Los Angeles County
Metropolitan Transportation Authority

Appendix D Environmental Commitments Record

EASTSIDE TRANSIT CORRIDOR PHASE 2

Metro

May 2026

Table 1. Environmental Commitments Record

Environmental Resource	Avoidance, Minimization, and Mitigation Measures	Timing	Responsible Party	Action to Comply
Air Quality	None.	—	—	—
Biological Resources	**NMM BIO-1 (Nesting Birds).** Prior to the implementation of construction activities (e.g., demolition of structures, excavation, grading, construction of access roads) that would result in removal of or disturbances to vegetation providing bird nesting habitat, prior to pile driving near active bird nests, and prior to tree trimming during the maintenance period, the following shall occur: ▪ If construction is scheduled to occur during the bird nesting season (generally February 15 through September 15, and as early as January 1 for some raptors), vegetation that will be impacted by the Project shall be removed in advance of the construction activities and outside the nesting season, if feasible, to avoid take of birds, including raptors, or their eggs. ▪ If this is not feasible, prior to the implementation of construction activities, one nesting bird survey shall be conducted up to 72 hours prior to construction or maintenance that shall remove or disturb suitable nesting habitat during the breeding season. The survey shall be performed by a biologist with experience conducting breeding bird surveys. The biologist shall prepare a survey report within 24 hours of conducting the survey, documenting the presence or absence of any active nest of a migratory bird. ▪ If an active nest is located, an appropriate no-work buffer shall be established by the project biologist and vegetation removal within the buffer shall be postponed until the nest is vacated and juveniles have fledged and when there is no evidence of a second attempt at nesting. If vegetation is not removed within 72 hours of a nesting bird survey, a qualified biologist will conduct one updated nesting bird survey.	Pre-construction, 3-year tree establishment maintenance period	Metro, construction contractor	Implement measures to avoid nesting birds prior to pile driving and the construction and maintenance period that would remove or disturb vegetation and structures providing bird nesting habitat. If construction would occur during nesting season, remove vegetation prior to nesting season or conduct nesting bird survey. If active nests are identified, establish a no-work buffer around the nest.
Community Impacts	As set forth in NPM TRA-1 through NPM-TRA-4, NPM EFI-1, and NPM NOI-2, operational and construction best management practices would be implemented for transportation, economics, and noise, respectively. NMM TRA-2, NMM NOI-1 through NMM NOI-10, NMM NOI-13, and NMM NOI-14 would be implemented to reduce adverse effects related to transportation and noise during construction. (Refer to noise and vibration, economic impacts and transportation measures).	Refer to Noise and Vibration, Economic Impacts and Transportation	Refer to Noise and Vibration, Economic Impacts and Transportation	Refer to Noise and Vibration, Economic Impacts and Transportation.
Historic, Archaeological, and Tribal Resources	**NMM CUL-1 (Protection Measures – Differential Settlement/Vibration/ Tunnel Boring Machine [TBM] Specifications for CVS Pharmacy [CVS]/Golden Gate Theater)**. ▪ Metro/Metro's contractor shall conduct a pre-construction baseline survey and building protection report, implement building protection measures as specified in the building protection report, and conduct a post-construction survey of the CVS/Golden Gate Theater in relation to Guideway Alignment construction adjacent to the historic property. Building protection measures shall be implemented in conjunction with NMM NOI-1 through NMM NOI-14. ▪ Metro/Metro's contractor shall conduct a pre-construction survey to establish baseline, pre-construction conditions and to assess the building category and the potential for ground-borne vibration to cause damage. Geotechnical investigations shall be undertaken to evaluate soil, groundwater, seismic, and environmental conditions along the alignment. This analysis shall inform the development of appropriate support mechanisms for cut and fill construction areas or areas that could experience differential settlement as a result of using a TBM in proximity to the historic property. An architectural historian or historical architect who meets the Secretary of the Interior's Professional Qualification Standards (36 Code of Federal Regulation [CFR] Part 61) shall review final design documents prior to implementation of measures. ▪ Metro/Metro's contractor shall implement building protection measures as identified in the building protection report to protect the structure from vibration damage. This may include methods such as underpinning, soil grouting, or other forms of ground improvement, as well as lower vibration equipment and/or construction techniques. If the building protection report determines the historic property has the potential to be impacted by differential settlement caused by TBM construction, appropriate building protection measures shall be identified and implemented such as the use of an earth pressure balance or slurry shield TBM. The implementation of the required measures and their effectiveness shall be documented in a post-construction survey. ▪ A post-construction survey shall also be undertaken to ensure that damage has not occurred to historic properties. An architectural historian or historical architect who meets the Secretary of the Interior's Professional Qualification Standards (36 CFR Part 61) shall prepare an assessment of the implementation of the mitigation measures.	Pre-construction, construction, post-construction	Metro, construction contractor	Prepare pre-construction baseline survey and building protection report. Final design documents to be reviewed by a qualified historian or historical architect. Implement building protection measures based on results of the building protection report. Conduct post-construction survey with a mitigation measure implementation assessment prepared by qualified architectural historian or historical architect.

Environmental Resource	Avoidance, Minimization, and Mitigation Measures	Timing	Responsible Party	Action to Comply
Historic, Archaeological, and Tribal Resources	**NMM CUL-2 (Unknown Archaeological Resources**). ▪ Prior to any ground-disturbing activities, all construction personnel involved in ground-disturbing activities shall be provided with project/site specific cultural resources training conducted by a qualified archaeologist that meets the standards of the Secretary of the Interior. The training shall instruct the personnel regarding the legal framework protecting cultural resources, typical kinds of cultural resources that may be found within the Project area, and proper procedures and notifications to implement if cultural resources are inadvertently discovered, and that removal of cultural resources can result in legal action. ▪ In addition, Metro shall retain a qualified archaeologist that meets the standards of the Secretary of the Interior to prepare a Project-wide Cultural Resources Monitoring and Mitigation Plan (CRMMP) that shall be implemented during construction. This document shall address areas where potentially significant precontact and historic archaeological deposits are likely to be located within the APE based on background research and a geoarchaeological analysis. ▪ The CRMMP shall include a detailed precontact and historic context that clearly demonstrates the themes under which any identified subsurface deposits would be determined significant. Should significant deposits be identified during earth-moving activities, avoidance is the preferred method of mitigation. If avoidance is not feasible, the CRMMP shall address methods for data recovery, anticipated artifact types, artifact analysis, report writing, repatriation of human remains and associated grave goods, and curation of historic materials. If any potentially eligible resources are identified, FTA will be notified. ▪ The CRMMP shall also require that a qualified Archaeologist in precontact and historical archaeology (36 Code of Federal Regulation Part 61) be retained prior to ground-disturbing activities. The CRMMP shall be a guide for monitoring activities. If buried cultural resources, such as flaked or ground stone, historic debris, building foundations, or non-human bone, are discovered during ground-disturbing activities, halt work in that area and within 50 feet of the find until a qualified archaeologist can assess the significance of the find and, if necessary, develop appropriate treatment measures. Treatment measures typically include development of avoidance strategies, capping with fill material, or mitigation of impacts through data recovery programs such as excavation or detailed documentation. As detailed in NMM TCP-2, a Native American monitor shall l be retained if treatment involves work at a precontact site, or to monitor ground disturbing activities at other locations determined appropriate during Native American consultation. An archaeological monitor shall be retained for work at locations identified as sensitive during Native American consultation that require a tribal monitor or other locations identified as likely to contain archaeological resources. Identified areas shall be monitored by, or under the supervision of, the qualified Archaeologist, in accordance with the Project CRMMP. The CRMMP shall include the proper procedures and applicable regulations to follow in the event of discovery of human remains. If during cultural resources monitoring the qualified archaeologist determines that the sediments being excavated are previously disturbed or unlikely to contain significant cultural materials, the qualified archaeologist can specify that monitoring be reduced or eliminated.	Pre-construction, construction, post-construction	Metro, qualified archaeologist, Native American monitor	Prior to ground-disturbing activities within areas of archaeological sensitivity, a qualified archaeologist will provide cultural resources training for workers, including how to proceed if cultural resources are discovered. Complete pedestrian survey of private property parcels. Develop and implement a CRMMP as specified in the mitigation measure. If artifacts are encountered, halt work until a qualified archaeologist assesses and, if necessary, develops treatment measures. If treatment involves work at a prehistoric site, retain Native American monitor (see also NMM TCP-1).
Historic, Archaeological, and Tribal Resources	**NMM TCP-1 (Tribal Cultural Places [TCP] Training).** Prior to any ground-disturbing activities, all construction personnel involved in ground-disturbing activities shall be provided with project/site specific TCP training conducted by a qualified archaeologist or Native American Monitor. The training shall instruct the personnel regarding the legal framework protecting TCPs, typical kinds of TCPs that may be found within the project area, and proper procedures and notifications if TCPs are inadvertently discovered.	Pre-construction	Metro	Provide Tribal Cultural Resources training to all construction personnel involved in ground-disturbing activities.
Historic, Archaeological, and Tribal Resources	**NMM TCP-2 (Retain a Native American Monitor).** A Native American monitor shall be retained for work at locations identified as sensitive during Native American consultation and agreed upon between Metro and the Gabrieleño Band of Mission Indians-Kizh Nation Tribal Government. The monitor shall only be present on-site during the construction phases that involve ground disturbing activities where areas of ground disturbance and/or removed spoils are visible for inspection. If during cultural resources monitoring by a qualified archaeologist or Native American Monitor determines that the sediments being excavated are previously disturbed or unlikely to contain significant cultural materials, the qualified archaeologist or Native American Monitor can recommend that monitoring be reduced or eliminated.	Pre-construction, Construction	Metro	Retain a Native American monitor as specified in the mitigation measure for work at locations identified as sensitive during tribal consultation and agreed upon between Metro/FTA and the Gabrieleño Band of Mission Indians-Kizh Nation Tribal Government.

