4. Mitigation Monitoring and Reporting Program

4.1 INTRODUCTION

Section 21081.6 of the Public Resources Code requires a lead agency to adopt a "reporting or monitoring program for the changes made to the project or conditions of project approval, adopted in order to mitigate or avoid significant effects on the environment" (Section 15097 of the CEQA Guidelines provides additional direction on mitigation monitoring or reporting). As lead agency for the Proposed Project, Metro is responsible for administering and implementing the Mitigation Monitoring and Reporting Program (MMRP). The decisionmakers must define specific monitoring requirements to be enforced during project implementation prior to final approval of the Proposed Project. The primary purpose of the MMRP is to ensure that the mitigation measures identified in the Draft and Final EIR are implemented, effectively minimizing the identified environmental effects.

4.2. PURPOSE

Table 4-1 has been prepared to ensure compliance with all mitigation measures identified in the Draft EIR and this Final EIR which would lessen or avoid potentially significant adverse environmental impacts resulting from implementation of the Proposed Project. Each mitigation measure is identified in **Table 4-1** and is categorized by environmental topic and corresponding number, with identification of:

- Monitoring Action: The criteria that would determine when the measure has been accomplished and/or the monitoring actions to be undertaken to ensure the measure is implemented.
- Responsible Party for Implementing Mitigation: The entity accountable for the action.
- Enforcement Agency and Monitoring Phase: The agencies responsible for overseeing the implementation of mitigation and when the implementation is verified.

Table 4-1 – Mitigation Monitoring and Reporting Program

ID	Mitigation Measures	Monitoring Action	Responsible Party	1. Enforcement Agency 2. Monitoring Phase
AESTHETICS				
AES-1	During construction in the City Santa Clarita, the perimeter of construction areas, including but not limited to, staging and laydown areas, shall be screened to shield views of construction activities from the residential neighborhood north of Santa Clara River and the Santa Clara River Trail.	Incorporate visual screening into applicable construction documents. Provide visual screening around the Canyon Siding Extension site	Construction Contractor	1. Metro 2. During Construction
AES-2	In areas where the slope ratio of the soil/rock cut slopes permits vegetation growth, plants shall be placed on the soil/rock cut slopes. The type of vegetation to be planted shall be consistent with the natural vegetation that is generally associated with the undeveloped hillsides adjacent to the rail right-of-way.	Incorporate revegetation requirements into applicable construction documents. Plant vegetation along south side of Canyon Siding Extension site following grading activities	Construction Contractor	1. Metro 2. During Construction
AES-3	During construction, nighttime construction lighting shall be directed toward the interior of the construction area and shielded with temporary construction screening to limit light spillover into adjacent areas.	Incorporate lighting, screening, and glare requirements into applicable construction documents. Direct nighttime construction lighting away from residents and provide screening as appropriate.	Construction Contractor	1. Metro 2. During Construction
BIOLOGICAL RESOURCES				
BIO-1	Vegetation removal shall be conducted outside of the bird nesting season (nesting typically occurs between February 1 through September 30) to the extent feasible. If vegetation removal cannot be conducted outside of the nesting season, a Metro-approved qualified bird biologist shall conduct preconstruction surveys to locate active nests within seven days prior to vegetation removal in each area with suitable nesting habitat. If nesting birds are found during	Incorporate contractor responsibilities into applicable construction documents. Retain a qualified bird biologist. Conduct preconstruction surveys.	Metrolink/Metro Construction Contractor	1. Metro 2. Pre-Construction/ Construction

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	preconstruction surveys, an exclusionary buffer (150 feet for passerines and 500 feet for raptors) suitable to prevent nest disturbance shall be established by the biologist. The buffer may be reduced based on species-specific and site-specific conditions as determined by the qualified biologist. This buffer shall be clearly marked in the field by construction personnel under the guidance of the biologist, and construction or vegetation removal shall not be conducted within the buffer until the biologist determines that the young have fledged or the nest is no longer active. If work occurs on existing bridges with potential nest sites that will be removed or will have modifications to the substructure, these should be conducted between February 1 and September 30. All bird nests shall be removed prior to February 1. Immediately prior to nest removal, a qualified biologist shall inspect each nest for the presence of torpid bats, which are known to use old swallow nests. Nest removal shall be conducted under the guidance and observation of a qualified biologist. Removal of nests on bridges that are under construction shall be repeated as frequently as necessary to prevent nest completion unless a nest exclusion device has already been installed. Nest removal and exclusion device installation shall be monitored by a qualified biologist. Such exclusion efforts shall be continued to keep the structures free of birds until October or the completion of construction. A biological monitor shall be present during all ground-disturbing activities to ensure no impacts occur to nesting birds during nesting bird season (mid-March to mid-May), if applicable, as well as to ensure minimal impacts to other plant and animal species	Implement exclusionary buffer around identified nests. Conduct nest removal in the event that nests are identified in the I-5 bridge substructure Monitor construction during nesting season		
BIO-2	To avoid impacts to nesting birds, Metro/ Metrolink shall submit to the California Department of Fish and Wildlife (CDFW) and United States Fish and Wildlife Service (USFWS) a Nesting Bird Management, Monitoring, and Reporting Plan for review and approval prior to	Incorporate contractor responsibilities into applicable construction documents.	Metrolink/Metro Construction Contractor	1. Metro 2. Pre-Construction/ Construction

ID	Mitigation Measures	Monitoring Action	Responsible Party	1. Enforcement Agency 2. Monitoring Phase
	commencement of Proposed Project construction activities during the breeding season (February 1 to August 31, and as early as January 1 for some raptors). The Nesting Bird Management, Monitoring, and Reporting Plan should include the following: • Nest survey protocols describing the nest survey methodologies including the following: o A management plan describing the methods to be used to avoid nesting birds and their nests, eggs, and chicks; o A monitoring and reporting plan detailing the information to be collected for incorporation into a regular Nest Monitoring Log (NML) with sufficient details to enable USFSW and CDFW to monitor Metro's compliance with California Fish and Game Code Sections 3503, 3503.5, 3511, and 3513; o A schedule for the submittal (usually weekly) of the NML; o Standard buffer widths deemed adequate to avoid or minimize significant project related edge effects (disturbance) on nesting birds and their nests, eggs, and chicks; o A detailed explanation of how the buffer widths were determined; and o All measures the applicant will implement to preclude birds from utilizing project related structures (i.e., construction equipment, facilities, or materials) for nesting. • Preconstruction nesting bird surveys shall be completed within 72 hours of construction-related activities and implement appropriate avoidance measures for identified nesting birds. To determine the presence of nesting birds that the project activities may affect, surveys should be conducted beyond the Project Area - 300 feet for passerine birds and 500 feet for raptors. The survey protocols should include a detailed description of methodologies utilized by CDFW-approved avian	Retain a qualified bird biologist. Prepare Nesting Bird Management, Monitoring, and Reporting Plan. Conduct pre-construction surveys		

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	biologists to search for nests and describe avian behaviors that indicate active nests. The protocols should include but are not limited to the size of the Project Area being surveyed, method of search, and behavior that indicates active nests. Each nest identified in the Project Area should be included in the NML. The NMLs should be updated daily and submitted to the CDFW weekly. Since the purpose of the NMLs is to allow the CDFW to track compliance, the NMLs should include information necessary to allow comparison between nests protected by standard buffer widths recommended for the Proposed Project (300 feet for passerine birds, 500 feet for raptors) and nests whose standard buffer width was reduced by encroachment of project-related activities. The NMLs should provide a summary of each nest identified, including the species, status of the nest, buffer information, and fledge or failure data. The NMLs will allow for tracking the success and failure of the buffers and will provide data on the adequacy of the buffers for certain species. The applicant(s) will rely on its avian biologists to determine the appropriate standard buffer widths for nests within the Project Area to employ based on the sensitivity levels of specific species or guilds of avian species. The determination of the standard buffer widths should be site- and species-/guild-specific and data-driven and not based on generalized assumptions regarding all nesting birds. • The determination of the buffer widths should consider the following factors: o Nesting chronologies; o Geographic location; o Existing ambient conditions (human activity within line of sight—cars, bikes, pedestrians, dogs, noise); o Type and extent of disturbance (e.g., noise levels and quality—punctuated, continual, ground vibrations—blasting-related vibrations proximate to			

