ATTACHMENT 1C
MITIGATION MONITORING AND REPORTING PROGRAM FOR THE 2025 REGIONAL PLAN

PURPOSE AND INTENDED USE OF THE MMRP

The California Environmental Quality Act (CEQA) requires that an agency adopt a Mitigation Monitoring or Reporting Program (MMRP) prior to approving a project that includes mitigation measures. This MMRP has been prepared in compliance with the requirements of Section 21081.6 of the California Public Resources Code and Sections 15091(d) and 15097 of the CEQA Guidelines.

The purpose of this MMRP is to ensure the adopted mitigation measures adopted in the findings of fact for the 2025 Regional Plan (Regional Plan) are implemented and that implementation is monitored and reported, in accordance with CEQA requirements. The Regional Plan Environmental Impact Report (EIR) findings adopt feasible mitigation measures to reduce the significant environmental impacts of the Regional Plan. This MMRP clarifies the process for the San Diego Association of Governments (SANDAG) and Implementation Agencies to ensure these mitigation measures are implemented, and designates responsibility for implementing, monitoring, and reporting mitigation.

Several of the adopted EIR mitigation measures are plan-level measures that will be implemented by SANDAG. Many of the adopted mitigation measures are programmatic mitigation measures that shall be implemented by SANDAG and can and should be implemented by other agencies during future project-specific design and environmental review.

For second-tier transportation projects, SANDAG will implement mitigation measures for those projects that SANDAG directly approves or carries out as the CEQA lead agency or where discretionary TransNet funds are used. Where SANDAG acts as a pass-through agency for funding, it is the funding agency's responsibility to place conditions on grant funding. When using discretionary TransNet funds, which support TransNet grant programs funding local agency capital projects, SANDAG will require as a grant condition the implementation of all feasible EIR mitigation measures that are applicable to the project type being funded.

The MMRP for this Program EIR may be used as a tool for incorporating mitigation measures into future second-tier projects, as provided for in CEQA Guidelines Section 15168(c)(3). In addition, SB 375 provides specific CEQA streamlining for residential/mixed-use projects and transportation priority projects (TPPs) if they incorporate mitigation measures from an SB 375-compliant Regional Transportation Plan (RTP) EIR. To take advantage of these CEQA streamlining opportunities, implementing agencies may use this MMRP as a tool for incorporating mitigation measures in their future residential/mixed use projects and TPPs.

MITIGATION MEASURES ADOPTED WITH THE REGIONAL PLAN

Mitigation measures adopted in the Regional Plan EIR findings are included in the table below, which identifies:

- The content of the mitigation measure
- The timing of implementation:
  - Planning and Project Design
  - Grading/Construction
  - Post Construction
  - Ongoing

- The responsible party for implementation and monitoring:
  - SANDAG
  - Other Transportation Project Sponsors – Transportation or other governmental agencies, including Caltrans, transit districts, cities, and the County of San Diego, responsible for implementing local or regional transportation network improvements
  - Land Use Agencies/Special Districts– Land use agencies, including cities and the County of San Diego, and special districts such as water service providers, responsible for discretionary actions involved in land use and associated infrastructure projects and planning

ENFORCEMENT

CEQA requires mitigation measures to be "fully enforceable" through the use of permit conditions, agreements, or other measures within each Lead Agency's authority (Public Resources Code 21081.6(b)). Many of the adopted mitigation measures are programmatic mitigation measures that shall be implemented by SANDAG and can and should be implemented by other agencies during future project-specific design and environmental review. The Lead Agency for each future second-tier project is responsible for assuring the project-specific mitigation measures it adopts are enforceable.

IMPLEMENTATION AND REPORTING

SANDAG shall designate a staff person to serve as coordinator for overall implementation and administration of this Mitigation and Monitoring Program and for its application to future projects in which SANDAG is the Lead Agency. This person (Coordinator) will also ensure that when SANDAG is the direct source of funding for transportation network improvement projects, SANDAG will require as a grant condition the implementation of those Regional Plan mitigation measures that are applicable to, and feasible for, the project type being funded.

MITIGATION MONITORING STATUS REPORTING

For those mitigation measures that SANDAG is responsible for implementing or partially implementing, reports on the progress of implementation of these measures will be prepared by staff on an annual basis. The report shall be prepared by the Coordinator and contain the following:

- a list of mitigation measures incorporated into second-tier environmental documents;
- recommendations for modifications to the Mitigation and Monitoring Program to improve effectiveness; and
- required modifications to the Mitigation and Monitoring Program to comply with legislation and policies adopted in the previous year (e.g. newly listed threatened species).

Implementing Agencies for second-tier projects will be responsible for developing their own processes for mitigation monitoring status reporting.

Mitigation Measures	Implementation Timing				Responsible Party		
	Planning/ Design/CEQA Review	Grading/ Construction	**Post-Construction**	Ongoing	SANDAG	Transportation Project Sponsor	Land Use Agency/ Special District
Aesthetics and Visual Resources							
AES-1a Protect Public Views of Scenic Vistas for Transportation Network Improvements During planning, design, project-level CEQA review, and construction of transportation network improvements SANDAG shall, and other transportation project sponsors can and should, ensure that projects protect public views of scenic vistas. Construction and operations measures consist of, but are not limited to, the following: ▶ Site construction-staging areas away from scenic vistas. If this is infeasible, reduce the visibility of construction-staging areas. Fence and screen these areas with low-contrast materials consistent with the surrounding environment. ▶ Avoid permanent obstruction of scenic vistas from public-viewing areas when selecting alignments and the grade of new infrastructure (i.e., above, at, or below grade). ▶ Use transparent safety barrier designs (e.g., railings) rather than walls.	X	X			X	X	X
AES-1b Protect Public Views of Scenic Vistas for Development Projects. During planning, design, project-level CEQA review, and construction of development projects, the County of San Diego, cities, and other local jurisdictions can and should incorporate scale and massing measures, as well as measures specific to development projects. These measures consist of, but are not limited to, the following: ▶ Ensure building siting, height, and mass protect scenic vistas. ▶ Design projects to minimize contrasts in scale and massing between the project and surrounding natural forms and developments. Avoid large cuts and/or fills, where material is removed (cut) from certain areas and hauled away or used to fill in others using either onsite or offsite soil, when the visual environment (natural or urban) would be substantially disrupted. Site or design of projects should minimize their intrusion into important viewsheds and use contour grading to better match surrounding terrain. ▶ Screen development adjacent to natural features as appropriate so that development does not appear visually intrusive or interfere with the experience within the scenic vista. The provision of enhanced landscaping adjacent to natural features could be used to soften the appearance of or buffer development from the natural features.	X	X					X

Mitigation Measures	Implementation Timing				Responsible Party		
	Planning/ Design/CEQA Review	Grading/ Construction	**Post-Construction**	Ongoing	SANDAG	Transportation Project Sponsor	Land Use Agency/ Special District
▶ Require development in visually sensitive areas to minimize visual impacts and to preserve unique or special visual features, particularly in rural areas, through the following: ▪ creative site planning, ▪ integration of natural features into the project, ▪ appropriate scale, materials, and design to complement the surrounding natural landscape, ▪ minimal disturbance of topography, ▪ clustering of development to preserve a balance of open space vistas, natural features, and community character, and ▪ creation of contiguous open space network.							
AES-2a Reduce Impacts on Scenic Resources in a State Scenic Highway and Local Scenic Routes for Transportation Network Improvements. During planning, design, and project-level CEQA review of transportation network improvements in eligible or designated state scenic highways and local scenic routes, SANDAG shall, and other transportation project sponsors can and should, ensure that projects are designed to minimize damage to scenic resources. The following measures would reduce the significant effects related to damage of scenic resources in a state scenic highway, another scenic resource, or a local scenic route that are in the jurisdiction and responsibility of Caltrans or other public agencies. Where a project has the potential for significant effects, mitigation measures shall ensure compliance with regulations for Caltrans scenic vistas, requirements of the Coastal Act, and policies in county and city general plans. Such measures may include the following: ▶ Use a palette of colors, textures, and building materials that are graffiti-resistant or use vegetation as a physical barrier that complements the surrounding landscape and development. ▶ Retain or replace trees bordering scenic highways and routes to the extent feasible. ▶ Provide new corridor landscaping that provides appropriate transition to existing natural and human-made features and is complementary to the dominant landscaping or native habitats of surrounding areas. ▶ Avoid, if possible, large cuts and fills when the visual environment (natural or urban) would be substantially disrupted. Site or design of projects should minimize	X	X			X	X	X

Mitigation Measures	Implementation Timing				Responsible Party		
	Planning/ Design/CEQA Review	Grading/ Construction	**Post-Construction**	Ongoing	SANDAG	Transportation Project Sponsor	Land Use Agency/ Special District
their intrusion into important viewsheds and use contour grading to better match surrounding terrain.							
AES-2b Reduce Impacts on Scenic Resources in a State Scenic Highway and Local Scenic Routes for Development Projects. During planning, design, and project-level CEQA review of development projects, the County of San Diego, cities, and other local jurisdictions can and should incorporate measures that ensure that projects are designed to reduce impacts on scenic resources in eligible and designated state scenic highways, coastal areas, and local scenic resources. Measures consist of, but are not limited to, the following: ▶ For projects in or adjacent to designated or eligible state scenic highway corridors and local scenic routes identified in local approved plans, prior to project approval, complete visual resources studies. If a significant impact on scenic resources is identified, the study would require site-specific mitigation measures, which may include those identified below. ▪ Avoid damaging, moving, or removing trees, rock outcroppings, historic structures, and other scenic resources from eligible or designated state scenic highway corridors and local scenic resources, where those scenic resources are relevant to the designation or eligibility for designation as a state scenic highway or are identified as a protected visual resource in local plans. ▪ Apply development standards and guidelines to maintain compatibility with surrounding natural areas, including site coverage, building height and massing, building materials and color, landscaping, and site grading. ▪ Ensure vegetation used as screening and landscaping blends in and complements the natural landscape. ▪ Retain or replace trees in scenic highways and routes. ▪ Ensure grading blends with the adjacent landforms and topography.	X	X					X
AES-3a Reduce Impacts on Visual Character for Transportation Network Improvements. During planning, design, and project-level CEQA review of transportation network improvements, SANDAG shall, and other transportation project sponsors can and should, incorporate measures that ensure that projects are designed to reduce significant impacts on visual character. Measures consist of, but are not limited to, the following:	X	X			X	X	X

Mitigation Measures	Implementation Timing				Responsible Party		
	Planning/ Design/CEQA Review	Grading/ Construction	**Post-Construction**	Ongoing	SANDAG	Transportation Project Sponsor	Land Use Agency/ Special District
▶ Use contour grading to match surrounding terrain and existing natural and human-made features of the area. ▶ Revegetate graded slopes and exposed earth surfaces prior to completion of construction. ▶ Construct permanent barriers (e.g., soundwalls, safety barriers, retaining walls) of materials whose color and texture or treatment (e.g., landscaping cover) complements the surrounding landscape and development. Break up large barrier façades using techniques that consist of, but are not limited to, color, texture, landscaping, see-through safety barriers, and alternating façades.							
AES-3b: Reduce Impacts on Visual Character for Development Projects. During planning, design, and project-level CEQA review of development projects the County of San Diego, cities, and other local jurisdictions can and should incorporate measures that ensure that projects are designed to reduce significant impacts on visual character. Measures consist of, but are not limited to, the following: ▶ Use contour grading to match surrounding terrain and existing natural and human-made features of the area. ▶ Revegetate graded slopes and exposed earth surfaces prior to completion of construction. ▶ Construct permanent barriers (e.g., soundwalls, safety barriers, retaining walls) of materials whose color and texture or treatment (e.g., landscaping cover) complements the surrounding landscape and development. Break up large barrier façades using techniques that consist of, but are not limited to, color, texture, landscaping, see-through safety barriers, and alternating façades. ▶ Apply development standards and design guidelines to maintain compatibility with surrounding development, including site coverage, building height and massing, building materials and color, landscaping, and site grading.	X	X					X
AES-4a Minimize Effects of Light and Glare for Transportation Network Improvements. During planning, design, project-level CEQA review, and construction of transportation network improvements, SANDAG shall, and other transportation project sponsors can and should, ensure that projects avoid or minimize the effects of light and glare on routes of travel for motorists, cyclists, and pedestrians, and on adjacent properties. Where SANDAG and other transportation project sponsors have identified that a project has the potential for significant effects, they can and should adopt mitigation measures	X	X	X		X	X	X

Mitigation Measures	Implementation Timing				Responsible Party		
	Planning/ Design/CEQA Review	Grading/ Construction	**Post-Construction**	Ongoing	SANDAG	Transportation Project Sponsor	Land Use Agency/ Special District
to ensure consistency with the goals and policies in county and city general plans, as applicable. Construction and operational measures consist of, but are not limited to, the following: ▶ Minimize and control glare from transportation projects through the adoption of project design features that reduce glare, such as those listed below: ▪ Planting trees along transportation corridors to reduce glare from the sun. ▪ Landscaping off-street parking areas, loading areas, and service areas. ▪ Limiting the use of reflective materials, such as metal. ▪ Using nonreflective material, such as paint, vegetative screening, matte finish coatings, and masonry. ▪ Screening parking areas by using vegetation or trees. ▪ Using low-reflective glass. ▶ Impose lighting standards that ensure that minimum safety and security needs are addressed and minimize light trespass and glare associated with transportation network improvements. These standards include the following: ▪ Minimizing incidental spillover of light onto adjacent nighttime light-sensitive uses and undeveloped open space. ▪ Installing luminaries that provide good color rendering and natural light qualities. ▪ Minimizing the potential for back scatter into the nighttime sky.							
AES-4b Minimize Effects of Light and Glare for Development Projects. During planning, design, project-level CEQA review, and construction of development projects, the County of San Diego, cities, and other local jurisdictions can and should ensure that projects avoid or minimize the effects of light and glare on routes of travel for motorists, cyclists, and pedestrians, and on adjacent properties. Where a project has the potential for significant effects, mitigation measures shall ensure consistency with the goals and policies in county and city general plans, as applicable. Such measures may consist of, but are not limited to, the following: ▶ Use lighting fixtures that are adequately shielded to a point below the light bulb and reflector and that prevent unnecessary glare onto adjacent properties. ▶ Restrict the operation of outdoor lighting for construction from the hours of 7:00 p.m. to 7:00 a.m.	X	X					X