Environmental Resource	Avoidance, Minimization, and Mitigation Measures	Timing	Responsible Party	Action to Comply
Historic, Archaeological, and Tribal Resources	**NMM TCP-3 (Unknown Tribal Cultural Places [TCP]).** Metro shall retain a qualified archaeologist to prepare a project-wide Cultural Resources Monitoring and Mitigation Plan (CRMMP) that shall be implemented during construction. This document shall address areas where potentially significant precontact and historic archaeological deposits, and TCPs are likely to be located within the Area of Direct Impact (ADI) based on background research, a geoarchaeological analysis, and Native American consultation. The CRMMP shall encompass both archaeological and TCPs and shall be kept confidential. Preparation of the CRMMP shall necessitate the completion of pedestrian survey of the private property parcels in the Area of Potential Effects with direct impacts that were not accessible during the preparation of the Environmental Assessment. The CRMMP shall include a detailed precontact and historic context that clearly demonstrates the themes under which any identified resources shall be determined significant. Should significant deposits be identified during earth-moving activities, avoidance is the preferred method of mitigation. If avoidance is not feasible, the CRMMP shall address methods for data recovery, anticipated artifact types, artifact analysis, report writing, repatriation of human remains and associated grave goods, or other methods of disposition in consultation with the Tribe. The CRMMP shall also require that an archaeologist qualified in precontact and historical archaeology and a Native American monitor who is both approved by the Gabrieleño Band of Mission Indians-Kizh Nation Tribal Government and is listed under the Native American Heritage Commission's Tribal Contact list for the area of the project location be retained prior to ground-disturbing activities. The CRMMP shall be a guide for monitoring activities. If buried TCPs or cultural resources, such as flaked or ground stone, historic debris, building foundations, or non-human bone, are discovered during ground-disturbing activities, work shall stop in that area and within 50 feet of the find until a qualified archaeologist and Native American Monitor can assess the significance of the find and, if necessary, develop appropriate treatment measures. Metro shall assess the evidence of the find in consultation with affiliated Native American groups and make a determination on whether is meets criteria to be considered a TCP. If resources are Native American in origin and may also be TCPs, treatment of these resources shall be determined during Native American consultation. Treatment measures typically include development of avoidance strategies, capping with fill material, or mitigation of impacts through data recovery programs such as excavation or detailed documentation. The CRMMP shall include the proper procedures and applicable regulations to follow in the event of discovery of human remains.	Pre-construction, construction	Metro, qualified archaeologist / Native American monitor	Complete pedestrian survey of private property parcels. Develop and implement a CRMMP as specified in the mitigation measure. Retain qualified Native American monitor and qualified archaeologist with authority to stop work and develop treatment measures if buried resources are discovered (See also NMM CUL-2).
Economic Impacts	**NPM EFI-1 (Metro Joint Development Program and Metro Pilot Local Hiring Initiative)**. Project measures to address fiscal and economic impacts include the following: ▪ Upon completion of construction, property needed for construction but not required to maintain the physical infrastructure or necessary for access shall be evaluated for inclusion in the Metro Joint Development Program for possible income restricted housing development or other transit-supportive land use, or included in a report to Metro Real Estate Asset Management for Surplus Land Act (SLA) requirements before sale. Any subsequent development shall be environmentally cleared separately from this Project and would undergo its own community input process. ▪ Project work shall comply with the Metro Pilot Local Hiring Initiative (effective May 21, 2021), which requires contractors working on Metro construction projects to comply with certain targeted hiring requirements, including prioritizing local workers from Los Angeles County.	Post- Construction	Metro	Ensure the Build Alternative is in compliance with Metro Joint Development Program, Metro Real Estate Asset Management for Surplus Land Act requirements, and any subsequent development to be environmentally cleared separately.
Geology, Soils, and Paleontological Resources	**NPM GEO-1 (Geotechnical Investigation).** The Project shall be designed and constructed per the Metro Rail Design Criteria (MRDC). The MRDC incorporates various design specifications from the Federal Highway Administration (FHWA), California Department of Transportation (Caltrans), the State of California, the County of Los Angeles, and other sources by reference. Key compliance sections of the MRDC relative to geology and soils are Section 5.3, Section 5.4, Section 5.6, and MRDC Section 5 Appendix, Metro Supplemental Seismic Design Criteria. Section 5.6 of the MRDC provides detailed requirements for planning and conducting a geotechnical investigation, geotechnical design methodologies, and reporting. In addition, Caltrans and the Los Angeles County Building Code (based on the California Building Code [CBC]) have independent design criteria for aerial structures (Caltrans) and building structures (County of Los Angeles) that are also required. In accordance with the MRDC, geotechnical report recommendations shall be incorporated into the project plans and specifications. These recommendations shall be a product of final design and shall address potential subsurface hazards. Without these report recommendations, the project plans and specifications shall not be approved and the Project shall not be allowed to advance into the final design stage or into construction.	Pre-construction	Metro	Ensure the Build Alternative is designed in compliance with MRDC, the California Seismic Hazards Mapping Act, industry standards, and recommendations contained in the design level geotechnical report. Design the Project in compliance with applicable codes.
Geology, Soils, and Paleontological Resources	**NMM GEO-1 (Retaining a Qualified Paleontologist and a Qualified Paleontological Monitor).** Metro shall retain a qualified paleontologist, meeting the Society of Vertebrate Paleontology (2010) education guidelines, to supervise a qualified paleontological monitor to carry out the following tasks: Prepare a Paleontological Resource Mitigation and Monitoring Plan (PRMMP) that includes identification and mapping of the areas of high sensitivity to be monitored during construction. The PRMMP will be written by a qualified paleontologist. These areas are defined as all areas within the Older alluvium in the project site where planned excavation will exceed three feet below the surface or three feet into undisturbed sediments and all areas within the Younger alluvium in the project site where planned excavation will exceed 10 feet below the surface or 10 feet into undisturbed sediments. The qualified paleontologist shall supervise the qualified paleontological monitor to monitor excavation in areas identified as likely to contain paleontological resources with the exception of tunnel boring machines (TBM) excavation, where monitoring is infeasible. The qualified paleontologist shall retain the option to reduce monitoring if, in his or her professional opinion, sediments being monitored are previously disturbed. Monitoring may also be reduced if the potentially fossiliferous units are determined to have low potential to contain fossil resources.	Construction	Metro, qualified paleontologist / paleontological monitor	Retain qualified paleontologist and paleontological monitor to prepare a PRMMP and identify and monitor excavation areas where paleontological resources are likely to occur, excluding TBM excavation. Prepare and implement a PRMMP.