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	tern colonies are known to make the ground-nesting birds flush the nests); o Visibility of disturbance; o Duration and timing of disturbance; o Influence of other environmental factors; and o Species' site-specific level of habituation to the disturbance. Application of the standard buffer widths should avoid the potential for project-related nest abandonment and failure of fledging, and minimize any disturbance to the nesting behavior. If project activities cause or contribute to a bird being flushed from a nest, the buffer must be widened.			
BIO-3	Prior to tree removal or demolition activities, Metro/ Metrolink shall retain a qualified biologist to conduct a focused survey for bats and potential roosting sites within buildings to be demolished or trees to be removed. The surveys can be conducted by visual identification and can assume presence of hoary and/or pallid bats or the bats can be identified to a species level with the use of a bat echolocation detector such as an "Anabat" unit. If no roosting sites or bats are found, a letter report confirming absence shall be sent to the CDFW and no further mitigation is required. If roosting sites or hoary bats are found, then the following monitoring and exclusion, and habitat replacement measures shall be implemented. If bats are found roosting outside of nursery season (nursery season typically occurs between May 1 through October 1), then they shall be evicted as described below. If bats are found roosting during the nursery season, then they shall be monitored to determine if the roost site is a maternal roost. This could occur by either visual inspection of the roost bat pups, if possible, or monitoring the roost after the adults leave for the night to listen for bat pups. If the roost is determined to not be a maternal roost, then the bats shall be evicted as described below. Because bat pups cannot leave the roost until they are mature enough, eviction of a maternal roost cannot occur during the nursery season. A 250-foot (or as	Incorporate contractor responsibilities into applicable construction documents. Retain a qualified bat biologist. Conduct pre-construction bat roost surveys Perform bat roost eviction in the event roosts are identified.	Metrolink/Metro Construction Contractor	1. Metro 2. Pre-Construction/ Construction

ID	Mitigation Measures	Monitoring Action	Responsible Party	1. Enforcement Agency 2. Monitoring Phase
	determined in consultation with CDFW) buffer zone shall be established around the roosting site within which no construction or tree removal shall occur. Eviction of bats shall be conducted using bat exclusion techniques, developed by Bat Conservation International (BCI) and in consultation with CDFW that allow the bats to exit the roosting site but prevent re-entry to the site. This would include, but not be limited to, the installation of one-way exclusion devices. The devices shall remain in place for seven days and then the exclusion points and any other potential entrances shall be sealed. This work shall be completed by a BCI-recommended exclusion professional. The exclusion of bats shall be timed and carried concurrently with any scheduled bird exclusion activities. Each roost lost (if any) will be replaced in consultation with the California Department of Fish and Game and may include construction and installation of BCI-approved bat boxes suitable to the bat species and colony size excluded from the original roosting site. Roost replacement will be implemented before bats are excluded from the original roost sites. Once the replacement roosts are constructed and it is confirmed that bats are not present in the original roost site, the structures may be removed or sealed.			
BIO-4	A revegetation plan will be developed by a qualified biologist to guide the restoration of native vegetation temporarily or permanently impacted by project implementation.	Incorporate contractor responsibilities into applicable construction documents. Retain a qualified biologist. Prepare revegetation plan.	Metrolink/Metro Project Engineer	1. Metro 2. Final Design
BIO-5	Limits of disturbance will be staked during construction activities to ensure that impacts to the Project Area are minimized, and staking will stay in place until final site stabilization.	Incorporate contractor responsibilities into applicable construction documents. Periodic site check as needed.	Metrolink/Metro Construction Contractor	1. Metro 2. Pre-Construction/ Construction

ID	Mitigation Measures	Monitoring Action	Responsible Party	1. Enforcement Agency 2. Monitoring Phase
BIO-6	If construction must occur during nighttime hours, lighting that produces a green colored beam with an automatic sensor shall be utilized.	Incorporate contractor responsibilities into applicable construction documents.	Metrolink/Metro Construction Contractor	1. Metro 2. Pre-Construction/ Construction
BIO-7	Metro/ Metrolink shall retain a qualified biologist with a gnatcatcher survey permit. The qualified biologist shall survey the Project site and adjacent areas to determine presence/absence of gnatcatcher. The qualified biologist shall conduct surveys according to USFWS Coastal California Gnatcatcher (Polioptila californica californica) Presence/Absence Survey Guidelines. The protocol shall be followed for all surveys unless otherwise authorized by the USFWS in writing. Gnatcatcher surveys shall be conducted and USFWS notified (per protocol guidance) prior to starting any Project construction and activities within and adjacent to California coastal gnatcatcher habitat. Where Project construction and activities would occur within and/or adjacent to California coastal gnatcatcher habitat, no work shall occur from February 15 through August 31. There shall be no clearing, removing, or cutting any California coastal gnatcatcher habitat. If California coastal gnatcatcher habitat is identified within the construction footprint of any of the capital improvement sites, Metro/ Metrolink shall provide compensatory mitigation for loss of any California coastal gnatcatcher habitat at no less than a 2:1. Mitigation lands shall occur within the same watershed, and support California coastal gnatcatcher habitat of similar vegetation composition, density, coverage, and species richness and abundance.	Incorporate contractor responsibilities into applicable construction documents. Retain a qualified biologist. Conduct Coastal California Gnatcatcher protocol survey Provide survey notification to USFWS Provide compensatory mitigation in the even that California coastal gnatcatcher habitat is identified within the construction footprint	Metrolink/Metro Construction Contractor	1. Metro 2. Final Design/ Permitting

ID	Mitigation Measures	Monitoring Action	Responsible Party	1. Enforcement Agency 2. Monitoring Phase
BIO-8	Prior to Project construction activities at the Balboa Double Track Extension site, a qualified biologist shall conduct protocol surveys for least Bell's vireo. All riparian areas and any other potential least Bell's vireo habitat shall be surveyed at least eight times during the period from April 10 to July 31. Survey results, including negative findings, shall be submitted to CDFW and USFWs within 45 calendar days following the completion of protocol-level surveys. If least Bell's vireo is detected no construction work including staging, mobilization, and site preparation, shall occur during the least Bell's vireo nesting season (April 10 to July 31). No habitat supporting least Bell's vireo shall be removed at any time. If least Bell's vireo is detected and work must occur during the least Bell's vireo nesting season for the duration of the Proposed Project, and/or if habitat supporting least Bell's vireo needs to be removed, Metro/Metrolink shall seek appropriate take authorization under the California Endangered Species Act. Metro/ Metrolink shall obtain a permit from California Department of Fish and Wildlife prior to starting any Project construction and activities.	Incorporate contractor responsibilities into applicable construction documents. Retain a qualified biologist. Conduct least Bell's vireo protocol survey. Report survey results to CDFW and USFW. In the event that least Bell's vireo is present, project construction would take place during nesting season, and/or habitat would be removed, obtain CESA take authorization permit from CDFW.	Metrolink/Metro Construction Contractor	1. Metro 2. Final Design/ Permitting
BIO-9	There shall be no impacts on western Joshua trees and seedbank. Access to the Lancaster Terminal Improvements site shall not be allowed from Yucca Avenue/West Milling Street. No activities shall occur within a 250-foot radius of the western Joshua tree to avoid impacts to the tree and potential seedbank. This shall include no site access, vehicle parking, staging areas, refueling, and any activities that may result in ground disturbance. If necessary, Metro/Metrolink shall seek appropriate take authorization under the California Endangered Species Act before starting any construction and activities where impacts to the western Joshua tree and seedbank cannot be avoided.	Incorporate contractor responsibilities into applicable construction documents. In the event that, project construction must remove the western Joshua tree, obtain CESA take authorization permit from CDFW.	Metrolink/Metro Construction Contractor	1. Metro 2. Pre-construction/ Construction