Mitigation Measures	Implementation Timing				Responsible Party		
	Planning/ Design/CEQA Review	Grading/ Construction	**Post-Construction**	Ongoing	SANDAG	Transportation Project Sponsor	Land Use Agency/ Special District
▶ Use low-intensity fixtures for outdoor lighting. ▶ Use unidirectional lighting to avoid light trespass onto adjacent properties. ▶ Provide structural or vegetative screening from light-sensitive uses. ▶ Shield and direct all new street and pedestrian lighting away from light-sensitive off-site uses. ▶ Use nonreflective glass or glass treated with a nonreflective coating for all exterior windows and glass used on building surfaces.							
BIO-2a Implement Design, Minimization, and Avoidance Measures for Special-Status Animal Species. See Biological Resources Section for Mitigation Measure BIO 2a.							
Agricultural and Forestry Resources							
AG-1a Preserve Existing Agricultural Lands. During project design and project-level CEQA review of transportation network improvements or development projects, SANDAG shall—and other transportation project sponsors, the County of San Diego, cities, and other local jurisdictions can and should—preserve existing agricultural lands by avoiding agricultural land conversion when feasible. If avoidance is not feasible, measures to reduce conversion of agricultural lands to nonagricultural use consist of the following: ▶ Acquire or dedicate agricultural conservation easements (minimum acreage ratio of 1:1 of comparable quality land). If feasible, locate the easement within or close to areas in which the conversion occurs. Where conversion occurs within the coastal zone, locate the easement within the coastal zone, if feasible. If a project requires cancellation of a Williamson Act contract, acquire or dedicate agricultural conservation easements (minimum acreage ratio of 1:1 of comparable quality land). If feasible, locate the easement within or close to the same city or community in which the cancellation occurs. Where the cancellation occurs within the coastal zone, locate the easement within the coastal zone, if feasible. ▶ Where agricultural conservation easements are acquired or dedicated, consider the suitability of a specific proposed easement based on its ability to avoid or reduce fragmentation of agricultural land to enhance overall production value and operation viability. ▶ Where project-specific mitigation described above is not feasible, use other commensurate solutions, such as payment of an agricultural resource impact fee made pursuant to an approved in-lieu fee program. Possible programs include the	X				X	X	X

Mitigation Measures	Implementation Timing				Responsible Party		
	Planning/ Design/CEQA Review	Grading/ Construction	**Post-Construction**	Ongoing	SANDAG	Transportation Project Sponsor	Land Use Agency/ Special District
Purchase of Agricultural Conservation Easement (PACE) Program established by the County of San Diego where the PACE Mitigation Bank can be used to offset impacts.							
AG-1b Reduce Transportation Network Improvement and Development Conflicts with Agricultural Operations. During project design and project-level CEQA review of transportation network improvements or development projects, SANDAG shall—and other transportation project sponsors, the County of San Diego, cities, and other local jurisdictions can and should—reduce conflicts with agricultural operations. These conflicts shall be reduced through the implementation of project design features and mitigation measures to protect surrounding agriculture, consisting of, but not limited to, the following: ▶ Provide buffers, berms, setbacks, fencing, or other project design measures to protect surrounding agriculture, topographic features, and open space, and to reduce conflict between transportation network improvements or developments and farming. ▶ Minimize severance and fragmentation of agricultural land by constructing underpasses and overpasses at necessary intervals to provide property access. ▶ Align corridors, incorporate buffer zones and setbacks, and design berms and fencing to avoid agricultural lands and to reduce conflicts between transportation projects and agricultural lands.	X	X			X	X	X
FR-1 Reduce Impacts on Forest Lands. During project planning, design, and project-level CEQA review of transportation network improvements or development projects, SANDAG shall—and other transportation project sponsors, the County of San Diego, cities, and other local jurisdictions can and should—preserve forest lands by avoiding conversion of such lands when feasible and, if not feasible, by implementing measures to reduce impacts on forest lands, consisting of the following: ▶ Implement Compensatory Mitigation of Forest Lands Provide compensatory mitigation using mitigation ratios as specified through consultation with resource agencies and in approved natural community conservation plans and habitat conservation plans. Compensatory mitigation outside the coastal zone would be provided either through the purchase of credits at an existing authorized mitigation bank or in-lieu fee program, or through project-specific mitigation.	X				X	X	X

Mitigation Measures	Implementation Timing				Responsible Party		
	Planning/ Design/CEQA Review	Grading/ Construction	**Post-Construction**	Ongoing	SANDAG	Transportation Project Sponsor	Land Use Agency/ Special District
Authorized programs include the San Vicente or San Miguel Conservation Banks, or in-lieu fee options approved under the County's MSCP, depending on habitat type and service area availability (County of San Diego 2025). Compensatory mitigation for impacts inside the coastal zone may not be satisfied through in-lieu fee programs and is required to be located within the coastal zone close to the impact. To the extent allowed by the above plans and ordinances, project-specific mitigation would be provided through on site restoration of temporary impacts, on site or off-site preservation of existing habitats, or off-site restoration.							
BIO-1a Implement Design, Minimization, and Avoidance Measures for Sensitive Natural Vegetation Communities and Regulated Aquatic Resources. See Biological Resources Section for Mitigation Measure BIO-1a.							
BIO-1b Provide Compensatory Mitigation. See Biological Resources Section for Mitigation Measure BIO-1b.							
BIO-1e Implement Best Management Practices to Avoid Indirect Impacts. See Biological Resources Section for Mitigation Measure BIO-1e.							
Air Quality							
AQ-2a. Secure Incentive Funding. SANDAG, in partnership with SDAPCD and the Port of San Diego, and member cities, will seek to secure incentive funding to reduce mobile PM emissions from mobile exhaust, and entrained PM sources such as tire wear, brake wear, and re-entrained road dust. Such incentive funding or programs are: ▶ Vehicle Registration Fund Program (VRF) ▶ Carl Moyer Memorial Air Quality Attainment Program ▶ Community Air Protection Program (CAPP) ▶ Short-Haul Zero Emission Truck Pilot Project				X	X		X
AQ-2b. Regional Plan VMT Credit/Banking Program. SANDAG shall establish a VMT Credit / Banking program that captures and banks any VMT reductions that may be associated with VMT reducing infrastructure and programs, such as bicycle infrastructure improvements, pedestrian facilities, and expansion of transit services (VMT Reduction Credits). The VMT reduction credits generated through the program could be used to offset VMT-related impacts caused by induced travel demand that are associated with roadway capacity improvements included within the	X			X	X	X	X

Mitigation Measures	Implementation Timing				Responsible Party		
	Planning/ Design/CEQA Review	Grading/ Construction	**Post-Construction**	Ongoing	SANDAG	Transportation Project Sponsor	Land Use Agency/ Special District
proposed Plan. Additional credits could also be sold to development projects within the region, consistent with the SCS, to offset their land use related VMT impacts. Revenue from the credits sold through the banking program shall be used to help advance the timing of implementation of VMT reducing infrastructure or programs in the proposed Plan, develop new or further expand the VMT reducing infrastructure and programs included in the proposed Plan, or allocate towards grant funding to construct multi-modal infrastructure within the local jurisdictions. This measure would also reduce emissions of PM_{10} and $PM_{2.5}$ by reducing vehicle traffic on all roadways, including those near sensitive receptor locations. SANDAG shall include a pilot version of this program within the 2029 Regional Plan.							
AQ-3a Implement Construction Best Management Practices for Fugitive Dust. During planning, design, and project-level CEQA review of transportation network improvements and programs or development projects, SANDAG shall, and other transportation project sponsors, the County of San Diego, cities, and other local jurisdictions can and should, evaluate the potential for localized particulate (PM_{10} and $PM_{2.5}$) construction impacts that result in exceedances of the numerical mass emission thresholds). If impacts are significant, during project level construction, SANDAG shall, and other transportation project sponsors, the County of San Diego, cities, and other local jurisdictions can and should, implement best management practices (BMPs) to reduce impacts, including but not limited to, the following: ▶ Use fugitive dust control measures to reduce generation from exposed surfaces during construction, as specified in SDAPCD Rule 55 (SDAPCD 2009). SDAPCD Rule 55 includes various requirements, including preventing visible dust beyond the property line for more than 3 minutes in any 60-minute period, applying dust suppressants, removing all track-out/carry-out dust at the conclusion of each workday. Compliance with these regulatory requirements is a performance standard for mitigation of construction activity particulate emissions. Reductions in fugitive dust emissions range from 40 to 80 percent for minimizing track-out to 90 percent for use of tarps or cargo covering when transporting material (SCAQMD 2007; WGA 2006). ▶ Use additional fugitive dust control measures such as watering or application of dust suppressants to reduce the generation of fugitive dust at active construction sites. Reductions in fugitive dust emissions range from 10 to 74 percent for watering of unpaved surfaces to 84 percent for use of dust suppressants (WGA 2006; CAPCOA 2025).	X	X			X	X	X

Mitigation Measures	Implementation Timing				Responsible Party		
	Planning/ Design/CEQA Review	Grading/ Construction	**Post-Construction**	Ongoing	SANDAG	Transportation Project Sponsor	Land Use Agency/ Special District
▶ Implement controls on haul trucks to reduce emissions from haul trucks transporting soil, sand, or other loose material off site. Reductions in fugitive dust emissions are estimated at 91 percent for use of tarps or cargo covering when transporting material (SCAQMD 2007). ▶ Remove visible mud or dirt track-out onto adjacent public roads. Reductions in fugitive dust emissions range from 40 to 80 percent for minimizing track-out (WGA 2006). ▶ Limit vehicle speeds on unpaved surfaces during construction to 15 mph. Reductions in fugitive dust emissions from unpaved surfaces are estimated at 57 percent (WGA 2006). ▶ Suspend excavation, grading, and/or demolition activities when average wind speeds exceed 20 mph. Reductions in fugitive dust emissions are estimated at 98 percent (WGA 2006). ▶ Plant vegetative ground cover (e.g., fast-germinating native grass seed) in disturbed areas. Reductions in fugitive dust emissions from wind erosion are estimated at 90 percent (WGA 2006). ▶ Wash all trucks and equipment, including their tires, prior to leaving the construction site. No quantitative estimate of the effectiveness of this measure is available.							
AQ-3b Reduce Diesel Emissions During Construction From Off-Road Equipment. For impacts on air quality from construction exhaust, during planning, design, and project-level CEQA review of transportation network improvements and programs or development projects, SANDAG shall, and other transportation project sponsors, the County of San Diego, cities, and other local jurisdictions can and should, implement BMPs to reduce criteria pollutant and TAC impacts from off-road equipment, including, but not limited to, the following: ▶ Ensure off-road equipment greater than 25 horsepower (hp) that will be operating for more than 20 hours during construction meets the following requirements: ▪ Ensure engines are zero emissions or equipped with an CARB Level 3 Verified Diesel Emissions Control Strategy, if available for the equipment being used, unless the equipment meets EPA Tier 4 emission standards. ▪ If project-specific analysis demonstrates that the above measure would not adequately reduce impacts (as determined by the project-level lead agency), provide engines that meet or exceed either EPA Tier 4 off-road standards.	X	X			X	X	X

Mitigation Measures	Implementation Timing				Responsible Party		
	Planning/ Design/CEQA Review	Grading/ Construction	**Post-Construction**	Ongoing	SANDAG	Transportation Project Sponsor	Land Use Agency/ Special District
▶ Monitor idling time of diesel-powered construction equipment and limit to no more than 2 minutes. ▶ Maintain and properly tune construction equipment in accordance with the manufacturers' specifications. ▶ Prohibit portable diesel generators and use grid power when it is available. Use propane or natural gas generators when grid power electricity is not feasible. ▶ Use late model engines. ▶ Use low emission diesel products. ▶ Use alternative fuels in construction equipment. ▶ Use engine retrofit technology to control emissions from off-road equipment.							
AQ-3c Reduce Diesel Emissions During Construction From On-Road Vehicles. For impacts on air quality from construction exhaust as a result of transportation network improvements and programs or development projects, during project-level CEQA review and construction, SANDAG shall, and other transportation project sponsors, the County of San Diego, cities, and other local jurisdictions can and should, implement BMPs to reduce criteria pollutant and TAC impacts from on-road vehicles, including but not limited to: ▶ Monitor idling time of diesel-powered trucks, and limit to no more than 2 minutes. ▶ Provide clear signage for construction workers at all access points. ▶ Maintain and properly tune vehicles in accordance with the manufacturers' specifications. ▶ Ensure that construction activity deliveries are scheduled during off-peak hours (e.g., 10 a.m. to 3 p.m.) and are coordinated to consolidate truck trips. When the movement of construction materials and/or equipment impacts traffic flow, provide temporary traffic control (e.g., flag person) to improve traffic flow. ▶ Use late model engines (2010 or new model years). ▶ Use low emission diesel products in on-road vehicles. ▶ Use zero emission or near-zero emission technologies or alternative fuels in on-road vehicles. ▶ Use engine retrofit technology on on-road vehicles.	X	X			X	X	X