Environmental Resource	Avoidance, Minimization, and Mitigation Measures	Timing	Responsible Party	Action to Comply
Geology, Soils, and Paleontological Resources	**NMM GEO-2 (Ability to Readily Salvage Fossils and Samples of Sediment).** Monitoring for paleontological resources and salvage of fossils shall occur in compliance with the Paleontological Resource Mitigation and Monitoring Plan (PRMMP) required by mitigation measure NMM GEO-1. The PRMMP shall specify that the qualified paleontologist and the qualified paleontological monitor are equipped to salvage fossils and samples of sediment as they are unearthed to avoid construction delays and empowered to temporarily halt or divert equipment to allow removal of abundant or large specimens. Since Older alluvium yields small fossil specimens (microvertebrate fossils) likely to go unnoticed during typical large-scale paleontological monitoring, the PRMMP shall identify that matrix samples shall be collected and processed to determine the potential for small fossils to be recovered prior to substantial excavations in those sediments. If this sampling indicates that these units do possess small fossils, a matrix sample of 6,000 pounds shall be collected at various locations, to be specified by the paleontologist, within the construction area. These matrix samples shall also be processed for small fossils.	Construction	Metro, construction contractor, qualified paleontologist / paleontological monitor	Paleontological monitor to salvage fossils/sediment samples as they are unearthed in compliance with procedures identified in the PRMMP (NMM GEO-1).
Geology, Soils, and Paleontological Resources	**NMM GEO-3 (Ability to Identify and Permanently Preserve Specimens)**. The Paleontological Resource Mitigation and Monitoring Plan (PRMMP) required under mitigation measure NMM GEO-1 shall specify procedures for the discovery, recovery, preparation, and analysis of significant paleontological resources encountered during construction, in accordance with standards for recovery, reporting, and curation established by the Society of Vertebrate Paleontology (SVP). The qualified paleontologist shall make certain that recovered specimens be prepared to a point of identification and permanent preservation, including washing of sediments to recover small invertebrate and vertebrate fossils.	Construction, post-construction	Metro, qualified paleontologist / paleontological monitor	Prepare recovered specimens for identification and preservation, in compliance with procedures identified in the PRMMP (NMM GEO-1).
Geology, Soils, and Paleontological Resources	**NMM GEO-4 (Ability to Curate Specimen to a Professional Accredited Museum Repository)**. Curation of specimens shall occur in compliance with the Paleontological Resource Mitigation and Monitoring Plan (PRMMP) required by mitigation measure MM GEO-1. The PRMMP shall identify criteria for identifying specimens to be curated into a professional accredited museum repository with permanent retrievable storage and a curation agreement with the repository will be in place. A report of findings, with an appended itemized inventory of specimens, shall be prepared. The report and inventory, when submitted to the professional accredited museum repository, shall signify completion of the program to mitigate impacts to paleontological resources.	Construction, post-construction	Metro, qualified paleontologist / paleontological monitor	Catalogue and submit recovered specimens to a professional accredited museum repository in compliance with procedures identified in the PRMMP (NMM GEO-1).
Visual Resources	None.	—	—	—
Hazardous Materials	**NPM HAZ-1 (Operational Best Management Practices for Hazardous Materials).** Operational best management practices (BMP) for the Build Alternative shall include but not be limited to: ▪ Cleaning and maintenance products shall be required to be labeled with appropriate cautions and instructions for handling, storage and disposal. Staff shall be required to use, store, and dispose of these materials properly in accordance with label directions. ▪ Storage and disposal of hazardous materials and waste shall be conducted in accordance with all applicable federal and state regulatory requirements, such as the Resource Conservation and Recovery Act (RCRA), Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), the Hazardous Materials Release Response Plans and Inventory Law, and the Hazardous Waste Control Act, and if a spill does occur, it shall be remediated in accordance with all applicable federal and state regulatory requirements and in coordination with the California Department of Toxic Substances Control (DTSC) and/or Los Angeles Regional Water Quality Control Board (LARWQCB).	Pre-construction, construction, post-construction	Metro, construction contractor, maintenance contractor	Implement BMPs for the Build Alternative including using, storing, and disposing of hazardous materials in accordance with directions and regulatory requirements. Comply with regulations related to proper transportation, use, and storage of hazardous materials. Design all new light rail transit (LRT) guideway, stations, and crossings in accordance with MRDC. Coordinate with fire and police protection officials during design.

Environmental Resource	Avoidance, Minimization, and Mitigation Measures	Timing	Responsible Party	Action to Comply
Hazardous Materials	**NPM HAZ-2: (Construction Best Management Practices for Hazardous Materials).** Construction best management practices (BMPs) for the Build Alternative shall include but not be limited to: ▪ Metro/Metro's contractor shall be required to obtain permits and comply with appropriate regulatory agency standards designed to avoid hazardous waste releases in accordance with the United States Environmental Protection Agency (USEPA), State Water Resources Control Board (SWRCB), Department of Toxic Substances Control (DTSC), California Division of Occupational Safety and Health Administration (Cal/OSHA), and the South Coast Air Quality Management District (SCAQMD). ▪ Development of a stormwater pollution prevention plan (SWPPP) in accordance with the SWRCB Construction Clean Water Act Section 402 General Permit conditions, and subject to regular inspections by applicable jurisdiction(s) to ensure compliance. The SWPPP shall include specifications for the following but not be limited to: o Maintain proper working conditions for vehicles and equipment to minimize potential fugitive emissions of motor oil, antifreeze, hydraulic fluid, grease, or other hazardous materials. o Conduct servicing, refueling, and staging of construction equipment only at designated areas where a spill would not flow to drainages. Conduct equipment washing, if needed, only in designated locations where water would not flow into drainage channels. o Implement drainage BMPs to protect water quality, such as oil/water separators, catch basin inserts, storm drain inserts, media filtration, and catch basin screens. Keep spill cleanup materials (e.g., rags, absorbent materials, and secondary containment) at the work site when handling materials. o Report hazardous spills to the designated Certified Unified Program Agency (CUPA) (i.e., Los Angeles County Fire Department Health Hazardous Materials Division or Santa Fe Springs Department of Fire-Rescue) and implement clean up immediately and proper disposal of contaminated soil at a licensed facility. o Establish properly designed, centralized storage areas to keep hazardous materials fully contained. o Keep spill cleanup materials (e.g., rags, absorbent materials, and secondary containment) at the work site when handling materials. o Implement monitoring program by the construction site supervisor that includes both dry and wet weather inspections. ▪ Transportation of hazardous materials shall comply with State regulations governing hazardous materials transporting included in the California Vehicle Code (Title 13 of the California Code of Regulations), the State Fire Marshal Regulations (Title 19 of the California Code of Regulations), and Title 22 of the California Code of Regulations. This includes: o Require all motor carrier transporters of hazardous materials to have a Hazardous Materials Transportation license issued by the California Highway Patrol. o Require the transport of hazardous materials via routes with the least overall travel time. o Prohibit the transportation of hazardous materials through residential neighborhoods. o Require transporters to take immediate action to protect human health and the environment in the event of a spill, release, or mishap. o Incorporate restrictions on haul routes into the construction specifications according to local permitting requirements. ▪ Contaminated soils and hazardous building materials and wastes shall be disposed of in accordance with federal, state, and local requirements at landfills serving the Los Angeles County region. ▪ Traffic control during construction shall follow local jurisdiction guidelines. For specialized construction tasks, it may be necessary to work during nighttime hours to minimize traffic disruptions. ▪ Standard practices shall be followed that include scheduling of lane and/or road closures to minimize disruptions and preparation of a Traffic Management Plan (see NMM TRA-2) that is approved with authorities having jurisdiction in coordination with local fire and police departments prior to construction.	Pre-construction, construction	Metro, construction contractor	Obtain permits and comply with appropriate regulatory agency standards. Implement SWPPP and associated BMPs in accordance with the SWRCB General Construction Permit. Transport hazardous materials and dispose of contaminated soils and hazardous building materials in accordance with regulations. Follow standard practices and prepare a Traffic Management Plan (see NMM TRA-2). Implement construction BMPS, prepare and implement a stormwater pollution prevention plan (SWPPP).
Hazardous Materials	**NPM HAZ-3 (Operational Best Management Practices for Maintenance and Storage Facility for Hazardous Materials).** Operational (post construction) best management practices (BMP) for the maintenance and storage facility (MSF) shall include but shall not be limited to: ▪ If the quantity of hazardous materials used, handled, or stored on-site would exceed the regulatory thresholds, of 55 gallons for a hazardous liquid; 500 pounds of a hazardous solid; 200 cubic feet for any compressed gas; or threshold planning quantities of an extremely hazardous substance per Chapter 6.95 California Health and Safety Code, Metro shall prepare a Hazardous Materials Business Plan in accordance with all related requirements of the California Health and Safety Code, chapter 6.95, Articles 1 and 2. The plan shall be reviewed and recertified every year and amended as required by the Health and Safety Code, Chapter 6.95, Articles 1 and 2.	Pre-construction, construction, post-construction	Metro, construction contractor, maintenance contractor	Implement BMPs for the MSF including using, storing, and disposing of hazards and hazardous materials in accordance with directions and regulatory requirements. Comply with regulations related to proper transportation, use, and storage of hazardous materials. Design all new LRT guideway, stations, and crossings in accordance with MRDC. Coordinate with fire and police protection officials during design.