ID	Mitigation Measures	Monitoring Action	Responsible Party	1. Enforcement Agency 2. Monitoring Phase
BIO-10	At least one year prior to starting any Project construction and activities, qualified biologist shall conduct season appropriate pre-Project presence/absence fish surveys and habitat at the Balboa Double Track Extension site. Surveys shall be performed by a qualified biologists with appropriate Scientific Collecting Permit. Also, surveys shall be performed in consultation and coordination with CDFW. If a California Endangered Species Act (CESA) and/or Endangered Species Act (ESA)-listed fish species is detected and impacts on those fish and habitat cannot be avoided, Metro/ Metrolink shall consult with CDFW and/or USFWS to obtain necessary permits for take of CESA and/or ESA-listed fish species. Metro/ Metrolink shall have a permit from CDFW and/or USFWS prior to starting any Project construction and activities. If a Species of Special Concern is detected and impacts on those fish and habitat cannot be avoided, Project construction and activities shall only occur after fish are relocated in accordance with a CDFW-approved Fish Species Relocation Plan. Metro/ Metrolink, in consultation with a qualified biologist shall prepare a species-specific list (or plan) of proper handling and relocation protocols and a map of suitable and safe relocation areas. Wildlife shall be protected, allowed to move away on its own (non-invasive, passive relocation), or relocated to adjacent appropriate habitat within the open space on site or in suitable habitat adjacent to the Project site (either way, at least 200 feet from the work area). Special status wildlife shall be captured only by a qualified biologist with proper handling permits.	Incorporate contractor responsibilities into applicable construction documents. Retain a qualified biologist. Conduct fish surveys in consultation with CDFW. In the event that CESA species are identified and impacts on habitat cannot be avoided, obtain CESA take authorization permit from CDFW. In the event that Species of Special Concern are detected, prepare and implement Fish Species Relocation Plan in consultation with CDFW.	Metrolink/Metro Construction Contractor	1. Metro 2. Final Design, at least one year prior to construction.
BIO-11	At least one year prior to starting any Project construction and activities, a CDFW-approved biologist shall conduct focused surveys for unarmored threespine stickleback where there is potential habitat at the Canyon Siding Extension site and any locations within the Canyon Siding Extension site that is hydrologically connected to the Santa Clara River. Surveys shall be performed by a qualified biologists with appropriate	Incorporate contractor responsibilities into applicable construction documents. Retain a qualified biologist.	Metrolink/Metro Construction Contractor	1. Metro 2. Final Design, at least one year prior to construction.

ID	Mitigation Measures	Monitoring Action	Responsible Party	1. Enforcement Agency 2. Monitoring Phase
	Scientific Collecting Permit. Also, surveys shall be performed in consultation and coordination with CDFW. Survey results, including negative findings, shall be provided to CDFW. Metro/ Metrolink shall coordinate with CDFW if unarmored threespine stickleback is found. If unarmored threespine stickleback is found, Metro/ Metrolink shall fully avoid all impacts to unarmored threespine stickleback and habitat supporting this California Fully Protected species. No work shall be performed when water is present in tributaries supporting unarmored threespine stickleback. Also, no dewatering of tributaries shall be performed at any time as draining water and reducing water levels could strand, injure, or cause mortality of unarmored threespine stickleback.	Conduct protocol surveys in consultation with CDFW. In the event that unarmored threespine stickleback are detected, incorporate full avoidance measures into contractor responsibilities into applicable construction documents.		
BIO-12	During final design and at least one year prior to construction, a qualified biologist with access to the rail right-of-way, shall conduct a field assessment within the Balboa Double Track Extension and Canyon Siding Extension sites. The assessment shall include an inventory of observable plant and animal species, mapping and characterization of on-site habitats, and an evaluation of each site's potential to support special status species. Presence/absence surveys shall be conducted for special status plants, San Diego desert woodrat, coastal whiptail, western spadefoot toad, arroyo toad, silvery legless lizard, coast horned lizard, as well as small mammals, and bats. Results of the field assessment shall be provided to CDFW. In consultation with CDFW, the qualified biologist shall make recommendations for the avoidance of any identified species including but not limited to additional preconstruction surveys, capture and relocation of terrestrial species by a qualified biologist with proper scientific collection and handling permits, additional restrictions on construction equipment and/or means, and application for appropriate take authorization.	Incorporate contractor responsibilities into applicable construction documents. Retain a qualified biologist. Conduct field assessment within capital improvement site ROW. Provide field assessment results to CDFW. Recommend additional avoidance measures as applicable.	Metrolink/Metro Construction Contractor	1. Metro 2. Final Design, at least one year prior to construction

ID	Mitigation Measures	Monitoring Action	Responsible Party	1. Enforcement Agency 2. Monitoring Phase
BIO-13	Riparian zones within the three capital improvement sites shall be protected through control of invasive plant species. All construction vehicles and heavy equipment shall be washed (including treads, wheels, and undercarriage) prior to delivery to the Project site to minimize weed seeds entering the construction area via vehicles. Slope stabilization and replanting materials used during construction shall be certified as weed-free. Invasive plant species (such as giant reed) located on the Proposed Project site shall be removed during construction. Invasive plan species shall be removed using best management practices that contain and properly dispose of the species' seeds and plant materials (which may reproduce asexually). Transport of any invasive plant material offsite shall be stored in securely covered containers or vehicles and disposed of at facilities that shall properly eliminate the ability of these materials to grow or colonize new areas.	Incorporate contractor responsibilities into applicable construction documents.	Metrolink/Metro Construction Contractor	1. Metro 2. Construction

ID	Mitigation Measures	Monitoring Action	Responsible Party	1. Enforcement Agency 2. Monitoring Phase
BIO-14	In areas where riparian features are below upland features, a qualified biologist shall determine if any disturbance would occur in upland areas such that runoff could affect wetlands or riparian habitat. If riparian features are identified in locations that may be subject to construction-related runoff, the qualified biologist shall identify these areas, clearly delineate sensitive site conditions on-site, and recommend best management practices for the control of runoff including but not limited to • Minimizing the extent of disturbed areas and duration of exposure; • Stabilizing and protecting disturbed areas; • Keeping runoff velocities low; • Retaining sediment within the construction area; • Use of silt fences or straw wattles; • Temporary soil stabilization; • Temporary drainage inlet protection; • Temporary water diversion around the immediate work area; and • Minimizing debris from construction vehicles on roads providing construction access	Incorporate contractor responsibilities into applicable construction documents. Retain a qualified biologist. Implement run-off controls, as needed.	Metrolink/Metro Construction Contractor	1. Metro 2. Construction
BIO-15	Metro shall provide no less than 2:1 ratio for direct impacts on streams and associated riparian plant community. Metro shall provide additional mitigation for impacts on riparian plant communities that have a State Rarity Ranking of S1 and S2 and an additional ranking of 0.1 and 0.2 to be determined through consultation with California Department of Fish and Wildlife and/or Department of Fish and Wildlife, as applicable.	Consult with CDFW and/or USFW on direct impact areas in streams and associated riparian plant communities. Provide compensatory mitigation in consultation with CDFW and/or USFW as applicable.	Metrolink/Metro Construction Contractor	1. Metro 2. Final Design/ Permitting

ID	Mitigation Measures	Monitoring Action	Responsible Party	1. Enforcement Agency 2. Monitoring Phase
BIO-16	Metro/ Metrolink shall replace no less than three trees for every one southern California black walnut and coast live oak tree that is removed.	Incorporate contractor responsibilities into applicable construction documents. Determine number of southern California black walnut and coast live oak trees to be removed. Replace trees as applicable.	Metrolink/Metro Construction Contractor	1. Metro 2. Final Design/ Construction
BIO-17	Metro/ Metrolink shall create or restore no less than one acre for every one acre of impact on a sensitive plant community. Metro/ Metrolink shall create or restore no less than two acres for impacts on a sensitive plant community that consists of heritage-sized trees, vigorous trees, or seedlings/saplings. Mitigation shall be provided on lands within the same watershed as the area impacted. The density of trees at the mitigation site shall be at least the same as the density of trees in the habitat that was impacted. The mitigation site shall also provide the same understory species as found in the impacted area.	Incorporate contractor responsibilities into applicable construction documents. Determine sensitive plant community impact acreage. Provide restoration or replacement vegetation, as applicable.	Metrolink/Metro Construction Contractor	1. Metro 2. Final Design/ Construction
BIO-18	To prevent inadvertent disturbance to areas outside the limits of grading, all grading shall be monitored by a biologist. A Metro-approved Project Biologist shall be contracted to perform biological monitoring during all grading, clearing, grubbing, trenching, and construction activities. The following shall be completed: • The Project Biologist shall perform the monitoring duties before, occasionally during, and after construction. The Project Biologist shall perform the following duties: o Attend the preconstruction meeting with the contractor and other key construction personnel prior to clearing, grubbing, or grading to reduce conflict between the timing and location of construction activities and other mitigation requirements (e.g., seasonal surveys for nesting birds);	Incorporate contractor responsibilities into applicable construction documents. Retain a qualified biologist. Monitor grading, clearing, grubbing, and trenching activities.	Metrolink/Metro Construction Contractor	1. Metro 2. Pre-construction/ Construction