Mitigation Measures	Implementation Timing				Responsible Party		
	Planning/ Design/CEQA Review	Grading/ Construction	**Post-Construction**	Ongoing	SANDAG	Transportation Project Sponsor	Land Use Agency/ Special District
AQ-4 Reduce Exposure to Localized Particulate Emissions. During planning, design, and project-level CEQA review of transportation network improvements and programs, and during planning, design, and project-level CEQA review of development projects, SANDAG shall, and other transportation project sponsors, the County of San Diego, cities, and other local jurisdictions can and should, evaluate the potential particulate matter concentration impacts of the project using applicable procedures and guidelines for such analyses. If exceedances of PM_{10} or $PM_{2.5}$ standards are predicted, SANDAG shall, and other transportation project sponsors can and should, apply measures to reduce PM emissions, including but not limited to the following: ▶ Design sites to locate sensitive receptors more than 500 feet of a freeway, 500 feet of urban roads with 100,000 vehicles/day, or rural roads with 50,000 vehicles/day. ▶ Design sites to locate sensitive receptors more than 1,000 feet of a major diesel rail service or railyards. Where adequate buffer cannot be implemented, implement the following: ▶ Install air filtration (as part of mechanical ventilation systems or stand-alone air cleaners) to indoor reduce pollution exposure for residents and other sensitive populations in buildings that are close to transportation network improvement projects. Use air filtration devices rated MERV-13 or higher. As part of implementing this measure, require an ongoing maintenance plan for the building's Heating, Ventilation and Air Conditioning (HVAC) air filtration system. Air filtration devices rated MERV-13 are estimated to reduce indoor levels of particulates by 75 to 90 percent (CARB 2017). ▶ Plant trees and/or vegetation suited to trapping roadway air pollution and/or sound walls between sensitive receptors and the pollution source. This measure would trap pollution emitted from pollution sources such as freeways, reducing the amount of pollution to which residents and other sensitive populations would be exposed. The vegetation buffer should be thick, with full coverage from the ground to the top of the canopy (CARB 2017, Baldauf 2016). Vegetation can be combined with sound walls to further reduce pollution exposure, particularly for locations immediately behind the barrier. ▶ Design streets that have more open space and varied building heights. ▶ Move bus stops and other gathering location farther from intersections.	X	X			X	X	X

Mitigation Measures	Implementation Timing				Responsible Party		
	Planning/ Design/CEQA Review	Grading/ Construction	**Post-Construction**	Ongoing	SANDAG	Transportation Project Sponsor	Land Use Agency/ Special District
AQ-5a Reduce Exposure to Localized Toxic Air Contaminant Emissions. During planning, design, and project-level CEQA review of transportation network improvements and programs, SANDAG shall, and other transportation project sponsors can and should, evaluate the potential toxic air contaminant (TAC) impacts of the project using applicable procedures and guidelines for such analyses (for example, California Air Pollution Control Officers' Association, OEHHA, and EPA air toxics health risk assessment guidance). In addition, during planning, design, and project-level CEQA review of development projects, the County of San Diego, cities, and other local jurisdictions can and should apply the above measures, and additional measures to reduce TAC emissions or exposure to TAC emissions, including but not limited to: ▶ Reduce the potential for TACs to be introduced into buildings by all of the following: ▪ Maintaining a positive air pressure within buildings that include sensitive receptors. ▪ Achieving a performance standard of at least one air exchange per hour of fresh outside filtered air. ▪ Achieving a performance standard of at least 4 air exchanges per hour of recirculation. ▪ Achieving a performance standard of at least 0.25 air exchanges per hour of unfiltered air if the building is not positively pressurized. ▶ Within developments, separate sensitive receptors from truck activity areas, such as loading docks and delivery areas. This measure would reduce exposure of residents and other sensitive receptors by locating sources of TACs associated with loading docks and delivery areas away from sensitive receptors. ▶ Replace or retrofit existing diesel generators that are not equipped to meet CARB's Tier emission standards. ▶ Reduce emissions from diesel trucks using the project site through the following measures: ▪ Install electrical hook-ups for electric or hybrid trucks at loading docks. ▪ Require trucks to use Transportation Refrigeration Units (TRUs) that meet Tier 4 emission standards.	X	X			X	X	X

Mitigation Measures	Implementation Timing				Responsible Party		
	Planning/ Design/CEQA Review	Grading/ Construction	**Post-Construction**	Ongoing	SANDAG	Transportation Project Sponsor	Land Use Agency/ Special District
▪ Require truck-intensive projects to use advanced exhaust technology (e.g., hybrid) or alternative fuels. ▪ Prohibit trucks from idling for more than 2 minutes as feasible. This measure would reduce emissions of TACs from trucks and TRUs by reducing operations and requiring them to use electrical hookups. ▶ Do not locate sensitive receptors in the same buildings as a perchloroethylene dry cleaning facility. This measure would reduce potential exposure of sensitive receptors to perchloroethylene from dry cleaning facilities. ▶ Maintain a 50-foot buffer from a typical gas dispensing facility (under 3.6 million gallons of gas per year). This measure would reduce potential exposure of sensitive receptors to emissions from gas stations. ▶ Ensure that private (individual and common) exterior open space, including playgrounds, patios, and decks, is shielded from stationary sources of air pollution by buildings or otherwise buffered to further reduce air pollution exposure for project occupants. This measure would reduce the potential for exposure of residents and other sensitive populations to stationary sources of TAC emissions.							
AQ-5b Reduce Exposure to Localized Toxic Air Contaminant Emissions during Railway Design. In order to help reduce localized toxic air contaminant (TAC) concentrations at sensitive receptors near the future proposed railway(s), SANDAG shall require the design of railway tunnels or other approaches to move emissions underground, where feasible, during individual project-level design. Furthermore, individual project-level design of railway tunnels or other underground features shall require that portals, adits, windows, and other venting features are located as far away as feasible from nearby sensitive receptor(s).	X	X			X	X	
GHG-4a Allocate Grant Funding to Projects that Reduce GHG Emissions. See Green House Gas Emissions and Climate Change Section for Mitigation Measure GHG-4a.							
GHG-4b Coordination and Support to SANDAG Member Agencies to Adopt, Update, and Monitor GHG Reduction Plans. See Green House Gas Emissions and Climate Change Section for Mitigation Measure GHG-4b.							
GHG-4c Allocate Funding for Zero-Emissions from Transportation Projects. See Green House Gas Emissions and Climate Change Section for Mitigation Measure GHG-4c.							

Mitigation Measures	Implementation Timing				Responsible Party		
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GHG-4d Implement Measures to Reduce GHG Emissions from Transportation Projects. See Green House Gas Emissions and Climate Change Section for Mitigation Measure GHG-4d.							
GHG-4e Implement Measures to Reduce GHG Emissions from Development Projects. See Green House Gas Emissions and Climate Change Section for Mitigation Measure GHG-4e.							
TRA-2 Achieve Further VMT Reductions for Transportation and Development Projects. See Transportation Section for Mitigation Measure TRA-2.							
Biological Resources							
BIO-1a: Implement Design, Minimization, and Avoidance Measures for Sensitive Natural Vegetation Communities and Regulated Aquatic Resources. During project planning, design, project-level CEQA review, and construction of transportation network improvements or development projects, SANDAG shall, and other transportation project sponsors, the County of San Diego, cities, and other local jurisdictions can and should, avoid impacts on sensitive natural communities and regulated aquatic resources when feasible. Avoidance measures include, but are not limited to, the following: ▶ Conduct early coordination with the wildlife agencies and the respective local jurisdictions to design alignments that avoid sensitive resources and preserved lands. ▶ During the site identification and project design process, to the extent feasible, prioritize the least environmentally constrained site, and select a design that avoids and minimizes impacts on biological resources and NCCP lands, and maintains habitat integrity. ▶ Confine development footprints to the minimum amount of undeveloped area necessary for construction and safe, reliable operation. Limit access routes and staging areas to existing roadways and developed or disturbed areas. Direct drainages away from sensitive habitats, such as canyons. Clearly delineate all construction areas, staging areas, and access routes in the final engineering plans. ▶ Limit grading and earth-moving activities to the permitted impact footprint. Install environmentally sensitive area fencing or flagging along the limits of disturbance prior to the start of construction to avoid incidental loss of sensitive habitat types.	X	X			X	X	X

Mitigation Measures	Implementation Timing				Responsible Party		
	Planning/ Design/CEQA Review	Grading/ Construction	**Post-Construction**	Ongoing	SANDAG	Transportation Project Sponsor	Land Use Agency/ Special District
▶ Require biological monitoring and regular inspections for construction in the vicinity of and adjacent to sensitive habitats to avoid impacts on these habitats. Report any special-status species and natural communities detected during project surveys to the CNDDB.							
BIO-1b: Provide Compensatory Mitigation. Where impacts are unavoidable, during project planning, design and project-level CEQA review of transportation network improvements or development projects, SANDAG shall, and other transportation project sponsors, the County of San Diego, cities, and other local jurisdictions can and should, provide compensatory mitigation, as specified by and consistent with adopted MSCP or MHCP guidelines and agreements, applicable federal and state regulatory requirements for mitigating impacts on wetlands and regulated aquatic resources, and applicable local regulations protecting sensitive natural communities, or through consultation with resource agencies (including federal and state wildlife and regulatory agencies, such as USFWS, CDFW, USACE and RWQCB). SANDAG shall, and other implementing agencies can and should, establish appropriate mitigation ratios where ratios have not already been established through ordinances and guidelines, specifically for impacts on sensitive coastal, riparian, and shrubland communities. SANDAG shall, and other implementing agencies can and should, design compensatory mitigation to result in the conservation, establishment, or creation of self-sustaining sensitive natural and native communities, replacing the lost habitat or habitat value as required to offset those lost from project implementation. Otherwise, mitigation measures would include the requirement for and financing of long-term conservation and management requirements of the mitigation projects. For impacts outside the coastal zone, provide compensatory mitigation in the form of project- and habitat-specific onsite or offsite mitigation. Offsite mitigation would occur through several options, including (1) the purchase of credits at an existing authorized mitigation bank within or adjacent to the ecoregion or watershed within which the impacts occurred; (2) in-lieu fee program; or (3) project-specific (permittee responsible) mitigation, such as habitat enhancement, establishment (creation), or reestablishment (restoration). Mitigation should occur as close to the impact and in the same local watershed as feasible, unless compelling ecological benefits, as supported by the state and federal wildlife agencies, would result from mitigation located in another area. Compensatory mitigation for impacts inside the North Coast Public Works Plan/Transportation and Resource Enhancement Program (PWP/TREP, 2014) should be consistent with Chapter 6B Resources Enhancement and Mitigation Program.	X	X			X	X	X

Mitigation Measures	Implementation Timing				Responsible Party		
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Compensatory mitigation for impacts inside the coastal zone and outside the PWP/TREP should be provided within the coastal zone as close as feasible to the impact. Consistent with the resource agencies' approval and applicable adopted plans, ordinances, and policies, provide compensatory mitigation for sensitive upland vegetation communities through the following: ▶ Onsite restoration and post-restoration monitoring for temporary impacts using appropriate native species and natural habitat configurations similar to or better than those impacted. ▶ On- or offsite preservation of existing habitats through acquisition or restoration using TransNet and other (e.g., project-specific) mitigation funds for permanent impacts. Protect mitigation lands in perpetuity (e.g., through a conservation easement or similar legal conservation assurance to be approved by the regulatory agencies), fund long-term management (e.g., through the establishment of an endowment for habitat management and for easement management), and adequately manage such lands to maintain the originally intended biological quality and function in perpetuity. ▶ Offsite mitigation requirements met through TransNet or other (e.g., project specific) mitigation funds. When mitigation is provided outside of an adopted NCCP/HCP plan area, the following conditions should apply: ▪ Give priority to mitigation lands connected to existing conserved open space. ▪ Consider contributing to the establishment of large blocks of habitat or lands that are otherwise critical for covered species or providing for biological core areas and habitat linkages consistent with current regional conservation planning goals. ▪ Mitigate impacts on critical habitat within the same Critical Habitat Unit where the impacts occurred. ▪ Purchase of habitat credits at an approved mitigation bank, or through payment into an in-lieu mitigation fee program applicable to the impacts and as approved by the wildlife agencies. ▪ Construction within regulated aquatic resources would be subject to prior authorization by USACE, the RWQCB, CDFW, and CCC (as applicable in the coastal zone). Consistent with the resource agencies' permitting and applicable adopted plans, ordinances, and policies, provide project-specific mitigation for impacts on regulated aquatic resources, including waters and wetlands, and							

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	Planning/ Design/CEQA Review	Grading/ Construction	**Post-Construction**	Ongoing	SANDAG	Transportation Project Sponsor	Land Use Agency/ Special District
associated state-regulated riparian habitat, through one of the following, in order of priority: ▪ Purchase of credits at an existing authorized mitigation bank (as available) or in-lieu fee program, except within the coastal zone. Provide compensatory mitigation for impacts inside the coastal zone at sites within the coastal zone close to the impact. Mitigation of impacts to aquatic resources within the coastal zone may require offsets outside the coastal zone and would be negotiated with CCC on a case-by-case basis. ▪ Project-specific (permittee responsible) mitigation. Apply an appropriate mitigation ratio for regulated aquatic resources in consultation with the regulatory agencies (i.e., following the USACE Standard Operating Procedure and any other applicable standards) to ensure no net loss of wetlands functions and services, account for temporal losses, and set in coordination with USACE, the RWQCB, and CDFW. Use bioengineered soft structure creek and wetland restoration methods where feasible. Impacts on vernal pools in the city of San Diego would require mitigation consistent with the VPHCP (City of San Diego 2017); impacts on vernal pools outside the city of San Diego would require permitting through the RWQCB.							
BIO-1c: Prepare a Habitat Restoration Plan. During planning, design, and project-level CEQA review of transportation network improvements or development projects, and as part of the regulatory permitting process, SANDAG shall, and other transportation project sponsors, the County of San Diego, cities, and other local jurisdictions can and should—as specified through consultation with and as approved by the resource agencies, and consistent with adopted MSCP or MHCP guidelines and agreements, and applicable federal and state regulatory requirements—prepare and implement a habitat restoration plan for impacts on sensitive natural communities or a habitat mitigation and monitoring plan consistent with the requirements of and approved by USACE, the RWQCB, and CDFW for all impacts on regulated waters, including wetlands. This mitigation measure applies provided that mitigation does not occur through credit purchase at a mitigation bank. The restoration plan should include the following: ▶ Details regarding the location of the site, site conditions and functions, site preparation (e.g., grading, bioengineering methods), recontouring, planting specifications (including native seed mixes and plant palettes), irrigation design (if determined necessary), and measures to control exotic vegetation.	X				X	X	X

Mitigation Measures	Implementation Timing				Responsible Party		
	Planning/ Design/CEQA Review	Grading/ Construction	**Post-Construction**	Ongoing	SANDAG	Transportation Project Sponsor	Land Use Agency/ Special District
▶ Details on avoidance of impacts on any extant sensitive biological resources that may occur as the result of habitat restoration, including direct loss and indirect effects related to changes in hydrology and associated potential effects on species composition. ▶ Identification of locally appropriate plant species for the plan, sourcing (e.g., seed collection, contract-growing of container plants), and outline of performance standards (success criteria). Success should be measured by comparing a similar, natural (undisturbed) reference site containing the same vegetation communities and located within the same watershed as the restoration site, and should use statistical metrics in consideration of the temporal difference between an established reference site and an immature restoration site. ▶ Performance standards sufficient to create self-sustaining habitat providing the functions and values required to offset those lost to the impacts and meet the requirements of applicable agency and adopted plans, ordinances, and policies. After final performance standards have been met and any relevant permitting agencies have approved the mitigation project as complete, the mitigation areas must be conserved and managed in perpetuity (see BIO-1d). ▶ Maintenance and monitoring procedures (including post-restoration monitoring and reporting). Any habitat restoration and mitigation site should be monitored for a minimum of 5 years or as required by regulatory agencies but continue maintenance and monitoring until performance standards are met. ▶ Identification of remedial measures if the mitigation efforts fall short of the performance standards. Remedial measures typically consist of, but are not limited to, replanting, reseeding, topographical/surface contour adjustments, supplemental irrigation, access control, increased weed control, and extended maintenance and monitoring periods. ▶ Climate science and climate change resiliency and adaptation measures, to be developed as adaptive management strategies for restoration and long-term management planning, to reflect the latest available information on climate change impacts and adaptation measures, such as seed storage and adaptation of the seed mixes and planting palettes to adapt to changing climate conditions and sea-level rise.							