Environmental Resource	Avoidance, Minimization, and Mitigation Measures	Timing	Responsible Party	Action to Comply
Hazardous Materials	**NPM HAZ-4 (Construction Best Management Practices for Maintenance and Storage Facility for Hazardous Materials).** Construction best management practices (BMP) for the maintenance and storage facility (MSF) shall include but shall not be limited to: ▪ Both the federal Occupational Safety and Health Administration (OSHA) and California Division of Occupational Safety and Health Administration (Cal/OSHA) regulate worker exposure during construction activities that disturb lead-based paints (LBP). Any asbestos-containing material (ACM), if present, requires appropriate abatement of identified asbestos prior to demolition pursuant to the South Coast Air Quality Management District (SCAQMD) Rule 1403. ▪ Polychlorinated biphenyls (PCB)-containing fluorescent light fixtures and electrical transformers that are not labeled "No PCBs," shall be assumed to contains PCBs, and shall be removed prior to demolition activities and be disposed of by a licensed and certified PCB removal contractor, in accordance with local, State, and federal regulations. The removal and disposal of the electrical transformers shall be the responsibility of the utility owner.	Pre-construction, construction	Metro, construction contractor, utility owners	Implement BMPs for the MSF to ensure any asbestos-containing materials, are abated prior to demolition, per SCAQMD Rule 1403. Remove items expected to contain PCBs prior to demolition and dispose of property. Ensure electrical transformers are removed by the utility owners. Follow standard practices and prepare a Traffic Management Plan (see NMM TRA-2) approved with authorities having jurisdiction and in coordination with fire and police departments.
Hazardous Materials	**NPM HAZ-5 (Construction Best Management Practices for Commerce/Citadel station for Hazardous Materials).** Construction best management practices (BMP) for the Commerce/Citadel station only may include but not be limited to: ▪ Metro's contractor shall sample soil suspected of contamination (obvious signs of contamination includes indicators such as odors, stains, or other suspect materials) for the purpose of classifying material and determining disposal requirements. If excavated soil is suspected or known to be contaminated, Metro's contractor shall: ▪ Segregate and stockpile the excavated material in a way that will facilitate measurement of the stockpile volume. ▪ Spray the stockpile with water or a South Coast Air Quality Management District (SCAQMD) approved vapor suppressant and cover the stockpile with a heavy-duty plastic (i.e., Visqueen) to prevent soil volatilization in the atmosphere or exposure to nearby workers. ▪ Existing groundwater monitoring wells shall remain under ongoing groundwater investigations associated with off-site sources.	Pre-construction, construction	Metro, construction contractor	Implement BMPs for the Build Alternative including sampling soils suspected of contamination; if soils are contaminated, segregate and stockpile, spray with water or a vapor suppressant, and cover. Allow existing groundwater monitoring wells under ongoing groundwater investigations associated with off-site sources to remain.
Hazardous Materials	**NMM HAZ-1 (Phase I Environmental Site Assessment [ESA] and Phase II ESA).** Consistent with Metro's standard practice, prior to the start of construction of the Project, the contractor must provide Phase I ESAs in accordance with standard ASTM methodologies, to assess the land use history of each parcel that would be acquired/utilized for the Project. The determination of parcels that require a Phase II ESA (i.e., soil, groundwater, soil vapor subsurface investigations) would 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 would be conducted to determine whether the suspect contamination had resulted in soil, groundwater, or soil vapor contamination exceeding regulatory action levels. If the Phase II ESA concludes that the site is contaminated, remediation or corrective action (e.g., removal of contamination, in-situ treatment, capping) would 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), Los Angeles Regional Water Quality Control Board (LARWQCB), Los Angeles County) and in full compliance with current and applicable federal and state laws and regulations. Additionally, Voluntary Cleanup Agreements may be used for parcels where remediation or long-term monitoring is necessary. Before any ground disturbance occurs on or near the properties with active documented releases, Metro shall hire a qualified environmental professional to conduct a Phase II ESA to determine the potential presence of petroleum hydrocarbons, metals, (i.e., lead that was aerially deposited and lead chromate) that exceed thresholds established by the California Health and Safety Code and Title 22, and volatile organic compounds (VOC) in soil and/or groundwater in accordance with the findings and recommendations of the Draft Final Initial Site Assessment (ISA) Report prepared for the Build Alternative (Kleinfelder 2022). The Phase II ESA shall include sufficient soil and groundwater sampling and laboratory analysis to identify the types of chemicals and their respective concentrations. The Phase II ESA shall compare soil and groundwater sampling results against applicable environmental screening levels developed by the LARWQCB and/or the DTSC. If the Phase II ESA identifies contaminant concentrations above the screening levels, a site-specific soil and groundwater management plan shall be prepared and implemented as described in Mitigation Measure NMM HAZ-2. Metro shall consult with the LARWQCB, DTSC, and/or other appropriate regulatory agencies to ensure sufficient minimization of risk to human health and the environment is completed.	Pre-construction	Metro	Before any ground disturbance occurs on or near the properties with active documented releases a qualified professional will be obtained to conduct Phase II Environmental Site Assessment.

