be conducted outside the bird breeding season, focused surveys shall be conducted by a qualified biologist within three days prior to vegetation removal activities. Should nesting birds be found, an exclusionary buffer shall be established by a qualified	City Engineer or designee and Project Biologist	3 days prior to vegetation removal activities survey	Between Sept 1 through Feb 14	Onsite Inspection		Stop Work Order

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biologist. The buffer may be up to 500 feet in diameter depending on the species of nesting bird found. This buffer shall be clearly marked in the field by construction personnel under guidance of the qualified biologist, and construction or clearing shall not be conducted within this zone until the qualified biologist determines that the young have fledged or the nest is no longer active.		During vegetation removal				
BIO-03. Prior to project construction activities, a pre-construction nesting bird survey will be conducted over the entire project site by a qualified biologist within three days prior to construction activities.	City Engineer or designee and Project Biologist	Once	During bird breeding season prior to construction	Review of report prepared by qualified biologist		Withhold Authorization to Begin Construction
BIO-04. If nesting birds be found, an exclusionary buffer shall be established by a qualified biologist. The buffer may be up to 500 feet in diameter depending on the species of nesting bird found. This buffer shall be clearly marked in the field by construction personnel under guidance of the qualified biologist, and construction or clearing shall not be conducted within this zone until the qualified biologist determines that the young have fledged or the nest is no longer active.	City Engineer or designee and Project Biologist	Once	During bird breeding season prior to construction	On site inspection		Withhold Authorization to Begin Construction
BIO-05. Nesting bird habitat within the construction footprint of the project shall be resurveyed during the general bird breeding season if there is a lapse in construction activities longer than seven days.	City Engineer or designee Construction Contractor Project Biologist	Ongoing if required	If construction stops for more than 7 days during bird breeding season.	Review of nesting bird survey report		Stop Work Order

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BIO-06. Burrowing Owls. Prior to the start of any vegetation removal or ground-disturbing activities, a pre-construction clearance survey for burrowing owls shall be conducted to ensure that burrowing owls remain absent, and impacts to any occupied burrows do not occur. In accordance with the Staff Report on Burrowing Owl Mitigation, two pre-construction clearance surveys shall be conducted 14 days and 24 hours, respectively, prior to any vegetation removal or ground-disturbing activities. In the event this species is not identified onsite, no further mitigation is required. If during the pre-construction burrowing owl survey, this species is found to occupy the site, Mitigation Measure BIO-07 shall be required.	City Engineer or designee and Project Biologist	Prior to vegetation removal	Pre-construction survey	Survey Results		Withhold Authorization to Begin Construction
BIO-07. In the event burrowing owls are identified during the survey periods, the City shall contact the California Department of Fish and Wildlife (CDFW) to develop a burrowing owl relocation and conservation strategy. Prior to ground-disturbing activities, the project applicant shall take the following actions: <ul style="list-style-type: none"> • A minimum 75-meter (250-foot) buffer shall be provided around any active nest until fledging has occurred. Following fledging, owls may be passively relocated (use of one-way doors and collapse of burrows) by a qualified biologist. • If impacts to occupied (non-nesting) burrows are unavoidable, onsite 	City Engineer or designee and Project Biologist	Prior to vegetation removal	Pre-construction survey	Review of construction plans		Withhold Authorization to Begin Construction

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<p>passive relocation techniques, as approved by the CDFW, may be employed to encourage owls to move to alternative burrows outside of the impact area.</p> <ul style="list-style-type: none"> If relocation of the owls is approved for the site by the CDFW, the City shall require the developer to hire a qualified biologist to prepare a plan for relocating the owls to a suitable site. The relocation plan must include all of the following: <ul style="list-style-type: none"> The location of the nest and owls proposed for relocation. The location of the proposed relocation site. The number of owls involved and the time of year when the relocation is proposed to take place. The name and credentials of the biologist who shall be retained to supervise the relocation. The proposed method of capture and transport for the owls to the new site. A description of site preparation at the relocation site (e.g., enhancement of existing burrows, creation of artificial burrows, one-time or long-term vegetation control). A description of efforts and funding support proposed to monitor the relocation. 						