Mitigation Measures	Implementation Timing				Responsible Party		
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BIO-1d: Prepare Habitat/Long-Term Management Plans. During project-level CEQA review of transportation network improvements or development projects and as part of the regulatory permitting process, SANDAG shall, and other transportation project sponsors, the County of San Diego, cities, and other local jurisdictions should—as specified through consultation with and approved by the resource agencies, and consistent with adopted MSCP or MHCP guidelines and agreements, and applicable federal and state regulatory requirements—prepare and implement a long-term management plan (LTMP) consistent with the requirements of USACE, the RWQCB, and CDFW for all impacts on regulated waters, including wetlands, or an HMP or resources management plan (RMP) for upland mitigation areas. The management plans can and should be consistent with the SDMMP MSP and be prepared by qualified and experienced ecologists to develop appropriate management and monitoring measures. The management plans should describe management in perpetuity of the mitigation and conservation areas, illustrate adaptive management measures, outline management goals and objectives, and identify management tasks consistent with these goals and objectives. Management goals should include adaptive management measures for climate adaptation and resiliency. Furthermore, SANDAG shall, and other transportation project sponsors, the County of San Diego, cities, and other local jurisdictions can and should, prepare a management cost analysis to identify long-term management costs pursuant to measures outlined in the LTMP, HMP, or RMP. Long-term management should be funded using endowments or other financial assurances to generate sufficient annual interest to manage mitigation areas in perpetuity. In addition to the funding requirements, the management plans should also identify the habitat manager and propose a site protection instrument, such as an agency-approved conservation easement (CE), restrictive covenant, long-term conservation assurances (i.e., through an approved NCCP), or other title restriction that identifies the mitigation site to be conserved in perpetuity. In some cases, compensatory mitigation would occur through adding lands through public lands that are already preserved (e.g., National Wildlife Refuge).	X				X	X	X
BIO-1e: Implement Best Management Practices to Avoid Indirect Impacts. During planning, design, project-level CEQA review, and construction of transportation network improvements or development projects, SANDAG shall, and other transportation project sponsors, the County of San Diego, cities, and other local jurisdictions can and should, include location-specific measures to avoid and minimize construction-generated dust, erosion, runoff, and sedimentation, and exotic plant	X	X			X	X	X

Mitigation Measures	Implementation Timing				Responsible Party		
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invasion, within or into sensitive natural habitats and jurisdictional waters. Location-specific measures consist of, but are not limited to, the following: ▶ Place construction materials, staging, storage, dispensing, fueling, and maintenance activities in upland areas outside of sensitive habitat, and take adequate measures to prevent any runoff from entering regulated waters, including wetlands. ▶ Fuel equipment on existing paved roads. Check contractor equipment for leaks prior to operation and repaired as necessary. ▶ Monitor construction activities using a qualified biologist when construction is occurring in, or adjacent to, sensitive natural communities and grant the biologist the authority to stop work if it deviates from approved plans and mitigation measures. ▶ Prohibit planting or seeding of invasive plant species that appear on the most recent version of the California Invasive Plant Council (Cal-IPC) California Invasive Plant Inventory, including the development of an integrated invasive plant control plan describing protocols and enforcement schedules for maintenance, construction, and emergency activities working within and moving between important habitat areas.							
BIO-2a: Implement Design, Minimization, and Avoidance Measures for Special-Status Animal Species. During planning, design, project-level CEQA review, regulatory permitting process, and construction of transportation network improvements or development projects, SANDAG shall, and other transportation project sponsors, the County of San Diego, cities, and other local jurisdictions can and should, incorporate measures to avoid and minimize impacts on special-status animal species. **Construction** Construction measures consist of, but are not limited to, the following: ▶ Identify potential habitats using regionally available data sources and conduct biological field habitat assessments and species surveys as required by regional programs, protocols, or regulatory requirements. ▶ Avoid construction during the nesting or breeding season of special-status animal species.	X	X	X		X	X	X

Mitigation Measures	Implementation Timing				Responsible Party		
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▶ If the nesting or breeding seasons cannot be avoided, conduct focused surveys (by certified or trained biologists approved by the wildlife agencies) and implement mitigation measures. For indirect impacts, noise attenuation measures (e.g., temporary noise barriers) may be required if construction noise levels are found by the focused survey to disturb special-status animal species, specifically during the breeding season. ▶ Backfill all wildlife pitfalls (trenches, bores, and other excavations) at the end of each work day. If backfilling is not feasible, slope all trenches, bores, and other excavations at a 3:1 ratio at the ends to provide wildlife escape ramps or cover completely to prevent wildlife access. ▶ Delineate permitted work areas, including staging areas, equipment access, and placement of soils, with fencing or stakes prior to construction to prevent access to areas occupied by special-status species. ▶ Require monitoring of construction activities by qualified or certified biologists when construction occurs in, or adjacent to (i.e., within buffer areas approved by the regulatory agencies), areas suitable for or occupied by special-status species, with authority to stop work if it deviates from approved plans and mitigation measures. Avoidance buffers may vary by species and should be approved by the wildlife agencies. ▶ Avoid nighttime construction or minimize lighting. When activities must occur at night, direct lighting (e.g., staging areas, equipment storage sites, roadway) downward and away from sensitive vegetation communities. Use light glare shields to reduce the extent of illumination into adjoining areas. ▶ Remove spoils, trash, or any debris to an offsite, approved disposal facility. Contain trash and food items in closed containers and remove daily to reduce the attractiveness to opportunistic predators, such as coyotes and feral dogs and cats that may prey on sensitive species. Prohibit workers from bringing pets and firearms to the site. ▶ Clear vegetation outside of the typical breeding season of special-status animal species as determined by the wildlife agencies or qualified biologist. If activities must occur during special-status species breeding season timeframes, conduct a preconstruction survey by a qualified biologist to determine whether the species of concern, including special-status birds protected under the MBTA, are present within the proposed work area or appropriate buffer (buffer distance may vary depending on the type of activity and the species and other site conditions). If the							

Mitigation Measures	Implementation Timing				Responsible Party		
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species of concern are found onsite, implement measures, surveys, and construction monitoring to avoid impacts as determined by the regulatory agencies or the qualified biologist. **Operation and Maintenance** Operation and maintenance measures may incorporate the same measures as detailed above and consist of, but are not limited to, the following: ▶ If permanent lighting is necessary, use motion sensitive lighting rather than steady burning, and direct downward and away from natural vegetation communities. Use light glare shields to reduce the extent of illumination into adjoining areas. ▶ In the event that vegetation clearing or other vegetation maintenance is required, schedule vegetation clearing outside special-status animal species breeding seasons. ▶ Implement operational noise-reduction measures described in Section 4.13, "Noise and Vibration" (see Mitigation Measure NOI-1b).							
BIO-2b: Provide Compensatory Mitigation for Special-Status Plant Species. Where impacts are unavoidable, during planning, design, regulatory permitting, and project-level CEQA review of transportation network improvements or development projects, SANDAG shall, and other transportation project sponsors, the County of San Diego, cities, and other local jurisdictions can and should, provide compensatory mitigation for impacts on special-status plant species as specified through consultation with resource agencies, and consistent with adopted MSCP or MHCP guidelines and agreements, federal and State regulatory requirements, or local regulations. **Federally and State-Listed Plant Species** ▶ If an individual project would result in take of a federally or state-listed plant species, consult with the wildlife agencies or require the applicant to obtain appropriate take authorizations (e.g., Section 2081 Incidental Take Permit, NCCP, Section 7, Section 10 HCP) prior to construction as required by state and federal law. Federally listed plant species may not fall under this requirement if no federal project nexus is provided. If the area is covered by an adopted NCCP (e.g., MSCP, MHCP), provide mitigation according to the requirements of the NCCP, subarea plan, and associated ordinances and guidelines. ▶ Establish appropriate habitat mitigation ratios—depending on the location of the impact and the species—that are also consistent with the requirements of resource	X				X	X	X

Mitigation Measures	Implementation Timing				Responsible Party		
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agencies and applicable adopted plans, ordinances, and policies that include the appropriate habitat, area, and species in compensation lands. If appropriate, require the applicant to acquire suitable mitigation habitat as part of the SANDAG EMP or use a mitigation bank or in-lieu fee program to compensate for impacts.							
▶ Prepare a species and habitat mitigation plan to identify effective methods for reestablishing the affected species and habitat, consisting of, but not limited to, seed collection, salvage of whole plants and soil/root masses (i.e., for impacts to San Diego ambrosia), translocation of transplantation of populations or plant parts, and planting seeds or root masses in an area with suitable conditions as approved by the wildlife agencies or authorized jurisdiction. Include in the mitigation plan success criteria for reestablishing the affected species and habitat, and remedial measures that must be implemented if the project is not meeting specified performance criteria.							
▶ Implement habitat and species-specific mitigation measures that may include habitat restoration with species-specific habitat components, such as constructing artificial burrowing owl burrows; creating vernal pools in the appropriate historical habitat context; establishing habitat components for sensitive amphibians and reptiles, such as cover boards; and including nectaring and flowering plant species in the restoration planting specifications for sensitive invertebrates.							
▶ Include a monitoring program designed to maintain the resources on lands used as mitigation. Design the monitoring program to evaluate the current and probable future health of the resources and their ability to sustain populations following the completion of the program.							
▶ Design remedial measures appropriate for the species and habitat. Appropriate remedial measures consist of, but are not limited to, exotic species management, access control, replanting and reseeding of appropriate habitat elements, maintenance of habitat structures (i.e., artificial burrows), and propagation and seed bulking programs.							
▶ Conserve any restoration and translocation sites in perpetuity, fund a long-term management endowment, identify a long-term habitat manager, and provide long-term adaptive habitat management measures through an HMP.							
Nonfederally and Nonstate-Listed Special-Status Plant Species							
▶ For plant species covered by adopted NCCPs or other ordinances, such as the San Diego County RPO, obtain all appropriate authorizations prior to construction as required by state, federal, and regional conservation plan (NCCP/HCP) regulations							

Mitigation Measures	Implementation Timing				Responsible Party		
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and local ordinances. This may include species-specific mitigation for covered narrow endemic plant species according to MSCP or MHCP requirements. ▶ Mitigate loss of habitat using mitigation banks or through project-specific mitigation. Mitigate habitat impacts through preservation, translocation/transplantation, restoration, or creation of self-sustaining suitable habitat as described above for federally and state-listed species. Establish appropriate habitat mitigation ratios, depending on the location of the impact and the species, to meet the requirements of resource agencies and applicable adopted plans, ordinances, and policies.							
BIO-2c: Provide Compensatory Mitigation for Special-Status Animal Species. Where impacts are unavoidable, during planning, design, regulatory permitting, and project-level CEQA review of transportation network improvements or development projects, SANDAG shall, and other transportation project sponsors, the County of San Diego, cities, and other local jurisdictions can and should, provide compensatory mitigation for impacts on special-status animal species as specified through consultation with resource agencies, and in adopted MSCP or MHCP guidelines and agreements, federal and state regulatory requirements, or local regulations. **Federally or State-Listed Animal Species and Plant Species with Federal Nexus** ▶ If an individual project would result in take of a federally or state-listed animal species, consult with the wildlife agencies and require the project applicant to obtain appropriate take authorizations (e.g., Section 2081 Incidental Take Permit, Section 7, NCCP, HCP) prior to construction as required by state and federal law. If the area is covered by an adopted NCCP (e.g., MSCP, MHCP), provide mitigation according to the requirements of the NCCP, subarea plan, and associated ordinances and guidelines. As identified through the appropriate take authorizations, develop mitigation plans and long-term conservation and management strategies, as required and approved by the wildlife agencies. ▶ Mitigate loss of habitat through open space conservation, using mitigation banks (as available) or through project-specific mitigation. Mitigate habitat impacts through preservation, restoration, or creation of self-sustaining suitable habitat following the most recent scientific information and guidance available. ▶ Establish appropriate habitat mitigation ratios—depending on the location of the impact and the species—that are also consistent with the requirements of resource agencies and applicable adopted NCCP plans, and local ordinances, and policies	X				X	X	X

Mitigation Measures	Implementation Timing				Responsible Party		
	Planning/ Design/CEQA Review	Grading/ Construction	**Post-Construction**	Ongoing	SANDAG	Transportation Project Sponsor	Land Use Agency/ Special District
that include the appropriate habitat, area, and species in compensation lands. If appropriate, require the applicant to acquire suitable mitigation habitat as part of the SANDAG EMP or use a mitigation bank or in-lieu fee program to compensate for impacts. ▶ Prepare a species and habitat mitigation plan to identify effective methods for reestablishing the affected species and habitat based on available scientific information and as recommended by the respective species experts. If appropriate and approved by the regulatory agencies, mitigation may include translocation (active or passive) of the species (plants and animals). Include in the mitigation plan success criteria for reestablishing the affected species and habitat, and remedial measures that must be implemented if the project is not meeting specified performance criteria. ▶ Include a monitoring program designed to maintain the resources on lands used as mitigation. Design the monitoring program to evaluate the current and probable future health of the resources, and their ability to sustain populations following the completion of the program. ▶ Design remedial measures appropriate for the species and habitat. Appropriate remedial measures consist of, but are not limited to, exotic species management, access control, habitat restoration, species translocation, and predator control programs. Nonfederally and Nonstate-Listed Special-Status Animal Species ▶ Obtain all appropriate authorizations prior to construction as required by state, federal, and regional conservation plan (NCCP/HCP) regulations and local ordinances (such as the County RPO). ▶ Follow guidelines that identify mitigation requirements, such as local biology guidelines and mitigation ordinances, or MOU between the respective jurisdiction and wildlife agencies. ▶ Mitigate loss of habitat using mitigation banks or through project-specific mitigation. Mitigate habitat impacts through preservation, restoration, or creation of self-sustaining suitable habitat. Create species-specific breeding opportunities and protect mitigation areas from edge effects (e.g., roadkill). Establish appropriate habitat mitigation ratios, depending on the location of the impact and the species, to meet the requirements of resource agencies and applicable adopted plans, ordinances, and policies.							