Environmental Resource	Avoidance, Minimization, and Mitigation Measures	Timing	Responsible Party	Action to Comply
Hazardous Materials	**NMM HAZ-2 (Soil and Groundwater Management Plan)**. Prior to excavation, a site-specific soil and groundwater management plan shall be prepared by Metro's contractor to address handling and disposal of contaminated soil and groundwater prior to demolition, excavation and construction activities. Metro shall consult with the Los Angeles Regional Water Quality Control Board (LARWQCB), Department of Toxic Substances Control (DTSC), and/or other appropriate regulatory agencies to ensure sufficient minimization of risk to human health and the environment is completed. The soil and groundwater management plan shall specify all necessary procedures to ensure the safe handling and disposing of excavated soil, groundwater, and/or dewatering effluent in a manner that is protective of human health and in accordance with federal and state hazardous waste disposal laws, and with state and local stormwater and sanitary sewer requirements. At a minimum, the plan shall include the following: ▪ Identification and delineation of contaminated areas and procedures for limiting access to such areas to properly trained personnel; ▪ Step-by-step procedures for handling, excavating, characterizing, and managing excavated soils and dewatering effluent including procedures for containing, handling, and disposing of hazardous waste, procedures for containing, handling, and disposing of groundwater generated from construction dewatering, the method used to analyze excavated materials and groundwater for hazardous materials likely to be encountered at specific locations, appropriate treatment and/or disposal methods; ▪ Procedures for notification and reporting, including notifying and reporting to internal management and to local agencies; ▪ Minimum requirements for safety manuals and construction work plans, to protect the general public and workers in the construction area. ▪ Prior to excavation, Metro/Metro's contractor shall prepare the Soil and Groundwater Management Plan and the results of environmental sampling shall be provided to Metro's contractors who shall be responsible for developing their own construction worker safety manuals and construction work plans and training requirements, per NMM HAZ-4. ▪ Metro's contractor shall sample groundwater suspected of contamination. If any contaminated groundwater is encountered during construction, Metro's contractor will stop work in the vicinity, cordon off the area, and contact Metro and will immediately notify the LARWQCB. In coordination with the LARWQCB, an investigation and remediation plan will be developed in order to protect public health and the environment. Any hazardous or toxic materials will be disposed according to local, state, and federal regulations.	Pre-construction, construction	Metro, construction contractor	Prior to excavation, a site-specific soil and groundwater management plan shall be prepared by Metro's contractor to address handling and disposal of contaminated soil and groundwater prior to demolition, excavation and construction activities. Metro's construction contractor to develop safety manuals and construction work plans and implement training requirements.
Hazardous Materials	**NMM HAZ-3 (Metro's Contractor Specifications)**. Metro shall include in Metro's contractor specifications the following requirement relating to hazardous materials: ▪ During all ground-disturbing activities, Metro's contractor(s) shall inspect the exposed soil and groundwater for obvious signs of contamination, such as odors, stains, or other suspect materials. Qualified personnel shall monitor for volatile organic compounds and other subsurface gases for concentrations exceeding United States Environmental Protection Agency (USEPA) Regional Screening Levels and/or California Department of Toxic Substances Control (DTSC) Screening Levels with a Photoionization Detector. Should signs of unanticipated contamination be encountered, work shall be halted and materials tested. An investigation shall be designed and performed to verify the presence and extent of contamination at the site, and a site-specific soil and groundwater management plan, as described under NMM HAZ-2 above, shall be prepared and implemented.	Pre-construction, construction	Metro, construction contractor	Metro's contractor to inspect and monitor soil and groundwater for signs of contamination. If contamination detected, halt work and test materials. If necessary, develop an investigation and site-specific management plan (NMM HAZ-2).
Hazardous Materials	**NMM HAZ-4 (Safety Manuals and Construction Work Plans).** Metro/Metro's contractor shall prepare site-specific safety manuals and construction work plans that address worker health and safety to protect the general public and workers in the construction area for Metro's review and approval. The safety manuals and construction work plans shall be prepared in accordance with State, California Division of Occupational Safety and Health (Cal/OSHA), and federal Occupational Safety and Health Administration (OSHA) regulations. Copies of the plans shall be made available to construction workers for review during their orientation and/or regular health and safety meetings. The plans shall identify chemicals of concern, potential hazards, worker training requirements, personal protective equipment and devices, decontamination procedures, the need for personal or area monitoring, and emergency response procedures. The plans shall be amended, as necessary, if new information becomes available that could affect implementation of the plan.	Pre-construction	Metro, construction contractor	Contractor to provide site-specific Safety Manuals and Construction Work Plans in accordance with State, California Division of Occupational Safety and Health, and federal Occupational Safety and Health Administration regulations.
Hazardous Materials	**NMM HAZ-5 (Hazardous Building Survey and Abatement).** Prior to demolition activities of any structures, Metro shall retain a California Division of Occupational Safety and Health Administration (Cal/OSHA) certified contractor to determine the presence or absence of building materials or equipment that contains hazardous materials, including asbestos, lead-based paint, and polychlorinated biphenyls (PCB)-containing equipment. If such substances are found to be present, Metro/Metro's contractor shall prepare and submit a workplan to the relevant oversight agency to demonstrate how these hazardous materials would be properly removed and disposed of in accordance with federal and state law, including South Coast Air Quality Management District (SCAQMD) Rule 1403 (Asbestos Emissions from Renovation/Demolition Activities). Following completion of removal activities, Metro shall submit documentation to the relevant oversight agency verifying that all hazardous materials were properly removed and disposed of.	Preconstruction, construction, post-construction	Metro, Cal/OSHA certified contractor	Metro to retain qualified Cal/OSHA certified contractor to evaluate hazardous building materials. Contractor to determine the presence or absence of hazardous building materials or equipment, prepare and submit a workplan if necessary, and prepare and submit documentation of proper removal if required.

Environmental Resource	Avoidance, Minimization, and Mitigation Measures	Timing	Responsible Party	Action to Comply
Water Resources	**NPM HWQ-1 (Operational Best Management Practices for Water Resources)**. Operational best management practices (BMP) may include but shall not be limited to: ▪ Treatment of stormwater runoff using infiltration BMPs such as detention basins or tanks, infiltration basins, bioretention facilities media filters, porous pavement, or vegetated filter strips to remove particulate pollutants. ▪ Development of a stormwater pollution prevention plan (SWPPP) in compliance with the State Water Resources Control Board (SWRCB) Industrial General Permit for maintenance and storage facility (MSF) operations. The SWPPP shall include BMPs such as: o Preventing disposal of any rinse/wash waters or industrial materials into the stormwater conveyance system o Establishing procedures for prompt maintenance and repair of equipment that may result in leaks and spills	Preconstruction, construction, post-construction	Metro, construction contractor, maintenance contractor	Install post-project BMPs to minimize stormwater pollution, as required in National Pollution Discharge Elimination System (NPDES) permits, low impact development standards, and local policies.
Water Resources	**NPM HWQ-2 (Construction Best Management Practices for Water Resources)**. Construction best management practices (BMP) may include but shall not be limited to: ▪ Establishment of an erosion and sediment control plan prior to the initiation of construction activities that includes BMPs such as: o Use of natural drainage, detention ponds, sediment ponds, or infiltration pits to allow runoff to collect and to reduce or prevent erosion. o Use of barriers to direct and slow the rate of runoff and to filter out large-sized sediments. o Use of downdrains or chutes to carry runoff from the top of a slope to the bottom. o Control of the use of water for irrigation so as to avoid off-site runoff. ▪ Development of a stormwater pollution prevention plan (SWPPP) in compliance with the State Water Resources Control Board (SWRCB) Construction General Permit, subject to regular inspections by applicable jurisdictions to ensure compliance. The SWPPP shall include specifications for the following, but shall not be limited to: o Good site management, or "housekeeping" measures related to managing construction materials, waste, vehicles and equipment, and other materials that could impact water quality. These include developing spill and leak prevention measures and response plan, in accordance with law. Example measures include: – Designing centralized storage areas to keep hazardous materials fully contained – Containing and securely protecting stockpiled waste material from wind and precipitation unless actively being used – Keeping spill cleanup materials (e.g., rags, absorbent materials, and secondary containment) at the work site when handling materials o Sediment and erosion controls outlined in the SWRCB Construction General Permit, such as: – Implementing BMPs designed to reduce erosion of exposed soil such as soil stabilization controls, water for dust control, perimeter silt fences, placement of straw wattles, and sediment basins – Using weed-free material for erosion control – Minimizing the amount of exposed soil and disturbance where feasible – Establishing and maintaining effective perimeter controls – Stabilizing construction entrances and exits to control erosion and sedimentation from the site o Monitoring program to be implemented by the construction site supervisor that includes both dry and wet weather inspections. ▪ Implementation of drainage BMPs designed to protect water quality such as catch basin inserts, storm drain inserts, and catch basin screens.	Pre-construction, construction	Metro, construction contractor	Implement BMPs for the Build Alternative including preparation and implementation of a SWPPP and erosion control plan in compliance with SWRCB's NPDES Construction General Permit.
Land Use and Development	As set forth in NPM TRA-1 through NPM TRA-4, operational and construction transportation best management practices would be implemented. As set forth in NPM EFI-1, Metro Joint Development Program and Metro Pilot Local Hiring Initiative would also be implemented during operations. NMM TRA-2 would be implemented to reduce adverse effects on transportation from construction. (Refer to transportation and economic measures).	Refer to Transportation, Economic Impacts	Refer to Transportation, Economic Impacts	Refer to Transportation, Economic Impacts
Acquisition and Relocations	As set forth in NPM TRA-2, NPM TRA-3, and NPM TRA-4, operation and construction transportation best management practices would be implemented. NMM TRA-2 would be implemented to reduce adverse effects on transportation from construction (refer to transportation measures).	Refer to Transportation	Refer to Transportation	Refer to Transportation
Noise and Vibration	**NPM NOI-1 (Operational Design Standards for Noise).** Operational (post-Project) design standards for the Project may include but are not limited to: ▪ Design per Metro Rail Design Criteria (MRDC) to reduce operational noise of the traction power substations (TPSS) which would mandate the location of TPSS to be 45 A-weighted decibels (dBA) at 50 feet or at the setback line of the nearest building or occupied area, whichever is closer.	Pre-construction, construction	Construction contractor	Design each TPSS in accordance with the MRDC to ensure noise does not exceed 45 dBA at 50 feet or at the setback line of the nearest building or occupied area.