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BIO-08. Prior to clearing or construction, highly visible barriers (such as orange construction fencing) shall be installed along the boundaries of the project footprint. All construction equipment shall be operated in a manner to prevent accidental damage to areas outside the project footprint. No structure of any kind, or incidental storage of equipment or supplies, shall be allowed within these protected zones. Silt fence barriers shall be installed at the project boundary to prevent accidental deposition of fill material in areas where vegetation is adjacent to planned grading activities.	Project Biologist and Construction Contractor	Once	Prior to vegetation removal	Onsite Inspection		Stop Work Order
BIO-09. All equipment maintenance, staging, and dispensing of fuel, oil, or any other such activities shall occur in developed or designated non-sensitive upland habitat areas. The designated upland areas shall be located in such a manner as to prevent any spill runoff from entering waters of the U.S.	Construction Contractor and Project Biologist	Ongoing	During ground disturbing activities and construction	Onsite Inspection		Stop Work Order
BIO-10. A biologist shall monitor construction for the duration of the project construction to ensure that vegetation removal, Best Management Practices (BMPs), and all avoidance and minimization measures are properly constructed and followed.	Construction Contractor and Project Biologist	Ongoing	During ground disturbing activities and construction	Onsite Inspection		Stop Work Order
BIO-11. A weed abatement program shall be developed by the City of Lake Elsinore to minimize the importation of non-native plant material during and after	City's Project Engineer	Once	Prior to authorization to begin construction	Construction Plans		Withhold Authorization to Begin Construction

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construction. Eradication strategies shall be employed should an invasion occur.		Ongoing	During ground disturbing activities and construction	Onsite Inspection		Stop Work Order
BIO-12. The portions of the Temescal Wash affected by the project shall be recontoured to its original grades.	City's Project Engineer	Once	Prior to authorization to begin construction	Construction Plans		Withhold Authorization to Begin Construction
		Ongoing	During ground disturbing activities and construction	Onsite Inspection		Stop Work Order
BIO-13. During construction, the construction contractor shall inspect and clean construction equipment at the beginning of each day and prior to transporting equipment from one project location to another.	Construction Contractor	Daily	During ground disturbing activities and construction	Onsite Inspection		Stop Work Order
BIO-14. During construction, soil and vegetation disturbance shall be minimized to the greatest extent feasible.	Construction Contractor	Daily	During ground disturbing activities and construction	Onsite Inspection		Stop Work Order
BIO-15. During construction, the construction contractor shall ensure that all active portions of the construction site are watered as necessary to prevent excessive amounts of dust.	Construction Contractor	Daily	During ground disturbing activities and construction	Onsite Inspection		Stop Work Order
BIO-16. During construction, soil, gravel, and rock shall be obtained from weed-free sources.	Construction Contractor	Ongoing	During ground disturbing activities and	Onsite Inspection		Stop Work Order

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			construction			
BIO-17. Only certified weed-free straw, mulch, and/or fiber rolls shall be used for erosion control.	Construction Contractor	Ongoing	During ground disturbing activities and construction	Onsite Inspection		Stop Work Order
BIO-18. After construction, affected areas adjacent to native vegetation shall be revegetated with plant species that are native to the vicinity as approved by a qualified biologist.	Project Biologist	After construction is complete	During revegetation of site	Onsite Inspection		Stop Work Order
BIO-19. After construction, all revegetated areas shall avoid the use of species listed on Cal-IPC's California Invasive Plant Inventory that have a high or moderate rating.	Project Biologist	After construction is complete	During revegetation of site	Onsite Inspection		Stop Work Order
BIO-20. Erosion control and/or revegetation sites shall be monitored after construction to detect and control the introduction/invasion of nonnative species. The monitoring period shall be determined in consultation with resource agencies.	Project Biologist	After revegetation is complete	Timing will be verified with CDFW	Onsite Inspection		
BIO-21. Eradication procedures (e.g., spraying and/or hand weeding) shall be outlined should an infestation occur; the use of herbicides shall be prohibited within and adjacent to native vegetation, except as specifically authorized and monitored by a qualified biologist	Project Biologist and City's Project Engineer	Prior to revegetation of site	Prior to approval of Revegetation Plans	Review of revegetation plans		Withhold approval of Revegetation Plans