ID	Mitigation Measures	Monitoring Action	Responsible Party	1. Enforcement Agency 2. Monitoring Phase
	○ Conduct meetings with the contractor and other key construction personnel describing the importance of restricting work to designated areas prior to clearing, grubbing, or grading; ○ Discuss procedures for minimizing harm to or harassment of wildlife encountered during construction with the contractor and other key construction personnel prior to clearing, grubbing, or grading; ○ Review and/or designate the construction area in the field with the contractor in accordance with the final grading plan prior to clearing, grubbing, or grading; ○ Conduct a field review of the staking to be set by the surveyor, designating the limits of all construction activity prior to clearing, grubbing, or grading; ○ Be present during initial vegetation clearing, grubbing, and grading; ○ Flush special-status species (i.e., avian or other mobile species) from occupied habitat areas immediately prior to brush-clearing and earthmoving activities; and ○ To address hydrology impacts, the Project Biologist shall verify that grading plans include a Stormwater Pollution Prevention Plan.			
BIO-19	To comply with the state and federal regulations for impacts to "waters of the United States and state," the following agency permits are required, or verification that they are not required shall be obtained. • The following permit and agreement shall be obtained, or provide evidence from the respective resource agency that such an agreement or permit is not required: ○ A Clean Water Act, Section 401/404 permit issued by the California Regional Water Quality Control Board (RWQCB) and the USACE for all project-related disturbances of waters of the United States and/or associated wetlands.	Coordinate with applicable regulatory agency(s). Prepare regulatory permit applications including LSA notification requirements. Obtain regulatory permits. Incorporate contractor responsibilities related to regulatory permit conditions into	Metrolink/Metro Construction Contractor	1. Metro 2. Final Design/ Permitting

ID	Mitigation Measures	Monitoring Action	Responsible Party	1. Enforcement Agency 2. Monitoring Phase
	○ A Section 1602 Streambed Alteration Agreement (LSA) issued by the CDFW for all project related disturbances of any streambed. If required, the Streambed Alteration Agreement notification shall include the following information and analyses: 1. Quantification of the linear feet of streams and area of associated riparian vegetation that would be impacted. 2. An analysis providing information on whether impacts to streams within the immediate project area could cause impacts downstream where there is hydrologic connectivity; 3. A hydrological evaluation of the 100, 50, 25, 10, 5, and 2-year frequency storm event for existing and proposed conditions to provide information on how water and sediment is conveyed through the Project site; 4. A scour analysis demonstrating that stream banks, bed, and channel would not erode and be impaired (e.g., aggrade, incised) as a result of Project activities; 5. An analysis demonstrating that the Project would not impact stream underflow supporting riparian vegetation; 6. Identification, analysis, and discussion of potential impacts on streams and associated vegetation as a result of upland Project construction and activities; 7. Specific activities and actions Metro proposes to take to mitigate for impacts on streams and riparian vegetation, specifically, actions to control invasive plants and animals and reintroducing native biota; 8. A complete description of routine maintenance activities that may be required for the life of the	applicable construction documents.		

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	Project including measures to avoid impacts on streams and riparian vegetation during routine maintenance activities occurring for the life of the Project; and, 9. Protocol survey results (see Mitigation Measures BIO-7 through BIO-11), including negative findings, shall be included as part of the LSA Notification. Survey reports shall include information on habitat within the Project site and whether the Project would impact habitat supporting those species. • Documentation: Metro/Metrolink shall consult each agency to determine if a permit or agreement is required. Upon completion of the agency review of this project, the applicant shall provide a copy of the permit(s)/agreement(s), or evidence from each agency that such an agreement or permit is not required for compliance. • Timing: Prior to approval of any grading and or improvement plans and issuance of any Grading or Construction Permits. • Monitoring: Metro shall review the permits/agreement for compliance with this condition. Copies of these permits should be implemented on the grading plans.			
BIO-20	Preconstruction surveys for protected trees (native trees four inches or more in cumulative diameter, as measured at 4.5 feet above the ground level, that are subject to protection under any relevant tree protection ordinance, shall be conducted by a registered consulting arborist with the American Society of Consulting Arborists at least 120 days prior to construction. The locations and sizes of all protected trees shall be identified prior to construction and overlaid on project footprint maps. The registered consulting arborist shall prepare a Protected Tree Report and shall submit three copies to the relevant local jurisdiction. Any protected trees	Incorporate contractor responsibilities into applicable construction documents. Retain a qualified arborist. Conduct preconstruction tree survey.	Metrolink/Metro Construction Contractor	1. Metro 2. Final Design/ Permitting/ Post-construction

ID	Mitigation Measures	Monitoring Action	Responsible Party	1. Enforcement Agency 2. Monitoring Phase
	that must be removed due to project construction shall be replaced at a 2:1 ratio (or up to a 4:1 ratio for protected trees on private property) except when the protected tree is relocated on the same property, the relevant local agency has approved the tree for removal, and the relocation is economically reasonable and favorable to the survival of the tree. Each replacement tree shall be at least a 15-gallon specimen, measuring one inch or more in diameter, one foot above the base, and shall be at least seven feet in height measured from the base.	Prepare Protected Tree Report and submit to applicable local jurisdiction. Provide replacement trees consistent with recommendations of the Protected Tree Report.		
BIO-21	Protect trees that will possibly receive impacts to the root system by restricting root cuts to the outer region of the roots using a distance formula recommended by the International Society of Arboriculture. Adjust utility relocations to avoid as many tree trunks and root clusters as possible and eliminate direct impacts/removal of trees. Hand digging the root protection zones will reduce indirect impacts to the root systems.	Incorporate contractor responsibilities into applicable construction documents. Consult on utility relocation plan set to adjust design to avoid impacts on trees.	Metrolink/Metro Project Engineer	1. Metro 2. Final Design/ Construction
BIO-22	Provide temporary supplemental irrigation to existing trees during construction, as necessary.	Incorporate contractor responsibilities into applicable construction documents. Provide supplemental irrigation.	Metrolink/Metro Construction Contractor	1. Metro 2. Construction
BIO-23	Replace all impacted trees that cannot be saved with trees of the same genus, species, and variety (if applicable) as the tree that is removed. Replacement trees shall be locally sourced from within the same watershed and not from a supplier. Replacement trees shall come from a local native plant nursery that implements Phytophthora/Clean Nursery Stock protocols.	Incorporate contractor responsibilities into applicable construction documents. Replace and/or avoid trees as applicable.	Metrolink/Metro Construction Contractor	1. Metro 2. Construction
BIO-24	Determine proven methods of stabilizing the existing landscape to minimize disturbances beyond the area of cut and fill.	Incorporate contractor responsibilities into applicable construction documents.	Metrolink/Metro Construction Contractor	1. Metro 2. Construction