Mitigation Measures	Implementation Timing				Responsible Party		
	Planning/ Design/CEQA Review	Grading/ Construction	**Post-Construction**	Ongoing	SANDAG	Transportation Project Sponsor	Land Use Agency/ Special District
BIO-3a: Facilitate Wildlife Movement. During planning, design, and project-level CEQA review of transportation network improvements or development projects, SANDAG shall, and other transportation project sponsors, the County of San Diego, cities, and other local jurisdictions can and should, implement project designs that provide for continued movement of wildlife by limiting edge effects and assisting wildlife navigation through or across barriers in areas where wildlife corridors and nursery sites are impacted, as determined by best available information, modeled wildlife corridors, linkages identified in adopted HCP/NCCPs, studies conducted by the SDMMP with their partners, or project-specific wildlife movement studies. When second-tier projects are evaluated in the future, information and linkages identified in draft HCPs may be also be considered as part of best available information. Wildlife movement studies, and before-after-control-impact-studies where data are lacking, shall be conducted prior to project design, including identifying corridor widths and wildlife crossing structures and balancing conservation and recreation. Adaptive management and monitoring measures in the CEQA review and mitigation measures, shall be included in project design. Design measures consist of, but are not limited to, the following: ▶ Incorporate wildlife movement and corridor planning and utilize data generated by SDMMP into project design. ▶ Allow corridor buffer zones and wide movement corridors to remain or incorporate periodic larger habitat patches along a corridor's length. ▶ Where feasible, site linear projects, including pedestrian trails, away from wildlife corridors and conserved lands or NCCP lands. ▶ Where feasible, prohibit nighttime trail use and enforce seasonal trail closure, and plan access points and infrastructure carefully to minimize the effects on biological resources and wildlife corridors. ▶ As feasible, within 200 feet of a wildlife corridor, use nonreflective glass or glass treated with nonreflective coating for all exterior windows and building surfaces. ▶ Use only native species for landscaping within at least 200 feet of identified wildlife corridors. ▶ Incorporate dimmed, shielded, and directed lighting in areas near corridors that only illuminate the project site; consider high-pressure sodium or cut-off fixtures as feasible, and provide vegetative screening to reduce light pollution on corridors.	X	X			X	X	X

Mitigation Measures	Implementation Timing				Responsible Party		
	Planning/ Design/CEQA Review	Grading/ Construction	**Post-Construction**	Ongoing	SANDAG	Transportation Project Sponsor	Land Use Agency/ Special District
▶ Include permanent noise barriers and sound-attenuating features as part of the project design and incorporate temporary noise barriers and noise-reduction devices on equipment during construction; require the use of hydraulically or electrically powered tools, as feasible. Barriers could be in the form of outdoor barriers, sound walls, buildings, or earth berms to attenuate noise at adjacent sensitive uses. ▶ Install physical barriers (e.g., wildlife fencing) that prevent human and domestic predator entry into the corridor and, if appropriate, limit the amount of noise and lighting that enters the corridor. Use techniques such as grade separation, buffer zones, landscaped berms, dense plantings, sound walls, reduced-noise paving materials (i.e., rubberized asphalt), and traffic calming measures. ▶ Minimize the number of road and rail crossings through identified wildlife corridors. ▪ Incorporate the appropriate wildlife crossing infrastructure into project design. Wildlife crossing infrastructure will be designed following the latest scientific information and should include upgrading existing culverts to facilitate functional wildlife movement, installing crossing and directional fencing at roadkill hotspots, installing wildlife bridges (overpasses) or undercrossing, and managing in perpetuity both sides of the wildlife crossings. Construct or retrofit with features such as open span bridges instead of closed culverts to allow for wildlife movement under linear transportation corridors. ▪ Maximize the use of overpasses strictly for the use of wildlife movement when feasible (i.e., not paired with other recreational uses that may interfere with the use of the overpass by wildlife). However, if the construction of or retrofitting with wildlife bridges is infeasible, incorporate undercrossings or other crossing structures that use scientifically accepted openness ratios to allow for continued movement of wildlife where transportation facilities create barriers to wildlife movement and use of nursery sites. Evaluate size-class-specific crossing structures and movement enhancement features (e.g., habitat refugia within structure, soft bottom undercrossings) for each species to ensure that crossings are functional for movement. Additionally, within aquatic habitat impacting fish corridors for species such as southern steelhead, create passable aquatic barriers for migratory fish species in order to provide fish access to spawning and rearing habitats.							

Mitigation Measures	Implementation Timing				Responsible Party		
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▪ Additionally, within aquatic habitat and identified fish migration corridors for migratory fish, address fish passage for anadromous species pursuant to SHC 156.3, and implement project designs that provide adequate fish passage, and create passable aquatic barriers in order to provide fish access to spawning and rearing habitats. ▪ Maintain undercrossings and other crossing structures as needed to ensure wildlife movement. Prepare a fencing and wildlife crossing structure maintenance plan for projects with edge effects to maintain permeability for wildlife across corridors. ▪ Install directional fencing, where appropriate, to reduce vehicle mortality and guide wildlife to proposed bridges, undercrossings, and other crossing structures. Where fencing stops, extend the fence and angle it away from the roadways to deter wildlife from being funneled to roadways. Because it is not possible to install a continuous fence, use one-way gates or jump-outs so animals that do get around fence end runs can safely exit roadways. ▶ In addition, consistent with the California Ecosystems Protection Act (AB 1788), ban the use of anticoagulant rodenticides near open space, conserved lands, and areas identified as core, linkages, wildlife corridors, or other connectivity areas. The use of anticoagulant rodenticides causes secondary poisoning in predators and may contribute to reduced functional connectivity in an already constrained landscape.							
Cultural Resources							
CULT-1a Develop Project-Level Measures for Development Projects and Transportation Network Improvements. During project-level CEQA review of development projects or transportation network improvements that would cause a substantial adverse change in the significance of a CEQA-defined historical resource or significantly affect a unique archaeological resource, the County of San Diego, cities, and other local jurisdictions can and should, or SANDAG shall, and other transportation project sponsors can and should, develop project-level protocols and mitigation measures, consistent with CEQA Guidelines Section 15126.4(b), to avoid substantial adverse changes to CEQA-defined historical resources and unique archaeological resources. The local lead agency can and should, SANDAG shall, and other transportation project sponsors can and should allow for adequate resources to identify (through survey, consultation, or other means) resources to develop minimization and avoidance methods where possible, and will/can and	X	X	X		X	X	X

Mitigation Measures	Implementation Timing				Responsible Party		
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should consult with appropriate Native American representatives to provide necessary input as to resources that are of concern. These may include natural areas that contain resources of importance to tribes if they are historical resources or unique archaeological resources. These identification efforts shall be conducted by qualified professionals, as defined by the Secretary of the Interior's professional standards. Project-level mitigation measures include, but are not limited to, the following: <u>Archaeological Resources</u> ▶ Where feasible, avoid impacts on archaeological resources through preservation in place by: ▪ avoiding archaeological sites entirely during project design and construction; ▪ dedicating archaeological sites as permanent easements; ▪ capping or covering archaeological sites with a layer of chemically stable soil prior to development of tennis courts, parking lots, or similar facilities ▶ If preservation in place is not feasible, reduce impacts on archaeological sites through a data recovery program consistent with CEQA Guidelines Section 15126.4(b). (A data recovery program for archaeological sites may include excavation of a representative portion of the site—determined in consultation with the lead agency—to collect information necessary to address significant research questions.) <u>Historic Architectural Resources</u> ▶ Conduct maintenance, repair, stabilization, rehabilitation, restoration (including that which may be required to address operational impacts), preservation, conservation, relocation, or reconstruction to reduce impacts on historic architectural resources, and have a qualified architectural historian or historic architect review mitigation plans to review consistency with the Secretary of the Interior's Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings. ▶ If avoidance of a built historic architectural resource is not feasible, apply additional mitigation options consisting of, but not limited to, specific design plans for historic districts, or plans for alteration or adaptive reuse of a historical resource that follow the Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitation, Restoring, and Reconstructing Historic Buildings.							

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▶ If demolition of a historic structure must occur, apply mitigation options such as recordation including a building description, historical narrative, and photographic documentation of the building and appropriate as-built drawings similar to the Historic American Building Survey documentation outlined by the National Park Service (National Park Service 2023).							
CULT-1b Implement Monitoring and Data Recovery Programs for Development Projects and Transportation Network Improvements. During project-level CEQA review and during construction of development projects, the County of San Diego, cities, and other local jurisdictions can and should, or during construction of transportation network improvements, SANDAG shall, and other transportation project sponsors can and should, implement monitoring and data recovery measures to reduce impacts on both known and undiscovered CEQA-defined historical resources of an archaeological nature and unique archaeological resources, including but not limited to the following: ▶ Require areas identified in any required archaeological resource identification report or monitoring and mitigation plan to be monitored during the grading phase of individual projects by a qualified archaeologist and tribal monitor, consistent with CEQA and AB 52 requirements. ▶ Should an archaeological deposit or feature be encountered during construction activities that is determined to be a historical resource or unique archaeological resource by a qualified archaeologist, stop ground-disturbing activities and prepare or implement an Archaeological Data Recovery Program (ADRP) in consultation with, when applicable, qualified local agency staff with technical expertise in archaeological and cultural resources management and California Native American tribes, consistent with CEQA and AB 52 requirements. ▶ Integrate curation of archaeological materials and associated records in a regional center focused on the care, management, and use of archaeological collections if the artifact must be excavated; if the archaeological materials are Indigenous in nature, this must be approved by the regionally affiliated Native American tribe. This does not include Native American human remains and associated burial items, the disposition of which must be determined in consultation with the Most Likely Descendants, pursuant to PRC Section 5097.98.	X	X			X	X	X

Mitigation Measures	Implementation Timing				Responsible Party		
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Geology, Soils, and Paleontological Resources							
GEO-5a Identify the Potential for Unique Paleontological Resources or Unique Geologic Features for Development Projects or Transportation Network Improvements. During planning, design, and project-level CEQA review of transportation network improvements or development projects, SANDAG shall, and other transportation project sponsors, the County of San Diego, cities, and other local jurisdictions can and should, assess the potential for disturbing unique paleontological resources (e.g., fossils and fossiliferous deposits consisting of identifiable vertebrate fossils, large or small; and uncommon invertebrate, plant, and trace fossils) or affecting unique geological features (i.e., a geologic feature that is the best example of its kind locally or regionally, illustrates a geologic principle, provides a key piece of geologic information, is the "type locality" of a fossil or formation, or has high aesthetic appeal) in the project area. For project sites with a high probability of these resources being present, SANDAG shall, and other transportation project sponsors, the County of San Diego, cities, and other local jurisdictions can and should, retain a qualified paleontologist to conduct a field survey and recommend subsequent steps to be taken during project construction to reduce or avoid impacts on these resources—as described in Mitigation Measure GEO-5b—in a report documenting the field survey, and with as-needed support from a registered geologist for unique geologic features not related to fossil localities or fossiliferous deposits.	X	X			X	X	X
GEO-5b Impacts on Unique Paleontological Resources or Unique Geologic Features for Development Projects or Transportation Network Improvements. If it is determined during planning, design, and project-level CEQA review that transportation network improvements or development projects would be located within an area that likely contains unique paleontological resources or unique geologic features (based on results of the work done in Mitigation Measure GEO-5a), SANDAG shall, and other transportation project sponsors, the County of San Diego, cities, and other local jurisdictions can and should, avoid or reduce impacts on these resources when feasible. If impacts to paleontological resources cannot be avoided, SANDAG shall, and other transportation project sponsors, the County of San Diego, cities, and other local jurisdictions can and should, retain a qualified paleontologist prior to construction to: ▶ Prepare a paleontological monitoring and mitigation plan, which will outline where monitoring should occur and procedures for discoveries, consistent with applicable	X	X			X	X	X

Mitigation Measures	Implementation Timing				Responsible Party		
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regulations and guidelines. Such regulatory standards include the Antiquities Act of 1906, PRPA, and PRC requirements; regional and local policies of San Diego County and the cities of Carlsbad, Chula Vista, Coronado, Del Mar, Encinitas, Escondido, Imperial Beach, La Mesa, Lemon Grove, National City, Oceanside, Poway, San Diego, San Marcos, Santee, Solana Beach, and Vista; and guidelines of other transportation project sponsors, such as California Department of Transportation's Standard Environmental Reference, Environmental Handbook: Volume 1: Guidance for Compliance, "Chapter 8: Paleontology." ▶ Establish procedures for monitoring and the possible preconstruction salvage of exposed unique resources if fossil-bearing rocks or unique geologic features have the potential to be affected. ▶ Provide preconstruction coordination with contractors. ▶ Be on site to observe during grading operations and oversee original cutting in previously undisturbed areas of sensitive geologic formations, temporarily halt or redirect construction activities as appropriate to allow recovery of newly discovered fossil remains, recover scientifically valuable specimens or ensure avoidance of the unique paleontological resource, and oversee fossil salvage operations and reporting. If impacts to unique geologic resources cannot be avoided, SANDAG shall, and other transportation project sponsors, the County of San Diego, cities, and other local jurisdictions can and should: ▶ Implement construction techniques or project features that minimize the potential for damage, if feasible. ▶ Establish procedures for the collection and preservation of important scientific data from the unique geologic feature prior to and, if warranted, during construction.							
Greenhouse Gas Emissions and Climate Change							
GHG-4a Allocate Grant Funding to Projects that Reduce GHG Emissions. SANDAG shall implement a grant program(s) that allocate(s) funding to underfunded GHG-reducing projects that implement the stated strategies or measures in local jurisdiction CAPs or GHG reduction plans. Examples of such projects to reduce GHG emissions include activities at the local level that reduce VMT such as transit-oriented development (TOD) projects, microtransit shuttles, neighborhood electric vehicle (NEVs), bikeways, and walkways.	X			X	X		