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BIO-22. All woody invasive species (e.g., tamarisk and eucalyptus trees) shall be removed from the project limits.	Project Biologist and City's Project Engineer	Once prior to construction and ongoing during and after construction	Prior to authorization to begin construction and onsite inspection	Review of construction plans and revegetation plans		Withhold Authorization to Begin Construction Stop Work Order
BIO-23. A Habitat Mitigation and Monitoring Plan (HMMP) for the 6.22-acre on-site restoration area shall be prepared and implemented by the project. 1. Remove non-native trees and shrubs from the reaches of Temescal Creek located outside of the grading limits. Examples of species to be removed are eucalyptus, tamarisk, and tree tobacco. Stumps will be treated with herbicide to prevent re-sprouting. 2. Establish cottonwood, arroyo willow, mule fat, and elderberry and other tree and shrub riparian species using at least 1-gallon container stock. Planting and irrigation will be installed in the relocated low-flow trapezoidal channel and in the excavated and widened channel bed/terrace of various widths upstream and downstream of the bridge. The channel bed will be 8 to 10 feet lower than existing grade and the channel bed will be excavated down 5 to 8 feet. Groundwater is possibly 10 feet below the existing ground level and establishment of this habitat would be dependent on appropriate	Project Biologist and City's Project Engineer	Once prior to City approval of the HMMP	Prior to authorization to begin construction and onsite inspection	Review of HMMP		Withhold Authorization to Begin Construction Stop Work Order

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<p>hydrology. Hydrologic conditions within the restoration area would be determined prior to the preparation of the HMMP.</p> <p>3. Approximately five coast live oak trees will be removed by the project. To compensate for the loss of coast live oak trees, oak trees will be replaced at a 10:1 replacement ratio on either side of the new and old road alignment within the transitional upland area. Mulch, bark, acorns, and branches from the existing trees will be saved to serve as mulch around the planted oak saplings. The oaks will be irrigated during establishment period. The number of replacement oak trees is estimated to be 50 but the actual number will be determined after completion of an arborist inventory prior to tree removal.</p> <p>4. Create native coastal sage scrub habitat (CSS) in the adjacent transitional upland areas. A diversity of common shrub, forbs, and annuals will be seeded in the areas adjacent to the riparian areas and streambed. The CSS will also be seeded around the oak trees. The upland areas will be irrigated for the first three years to ensure rapid establishment.</p> <p>5. Dedicate the restoration area as a long-term conservation easement.</p> <p>6. Planting will be implemented using standard practices used by</p>						

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<p>professional native landscaping companies, arborists, and irrigation installers. Creating natural stream characteristics after excavation of the channel bed and completion of the new streambed alignment will be guided by criteria described the 2012 function-based framework for restoration projects as recommended by the U.S. Army Corps of Engineers (USACE) and USFWS (Harmon, et al. 2012).</p> <p>7. The HMMP will include an implementation plan, site preparation, seed and plant material, installation methods, performance standards, maintenance and monitoring success criteria, and reporting measures. The mitigation area will be maintained until performance standards are achieved, which is anticipated to be approximately five years.</p>						
<p>BIO-24. The additional 1.76 acres of mitigation shall be acquired off site through one of the following options:</p> <ul style="list-style-type: none"> Option 1: Purchase of 1.76 acres of restoration credits from a CDFW-approved mitigation bank or habitat conservation organization. Option 2: Provide 1.76 acres of mitigation on City-owned property. Provide long-term habitat restoration/enhancement and management with a non-wasting endowment for an existing fairy 	City's Project Engineer	Once within six months of the start of construction	Consultation with RCA and Wildlife Agencies prior to issuance of grading permits	Construction Plans		Withhold Authorization to Begin Construction

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<p>shrimp conservation area. An HMMP would be prepared and the lands would be managed by a CDFW-approved conservation organization.</p> <ul style="list-style-type: none"> Option 3: RCA and Wildlife Agency-approved mitigation site for 1.76 acres. A restoration or enhancement mitigation opportunity, such as on an RCA conserved property within the MSHCP, may become available by the time the project is ready to purchase off-site mitigation and provide appropriate funding for restoration/enhancement activities. It would preferably be located in or along Temescal Wash. <p>The preferred option shall be selected prior to any vegetation removal or ground disturbance associated with the proposed project and the City shall notify the RCA and Wildlife Agencies of the selected option immediately after the decision has been made. Initiation of the selected option shall also occur prior to vegetation removal or any ground disturbance, but may be finalized/completed within six months of the start of construction. If necessary, any extension of the off-site mitigation option should be done through a request submitted to RCA and the Wildlife Agencies.</p>						