ID	Mitigation Measures	Monitoring Action	Responsible Party	1. Enforcement Agency 2. Monitoring Phase
		Implement site stabilization methods.		
BIO-25	Consider "Geo-cell" type planted retaining wall stabilization structures if they can be planted with native chaparral seed.	Incorporate contractor responsibilities into applicable construction documents. Review retaining wall design and determine locations where Geo-cell plantings can be incorporated into design.	Metrolink/Metro Project Engineer	1. Metro 2. Final Design
BIO-26	Provide compost to hold moisture in the soil. Utilize watering bags for the establishment period.	Incorporate contractor responsibilities into applicable construction documents. Use compost and watering bags during revegetation establishment	Metrolink/Metro Construction Contractor	1. Metro 2. Construction/ Post-Construction
BIO-27	All tree material, especially tree material infected with pests, pathogens, and diseases, shall be left on site, chipping the material for use as ground cover or mulch.	Incorporate contractor responsibilities into applicable construction documents. Reuse tree material as applicable	Metrolink/Metro Construction Contractor	1. Metro 2. Construction/ Post-Construction
CULTURAL RESOURCES				
CUL-1	Mitigation Measure **CUL-1** pertains specifically to archaeological involvement. The involvement of the Fernandeño Tataviam Band of Mission Indians and Gabrieleno Band of Mission Indians – Kizh Nation (Consulting Tribes) is detailed in Mitigation Measure **TCR-1**. For the purposes of Mitigation Measures **CUL-1** and **TCR-1**, ground disturbing activities include, but are not limited to, excavation, trenching, grading, and drilling. Prior to issuance of grading permits, a qualified archeologist, meeting the Secretary of the Interior's Standards, shall be	Retain qualified archaeologist who meets the Secretary of Interior's Standards. Prepare CRMP. Implement CRMP including WEAP training, monitoring and reporting requirements.	Metrolink/Metro Construction Contractor	1. Metro 2. Pre-Construction/ Construction

ID	Mitigation Measures	Monitoring Action	Responsible Party	1. Enforcement Agency 2. Monitoring Phase
	retained to serve as Program Archaeologist to develop and supervise the archaeological monitoring program. Prior to commencement of any grading activities on site, the Program Archaeologist shall prepare a Cultural Resources Monitoring Plan (CRMP). The CRMP shall be reviewed by the Lead Agency. The Consulting Tribes shall also be provided an opportunity to review and comment on the CRMP. The CRMP should include at a minimum: (1) the roles and responsibilities of the Program Archaeologist, archaeological monitor, and Native American monitor; (2) the definition of an Environmentally Sensitive Area (ESA) around the previously-identified prehistoric resources adjacent to the Canyon Siding Extension project area, (3) a description of monitoring procedures; (4) a description of the frequency of monitoring (e.g., full-time, part-time, spot checking); (5) a description of what types of resources may be encountered; (6) a description of circumstances that would result in the halting of work at the program site (e.g., what is considered a "significant" archaeological site); (7) a description of procedures to follow when a resource is encountered including curation procedures agreed upon by the Consulting Tribes; (8) communication/notification protocols; and (9) a description of monitoring reporting procedures. At the commencement of construction, an archaeologist shall provide a Worker Environmental Awareness Program (WEAP) training for all earth moving personnel and their supervisors. WEAP materials shall be developed and distributed to construction personnel over the lifetime of the Program. The program shall inform personnel of the types of artifacts and features that may be encountered, the procedures to be followed if archaeological materials are unearthed during program excavation, contact information for the archaeological and Consulting Tribe personnel, and the regulatory requirements for the protection of archaeological resources including penalties for violations.			

ID	Mitigation Measures	Monitoring Action	Responsible Party	1. Enforcement Agency 2. Monitoring Phase
	The archaeological monitor shall be present for all ground-disturbing activities in native soil (i.e., undisturbed, non-fill sediments) within the Balboa Double Track Extension and Lancaster Terminal Improvements sites. Within the Canyon Siding Extension capital improvement area, the archaeological monitor shall be present for all ground-disturbing activities within the ESA, including those in disturbed fill sediments. During ground-disturbing activities outside of the ESA within the Canyon Siding Extension capital improvement area, archaeological monitoring shall be limited to ground-disturbing activities within native soil only. All archaeological monitors, working under the supervision of the Program Archaeologist, shall have construction monitoring experience and be familiar with the types of historical and prehistoric resources that could be encountered. A sufficient number of archaeological monitors shall be present each workday to ensure that simultaneously occurring ground disturbing activities receive thorough levels of monitoring coverage. The Program Archaeologist shall have the ability to recommend, with written and photographic justification, the reduction or termination of monitoring efforts to the Lead Agency (i.e., Metro), and should the Lead Agency and the Consulting Tribes concur with this assessment, then monitoring shall be reduced or ceased. If an inadvertent discovery of archaeological materials is made during program-related construction activities, the archaeological monitor shall have the authority to halt ground disturbing activities within 50 feet of the resource(s) and an ESA physical demarcation shall be constructed. The Program Archaeologist and Lead Agency shall be notified regarding the discovery. If prehistoric or potential TCRs are identified within disturbed or native sediments, the Consulting Tribes shall be notified. The procedures outlined in CRMP shall then be implemented.			

ID	Mitigation Measures	Monitoring Action	Responsible Party	1. Enforcement Agency 2. Monitoring Phase
GEOLOGY, SOILS, AND PALEONTOLOGICAL RESOURCES				
GEO-1	Prior to the construction of the Proposed Project, Metro shall develop a geotechnical design report to address geological, seismic, and soil-related constraints encountered by the Project. The Proposed Project shall be designed based on the latest versions of local and state building codes and regulations in order to construct seismically resistant structures that help counteract the adverse effects of ground shaking. During final design, site-specific geotechnical investigations shall be performed at the sites where structures are proposed within liquefaction-prone designated areas. The investigations shall include exploratory soil borings with groundwater measurements. The exploratory soil borings shall be advanced, at a minimum, to the depths required by local and state jurisdictions to conduct liquefaction analyses. Similarly, the investigations shall include earthquake-induced settlement analyses of the dry substrata (i.e., above the groundwater table). The investigations shall also include seismic risk solutions to be incorporated into the final design (e.g., deep foundations, ground improvement, remove and replace) for those areas where liquefaction potential may be experienced. The investigation shall include stability analyses of slopes located within earthquake-induced landslide areas and provide appropriate slope stabilization measures (e.g., retaining walls, slopes with shotcrete faces, slopes re-grading). The geotechnical investigations and design solutions shall follow the “Guidelines for Evaluating and Mitigating Seismic Hazards in California” Special Publication 117A of the California Geologic Service, as well as Metro’s Design Criteria and the latest federal and state seismic and environmental requirements.	Prepare final geotechnical design report. Incorporate recommendations into final design.	Lead Engineer/ Geotechnical Consultant	1. Metro 2. Final Design

ID	Mitigation Measures	Monitoring Action	Responsible Party	1. Enforcement Agency 2. Monitoring Phase
PAL-1	Full-time paleontological monitoring shall be implemented when Saugus Formation (QTs, Tsr), Pico Formation (Tps, Tp), Towsley Formation (Ttos), or older sedimentary deposits (Qog, Qoa) are impacted. Excavations into artificial fill (af) and younger sedimentary deposits (Qf, Qyfc, Qa, Qg) shall be initially spot-checked during excavations that exceed depths of 5 feet to check for underlying, paleontologically sensitive older sedimentary deposits. If it is determined that only artificial fill (af), modern alluvial fan deposits (Qf), younger alluvial fan deposits (Qyfc), alluvial gravel, and clay of valley areas (Qa), or stream channel deposits (Qg) are impacted, the monitoring program may be reduced or suspended.	Retain qualified paleontologist. Monitor excavation activities.	Metrolink/Metro Construction Contractor	1. Metro 2. Final Design
PAL-2	Prior to construction, a Paleontological Resources Impact Mitigation Program (PRIMP) shall be prepared that provides detailed recommended monitoring locations; a description of a paleontological resources worker environmental awareness program to inform construction personnel of the potential for fossil discoveries and of the types of fossils that may be encountered; detailed procedures for monitoring, fossil recovery, laboratory analysis, and museum curation; and notification procedures in the event of a fossil discovery by a paleontological monitor or other project personnel. A curation agreement from the NHMLA, or another accredited repository, shall also be obtained prior to excavation in the event that paleontological resources are discovered during the construction phase of the Project.	Prepare PRIMP. Implement recommendations of the PRIMP.	Metrolink/Metro Construction Contractor	1. Metro 2. Final Design