Environmental Resource	Avoidance, Minimization, and Mitigation Measures	Timing	Responsible Party	Action to Comply
Noise and Vibration	**NPM NOI-2 (Construction Noise and Vibration Control).** Construction activities shall comply with Metro's baseline specifications Section 01 56 19, Construction Noise and Vibration Control. Although Metro, as a state-chartered transportation agency, is exempt from local noise ordinances, the agency is committed to consistency with local construction noise limits whenever feasible and reasonable in accordance with its own construction specifications. Metro/Metro's contractor shall utilize control measures from Metro's specifications that effectively minimize noise and vibration impacts in the community. Some mitigation measures for Noise and Vibration are based on the provisions set forth in Section 01 56 19 and are refined to have more specificity towards the Project-related impacts concerning noise and vibration. Under NPM NOI-2, the Project shall comply with the entirety of Metro's baseline specifications Section 01 56 19 and Metro/Metro's contractor shall utilize control measures from its own specifications that effectively minimize noise and vibration impacts in the community, such as: ▪ Conducting at-grade construction activities adjacent to residential neighborhoods during the daytime whenever practicable. ▪ Requiring special permits for construction within a specified distance and a specified time period for residential zones during the nighttime and weekends. ▪ Using construction equipment with effective noise-suppression devices whenever feasible. ▪ Using noise control measures, such as enclosures and noise barriers, as necessary to protect the public and achieve compliance with Metro's noise limits. ▪ Conducting all operations in a manner that will minimize, to the greatest extent practicable, disturbance to the public in areas adjacent to the construction activities and to occupants of nearby buildings.	Pre-construction, construction	Construction contractor	Comply with Metro's baseline specifications Section 01 56 19, Construction Noise and Vibration Control. Wherever feasible, be consistent with local construction noise limits. Utilize control measures from contractor specifications that effectively minimize noise and vibration.
Noise and Vibration	**NMM NOI-1 (Construction Noise Plan and Noise Monitoring Plan).** Metro shall require the Contractor to develop a construction noise control plan and a construction noise monitoring plan to minimize noise impacts. The construction noise plan shall include construction noise performance criteria. At a minimum, the performance criteria shall prohibit construction noise from exceeding the Federal Transit Administration (FTA) general assessment construction noise criteria of 80 A-weighted decibels (dBA) for nighttime work and 90 dBA for daytime work at residential properties, or 100 dBA at commercial or industrial properties for daytime or nighttime work. These criteria shall be measured at the boundary of any occupied property where the noise is being received.	Pre-construction, construction	Metro, construction contractor	Contractor to develop a construction noise control plan and a construction noise monitoring plan to minimize noise impacts for Metro review/approval.
Noise and Vibration	**NMM NOI-2 (Cast-in-Drilled-Hole Construction Methodology).** Metro shall require the Contractor to use construction methods that avoid pile-driving at locations containing noise- and vibration-sensitive receptors, such as residences, schools, and hospitals where practicable. Metro's Contractor shall use cast-in-drilled hole (CIDH) or drilled piles rather than impact pile drivers if necessary to meet construction noise performance criteria established in the construction noise control plan and construction noise monitoring plan.	Construction	Metro, construction contractor	Use construction methods including cast-in drilled hole (CIDH) or drilled piles at locations containing noise- and vibration-sensitive receptors where necessary to meet noise performance criteria (refer to NMM NOI-1).
Noise and Vibration	**NMM NOI-3 (Noise Barriers).** Metro shall require the Contractor to erect temporary noise barriers between noisy activities and noise sensitive receptors as necessary to ensure compliance with applicable construction noise performance criteria as specified in the construction noise monitoring plan developed under NMM NOI-1. During construction, Metro shall perform audits to monitor the effectiveness of the noise barriers.	Construction	Metro, construction contractor	Contractor to erect temporary noise barriers between noisy activities and noise sensitive receptors as necessary to ensure compliance with applicable construction noise performance criteria as specified in the construction noise monitoring plan developed under NMM NOI-1.
Noise and Vibration	**NMM NOI-4 (Construction Staging Area).** Metro shall require the Contractor to locate construction equipment and material staging areas away from sensitive receptors where practicable.	Construction	Metro, construction contractor	Metro shall require the Contractor to locate construction equipment and material staging areas away from sensitive receptors where practicable to ensure compliance with applicable construction noise performance criteria as specified in the construction noise monitoring plan developed under NMM NOI-1.
Noise and Vibration	**NMM NOI-5 (Haul Routes).** Metro shall require the Contractor to route construction traffic and haul routes along roads in areas without receptors sensitive to noise and vibration, where practicable.	Construction	Metro, construction contractor	Route construction traffic and haul routes through areas without noise-sensitive receptors, where practicable. (Refer to NMM TRA-2 traffic management plan).
Noise and Vibration	**NMM NOI-6 (Best Available Control Technologies).** Metro shall require contractors to use best available control technologies to limit excessive noise when working near residences (e.g., piling noise shrouds) where practicable.	Construction	Metro, construction contractor	Use best available noise control technologies to limit excessive noise when working near residences.