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BIO-25 Prior to construction, a Caltrans-approved bat biologist shall conduct a bat assessment survey to determine the presence or absence of bat species that may occur within the project limits. Should the presence of bat species be determined during this assessment, the following measures shall be implemented to address potential impacts to bats. <ul style="list-style-type: none"> Project-related construction activities shall occur outside of the bat maternity roosting season (April 1–August 31), if feasible. Should such activities occur during the maternity roosting season (April 1–August 31), the following measures shall be implemented to minimize potential impacts to day-roosting bats (including maternity colonies) from project construction. Nighttime exit counts and acoustic surveys shall be performed by a qualified bat biologist at structures that may be subject to project-related impacts. These surveys shall be performed during the recognized bat maternity season (April 1–August 31, but preferably in June or July), and as far in advance of construction as possible in order to provide adequate time for mitigation planning. 	City Engineer or designee	Once	Prior to construction	Review of bat assessment survey		Withhold Authorization to Begin Construction
	Construction Contractor					
	Bat Biologist					
	City Engineer	Apr 1 – Aug 31	During construction	Site visits		Stop Work Order
	Construction Contractor					
	City Engineer	Apr 1 – Aug 31 Or Jun - July	Prior to construction	Report verifying bat surveys were conducted at night to be prepared by the bat biologist and submitted to the City for review		Stop Work Order
	Construction Contractor					
	Bat Biologist					

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<ul style="list-style-type: none"> Construction activities within 200 feet of structures housing maternity colonies shall be coordinated with a Caltrans-approved bat biologist and the California Department of Fish and Wildlife. 	City Engineer Construction Manager Bat Biologist	Once	Prior to construction	On-site visit and verification for bat biologist that coordination with CDFW occurred		Stop Work Order
<ul style="list-style-type: none"> If direct impacts to bat-roosting habitat are anticipated, humane evictions and exclusions of roosting bats shall be performed under the supervision of a Caltrans-approved bat biologist after August 31 in the fall (September or October) prior to any work activities that would result in direct impacts or direct mortality to roosting bats. This action will be performed in coordination with the California Department of Fish and Wildlife. To avoid potential mortality of flightless juvenile bats, evictions and exclusions of bats cannot be performed during the maternity season (April 1–August 31). Winter months are also inappropriate for bat eviction because not all individuals in a roost will emerge on any given night. In addition, long-distance movements to other roost sites are more difficult during the winter when prey availability is scarce, resulting in high mortality rates of evicted bats. 	City Engineer Construction Contractor Bat Biologist	After Aug 31	Prior to construction	Written verification from bat biologist that compliance with the mitigation measure has occurred.		Stop Work Order

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<ul style="list-style-type: none"> If permanent, direct impacts to bat-roosting habitat are anticipated and/or if a humane eviction/exclusion is performed, alternate permanent roosting habitat shall be provided prior to the eviction/exclusion of bats from that structure to ensure no net loss of bat-roosting habitat. This action shall be coordinated with the California Department of Fish and Wildlife, and the design, numbers, and locations of these roost structures shall be determined in consultation with a Caltrans-approved bat biologist to ensure that the installed habitat will provide adequate mitigation for impacts. 	City Engineer Bat Biologist	Once	Prior to construction	On-site visit and report to be provided by bat biologist.		Stop Work Order
<ul style="list-style-type: none"> The loss of a night roost can negatively affect the use of a foraging area, and consequently may result in reduced fecundity in species that are already slow to reproduce. If night roosting is confirmed at any of the structures within the proposed project area, work shall be limited to the daylight hours to the greatest extent feasible to avoid potential disruption of foraging. If night work cannot be avoided, night lighting shall be focused only on the area of direct work, airspace access to and from the roost features of the structure shall not be obstructed, and light spillover into the adjacent foraging areas shall be minimized to the 	City Engineer Construction Contractor	Ongoing	During construction	Site visit		Stop Work Order

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<p>greatest extent feasible.</p> <ul style="list-style-type: none"> All mature trees to be removed as part of the project evaluated by a qualified bat biologist for their potential to support roosting bats. Trees that are identified as suitable bat roost sites shall be removed using a two-step process that occurs over a 2-day period. On Day 1, branches and limbs that do not contain crevices or cavities shall be removed using hand tools or chainsaws. The goal is to create a disturbance sufficient to cause any bats roosting in the tree to leave that night and not return, but not at a level of intensity that will cause bats to fly out of the tree during the disturbance itself (i.e., during the daytime, when leaving the roost will likely result in predation). On Day 2, the remainder of the tree may be removed. Trimming or removal of any mature trees and snags during the maternity season (April 1–August 31) shall be avoided to prevent “take” of flightless young; this period approximately coincides with bird nesting season (March 15–September 15). 	<p>City Engineer</p> <p>Construction Contractor</p> <p>Bat Biologist</p>	On-going	Prior to any tree removal	Site visit and review of report by bat biologist		Stop Work Order
<ul style="list-style-type: none"> If removal of mature trees during the bat maternity season (April 1–August 31) is necessary for project construction, all mature trees to be removed that have also been identified as containing suitable bat 	<p>City Engineer</p> <p>Construction Contractor</p>	Apr 1 – Aug 31	Prior to any tree removal.	Review of report by bat biologist		Stop Work Order