ID	Mitigation Measures	Monitoring Action	Responsible Party	1. Enforcement Agency 2. Monitoring Phase
GREENHOUSE GAS EMISSIONS				
GHG-1	The following control techniques shall be included in project specifications and shall be implemented by the construction contractor: • Prepare a comprehensive inventory list of all heavy-duty off-road (portable and mobile) equipment (50 horsepower and greater) (i.e., make, model, engine year, horsepower, emission rates) that could be used an aggregate of 40 or more hours throughout the duration of construction to demonstrate how the construction fleet is consistent with the requirements of Metro's Green Construction Policy. • Ensure that all construction equipment is properly tuned and maintained. • Minimize idling time to 5 minutes, whenever feasible, which saves fuel and reduces emissions. • Utilize existing power sources (e.g., power poles) or clean fuel generators rather than temporary diesel power generators. • Arrange for appropriate consultations with CARB or SCAQMD to determine registration and permitting requirements prior to equipment operation at the site and obtain CARB Portable Equipment Registration with the state or a local district permit for portable engines and portable engine-driven equipment units used at the project work site, with the exception of on-road and off-road motor vehicles, as applicable.	Incorporate contractor responsibilities into applicable construction documents.	Metrolink/Metro Construction Contractor	1. Metro 2. Final Design/ Pre-Construction

ID	Mitigation Measures	Monitoring Action	Responsible Party	1. Enforcement Agency 2. Monitoring Phase
GHG-2	In compliance with Metro's Green Construction Policy, all off-road diesel powered construction equipment greater than 50 horsepower shall comply with USEPA Tier 4 final exhaust emission standards (40 CFR Part 1039). In addition, if not already supplied with a factory-equipped diesel particulate filter, all construction equipment shall be outfitted with best available control technology devices certified by the CARB. Any emissions control device used by the contractor shall achieve emissions reductions that are no less than what could be achieved by a Level 3 diesel emissions control strategy for a similarly sized engine, as defined by CARB regulations. In addition to the use of Tier 4 equipment, all off-road construction equipment shall be fueled using 100 percent renewable diesel.	Incorporate contractor responsibilities into applicable construction documents.	Metrolink/Metro Construction Contractor	1. Metro 2. Final Design/ Pre-Construction
HAZARDS AND HAZARDOUS MATERIALS				
HAZ-1	Prior to the start of construction, the contractor shall provide Metro/ Metrolink with an industrial waste management plan and/or a waste and hazardous materials management plan, such as a plan defined in Title 19 California Code of Regulations or a Spill Prevention, Control, and Countermeasure Plan. These plans shall be completed to Metro/ Metrolink contractor specifications and will identify the responsible parties and outline procedures for hazardous waste and hazardous materials worker training, certifications, handling, storage, and transport during construction of the Project. The plan shall specify how the contractor will handle and manage wastes onsite, including: • Prescribe Best Management Practices (BMPs) to follow to prevent hazardous material releases and cleanup of any hazardous material releases that may occur. • Comply with the SWRCB Construction CWA Section 402 General Permit conditions and requirements for transport, labeling, containment, cover, and other BMPs for storage of hazardous materials during construction.	Prepare industrial waste management plan. Implement industrial waste management plan Comply with federal and state regulations for hazardous material handling and storage.	Metrolink/Metro Construction Contractor	1. Metro 2. Pre-Construction/ Construction

ID	Mitigation Measures	Monitoring Action	Responsible Party	1. Enforcement Agency 2. Monitoring Phase
	During construction, the contractor shall comply with applicable federal and state regulations that consider hazardous material handling and storage practices, such as RCRA, CERCLA, the Hazardous Materials Release Response Plans and Inventory Law, and the Hazardous Waste Control Act.			
HAZ-2	Prior to the start of construction, the construction contractor shall retain a qualified environmental consultant to prepare a Soil Management Plan, Soil Reuse Management Plan, Groundwater Management Plan, and/or Soil, Soil Vapor, and Groundwater Management Plan. These plans shall be completed to Metro/ Metrolink's contractor specifications and submitted to Metro/ Metrolink prior to any ground-disturbing activities for the project. Alternatively, soil, soil vapor, and/or groundwater plans shall be prepared separately and then compiled together as a Soil, Soil Vapor, and Groundwater Management Plan.	Retain qualified environmental hazards consultant. Prepare Soil Management Plan. Prepare Soil Reuse Management Plan. Prepare Groundwater Management Plan or Soil, Soil Vapor, and Groundwater Management Plan. Implement applicable soil management plans.	Metrolink/Metro Construction Contractor	1. Metro 2. Pre-Construction/ Construction
HAZ-3	Consistent with Metro's standard practice, prior to the start of construction, the contractor shall provide Phase I Environmental Site Assessments (ESAs) in accordance with standard American Society for Testing and Materials (ASTM) methodologies, to assess the land use history of each parcel that would be acquired for the Project. The determination of parcels that require a Phase II ESA (i.e., soil, groundwater, soil vapor subsurface investigations) shall be evaluated after the Phase I ESAs have been completed and would be based on the results of the Phase I ESAs. Specifically, if the Phase I ESAs identify suspected contamination in the soil, soil vapor, or groundwater; a Phase II ESA shall be conducted to determine whether the suspect contamination had resulted in soil, groundwater, or soil vapor contamination exceeding regulatory action levels.	Prepare Phase I ESA. Prepare Phase II ESA as applicable. Incorporate contractor responsibilities associated with recommendations in the applicable Phase I and/or Phase II ESA documentation into applicable construction documents. Perform site remediation or corrective action, as applicable.	Metrolink/Metro Construction Contractor	1. Metro 2. Pre-Construction/ Construction

ID	Mitigation Measures	Monitoring Action	Responsible Party	1. Enforcement Agency 2. Monitoring Phase
	If the Phase II ESA concludes that the site is impacted, remediation or corrective action (e.g., removal of contamination, in-situ treatment, capping) shall be conducted prior to or during construction under the oversight of federal, state, and/or local agencies (e.g., United States Environmental Protection Agency (USEPA), Department of Toxic Substances Control (DTSC), Regional Water Quality Control Board (RWQCB), Los Angeles County) and in full compliance with current and applicable federal and state laws and regulations. Additionally, Voluntary Cleanup Agreements shall be used for parcels where remediation or long-term monitoring is necessary.			
HAZ-4	The Balboa Double Track Extension shall be designed in accordance with the City of Los Angeles Municipal Code, Chapter IX, Building Regulations, Article 1, Division 71, Methane Seepage Regulations, as amended by the City of Los Angeles Methane Ordinance (No. 175790). Specific requirements shall be determined according to actual methane levels and pressures measured along the Affected Area, and the specific requirements shall be incorporated into the design and construction.	Verify compliance with City of Los Angeles Building Code Methane Regulations	Metrolink/Metro Project Engineer	1. Metro 2. Final Design/ Pre-Construction
HYDROLOGY AND WATER QUALITY				
WQ-1	During construction, Metro/ Metrolink shall prepare a Stormwater Pollution Prevention Plan (SWPPP) in compliance with the provisions of the NPDES General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities (CGP) (Order No. 2009-0009-DWQ, NPDES No. CAS000002) and any subsequent amendments (Order No. 2010-0014-DWQ and Order No. 2012-0006-DWQ), as they relate to project construction activities within the Balboa Double Track Extension, Canyon Siding Extension, and/or Lancaster Terminal Improvements sites. Construction activities shall not commence until a waste discharger identification number is received from the Stormwater Multiple Application and Report Tracking System.	Incorporate contractor responsibilities into applicable construction documents. Prepare and submit Notice of Intent. Prepare SWPPP. Implement SWPP. Prepare and submit Notice of Termination.	Metrolink/Metro Construction Contractor	1. Metro 2. Final Design/ Permitting