Environmental Resource	Avoidance, Minimization, and Mitigation Measures	Timing	Responsible Party	Action to Comply
Noise and Vibration	**NMM NOI-7 (Construction Working Hours).** Metro shall notify the public, including schools, of construction operations and schedules. Metro shall provide a construction-alert publication and set up a Construction Hotline that shall reply to complaints within 2 working days.	Pre-construction, construction	Metro	Metro shall notify the public, of construction activities/schedules and establish a Construction Hotline and respond to complaints.
Noise and Vibration	**NMM NOI-8 (Public Notification of Construction Operations and Schedules).** Metro shall require the Contractor to comply with Federal Transit Administration (FTA) ground-borne noise and vibration criteria confirmed in the construction noise monitoring plan for tunnel construction, including spoil removal and transport of segmental tunnel lining. This shall include, where necessary, methods such as installation of temporary tunnel track with smooth rail and wheels, and/or car speeds that limit structure-borne noise and vibration, or use of spoil removal conveyor.	Construction	Metro, construction contractor	Contractor to comply with the construction noise monitoring plan for tunnel construction, including spoil removal and transport of segmental tunnel lining.
Noise and Vibration	**NMM NOI-9 (Truck Staging).** Metro shall require the Contractor to not stage trucks in residential areas.	Construction	Construction contractor	Contractor to comply with the construction noise monitoring plan and not stage trucks in residential areas.
Noise and Vibration	**NMM NOI-10 (Tunnel Vent Fans Away From Residences).** Metro shall require temporary and permanent tunnel vent fans to be located away from residences. Metro shall require that noise from these shall be attenuated to comply with the noise control plan and local code requirements for fixed stationary heating, ventilation, and air conditioning (HVAC) or other machinery noise.	Construction	Metro, construction contractor	Contractor to comply with the construction noise monitoring plan and place ventilation fans away from sensitive receptors. Implement measures to attenuate noise levels as specified.
Noise and Vibration	**NMM NOI-11 (Operational Vibration Mitigation — Tunnel**). Within the tunnel, Metro shall reduce operational vibration impacts through the use of track support systems which incorporate resilience, such as ballast mats, high resilience track fasteners, resiliently supported ties or floating track slabs as necessary to be below Federal Transit Administration(FTA) criteria for frequent annoyance from operational vibration, with the decision to be made through final design. FTA criteria for frequent annoyance is an exceedance of 72 vibration decibels (VdB) at residential uses and 75 VdB at daytime institutional uses, including schools, for more than 70 events per day.	Design, construction	Metro, construction contractor	Contractor to comply with the construction noise monitoring plan and within the tunnel, use track support systems if necessary to be below FTA criteria for frequent annoyance from operational vibration.
Noise and Vibration	**NMM NOI-12 (Operational Vibration Mitigation**). Metro shall reduce vibration impacts where necessary to be below Federal Transit Administration(FTA) criteria for frequent annoyance due to gaps at switches by methods such as installing ballast mats or other resilient fixings under conventional switches to “decouple” the train vibration from the track supporting structure or using a monoblock frog or other low vibration switches. FTA criteria for frequent annoyance from operational vibration is an exceedance of 72 vibration decibels (VdB) at residential uses and 75 VdB at daytime institutional uses including schools for more than 70 events per day.	Design, construction	Metro, construction contractor	Contractor to comply with the construction noise monitoring plan and use equipment that reduces vibration at switches if necessary to be below FTA criteria for frequent annoyance from operational vibration.
Noise and Vibration	**NMM NOI-13** (**Identify Vibration Susceptible Properties).** Metro shall identify selected properties that may be susceptible to vibration damage within 100 feet of the alignment to determine the baseline structural integrity and condition of walls and joints using methods such as photographic documentation of the interior walls and/or exterior façade as a basis for comparison after construction is completed.	Pre-construction	Metro	Contractor to identify properties that may be susceptible to vibration damage within 100 feet and determine baseline conditions for comparison after construction is completed.
Noise and Vibration	**NMM NOI-14 (Vibration Pre-Construction Survey and Control Plan).** Metro shall require the Contractor to develop a construction vibration control plan and a construction vibration monitoring plan to minimize vibration impacts and reduce the risk of damage to susceptible structures. The construction vibration control plan shall specify implementation of vibration control measures to ensure that vibration during construction activities shall not exceed peak particle velocity (ppv) 0.2 inches per second (ips) at any non-engineered timber and masonry building.	Pre- construction, construction	Metro, construction contractor	Contractor to develop a construction vibration control plan and a construction vibration monitoring plan to minimize vibration impacts and reduce the risk of damage to susceptible structures for Metro for review and approval.

Environmental Resource	Avoidance, Minimization, and Mitigation Measures	Timing	Responsible Party	Action to Comply
Safety and Security	**NPM SAF-1 (Fire and Police Best Management Practices).** Operational best management practices (BMP) for the Project shall include the following: ▪ Metro shall supplement existing police protection services, consistent with current industry practices and Federal guidance, by deploying Transit Services Bureau (TSB) officers, contracted law enforcement personnel, and/or Metro Ambassadors at new light rail transit facilities, as needed, to proactively address safety concerns and support rider and staff security. ▪ Metro shall offer its existing Rail Safety Program to schools, libraries, and community centers located within proximity to new at-grade light rail transit facilities. The program includes: o In-person or virtual rail safety workshops, which may be conducted during school hours, after school, or at special events. o Distribution of educational rail safety materials and manuals during in-person workshops. o Optional rail safety orientation tours, upon request, to demonstrate safe interaction with at-grade rail crossings and station environments. o Online educational content tailored for Grades 1–5 and 6–12.	Pre-construction, post-construction	Metro, construction contractor	Implement BMPs for the Build Alternative including coordinating with fire and police protection officials, and providing police services at new LRT facilities.
Transportation	**NPM TRA-1 (Operational Best Management Practices for Transportation).** Operational best management practices (BMP) for the Project shall include the following: ▪ Sidewalks shall not be altered to the extent that pedestrian circulation would be impaired or in violation of Americans with Disabilities Act (ADA) standards. ▪ Additional enhancements to the existing signalized crosswalks, such as marked crosswalks and lighting, shall further improve pedestrian circulation and non-motorized access to transit stations. ▪ Metro shall coordinate with local jurisdictions to enhance walkability in the immediate vicinity of the proposed station areas. ▪ Operation of the Project shall not conflict with any identified local programs, plans, or policies for circulation elements in coordination with local jurisdictions. ▪ New traffic signals or modifications to existing traffic signals (e.g., signal phasing changes) to accommodate light rail movements, traffic circulation patterns at intersections, grade crossings, and to facilitate pedestrian access to/from stations (e.g., mid-block crossings at stations) shall be designed in accordance with the Metro Rail Design Criteria (MRDC) and standards. ▪ Bicycle circulation and access amenities shall be provided in the immediate station areas. Amenities may include bike parking and connections to existing nearby bike facilities within up to a 600-foot radius to improve bicycle-to-transit connections, and shall be determined during preliminary engineering. ▪ Proposed bicycle facilities that intersect the Project at applicable intersections shall remain accessible and allow bicyclists and pedestrians to cross at those intersections. ▪ Project operations shall not preclude vehicle or truck access along Washington Boulevard, and left-turn movements shall continue to be allowed to and from major cross-streets (e.g., Garfield Avenue, Greenwood Avenue) at signalized intersections. ▪ Stations and grade crossings shall be designed in accordance with the MRDC, including Fire/Life Safety Design Criteria, to ensure safety and minimize potential hazards at all locations. ▪ The Project shall be operated per applicable State, Metro, and city design criteria and standards, including adherence to design codes and standards such as the Occupational Safety and Health Administration (OSHA), California Division of Occupational Safety and Health Administration (Cal/OSHA), California Public Utilities Commission (CPUC), California Manual of Uniform Traffic Control Devices (MUTCD), Metro safety and security programs and standards (i.e., MRDC and Metro Systemwide Station Design Standards Policy), and building standards to ensure emergency vehicle access and response times are maintained and at acceptable levels. ▪ Best practice safety measures shall be implemented to minimize potential conflicts between vehicles and pedestrians. Measures may include mid-block crosswalks, signal-protected pedestrian movements, channelization, barriers high visibility curbs between the guideway and roadway to prohibit vehicles from driving onto the tracks, barriers to protect and route pedestrians, ADA-compliant curb ramps, and warning signs to provide for convenient and safe access to station platforms. ▪ Uncontrolled mid-block vehicular crossings of tracks and mid-block left-turns shall not be permitted and shall be physically prohibited by a curb between the roadway and at-grade guideway with a fence between the two tracks in the center of the guideway whenever feasible. ▪ Grade crossings shall include traffic signal coordination and upgrades in accordance with MRDC to avoid conflicts between light rail vehicles (LRV) traffic along Washington Boulevard. ▪ Vehicular and pedestrian crossings across the at-grade segments of the alignment shall be limited to intersections controlled by traffic signals.	Pre-construction, construction, post-construction	Metro, maintenance contractor	Implement BMPs ensuring safety for the Build Alternative including maintaining safe pedestrian, bicyclist, and vehicular access; complying with applicable criteria and safety standards such as for traffic circulation and grade crossings, and not allowing uncontrolled mid-block crossing of tracks.