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roosting habitat shall be surveyed at night prior to removal. Any trees confirmed during those surveys as housing bat maternity colonies or special-status bat species shall be avoided until the end of the maternity season.	Bat Biologist					
CULTURAL RESOURCES						
CUL-01. If human remains are encountered, California Health and Safety Code Section 7050.5 states that no further disturbance shall occur until the Riverside County Coroner has made the necessary findings as to origin. Further, pursuant to California Public Resources Code Section 5097.98(b) remains shall be left in place and free from disturbance until a final decision as to the treatment and disposition has been made. If the Riverside County Coroner determines the remains to be Native American, the coroner shall contact the Native American Heritage Commission within 24 hours. Subsequently, the Native American Heritage Commission shall identify the person or persons it believes to be the "most likely descendant." The most likely descendant may then make recommendations, and engage in consultations concerning the treatment of the remains as provided in Public Resources Code 5097.98	City Engineer or designee and Construction Contractor	Throughout construction	During grading and construction	On-site inspection		Stop Work Order

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GEOLOGY AND SOILS						
GEO-01. During final design, borings shall be conducted by a registered geologist with Standard Penetration Testing and Seismic Cone Penetration Tests (SCPTs). Final design ARS curve should be developed using the estimated Vs30 and Caltrans ARS Online tool.	City Engineer or designee	Once	During review of Engineering Plans	Engineering Plans		Withhold Approval of Engineering Plans
GEO-02. Liquefaction potential, seismically-induced liquefaction and dry sand settlement, and potential for ground and embankment instability or displacement due to liquefaction shall be quantified in final design by conducting borings with Standard Penetration Testing and Cone Penetration Testing (CPT), measuring stabilized groundwater levels, and performing detailed liquefaction analysis. If final design studies indicate it is required, mitigation measures could include structural solutions such as use of longer piles to mitigate settlement and/or lateral displacements of structures, or ground improvement solutions to reduce liquefaction potential and its impacts.	City Engineer or designee	Once	During review of Engineering Plans	Engineering Plans		Withhold Approval of Engineering Plans
GEO-03. During final design, soil borings and laboratory testing shall be performed to screen for potentially volumetrically unstable materials and need for any mitigation. Typical tests would include Atterberg Limits, Moisture Content and Dry Density, Expansion Index, and One-dimensional Swell/ Collapse consolidation tests.	City Engineer or designee	Once	During review of Engineering Plans	Engineering Plans		Withhold Approval of Engineering Plans

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HYDROLOGY AND WATER QUALITY						
WQA-01. The City of Lake Elsinore shall provide affected city personnel with general WQMP education materials from the Santa Ana River Region Stormwater Management Plan and/or California Regional Water Quality Control Board, Santa Ana River Basin Region, California Stormwater Quality Association BMP Handbook, or other appropriate sources. These educational materials shall include general housekeeping practices that prevent pollutant loading in site runoff and other BMPs that eliminate or reduce pollutant loading during subsequent Project improvements.	City Engineer or designee	Once	Prior to approval of final WQMP	Final WQMP		Withhold Approval of Final WQMP
WQA-02. The types of activities allowed within the Project shall be limited to and in accordance with the City of Lake Elsinore codes, regulations, and zoning ordinances. Activities such as staging or stockpiling construction and landscaping materials or wastes in areas where they can be discharged to storm drains shall be prohibited. Activities associated with street and landscape maintenance, which can discharge pollutants (oil/grease, sediments, solvents, pesticides, herbicides, etc.) into Temescal Wash, shall be prohibited. Additionally, vehicle maintenance and washing shall be prohibited since it is not a feature of the Project or associated Project activities.	City Engineer or designee	Ongoing	During ground disturbing activities and construction	Onsite Inspection		Stop Work Order