Mitigation Measures	Implementation Timing				Responsible Party		
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The grant program(s) shall (1) achieve additional annual GHG emissions reductions during the proposed Plan horizon by implementing projects that would not otherwise occur due to insufficient funding, and/or (2) achieve additional cumulative GHG emissions reductions under the proposed Plan planning horizon by implementing projects ahead of schedule and realizing GHG reductions earlier than they would otherwise occur due to timing of funding availability. Reducing total annual and cumulative GHG emissions under the proposed Plan planning horizon would reduce the proposed Plan's contribution to climate change. To be eligible for grant funding, local jurisdictions would be required to have a CAP or GHG reduction plan adopted by the agency's elected decision-making body. Any jurisdiction without a local CAP could work with SANDAG's Climate Planning Services for member agencies (mitigation measure GHG-4b) so long as the CAP or GHG reduction plan is completed prior to project implementation being started. Applications should include estimated GHG emissions reductions or other details that estimate the climate benefits from the project, which shall be prepared using established methods or protocols approved by SANDAG. The grant program(s) shall be structured (e.g., using evaluation criteria and/or weighting of evaluation criteria) to prioritize the allocation of funds to projects based on the amount of measurable progress towards achieving the GHG emissions reductions targets identified in that jurisdiction's adopted CAP or GHG reduction plan. To implement this measure SANDAG shall: ▶ Continue to require locally adopted CAPs or GHG reduction plans as prerequisites to be eligible for grant funding in future cycles of the TransNet Smart Growth Incentive (SGIP) and Active Transportation Grant Programs. ▶ Document and report to the SANDAG Transportation Committee on the activities funded by this grant program and the estimated GHG emissions reductions on an annual basis once implemented.							
GHG-4b Coordination and Support to SANDAG Member Agencies to Adopt, Update, and Monitor GHG Reduction Plans SANDAG, in coordination with the local air district, shall establish Climate Planning Services for member agencies to facilitate and expedite the adoption, updating, and monitoring of climate action plans (CAPs) or GHG reduction plans, develop GHG-reducing planning policies, and/or support local implementation of GHG-reducing initiatives that align with the San Diego Regional Climate Action Roadmap.	X			X	X		

Mitigation Measures	Implementation Timing				Responsible Party		
	Planning/ Design/CEQA Review	Grading/ Construction	**Post-Construction**	Ongoing	SANDAG	Transportation Project Sponsor	Land Use Agency/ Special District
Providing centralized Climate Planning Services through SANDAG will allow local jurisdictions to access technical climate planning experts, which will enhance interregional coordination, facilitate consistent GHG inventories across the region, provide access to the latest climate research, support best practices, standardize GHG reduction measures across reduction plans, enable regional data collection and performance monitoring, and reduce administrative contract burden. The Climate Planning Services will enable member agencies to adopt or update GHG reduction plans and GHG-reduction initiatives that would not otherwise occur due to insufficient funding, staff capacity and/or administrative burdens. These efforts will support more effective decision making and help jurisdictions implement GHG-reducing projects under the proposed Plan planning horizon ahead of schedule and realize GHG reductions earlier than they would otherwise occur. To support monitoring and implementation of local CAPs, GHG reduction plans, and the San Diego Regional Climate Action Roadmap, SANDAG shall coordinate and collaborate with the local jurisdictions within the county to compile, monitor, and share progress on climate action through its publicly available Climate Action Data Portal. The portal will be updated with new data and functions to enable jurisdictions to track progress, identify gaps, and adjust strategies over time in response to evolving conditions. This will accelerate the implementation of GHG-reducing projects. From 2016-2020, SANDAG had provided similar services to its member agencies. SANDAG would reestablish the program to provide member agencies with no-cost consultant services for climate action planning assistance. This measure will enable local jurisdictions to prepare regionally consistent CAPs and participate in regional CAP monitoring efforts. These centralized services have been requested by SANDAG's members agencies during the development of the Climate Action Roadmap. To implement this measure SANDAG shall allocate an estimated $10 million over the next 5 years to: ▶ Host and facilitate Climate Action Taskforce meetings with local governments on a quarterly basis to inform development of the Climate Planning Services procurement and to help guide the timely collection and analysis of climate action data. ▶ Release a competitive procurement for climate planning services through a Request for Proposal process in FY 2026.							

Mitigation Measures	Implementation Timing				Responsible Party		
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▶ Enter a four-year contract beginning in FY 2027 with the winning solicitation to allow local jurisdictions access to the firm's or firms' services via a task order at no direct cost to the local jurisdiction. ▶ Report out on the utilization of the services each year as part of SANDAG's budget monitoring process. ▶ Collect data on GHG reduction measures on a biannual basis from local jurisdictions in the region and update the SANDAG Data Portal with information for use by federal, state and local governments, researchers, non-profit entities, and the general public. ▶ Prepare local GHG inventories for member agencies every 4 years after RTP adoptions.							
GHG-4c. Allocate Funding for Zero-Emission Vehicle Infrastructure. Since October 2020, SANDAG has partnered with the San Diego County Air Pollution Control District and the California Energy Commission on the California Electric Vehicle Infrastructure Project (CALeVIP). The San Diego County portion of CALeVIP 1.0 has provided $21.7 million to fund workplace and public charging stations at businesses, multifamily residences, school districts, and local government buildings in the region. This program will end in December 2025 without additional investment. SANDAG shall continue to allocate funding for one or more programs that offer incentives to support and encourage the purchase and installation of electric vehicle (EV) charging infrastructure, also known as electric vehicle supply equipment (EVSE), within San Diego County. Increased installation of EVSE would facilitate increased use of zero-emission rideshare vehicles, microtransit shuttles, including neighborhood electric vehicle (NEV) shuttles, and personal vehicles. Beginning in FY 2026, SANDAG shall identify programs and projects for which to provide EVSE funding. Programs could include but not be limited to SANDAG's Flex Fleet Program to address the costs for EVSE purchase and installation for projects that choose to use zero-emission vehicles. The lack of existing EV chargers in some flex fleet pilot service areas, and a lack of funding for EV chargers within existing Flexible Fleet pilots hinders implementation of these pilot projects in the region. SANDAG has identified multiple "charging deserts" in the region that coincide with low-income communities and areas where some flexible fleet pilot projects are being considered. Focus groups with Community-Based Organizations (CBOs) and community members identified the lack of access to EV	X			X	X		

Mitigation Measures	Implementation Timing				Responsible Party		
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charging as a top barrier to considering the purchase of an electric vehicle (SANDAG 2024). To implement this measure SANDAG shall: ▶ In FY 2026, begin integration of an EV charging component into the Flexible Fleets Pilot Grant Program. ▶ Identify other regional projects that received CARB Clean Mobility Options (CMO) awards to implement local rideshare projects and identify where EV charging infrastructure can be supplemented to enhance rideshare success. ▶ In FY 2026, seek partnerships with state and local agencies to collaborate on the next iteration of a regional EV infrastructure incentive program. ▶ Allocate up to $3 million dollars over the next four years to implement this incentive program.							
GHG-4d Implement Measures to Reduce GHG Emissions from Transportation Projects. During the planning, design, project-level CEQA review, construction, operation, and maintenance of transportation network improvements, SANDAG shall, and transportation project sponsors can and should, implement measures to reduce GHG emissions and achieve zero-net energy, including but not limited to applicable transportation project measures from Chapter 3, "Measures to Reduce GHG Emissions" of the California Air Pollution Control Officers Association's (CAPCOA) Handbook for Analyzing Greenhouse Gas Emissions Reductions, Assessing Climate Vulnerabilities, and Advancing Health and Equity (CAPCOA 2024) and the Center for Resource Efficient Communities and the Center for the Built Environment's Zero-Carbon Buildings in California Feasibility Study (Center for Resource Efficient Communities and the Center for the Built Environment 2021). These GHG reduction measures include, but are not limited to, the following. ▶ Implement sustainable construction measures through construction bid specifications, including the following: ▪ use energy and fuel-efficient vehicles and equipment and/or use alternative fuel vehicles and equipment, where applicable. ▪ use cleaner-fuel equipment ▪ limit heavy-duty vehicle idling. ▶ Use lighter-colored pavement, binding agents that are less GHG-intensive than Portland cement, and less-GHG intensive asphalt pavements.	X	X	X	X	X	X	X

Mitigation Measures	Implementation Timing				Responsible Party		
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▶ Use building materials that are locally sourced and processed (i.e., close to the project site, as opposed to in another state or country) ▶ Recycle construction and demolition waste. ▶ Install efficient lighting (including LEDs) for traffic, street, and other outdoor lighting. ▶ Install Energy Star (or equivalent) cool roofing systems on all buildings. ▶ Design project site to include areas where motor vehicles are prohibited, such as paseos, bikeways, etc. ▶ Contribute to the provision of synchronized traffic signals on roadways affected by the project and as deemed necessary by the local public works department. ▶ Require commuters to pay for parking on-site. ▶ Include bus shelters at transit access points where deemed appropriate by local public transit operator in large residential, commercial, and industrial projects. ▶ Build low stress bicycle networks including bike trails and connections, lanes, parking, and end of trip facilities. ▶ Subsidize transit service expansion by increasing service hours, decreasing fares, and adding additional transit fleets. ▶ Provide transit-enhancing infrastructure that includes bus turnouts or bulbs, passenger benches, street lighting, route signs and displays, and shelters as demand and service routes warrant, subject to review and approval by local transportation planning agencies. ▶ Provide preferential parking spaces for carpool and vanpool vehicles, implement parking fees for single-occupancy vehicle commuters, and implement parking cash-out program for employees. ▶ Contribute to traffic-flow improvements (e.g., right-of-way, capital improvements) that reduce traffic congestion and do not substantially increase roadway capacity. ▶ Provide pedestrian-enhancing infrastructure that includes sidewalks and pedestrian paths, direct pedestrian connections, street trees to shade sidewalks, pedestrian safety designs and infrastructure, street furniture and artwork, street lighting, pedestrian signalization and signage, and/or access between bus service and major transportation points within the project. ▶ Increase the sidewalk coverage to improve pedestrian access.							

Mitigation Measures	Implementation Timing				Responsible Party		
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▶ Include neighborhood park(s) or other recreational options, such as trails, within the development to minimize vehicle travel to off-site recreational and/or commercial uses; ▶ Incorporate infrastructure electrification into project design (e.g., EV charging; charging for electric bikes) above minimum code requirements. ▶ Measures to plan, design and construct all new, upgraded, and regularly maintained infrastructure which uses electricity shall demonstrate how such infrastructure will achieve zero-net energy using onsite innovative technologies (e.g., photovoltaic system, battery storage, energy efficiency) or offsite solutions. ▶ Incorporate and increase electric vehicle charging equipment and preferred EV parking spots into projects that include commuter parking areas. ▶ Provide short-term and long-term bicycle parking near rail stations, transit stops, and freeway access points where there are commuter or rapid bus lines. ▶ Install park-and-ride lots near transit stops and high occupancy vehicle lanes. ▶ Include design measures (e.g., curb management strategies) to accommodate flexible fleets. ▶ Install solar photovoltaic canopies over parking areas wherever feasible. ▶ Construct buildings to Leadership in Energy and Environmental Design (LEED) certified standards or equivalent standards. ▶ Design measures to reduce water consumption, such as drought-resistant landscaping, smart irrigation systems, and other measures, including those listed in mitigation measures WS-1a and WS-1b in Section 4.18, "Water Supply." ▶ Design measures to reduce GHG emissions from solid waste management through encouraging solid waste recycling and reuse. ▶ Increase sidewalk coverage to improve pedestrian access. ▶ Funding for those measures that SANDAG selects would be included in individual project budgets.							
GHG-4e Implement Measures to Reduce GHG Emissions from Development Projects. During the planning, design, project-level CEQA review, construction, and operation of development projects, the County of San Diego and cities can and should implement measures to reduce GHG emissions and achieve zero-net energy, including but not limited to, applicable land use measures from Chapter 3, "Measures to Reduce GHG	X	X	X	X			X

Mitigation Measures	Implementation Timing				Responsible Party		
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Emissions" of the California Air Pollution Control Officers Association's (CAPCOA) Handbook for Analyzing Greenhouse Gas Emissions Reductions, Assessing Climate Vulnerabilities, and Advancing Health and Equity (CAPCOA 2024) and the Center for Resource Efficient Communities and the Center for the Built Environment's *Zero-Carbon Buildings in California Feasibility Study* (Center for Resource Efficient Communities and the Center for the Built Environment 2021). These GHG reduction measures include, but are not limited to, the following: ▶ Measures that reduce VMT by increasing transit use, carpooling, bike-share and car-share programs, and active transportation, including the following: ▪ Building or funding a major transit stop within or near development, in coordination with transit agencies. ▪ Developing car-sharing and bike-sharing programs. ▪ Providing pedestrian network improvements and a comprehensive bicycle network. ▪ Providing traffic calming measures. ▪ Providing transit incentives, including transit passes for Metropolitan/North County Transit District buses and trolleys. ▪ Consistent with the Regional Bike Plan, incorporating bicycle and pedestrian facilities into project designs, maintaining these facilities, and providing amenities incentivizing their use; and planning for and building local bicycle projects that connect with the regional network. ▪ Implementing Complete Streets consistent with the SANDAG Regional Complete Streets Policy, including adopting local Complete Streets policies. ▪ Improving transit access to bus and trolley routes through incentives for constructing transit facilities within developments, and/or providing dedicated shuttle service to trolley and transit stations. ▪ Implementing measures to increase transit use through service frequency and affordability as identified through community engagement activities, including but not limited to input from local residents, stakeholders, and Community-Based Organizations. ▪ Building low stress bicycle networks including bike trails and connections, lanes, paring, and end of trip facilities.							