Environmental Resource	Avoidance, Minimization, and Mitigation Measures	Timing	Responsible Party	Action to Comply
Transportation	**NPM TRA-2 (Construction Best Management Practices for Transportation)**. Construction best management practices (BMP) for the Build Alternative shall include the following: ▪ Cooperation with the corridor cities and the County shall occur throughout the construction process. Restrictions on haul routes may be incorporated into the construction specifications according to local permitting requirements. ▪ Pedestrian access to adjacent properties along the Project shall be maintained during construction. ▪ Construction-related traffic circulation changes shall generally be localized to the work area. ▪ Construction activities shall comply with Occupational Safety and Health Administration (OSHA), California Division of Occupational Safety and Health Administration (Cal/OSHA), and Metro safety and security programs. ▪ Safety for pedestrians, multi-use trail users (i.e., hikers, bicyclists, equestrians), and motorists shall be maintained during construction; methods may include signage, partial lane closures, and construction barriers. ▪ Access to Los Angeles County Fire Department (LACFD) Station 50 on Saybrook Avenue shall be maintained during construction activities, including construction of MSF Site 3 (if selected), and the launch of the tunnel boring machine (TBM). ▪ Metro shall coordinate with staff of the Los Angeles County Sheriff's Department and LACFD Station 50 in advance of any construction activities to preserve station access. ▪ Lane and/or road closures shall be scheduled to minimize disruptions, including detour routes, in coordination with authorities having jurisdiction and local fire and police departments prior to construction. The nearest local first responders shall be notified, as appropriate, of traffic control measures in the Traffic Management Plan (see NMM TRA-2) during construction to coordinate emergency response routing. ▪ The Project shall be designed and constructed per applicable state, Metro, and city design criteria and standards, including adherence to design codes and standards such as the OSHA, Cal/OSHA, California Public Utilities Commission (CPUC), California Manual of Uniform Traffic Control Devices (MUTCD), and Metro safety and security programs and standards (i.e., Metro Rail Design Criteria [MRDC] and Metro Systemwide Station Design Standards Policy).	Pre-construction, construction	Metro, construction contractor	Implement BMPs for the Build Alternative including ensuring pedestrian, bicyclist, and vehicular access is maintained; fire and police station access is maintained; construction complies with applicable criteria and safety standards; and roadway disruption is minimized to the degree feasible.
Transportation	**NPM TRA-3 (Operational Best Management Practices for the Maintenance and Storage Facility Regarding Transportation)**. Operational best management practices (BMP) for the maintenance and storage facility (MSF) include the following: ▪ Access shall be maintained to properties to the west of the vacated portion of Acco Street via Yates Avenue (for MSF Site 1). Access shall be maintained on Yates Avenue (for MSF Site 2). Access shall be maintained Gayhart Street (for MSF Site 3). ▪ Any roadway changes shall be designed according to applicable Metro Rail Design Criteria (MRDC), state, and local design criteria and standards where applicable, including fire code and Fire/Life Safety Design Criteria and standards, and shall provide adequate emergency access.	Pre-construction, construction, post-construction	Metro, maintenance contractor	Implement BMPs for the MSF ensuring pedestrian, bicyclist, and vehicular access are maintained. Design traffic circulation and roadway changes in accordance with applicable criteria and standards.
Transportation	**NPM TRA-4 (Construction Best Management Practices for the Maintenance and Storage Facility Regarding Transportation).** Construction best management practices (BMP) for the maintenance and storage facility (MSF) must include but not be limited to: ▪ Access to nearby properties shall be maintained throughout the course of construction, and alternative routes shall be available for any streets requiring a full closure (e.g., use of Acco Street shall be routed to Flotilla Street or Washington Boulevard).	Pre-construction, construction	Metro, construction contractor	Implement BMPs for the Build Alternative ensuring access to nearby properties is maintained during construction, and providing alternative routes for any streets requiring a full closure.
Transportation	**NMM TRA-1 (Garfield Avenue and Washington Boulevard Intersection).** At the Garfield Avenue and Washington Boulevard (Intersection #32), restripe the southbound lane approach by converting one through lane into a second left-turn lane and reconfiguring the right-turn lane as a shared through/right-turn lane to optimize this intersection's cycle length and splits.	Design, post-construction	Metro, construction contractor	Add one additional lane to Garfield Avenue and Washington Boulevard.

Environmental Resource	Avoidance, Minimization, and Mitigation Measures	Timing	Responsible Party	Action to Comply
Transportation	**NMM TRA-2 (Traffic Management Plan)**. Metro shall prepare a Traffic Management Plan as needed to facilitate the flow of traffic in and around construction zones. The Traffic Management Plan shall include, at minimum, the following measures: ▪ Where feasible, a majority of schedule construction-related travel (i.e., deliveries) during off-peak hours and maintain two-way traffic circulation along affected roadways during peak hours. ▪ Designated routes for project haul trucks shall be located along the Project corridor right-of-way (ROW) and/or major streets connecting to construction staging areas and the nearest freeways (e.g., State Routes (SR)-60 and Interstate (I)-5). Major streets may include Atlantic Boulevard, Saybrook Avenue, Telegraph Road, Washington Boulevard, and Whittier Boulevard. In cooperation with the jurisdictions along the alignment and implemented throughout the construction process, these routes shall be consistent with local land use and mobility plans and situated to minimize noise, vibration, and other possible impacts. ▪ Metro shall maintain safe and convenient pedestrian routes to school by ensuring project haul routes and construction traffic, to the greatest extent possible, avoid any published and unofficial school pedestrian routes. ▪ Develop detour routes to facilitate traffic movement through construction zones without significantly increasing cut-through-traffic in adjacent residential areas. ▪ Develop and implement an outreach program and public awareness campaign in coordination with transit agencies to inform the general public about the construction process and planned roadway closures, potential impacts, and mitigation measures, including temporary bus stop relocation. ▪ Develop and implement a program with business owners to minimize effects to businesses during construction activity, including but not limited to signage programs and identification of detours (particularly for truck access). ▪ Where feasible, temporarily restripe roadways to maximize the vehicular capacity at locations affected by construction closures. ▪ Where feasible, temporarily remove on-street parking to maximize the vehicular capacity at locations affected by construction closures. ▪ Traffic control officers at major intersections during peak hours shall be provided as required by the Traffic Management Plan and Worksite Traffic Control Plans if delays are related to construction activities. ▪ Provide wayfinding signage, lighting and access to specify pedestrian safety amenities (such as handrails, fences, and alternative walkways) during construction. ▪ Where construction encroaches on sidewalks, walkways, crosswalks, and multi-use trails, special pedestrian safety measures shall be used, such as detour routes and temporary pedestrian shelters. ▪ Provide detour routes and signage to address temporary effects to multi-use trails and bicycle circulation, and minimize inconvenience (e.g., lengthy detours) as to minimize users potentially choosing less safe routes if rerouted. ▪ Regular communication with school administrators shall be maintained to ensure sufficient notice of construction activities and/or detours, that could affect pedestrian routes to schools is provided. ▪ Construction flaggers shall be implemented any time a construction ingress or egress is located within 200 feet of a school's student entrance during school hours. ▪ Metro's construction outreach efforts shall include reaching out to local school district administrators to provide advanced information regarding construction activities and/or detours if construction activities will affect bus routes and stops to schools. ▪ Access to adjacent businesses and schools (including access to passenger loading areas for student drop-offs at schools) shall be provided via existing or temporary driveways or loading zones during business and school hours throughout the construction period.	Pre-construction, construction	Metro, construction contractor	The Contractor to prepare a Traffic Management Plan for Metro's review and approval.
Utilities	As set forth in NPM HWQ-1 and NPM HWQ-2, runoff control best management would be implemented during operation and construction. (Refer to water resources measures.)	Refer to Water Resources	Refer to Water Resources	Refer to Water Resources.
Construction Impacts	Refer to individual environmental topics.	Refer to individual environmental topics	Refer to individual environmental topics.	Refer to individual environmental topics.
Section 4(f) Evaluation	As set forth in NPM TRA-2 and NPM NOI-2, construction and transportation and noise best management practices would be implemented. NMM CUL-1, NMM TRA-2, and NMM NOI-1 would also be implemented to reduce adverse effects related to historic properties, transportation, and noise during construction. (Refer to transportation, noise, and cultural measures.)	Refer to Historic, Archaeological, and Tribal Resources; Transportation; and Noise	Refer to Historic, Archaeological, and Tribal Resources; Transportation; and Noise	Refer to Historic, Archaeological, and Tribal Resources; Transportation; and Noise.