ID	Mitigation Measures	Monitoring Action	Responsible Party	1. Enforcement Agency 2. Monitoring Phase
	The contractor for each capital improvement shall implement all required aspects of the SWPPP during project construction.			
WQ-2	Metro/ Metrolink shall comply with the NPDES Waste Discharge Requirements for MS4 Discharges within the Coastal Watersheds of Los Angeles County (Order No. 2012-0175, NPDES No. CAS004001), effective December 28, 2012 (known as the Phase I Permit) and NPDES General Permit for Storm Water Discharges From Small Municipal Separate Storm Sewer Systems (NPDES No. CAS000004), as applicable. This post-construction requirement shall apply to each of the capital improvement sites. Metro/ Metrolink shall prepare a final Low Impact Design (LID) report in accordance with the applicable local LID Manual. These include the City of Los Angeles Planning and Land Development Handbook for Low Impact Development, May 9, 2016 and the County of Los Angeles Department of Public Works Low Impact Development Standards Manual, February 2014. The LID report shall identify the required BMPs to be in place prior to project operation and maintenance.	Incorporate contractor responsibilities into applicable construction documents. Prepare LID report.	Metrolink/Metro Construction Contractor	1. Metro 2. Final Design/ Permitting
WQ-3	In the event that groundwater is encountered during excavation, the construction contractor for each capital improvement site where groundwater is present shall comply with the provisions of the General Waste Discharge Requirements for Discharges of Groundwater from Construction and Project Dewatering to Surface Waters in Coastal Watersheds of Los Angeles and Ventura Counties (Order No. R4-2013-0095, NPDES Permit No. CAG994004), effective July 6, 2013 (known as the Dewatering Permit), or NPDES General Permit for Limited Threat Discharges to Surface Waters (Order No. R6T-2014-009, NPDES Permit No. CAG996001) as they relate to discharge of non-stormwater dewatering wastes. The two options to discharge shall be to the local storm drain system and/or to the sanitary sewer system, and the contractor shall obtain a permit from the RWQCB and/or the City of Los Angeles, respectively.	Incorporate contractor responsibilities into applicable construction documents. Obtain dewatering permits as applicable	Metrolink/Metro Construction Contractor	1. Metro 2. Final Design/ Permitting

ID	Mitigation Measures	Monitoring Action	Responsible Party	1. Enforcement Agency 2. Monitoring Phase
WQ-4	In the event that groundwater is encountered during excavation associated with Canyon Siding Extension, the contractor shall comply with the provisions of the General Waste Discharge Requirements for Discharges of Treated Groundwater from Investigation and/or Cleanup of VOC Contaminated Sites to Surface Waters in Coastal Watersheds of Los Angeles and Ventura Counties (Order No. R4-2013-0043, NPDES Permit No. CAG914001), effective April 7, 2013 (known as the Dewatering Permit for contaminated sites), for discharge of non-stormwater dewatering wastes from contaminated sites impacted during construction. The two options to discharge shall be to the local storm drain system and/or to the sanitary sewer system, and the contractor shall require a permit from the RWQCB and/or the City of Santa Clarita, respectively.	Incorporate contractor responsibilities into applicable construction documents. Obtain dewatering permits as applicable.	Metrolink/Metro Construction Contractor	1. Metro 2. Final Design/ Permitting
WQ-5	Metro/ Metrolink shall comply with the NPDES General Permit for Stormwater Discharges Associated with Industrial Activities (IGP; Order No. 2014-0057-DWQ, NPDES No. CAS000001) for demolished, relocated, or new industrial-related properties impacted by the project. This shall include preparation of industrial SWPPP(s), as applicable.	Incorporate contractor responsibilities into applicable construction documents. Prepare industrial SWPPP.	Metrolink/Metro Construction Contractor	1. Metro 2. Final Design/ Permitting
NOISE AND VIBRATION				
NV-1	Metro/ Metrolink's contractor shall develop a Noise Control Plan demonstrating how noise criteria would be achieved during construction. The Noise Control Plan shall be designed to follow Metro requirements, include construction noise control measures, measurements of existing noise, a list of the major pieces of construction equipment that would be used, and predictions of the noise levels at the closest noise-sensitive receivers (residences, hotels, schools, churches, temples, and similar facilities). The Noise Control Plan shall be approved by Metro/ Metrolink prior to initiating construction. Where the construction cannot be performed in accordance with the local noise ordinances construction noise standards, the contractor would investigate alternative construction	Incorporate contractor responsibilities into applicable construction documents. Prepare Noise Control and Monitoring Plan. Implement Noise Control and Monitoring Plan.	Metrolink/Metro Construction Contractor	1. Metro 2. Final Design/ Construction

ID	Mitigation Measures	Monitoring Action	Responsible Party	1. Enforcement Agency 2. Monitoring Phase

measures that would result in lower sound levels. The noise limits for each jurisdiction are shown in the following table, NV-1 Noise Limits.

NV-1 Noise Limits

Land Use	Noise Limit – Daytime [1] L_{eq} (dBA)	Noise Limit – Nighttime L_{eq} (dBA)
Any Residential – City of Los Angeles	Ambient +5 dBA	Ambient +5 dBA [2]
Single-Family Residential – Santa Clarita and Lancaster	75 [2]	60 [2, 3]
Multi-Family Residential – Santa Clarita and Lancaster	80 [2]	64 [2, 3]
Commercial	85 [2]	n/a [4]

[1] Daytime is defined as follows:
Los Angeles: 7 am – 9 pm (Mon-Fri), 8 am – 6 pm (Sat)
Santa Clarita: 7 am – 7 pm (Mon – Fri), 8 am – 6 pm (Sat)
Lancaster: 7 am – 8 pm (Mon – Sat)
[2] L.A County Code Limit
[3] Recommended limit if written permission is allowed for work outside of the "Daytime" defined hours
[4] Commercial properties are not typically sensitive at night.

The contractor would conduct noise monitoring to demonstrate compliance with contract noise limits. Noise-reducing methods that may be implemented by Metro/ Metrolink include:

- If nighttime construction is planned, a noise variance may be prepared by the contractor, if required by the jurisdiction, that demonstrates the implementation of control measures to achieve noise levels as close to the nighttime limits of the applicable City of Los Angeles, City of Santa Clarita or City of Lancaster standards as possible.
- Use specialty equipment with enclosed engines, acoustically attenuating shields, and/or high-performance mufflers.
- Locate equipment and staging areas away from noise-sensitive receivers.
- Limit unnecessary idling of equipment.
- Install temporary noise barriers, noise control curtains, and/or noise enclosures. This approach can be particularly effective for stationary noise sources such as compressors and generators. These methods may not be

ID	Mitigation Measures	Monitoring Action	Responsible Party	1. Enforcement Agency 2. Monitoring Phase
	effective for elevated receivers; blocking line-of-sight is necessary. • Reroute construction-related truck traffic away from local residential streets and/or sensitive receivers. • Avoid impact pile driving where possible. Where geological conditions permit, the use of drilled piles or a vibratory pile driver is generally quieter. • Use electric instead of diesel-powered equipment and hydraulic instead of pneumatic tools. • Where possible, minimize the use of impact devices such as jackhammers and hoe rams, using concrete crushers and pavement saws instead. • If all conventional noise control measures cannot achieve the noise levels of the applicable City of Los Angeles, City of Santa Clarita or City of Lancaster standards and unavoidable excessive exceedances of the noise limits are predicted, Metro/ Metrolink shall offer to temporarily relocate residents to a hotel. The Noise Control Plan shall define excessive exceedance of the noise limits and shall be approved by Metro/ Metrolink.			
NV-2	Specific measures to be employed to reduce or mitigate construction vibration impacts shall be developed by the contractor and presented in the form of a Vibration Monitoring Plan as part of the Noise Control Plan. Measurements shall be taken during peak vibration generating construction activities, and the results must be submitted to Metro/ Metrolink on a weekly basis. The following precautionary vibration mitigation strategies should be implemented to minimize the potential for damage to any structures and annoyance to occupants in the Project area: • **Alternative Construction Procedures**: If high-vibration construction activities must be performed close to structures, it may be necessary for the contractor to use an alternative procedure that produces lower vibration	Incorporate contractor responsibilities into applicable construction documents. Prepare Vibration Control Plan. Implement Vibration Control Plan.	Metrolink/Metro Construction Contractor	1. Metro 2. Final Design/ Construction