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WQA-03. There is no common area proposed in the bridge Project. The Project is located in the street right-of-way crossing over Temescal Wash, which shall be maintained by the City of Lake Elsinore. Windblown trash and littering are the primary anticipated source of litter. The City of Lake Elsinore shall conduct street sweeping operation at the Project site on a regular basis to pick up any accumulated trash and debris on the street and bridge. The street and bridge shall be inspected monthly and prior to the storm season (October 1st), and any accumulation of trash or debris shall be removed. The landscaped areas of the site shall be inspected during landscape maintenance and any accumulation of trash or debris shall be removed.	City Engineer or designee	Monthly	Prior to Oct 31 each year	Contract with a Street sweeper		
WQA-04. Temescal Canyon Road (public street) shall be swept once a month by the City of Lake Elsinore as a part of their street sweeping schedule.	City Engineer or designee	Monthly	Prior to Oct 31 each year	Contract with Street Sweeper		
WQA-05. The City of Lake Elsinore shall be responsible for the inspection and maintenance of the drainage facilities. The drainage system on Temescal Canyon Road shall be inspected at least once a year, preferably prior to the rainy season and following significant storm events. The filter insert BMPs should be inspected and maintained periodically for the proper and efficient operation of drainage system. The City shall	City Engineer or designee	Once Yearly	Prior to rainy season	On-site inspection		

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<p>maintain records of the inspection and maintenance activities.</p> <p>Upon completion of the Project, the City of Lake Elsinore shall conduct training sessions for City staff and associated contractors covering the requirements of the Source Control BMPs including, but not limited to the requirements of the Santa Ana River Region Stormwater Management Plan and the Stormwater Discharge General Permit. The City of Lake Elsinore shall ensure that updated training materials are provided to city staff and service contractors annually. The City of Lake Elsinore shall be responsible for providing BMP training and education programs to all affected new employees, including service contractors. A record of city staff and service contractors who were trained shall be maintained along with their respective training dates.</p>	<p>City Engineer or designee</p> <p>City Engineer or designee</p>	<p>Once Yearly</p> <p>Once Yearly</p>	<p>Prior to rainy season</p> <p>Prior to rainy season and BMP Training</p>	<p>Conduct BMP Training and keep training date records.</p> <p>Update BMP education and training programs</p>		
<p>WQ-06. All proposed slopes with slope gradient of 1.5:1 or flatter shall be planted with deep rooted, drought tolerant erosion protection vegetation native to the area. Slopes steeper than 1.5:1 gradient shall be surfaced with concrete for erosion protection and slope stability. Drainage ditches associated with slope construction that outlet into Temescal Wash, if any, shall be lined with concrete and their outlets shall incorporate energy dissipater devices, such as rip-rap. The Project slopes and graded area shall be</p>	<p>City Planner and City Engineer or designee</p> <p>Project Biologist</p> <p>City Engineer or designee</p>	<p>Once at grading plan review</p> <p>Ongoing</p>	<p>During review of grading plans</p>	<p>Grading Plan s</p> <p>On-site Inspection</p>		<p>Withhold Grading Permits</p>

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maintained by the City of Lake Elsinore.						
HYD-01. During final design (PS&E phase), groundwater table testing and monitoring shall be performed to determine actual and seasonal groundwater table data. Groundwater table testing shall be performed, and monitoring wells shall be installed at the beginning of final design at three locations; (1) upstream of the bridge, (2) downstream of the bridge, and (3) within the bridge footprint. The current groundwater table shall be measured using a hollow-stem auger drilling approximately 10 feet below groundwater table. The standpipe piezometer wells shall be installed and monitored monthly during the dry season, and one day after and five days after each significant rainfall event, but no less than monthly during the rainy season. Monitoring of the groundwater table shall be performed for a period of at least a year prior to start of project construction and until construction of the bridge foundations and cutoff walls are completed in order to obtain seasonal groundwater table information. If the results of the tests indicate a shallow or perched groundwater condition that will result in groundwater draining to the surface, then the project design shall be modified to minimize grading of the main channel and the profile of the bridge and roadway over the wash shall be raised over Temescal Wash to provide adequate conveyance of the 100-year storm flow..	City Engineer or designee	Over a period of one year.	During Final Design	On-site inspection and review of groundwater testing report		Do not approval the Final Bridge Design