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▪ Subsidizing transit service expansion by increasing service hours, decreasing fares, and adding additional transit fleets. ▪ Implementing employer trip reduction measures to reduce employee trips and VMT such as vanpool and carpool programs, providing end-of-trip facilities, telecommuting, teleconferencing, and alternative work schedule programs. ▪ Incorporating ride hailing and autonomous vehicle innovations. ▪ Including design measures (e.g., curb management strategies) to accommodate flexible fleets. ▪ Implementing a school bus program in areas currently not served by school buses. ▶ Measures to plan, design, and build all new, renovated, and upgraded development and infrastructure with electricity demand to achieve zero-net energy using onsite innovative technologies (e.g., photovoltaic system, battery storage, energy efficiency) or offsite solutions. ▶ Orient buildings to take advantage of solar heating and natural cooling, and use passive solar designs (residential, commercial, and industrial). ▶ Incorporate mixed uses, where permitted by local development regulations, to achieve a balance of commercial, employment, and housing options on the project site. ▶ Measures that reduce VMT through Transportation Systems Management (TSM). ▶ Measures that increase vehicle efficiency or reduce the carbon content of fuels, including constructing EV charging infrastructure, alternative fueling infrastructure, or neighborhood electric vehicle networks or charging infrastructure for electric bicycles consistent with SANDAG's regional readiness planning for alternative fuels. ▶ Build on a project site within 1/2 mile of a major transit station that includes service from a mode with dedicated right-of-way. ▶ Include neighborhood park(s) or other recreational options, such as trails, within the development to minimize vehicle travel to off-site recreational and/or commercial uses. ▶ Measures to reduce GHG emissions from solid waste management through encouraging solid waste recycling and reuse. ▶ Measures to reduce water consumption, including those listed in mitigation measure WS-1a and WS-1b in Section 4.18, Water Supply.							

Mitigation Measures	Implementation Timing				Responsible Party		
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▶ Land use siting and design measures that reduce GHG emissions, including the following: ▪ Focus development on infill and brownfields sites. ▪ Building high density and mixed-use developments near transit. ▪ Developing within areas with high jobs gravity to increase destination accessibility. ▪ Orienting development towards transit or an active transport corridor. ▶ Retaining onsite mature trees and vegetation, and planting new trees. Provide energy-efficient windows (double pane and/or Low-E) and awnings or other shading mechanisms for windows, porches, patios, and walkways. ▶ Install Energy Star (or equivalent) cool roofing systems on all buildings. ▶ Include passive solar cooling and heating features in designs, as well as ceiling and whole house fans. ▶ Include programmable thermostats in the design of heating and cooling systems. ▶ Use day lighting systems, such as skylights, light shelves, and interior transom windows. ▶ Provide ancillary services (e.g., cafeterias, health clubs, automatic tellers, and post offices) within walking distance of proposed development (no further than 1,500 feet) as appropriate and in compliance with local development regulations.							
AQ-3b Reduce Diesel Emissions During Construction From Off-Road Equipment. See Air Quality Section for Mitigation Measure AQ-2b.							
AQ-3c Reduce Diesel Emissions During Construction From On-Road Vehicles. See Air Quality Section for Mitigation Measure AQ-2c.							
TRA-2 Achieve Further VMT Reductions for Transportation and Development Projects. See Transportation Section for Mitigation Measure TRA-2.							
WS-1a Implement Water Conservation Measures for Transportation Network Improvements. See Water Supply Section for Mitigation Measure WS-1a.							
WS-1b Implement Water Conservation Measure for Development Projects. See Water Supply Section for Mitigation Measure WS-1b.							

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Hazards and Hazardous Materials							
HAZ-4 Demonstrate Consistency with Adopted Emergency Response or Evacuation Plans or Emergency Access. SANDAG shall and implementing agencies and/or project sponsors can and should demonstrate project consistency with all applicable emergency response and evacuation plans, where necessary based on project- and site-specific considerations. Where temporary road closures would be required during a project's construction, SANDAG shall and implementing agencies and/or project sponsors can and should prepare traffic mitigation plans that address traffic control and establish alternate emergency response and evacuation routes in coordination with emergency service providers.	X	X			X	X	X
Land Use and Planning							
LU-1a Provide Access and Connections for Transportation Network Improvements. During planning, design, and project-level CEQA review of transportation network improvements, including new rail extensions and roadway widening improvements, SANDAG shall, and other transportation project sponsors can and should, design new transportation network improvements within established communities to avoid the creation of barriers that physically divide such communities. Where avoidance is not feasible, measures to reduce the creation of barriers that physically divide such communities should be considered, including but not limited to, the following: ▶ Selecting alignments within or adjacent to existing public rights-of-way. ▶ Designing sections above- or below-grade to avoid or reduce physical division of communities, where feasible. ▶ Providing direct crossings, overcrossings, or undercrossings at regular intervals for various modes of travel (e.g., pedestrians/bicyclists, vehicles).	X				X	X	X
Mineral Resources							
MR-1a Conserve Aggregate and Mineral Resources During Planning and Design of Development Projects. During planning, design, and project-level CEQA review of development projects, the County of San Diego, cities, and other local jurisdictions can and should avoid or reduce impacts on known aggregate and mineral resources and locally important mineral resource recovery sites through the evaluation and selection of project sites and design features (e.g., buffers) that minimize direct and indirect impacts on these lands.	X						X

Mitigation Measures	Implementation Timing				Responsible Party		
	Planning/ Design/CEQA Review	Grading/ Construction	**Post-Construction**	Ongoing	SANDAG	Transportation Project Sponsor	Land Use Agency/ Special District
Aggregate and mineral resource areas, especially MRZ-2 areas, should be maintained in open space or other general plan land use designations and zoning that allow for extraction of mineral resources.							
MR-1b Conserve Aggregate and Mineral Resources During Planning and Design of Transportation Network Improvements. During planning, design, and project-level CEQA review of transportation network improvements, SANDAG shall, and other transportation project sponsors can and should, avoid loss of known aggregate and mineral resources and locally important mineral resource recovery sites, where feasible. Where avoidance is infeasible, SANDAG shall, and other transportation project sponsors can and should, minimize direct and indirect impacts on the availability of known resources and recovery sites through measures that include, but are not limited to, the following: ▶ Designing transportation network improvements in a manner (such as buffer zones or the use of screening) that do not preclude adjacent or nearby extraction of aggregate and mineral resources following completion of the improvement and during long-term operations.	X				X	X	X
Noise and Vibration							
NOI-1a Implement Construction Noise Reduction Measures for Development Projects and Transportation Network Improvements. During project-level CEQA review and during construction of development projects and transportation network improvements, local jurisdictions and transportation project sponsors can and should, and SANDAG shall, implement construction noise reduction measures to substantially lessen the exposure of noise-sensitive receptors to construction noise levels to achieve applicable noise standards or prevent substantial temporary increases in noise levels in the planning, design, project-level CEQA review, and construction of development projects or transportation network improvements. These measures should consist of, but are not limited to, the following. ▶ Maintain construction equipment and vehicles per manufacturers' specifications and fit equipment with noise-suppression devices (e.g., improved mufflers, equipment redesign, intake silencers, wraps, ducts, engine enclosures). ▶ Minimize construction equipment idling when equipment is not in use.	X	X			X	X	X

Mitigation Measures	Implementation Timing				Responsible Party		
	Planning/ Design/CEQA Review	Grading/ Construction	**Post-Construction**	Ongoing	SANDAG	Transportation Project Sponsor	Land Use Agency/ Special District
▶ Provide buffer zones or other techniques between stationary equipment (such as generators, compressors, rock crushers, and cement mixers) and the noise receptor. ▶ For impact tools (e.g., jack hammers, pavement breakers, rock drills), use hydraulically or electrically powered tools; where use of pneumatic tools is unavoidable, use an exhaust muffler on the compressed air exhaust. Use external jackets on the tools themselves. Use quieter procedures, such as drills rather than impact equipment. ▶ For rock-crushing or screening operations, place material stockpiles as a noise barrier blocking line-of sight between the operations and receptors. In addition, to substantially lessen the exposure of noise-sensitive receptors to construction noise levels from pile driving or other activities generating noise levels greater than 90 dBA Leq at 50 feet during construction of development projects or transportation network improvements, local jurisdictions and other transportation project sponsors can and should, and SANDAG shall, implement noise reduction measures to achieve applicable noise standards or prevent substantial increases in noise levels. These measures should consist of, but are not limited to, the following. ▶ Erect temporary noise barriers around the noise-generating activities, particularly adjacent to residential buildings. When installed properly, acoustic barriers can reduction construction noise levels by approximately 8 to 10 dBA (EPA 1971). ▶ Implement "quiet" pile-driving technology (such as predrilling of piles, the use of more than one pile driver to shorten the total pile-driving duration) or vibratory pile driving, where feasible, in consideration of geotechnical and structural requirements and conditions. ▶ Monitor the effectiveness of noise-attenuation measures by performing compliance noise monitoring at noise-sensitive receptors during construction.							
NOI-1b Implement Operational Noise Reduction Measures for Transportation Network Improvements. During the planning, design, and project-level CEQA review and construction of transportation network improvements, SANDAG shall, and other transportation project sponsors can and should, implement operations noise-reduction measures to substantially lessen the exposure of noise-sensitive receptors to noise levels to achieve applicable noise standards or prevent substantial permanent increases in noise levels. These measures should consist of, but are not limited to, the following.	X	X	X		X	X	X

Mitigation Measures	Implementation Timing				Responsible Party		
	Planning/ Design/CEQA Review	Grading/ Construction	**Post-Construction**	Ongoing	SANDAG	Transportation Project Sponsor	Land Use Agency/ Special District
▶ Utilize techniques such as grade separation, buffer zones, landscaped berms, sound walls, reduced-noise paving materials, building insulation, and traffic calming measures. In addition, for railway projects, SANDAG shall, and other transportation project sponsors can and should, implement measures to substantially lessen noise levels to achieve FTA/FRA railway noise-exposure thresholds during planning, design, and project-level CEQA review. These measures should consist of, but are not limited to, the following. ▶ Use wheel treatments, such as damped wheels and resilient wheels. ▶ Use vehicle treatments, such as vehicle skirts and under car acoustically absorptive material. ▶ Establish sufficient buffer zones between railroad and receptors. ▶ Use sound-reduction barriers, such as landscaped berms. ▶ Install sound insulation treatments for impacted structures. ▶ Implement FRA "quiet zone" requirements in cooperation with local jurisdictions (i.e., reducing or eliminating the requirement for train locomotives to blast their horns) for Plan improvements at new and existing at-grade rail crossings. ▶ Conduct project-level noise analysis for new and expanded rail corridors and features such as new rail tracks and double-tracking to ensure that measures are implemented to substantially lessen noise levels that exceed applicable standards.							
NOI-1c Implement Operational Noise Reduction Measures for Development Projects. During planning, design, and project-level CEQA review of development projects, the County of San Diego, cities, and other local jurisdictions can and should implement noise reduction measures to meet local noise standards, consisting of, but not limited to, the following. ▶ Use land use measures, such as zoning, site design, and buffers, to ensure that future development is noise compatible with adjacent transportation facilities and land uses. ▶ Site noise-sensitive land uses away from noise-generating facilities. Once sited, orient outdoor use areas of land uses (e.g., backyards) away from adjacent noise sources to shield area with buildings, or construct noise barriers to reduce exterior noise levels.	X	X	X				X

Mitigation Measures	Implementation Timing				Responsible Party		
	Planning/ Design/CEQA Review	Grading/ Construction	**Post-Construction**	Ongoing	SANDAG	Transportation Project Sponsor	Land Use Agency/ Special District
NOI-2a Implement Construction Groundborne Vibration and Noise Reduction Measures. SANDAG shall, and other public agencies and transportation project sponsors can and should, implement measures during design, project-level CEQA review, and construction of transportation network improvements and development projects, to reduce groundborne vibration and noise levels generated by on site construction equipment consisting of, but not limited to, the following: ▶ Where feasible, use soil mix wall for excavation. ▶ Incorporate a comprehensive construction vibration specification into all construction bid documents. ▶ Require a contractor to assess the potential for damage to buildings within 88 feet of areas where excavation requires the use of driven piles either by impact or vibratory methods. ▶ To prevent structural damage, minimum setback requirements for different types of ground vibration-producing activities (e.g., pile driving) for the purpose of preventing damage to nearby structures shall be established based on the proposed activities and locations, once determined. Factors to be considered shall include the specific nature of the vibration-producing activity (e.g., type and duration of pile driving), the proximity of existing structures, and the fragility/resiliency of nearby structures. Established setback requirements can be breached if a project-specific, site-specific vibration analysis is conducted by a qualified geotechnical engineer or ground vibration specialist that indicates that no structural damage would occur at nearby buildings or structures. ▶ If crack-and-seat operations, pile driving, or other vibration-generating construction activities are to occur within 210 feet of a fragile building (e.g., based on building/structural category under Caltrans Guideline Vibration Damage Potential Threshold Criteria [Caltrans Transportation and Construction Vibration Guidance Manual, Table 19]) that would likely be damaged by exceeding the applicable vibration threshold, implement measures to reduce vibration, consisting of, but not limited to, the following: ▪ Retain a structural engineer or other appropriate professional to determine threshold levels of vibration and cracking that would damage any fragile structure, and design construction methods to not exceed the thresholds.	X	X			X	X	X

Mitigation Measures	Implementation Timing				Responsible Party		
	Planning/ Design/CEQA Review	Grading/ Construction	**Post-Construction**	Ongoing	SANDAG	Transportation Project Sponsor	Land Use Agency/ Special District

- Require groundborne-vibration monitoring of nearby fragile structures. Implement a monitoring program to detect ground settlement or lateral movement of structures in the vicinity of pile-driving activities and identify corrective measures to be taken should monitored vibration levels indicate the potential for vibration damage to historic structures.