ID	Mitigation Measures	Monitoring Action	Responsible Party	1. Enforcement Agency 2. Monitoring Phase
	levels. Examples of high-vibration construction activities include the use of vibratory compaction or hoe rams next to sensitive buildings. Alternative procedures include use of non-vibratory compaction in limited areas and a concrete saw in place of a hoe ram to break up pavement. • **Occupant Temporary Relocation.** When construction or demolition must occur very close to the receiver, other less conventional vibration reduction techniques shall be employed. A vibration disturbance coordinator shall be established for affected sensitive occupants regarding vibration annoyance. Vibration levels shall be monitored at the affected uses to determine if vibration levels exceed the vibration annoyance criteria of 0.016 inches per second at residential uses and 0.022 inches per second at commercial uses during construction activity. If construction vibration results in exceedances of the vibration annoyance criteria, occupants shall be temporarily relocated to a hotel during construction times when vibration will be the greatest and most intrusive. Construction activities in non-residential areas shall be scheduled during non-operational hours of commercial uses.			
TRANSPORTATION				
TR-1	During the final engineering phase and at least 30 days prior to construction of each capital improvement, a construction Traffic Management Plan (TMP) shall be prepared by the contractor for each capital improvement including the Balboa Double Track Extension in the City of Los Angeles, the Canyon Siding Extension in the City of Santa Clarita, and the Lancaster Terminal Improvements in the City of Lancaster. Each TMP shall be reviewed and approved by Metro/ Metrolink, City of Los Angeles, City of Santa Clarita, City of Lancaster, and Caltrans, where applicable. The TMP shall identify proposed detour routes and construction traffic routes, including haul truck routes and preferred delivery/haul-out	Incorporate contractor responsibilities into applicable construction documents. Prepare a TMP. Implement TMP during construction.	Metrolink/Metro Construction Contractor	1. Metro 2. Final Design/ Construction

ID	Mitigation Measures	Monitoring Action	Responsible Party	1. Enforcement Agency 2. Monitoring Phase
	locations and hours. Lane and/or road closures shall be scheduled in consultation with the local public works departments associated with each capital improvement site to minimize disruptions to community traffic. The nearest local fire responders shall be notified, as appropriate, of traffic control plans, and lane and/or road closures as well as detour routes and construction vehicle routes shall be coordinated with fire responders to minimize disruptions to emergency response routes. The TMP shall identify pedestrian and bicycle circulation and access detours in and around the affected stations, as well as temporary bus stop locations and signage, as applicable.			
TR-2	During final engineering design and prior to construction, Metro shall establish rail operating agreements and/or memoranda with Metrolink and Union Pacific Railroad (UPRR) to outline mutually agreed upon work windows and contractor operating restrictions. Such agreements shall identify performance objectives such as maximum allowed dwell times and/or on-time performance requirements to be achieved throughout construction, and how construction sequencing and railroad operational protocols would be incorporated into applicable construction documents (plans and specifications) and implemented to maintain the mutually agreed upon performance objectives during construction. Prior to construction, Metro/ Metrolink and the construction contractor shall prepare detailed construction phasing plans for each phase of construction that identify appropriate means and methods to maintain mutually agreed upon on-time performance objectives while minimizing impacts on pedestrians and passengers at Santa Clarita Station and/or Lancaster Terminal. Prior to construction, Metro and the construction contractor shall also coordinate with current rail operators to establish temporary construction detours for passengers at the Santa Clarita Station and Lancaster Terminal that correspond to detailed construction phasing plans to minimize impacts on passenger transfer times.	Establish rail operating agreement with Metrolink and UPRR. Prepare construction phasing plans. Establish passenger detours. Conduct as needed construction coordination meetings with Metrolink and UPRR.	Metrolink/Metro Construction Contractor	1. Metro 2. Pre-Construction/ Construction

ID	Mitigation Measures	Monitoring Action	Responsible Party	1. Enforcement Agency 2. Monitoring Phase
	Detailed construction phasing plans shall be deemed acceptable by Metrolink prior to commencement of construction activities that could affect regular Metrolink operations. Throughout the duration of construction, Metro/ Metrolink shall solicit UPRR's participation, as-needed, in construction coordination meetings to evaluate the efficiency of the measures in place and Metro/ Metrolink and the construction contractor shall implement changes to means and methods during construction to ensure the performance objectives are maintained at an acceptable level throughout construction.			
TRIBAL CULTURAL RESOURCES				
TCR-1	Mitigation Measure **CUL-1** pertains specifically to archaeological involvement. The involvement of the Fernandeño Tataviam Band of Mission Indians and Gabrieleno Band of Mission Indians – Kizh Nation (Consulting Tribes) is detailed in Mitigation Measure **TCR-1**. For the purposes of Mitigation Measures **CUL-1** and **TCR-1**, ground disturbing activities include, but are not limited to, excavation, trenching, grading, and drilling. In addition to the Program Archaeologist and archaeological monitor, a Native American monitor from the Consulting Tribes shall be retained to monitor earth-moving activities. Native American monitoring shall be conducted on a rotational basis between the Consulting Tribes (Fernandeño Tataviam Band of Mission Indians and Gabrieleno Band of Mission Indians – Kizh Nation) during these construction activities, and attendance is ultimately at the discretion of the Consulting Tribes. Prior to commencement of any grading activities on site, the Program Archaeologist shall prepare a Cultural Resources Monitoring Plan (CRMP). The CRMP shall be reviewed by the Lead Agency and Consulting Tribes. The CRMP should include at a minimum: (1) the roles and responsibilities of the Program Archaeologist, archaeological monitor, and Native	Retain Consulting Tribal Monitor(s) for all ground disturbing activities as defined in Mitigation Measure**TCR-1**. Incorporate Native American Monitoring requirements into the CRMP. Implement CRMP Native American Monitoring requirements.	Metrolink/Metro Construction Contractor	1. Metro 2. Pre-Construction/ Construction

ID	Mitigation Measures	Monitoring Action	Responsible Party	1. Enforcement Agency 2. Monitoring Phase
	American monitor; (2) the definition of an Environmentally Sensitive Area (ESA) around the previously-identified prehistoric resources adjacent to the Canyon Siding Extension capital improvements area, (3) a description of monitoring procedures; (4) a description of the frequency of monitoring (e.g., full-time, part-time, spot checking); (5) a description of what types of resources may be encountered; (6) a description of circumstances that would result in the halting of work at the program site (e.g., what is considered a "significant" archaeological site); (7) a description of procedures to follow when a resource is encountered including curation procedures agreed upon by the Consulting Tribes; (9) communication/notification protocols; and (8) a description of monitoring reporting procedures. At the commencement of construction, Native American representatives from the Consulting Tribes shall provide a Worker Environmental Awareness Program (WEAP) training for all earth moving personnel and their supervisors. WEAP materials shall be developed and distributed to construction personnel over the lifetime of the program. The program shall inform personnel of the types of artifacts and features that may be encountered, the procedures to be followed if archaeological materials are unearthed during program excavation, contact information for the archaeological and Consulting Tribe personnel, and the regulatory requirements for the protection of archaeological resources including penalties for violations. The Native American monitor shall be present for all ground-disturbing activities in native soil (i.e., undisturbed, non-fill sediments) within the Balboa Double Track Extension and Lancaster Terminal Improvements sites. Within the Canyon Siding Extension site, the Native American monitor shall be present for all ground-disturbing activities within the ESA, including those in disturbed fill sediments. During ground-disturbing activities outside of the ESA within the Canyon Siding Extension capital improvement area, Native American			

ID	Mitigation Measures	Monitoring Action	Responsible Party	1. Enforcement Agency 2. Monitoring Phase
	monitoring shall be limited to ground-disturbing activities within native soil only. A sufficient number of Native American monitors shall be present each workday to ensure that simultaneously occurring ground disturbing activities receive thorough levels of monitoring coverage. If an inadvertent discovery of archaeological materials is made during program-related construction activities, the Native American monitor shall have the authority to halt ground disturbing activities within 50 feet of the resource(s) and an ESA physical demarcation shall be constructed. The Program Archaeologist, Lead Agency, and Consulting Tribes shall be notified regarding the discovery. The procedures outlined in CRMP shall then be implemented.			

SOURCE: Terry A. Hayes Associates Inc., 2021.