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HYD-02 During final design (PS&E phase), a sediment transport study shall be prepared for Temescal Wash from Bernard Street up to Lake Street. The task shall include evaluation of historical channel trends, contrast of local channel slopes to regional slope variation, evaluation of anticipated changes to sediment loading to the project reach due to upstream activities, hydraulic capacity calculations of using normal depth procedures, and sediment transport potential evaluation using qualitative hydraulic indicators. Steady-state methodologies shall be used to contrast the sediment transport capacity of the channel reach local to the proposed bridge with anticipated supply rates, over a range of discharge conditions. Local sediment size information shall be used with the hydraulic information and sediment transport relations to estimate bed material sediment transport volumes passing through the upstream, local and downstream channel reach. Sediment continuity shall be applied to estimate potential erosion/sedimentation depths to be expected along the proposed channel under design event and average annual conditions. Local scour components, due to drop structures or other features incorporated into the proposed plan shall be computed, if applicable. The potential hydraulic and/or channel deformation effects of bed form development shall be assessed as well. Should the results of	City Engineer or designee	Once prior to approval of final design of the bridge.	Prior to final approval of the bridge design	Submittal and review of a sediment transport study		Do not approval the Final Bridge Design.

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the sediment transport study indicate that the risk of erosion or siltation has significantly increased due to the proposed channel grading, then the project design shall be modified to minimize grading of the main channel and the profile of the bridge and roadway over Temescal Wash to provide adequate conveyance of the 100-year storm flow.						
TRIBAL CULTURAL RESOURCES						
TCR-01. At least 30 days prior to any grading, excavation and/or other ground-disturbing activities on the project site, the City of Lake Elsinore shall retain a qualified archaeologist meeting the Secretary of the Interior's Professional Qualifications Standards for archaeology and listed on the Register of Professional Archaeologists (RPA) or the County of Riverside list of qualified archaeologists to monitor all ground-disturbing activities.	City Planner and City Engineer or designee	Once 30-days prior to grading or ground disturbing activities.	Prior to ground disturbing activities	Provide proof (such as a contract) in writing indicating a qualified archaeological monitor has been obtained.		Withhold Authorization to Begin Construction
TCR-02. At least 30 days prior to excavation within any previously undisturbed native soils, the City shall contact the Consulting Tribes to notify each Tribe of excavation activities and coordinate with the Tribes to develop Monitoring Agreements. The Agreements shall address the designation, responsibilities, and participation of Native American Tribal monitors during excavation and other ground disturbing activities within undisturbed native soils and construction scheduling. Native American monitoring shall be limited to	City Planner and City Engineer or designee	Once 30-days prior to grading or ground disturbing activities.	Prior to ground disturbing activities	Provide proof of a Monitoring Agreement with the Native American Tribes.		Withhold Authorization to Begin Construction

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only those periods during project construction where excavation within previously undisturbed areas is occurring. Ground disturbing activities within previously disturbed areas shall not require notification, monitoring or an Agreement.						
TCR-03. The Project Archaeologist, in consultation with the Monitoring Tribe(s), the Developer and the City, shall develop a Cultural Resources Monitoring Plan (CRMP) to address the details, timing and responsibility of all archaeological and cultural activities that will occur on the project site. Details in the Plan shall include: <ul style="list-style-type: none"> a. Project grading and development scheduling; b. The coordination of a monitoring schedule as agreed upon by the Monitoring Tribe(s), the Project archaeologist, and the City of Lake Elsinore; and c. The protocols and stipulations that the City, Monitoring Tribe(s) and Project archaeologist will follow in the event of inadvertent cultural resources discoveries, including any newly discovered cultural resources. 	City Planner and City Engineer or designee Project Archaeologist	Once	Prior to ground disturbing activities	Provide proof of CRMP has been prepared as indicated in the mitigation measure.		Withhold Authorization to Begin Construction
TCR-04. Prior to any grading, excavation and/or other ground-disturbing activities on the Project site, the Project archaeologist and the Monitoring Tribe(s) shall conduct cultural resources sensitivity training for all construction	Project Archaeologist City's Construction Manager	Once	Prior to ground-disturbing activities.	Written verification to City by Project Archaeologist the training has occurred.		Stop Work Order

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personnel. Construction personnel shall be informed of the types of archaeological resources that may be encountered, and of the proper procedures to be enacted in the event of an inadvertent discovery of archaeological resources or human remains. The City's construction manager shall ensure that construction personnel are made available for and attend the training and shall retain documentation demonstrating attendance.						
TCR-05. In accordance with the agreement required in TCR-02 , the Project archaeologist and designated tribal monitor(s) assigned to the project by the Luiseño Tribe(s) shall have the authority to stop and redirect excavation in order to evaluate the significance of any archaeological resources discovered on the property.	Project Archaeologist	Throughout construction	During ground disturbance activities	On-site Monitoring		Stop Work Order
TCR-06. All artifacts discovered at the development site shall be inventoried and analyzed by the Project archaeologist and Native American monitor(s). If any cultural materials of Native American origin are discovered, all activities in the immediate vicinity of the find (within a 50-foot radius) shall stop. The Project archaeologist and Native American monitor(s) shall analyze the Native American cultural materials for identification as everyday life and/or religious or sacred items, cultural affiliation, temporal placement, and function, as deemed possible. The	Project Archaeologist and Native American Monitor	Throughout construction	During ground disturbance activities	On-site Monitoring		Stop Work Order

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significance of Native American resources shall be evaluated in accordance with the provisions of CEQA and shall consider the religious beliefs, customs, and practices of the Luiseño tribes. All items found in association with Native American human remains shall be considered grave goods or sacred in origin and subject to special handling. The City and/or landowner shall relinquish ownership of all cultural resources. Native American cultural materials that cannot be avoided or relocated at the Project site shall be prepared in a manner for curation. Within a reasonable amount of time, the Project archaeological, following consultation with the Monitoring Tribe(s), shall deliver the materials to a qualified repository in Riverside County that meets or exceeds federal standards per 36 CFR Part 79 and which shall be made available to all qualified researchers and tribal representatives.						
TCR-07. Treatment and Disposition of Cultural Resources: In the event that Native American cultural resources are inadvertently discovered during the course of grading for this Project. The following procedures will be carried out for treatment and disposition of the discoveries:	Project Archaeologist and Native American Monitor and City Planner	Anytime during construction	When Native American cultural resources are inadvertently discovered during ground disturbing activities.	Onsite Inspection		Stop Work Order

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<p>1. Temporary On-Site Curation and Storage: During the course of construction, all discovered resources shall be temporarily curated in a secure location onsite. The removal of any cultural materials from the project site will need to be thoroughly inventoried with tribal monitor oversight of the process; and</p> <p>2. Treatment and Final Disposition: The agency shall relinquish ownership of all cultural resources, including sacred items, burial goods, and all cultural materials and non-human remains as part of the required mitigation for impacts to cultural resources. The applicant shall relinquish the cultural materials through one or more of the following methods and provide the City of Lake Elsinore Planning Department, Caltrans and Consulting Tribe(s)</p> <p>a. Accommodate the process for onsite reburial of the discovered items with the consulting Native American tribes or bands. This shall include measures and provisions to protect the future reburial area from any future impacts. Reburial shall not occur until all cataloguing and basic recordation have been completed;</p>						

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<p>b. A curation agreement with an appropriate qualified repository within Riverside County that meets federal standards per 36 CFR Part 79 and therefore would be professionally curated and made available to other archaeologists/researchers for further study. The collections and associated records shall be transferred, including title, to an appropriate curation facility within Riverside County, to be accompanied by payment of the fees necessary for permanent curation</p>						
<p>c. At the completion of grading, excavation and ground disturbing activities on the site a Phase IV Monitoring Report shall be submitted to the City of Lake Elsinore Planning Department, Caltrans and Consulting Tribe(s) documenting monitoring activities conducted by the project Archaeologist and Native Tribal Monitors within 60 days of completion of grading. This report shall document the impacts to the known resources on the property; describe how each mitigation measure was fulfilled; document the type of cultural resources recovered and the disposition of such resources; and, in a confidential appendix, include the daily/weekly monitoring notes from the archaeologist. All reports produced will be submitted to the City of Lake</p>						

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Elsinore Planning Department,						
TCR-08. All sacred sites, should they be encountered within the project area, shall be avoided and preserved as the preferred mitigation, if feasible.	Project Archaeologist and Native American Monitor, City Planner and City Engineer or designee	Anytime during construction	When Native American sacred sites are inadvertently discovered during ground disturbing activities.	Onsite Inspection		Stop Work Order
TCR-09. The Project archaeologist shall prepare a final archaeological report within sixty (60) days of completion of the Project. The report shall follow ARMN Guidelines and City of Lake Elsinore requirements and shall include at a minimum: a discussion of monitoring methods and techniques used, the results of the monitoring program including any cultural materials recovered, an inventory of any resources recovered, updated DPR forms, if any, and any other site(s) identified, final disposition of the resources, and any additional recommendations. A final copy shall be submitted to the City of Lake Elsinore, the Eastern Information Center and the monitoring tribe(s).	Project Archaeologist and City Planner and City Engineer or designee	Once	60 days after completion of the project	Submittal of a final archaeological report to City and verification in writing the reports has been submitted to the Eastern Information Center and the monitoring tribe(s).		Project Archaeologist does not receive final payment for services.