- To prevent disturbance to sensitive land uses associated with construction activity within the impact distances shown in Table NOI-2a below, the following measures shall be implemented:
  - Alternatives to impact pile driving (e.g., sonic pile driving, jetting, cast-in-place or auger cast piles) shall be considered and implemented where feasible to reduce vibration levels.
  - Phase pile driving and other high-impact activities (i.e., equipment or activity with a reference PPV of 0.20 in/sec at 25 feet or higher, the FTA threshold for structural damage to non-engineered timber and masonry buildings) so as not to occur simultaneously with other construction activities, to the extent feasible, to reduce total vibration from construction sources.
  - Construction operations that include high-impact activities (i.e., the use of equipment or activity with a reference PPV of 0.20 in/sec at 25 feet or higher) shall be limited to daytime hours, with daylight hours being defined by the applicable jurisdiction or agency.

Table NOI-2a Construction Equipment Vibration Levels and Impact Distances1

Equipment Item	Reference PPV (in/sec) at 25 feet	Distance to Human Response (feet), Distinctly Perceptible Threshold[2]
Crack-and-seat operations	2.4	1,034
Impact pile driver	0.65	316
Vibratory pile driver	0.65	316
Hydraulic breaker	0.24	128
Vibratory roller	0.21	113
Large bulldozer	0.089	52
Caisson drilling	0.089	52
Jackhammer	0.035	23
Small bulldozer	0.003	3

Notes: PPV = peak particle velocity; in/sec = inches per second.

1 Distances are calculated using the Reference PPV (PPVref) at 25 feet. The equation used to calculate these distances is PPV = PPVref * (25/D)n (Caltrans 2020a).

2 Caltrans threshold of 0.04 in/sec PPV applied as distinctly perceptible threshold.

Sources: Caltrans 2020a; FTA 2018.

Mitigation Measures	Implementation Timing				Responsible Party		
	Planning/ Design/CEQA Review	Grading/ Construction	**Post-Construction**	Ongoing	SANDAG	Transportation Project Sponsor	Land Use Agency/ Special District
NOI-2b Implement Groundborne-Vibration and Noise Reduction Measures for Rail Operations. SANDAG shall, and other transportation project sponsors can and should, implement vibration-reducing measures to meet FTA vibration guidelines (FTA 2018) during the planning, design, project-level CEQA review, construction, and operation of rail projects, consisting of, but not limited to, providing special track support systems, such as floating slabs, resiliently supported ties, high-resilience fasteners, and ballast mats. In addition, rail operators can and should implement groundborne-vibration and noise-reducing measures to meet FTA vibration guidelines during the planning, design, project-level CEQA review, construction, and operation of rail projects, consisting of, but not limited to, the following: ▶ Conduct rail grinding on a regular basis to keep tracks smooth. ▶ Conduct wheel truing to recontour wheels to provide a smooth running surface and removing wheel flats. ▶ To reduce groundborne noise, achieve vibration isolation of the track from underlying surface using the following: ▪ highly resilient direct fixation fasteners ▪ tail suspended fastener system ▪ isolated slab track system ▪ floating slab track system	X	X	X		X	X	X
Population and Housing							
POP-1a Coordinate with Local Jurisdictions to Reduce Substantial Unplanned Population Growth. Implementation of the proposed Plan through 2050 would indirectly induce unplanned population growth in areas of the region that are currently not developed or are underdeveloped. SANDAG shall, and other transportation project sponsors can and should: ▶ implement early coordination with local jurisdictions to anticipate and plan for substantial unplanned growth impacts resulting from transportation network improvements ▶ work with local jurisdictions to identify opportunities to develop housing as part of transportation projects.	X				X	X	X

Mitigation Measures	Implementation Timing				Responsible Party		
	Planning/ Design/CEQA Review	Grading/ Construction	**Post-Construction**	Ongoing	SANDAG	Transportation Project Sponsor	Land Use Agency/ Special District
POP-2a Design Development Projects to Reduce Displacement. During planning, design, and project-level CEQA review of land development projects, the County of San Diego, cities, and other local jurisdictions can and should develop design strategies to avoid or reduce substantial displacement of people or housing units, including affordable housing units, where consistent with overall goals to promote housing growth, including the provision of affordable housing. For development projects that would displace people or housing units, alternative designs to retain existing housing on-site, alternative project site locations and provision of replacement housing as a mitigation measure can and should be evaluated. While displacement should be considered during project evaluations, avoidance or reduction of displacement should not be employed where it would undermine achievement of housing goals, including the development of transit-oriented development and the provision of affordable housing.	X						X
POP-2b Design Transportation Network Improvement Projects to Reduce Displacement. SANDAG shall, and other transportation project sponsors can and should, identify feasible project alignments during planning, design, and project-level CEQA review that avoid or reduce permanent property acquisitions that would result in the substantial displacement of people or housing units. Where avoidance is not feasible, measures to reduce substantial displacement should be considered including, but not limited to, the following: ▶ selecting alignments within existing public ROWs ▶ designing sections above- or below-grade to avoid property acquisition that would cause displacement of people or housing units, including affordable housing ▶ selecting alignments in properties that result in the least amount of displacement; for example, acquiring vacant or undeveloped portions of property rather than portions occupied by housing units ▶ working with local jurisdictions to identify opportunities to develop housing as part of transportation projects.	X				X	X	X
Public Services, Recreation, and Utilities							
PS-1 Implement Mitigation Measures for New/Expanded Public Service Facilities. During planning, design, and project-level CEQA review of development of public facilities projects, the County of San Diego, cities, and other public service providers can and should implement mitigation measures to avoid or reduce significant environmental impacts associated with the construction of new or expanded public facilities. Mitigation	X	X					X

Mitigation Measures	Implementation Timing				Responsible Party		
	Planning/ Design/CEQA Review	Grading/ Construction	**Post-Construction**	Ongoing	SANDAG	Transportation Project Sponsor	Land Use Agency/ Special District
measures should be implemented by public service providers directly responsible for the construction or expansion activities. Significant environmental impacts requiring mitigation may be identified in the following issue areas: agricultural and forestry resources; air quality; biological resources; cultural resources, greenhouse gas emissions; hydrology and water quality; noise and vibration; geology, soils, and paleontological resources; transportation; tribal cultural resources; and water supply. Mitigation measures may be similar to those described in this EIR for construction of development projects and transportation network improvements.							
REC-1 Implement Mitigation Measures for Parks and other Recreational Facilities. During planning, design, and project-level CEQA review of development projects and transportation network improvements and programs, the County of San Diego, cities, other public service providers, and other transportation project sponsors can and should, and SANDAG shall, implement mitigation measures to avoid or reduce substantial physical deterioration of parks or other recreational facilities. Mitigation measures could include expanding or improving existing recreation facilities to accommodate additional use or building new recreation facilities.	X	X			X	X	X
U-1a Implement Mitigation Measures for New/Expanded Wastewater, Storm Water, Electrical, Natural Gas, and Telecommunications Facilities Associated with Development Projects. During planning, design, and project-level CEQA review of development projects, the County of San Diego, cities, and other wastewater, storm water, and telecommunications management agencies can and should apply necessary mitigation measures to avoid or reduce significant environmental impacts associated with the construction or expansion of new or expanded facilities. Mitigation measures should be implemented by utilities management agencies directly responsible for the approval and construction of new or expanded facilities. Significant environmental impacts requiring mitigation may be identified in the following resource areas: air quality; biological resources; cultural resources; energy; greenhouse gas emissions; hydrology and water quality; noise and vibration; geology, soils, and paleontological resources; transportation; tribal cultural resources; and water supply. Mitigation measures may be similar to those described in this EIR for construction of development projects.	X	X					X
U-1b Implement Mitigation Measures for New/Expanded Storm Water Facilities Associated with Transportation Network Improvements. During planning, design, and project-level CEQA review of transportation network improvements, SANDAG shall, and other transportation project sponsors can and	X	X			X	X	X

Mitigation Measures	Implementation Timing				Responsible Party		
	Planning/ Design/CEQA Review	Grading/ Construction	**Post-Construction**	Ongoing	SANDAG	Transportation Project Sponsor	Land Use Agency/ Special District
should, be required to implement storm water BMPs during planning, design, project-level CEQA review, and project construction. Measures include, but are not limited to, implementation and construction of sand filters, bio strips, bioswales, detention basins, storage vaults, and infiltration basins, which would reduce pollutant runoff into the storm drain system.							
U-2a Implement Mitigation Measures for New/Expanded Solid Waste Facilities. During planning, design, and project-level CEQA review of solid waste facility projects, the County of San Diego, cities, and other solid waste management agencies can and should apply necessary mitigation measures to avoid or reduce significant environmental impacts associated with the construction or expansion of new or expanded solid waste facilities. Significant environmental impacts requiring mitigation may be identified in the following resource areas: air quality; biological resources; cultural resources; energy; greenhouse gas emissions; hydrology and water quality; noise and vibration; geology, soils, and paleontological resources; transportation; tribal cultural resources; and water supply. Mitigation measures may be similar to those described in this EIR for construction of development projects.	X						X
U-2b Reduce Construction Waste. During planning, design, and project-level CEQA review and prior to the construction or demolition of transportation network improvement projects and development projects, SANDAG shall, and other transportation project sponsors, the County of San Diego, cities, and other local jurisdictions can and should, implement measures to reduce construction waste to comply with waste reduction goals identified by the state and local agencies, consisting of, but not limited to, the following: ▶ Ensure that source reduction techniques and recycling measures are incorporated into project construction and demolition. ▶ Reuse or recycle construction and demolition waste. This mitigation measure would extend the life of existing landfills and delay the need to construct new or expanded landfills.	X	X			X	X	X
U-2c Reduce Operational Waste. During planning, design, project-level CEQA review and construction of development projects, the County of San Diego, cities, and other local jurisdictions can and should integrate green building waste management measures such as those identified in the U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED),	X	X	X				X

Mitigation Measures	Implementation Timing				Responsible Party		
	Planning/ Design/CEQA Review	Grading/ Construction	**Post-Construction**	Ongoing	SANDAG	Transportation Project Sponsor	Land Use Agency/ Special District
Energy Star Homes, Green Point Rated Homes, and the California Green Builder Program. These measures consist of, but are not limited to, the following: ▶ Prepare and apply a waste management plan that promotes solid waste diversion. ▶ Implement source reduction through (1) using materials that are more durable and easier to repair and maintain, (2) designing to generate less scrap material through dimensional planning, (3) increasing recycled content, (4) using reclaimed materials, and (5) using structural materials in a dual role as finish material (e.g., stained concrete flooring, unfinished ceilings, etc.). ▶ Reuse existing structures and shells in renovation projects. ▶ Design for flexibility through the use of moveable walls, raised floors, modular furniture, moveable task lighting, and other reusable building components. ▶ Develop an indoor recycling program and space. These mitigation measures would extend the life of existing landfills and delay the need to construct new or expanded landfills.							
Transportation							
TRA-2: Achieve Further VMT Reductions for Transportation and Development Projects. During the project design and project-level CEQA review phases of transportation network improvements or land use development projects, SANDAG shall, and other transportation project sponsors (the Local jurisdictions) can, and should implement project-level VMT reduction measures in addition to those included in the Regional Plan. VMT reducing measures consist of, but are not limited to, the following: ▶ **Require TDM Strategies:** SANDAG shall and other transportation project sponsors (the Local jurisdictions) can, and should require all transportation network improvements or land use development projects, that are identified to have a significant VMT-related impact, to implement feasible TDM strategies to help offset their impacts. This mitigation measure will further reduce the proposed Plan's VMT because the potential VMT reductions associated with two TDM programs, which include vanpool and carshare were not incorporated into ABM3. Strategies, such as free shuttles, parking facilities for carshare, and site design features to facilitate walking, biking, and transit can, and should be used by land development projects to reduce VMT-related impacts. Additional project-level TDM measures not included in the proposed Plan should also be used, including walking, school bus programs, school pool programs, subsidized transit passes,	X	X	X		X	X	X

Mitigation Measures	Implementation Timing				Responsible Party		
	Planning/ Design/CEQA Review	Grading/ Construction	**Post-Construction**	Ongoing	SANDAG	Transportation Project Sponsor	Land Use Agency/ Special District
unbundled parking, preferential parking programs for carpools/vanpools, parking programs for EVs and hydrogen fuel cell cars, and bike sharing programs. ▶ **Reduce Parking Minimums:** Local jurisdictions can, and should evaluate the feasibility of reducing their currently required parking minimums. Reducing the parking minimums for different land use types, where appropriate, can decrease project-level VMT by up to 13.7 percent (CAPCOA 2024). ▶ **Implement Additional Active Transportation Facilities Not Included in the Proposed Plan:** To further reduce local VMT-related impacts and take advantage of the regional bike network, SANDAG shall and other transportation project sponsors (the Local jurisdictions) can, and should implement additional active transportation facilities that provide connections from the regional bicycle network to local neighborhoods. The proposed Plan includes funding for Complete Streets investments in areas with a high concentration of transportation options, including implementation of bicycle and pedestrian facilities that provide local connections; however, the associated VMT reductions from this funding have not yet been determined; thus, they were not yet included in the EIR's VMT analysis. Therefore, this mitigation measure would achieve further VMT reductions through the funding of additional, locally based multi-modal facilities that were not assumed in the proposed Plan analysis. The implementation of locally based multi-modal facilities, funded through the proposed Plan, can reduce VMT on the roadway network adjacent to the multi-modal facility by 0.8 percent for bicycle facilities, and up to 6.4 percent for pedestrian facilities (CAPCOA 2024). ▶ **VMT Credit/Banking Program for Local VMT Reducing Infrastructure and Programs:** SANDAG shall participate in and help facilitate a VMT Credit/Banking Program where local jurisdictions can submit and bank VMT reduction credit for VMT reducing infrastructure and/or programs which the jurisdiction has implemented. Local jurisdictions would be able to sell their banked VMT reduction credits to development projects within the region or use the credits to offset their own VMT-related impacts associated with roadway capacity improvements. Revenues received from the program must be used to advance the timing or implementation of new VMT reducing infrastructure. This program may be used to fund and/or prioritize the development of local VMT reducing infrastructure and programs that are not included within the proposed Plan, thereby reducing VMT productions within the San Diego region beyond than what is projected in Tables 4.16-7 through 4.16-10.							

Mitigation Measures	Implementation Timing				Responsible Party		
	Planning/ Design/CEQA Review	Grading/ Construction	**Post-Construction**	Ongoing	SANDAG	Transportation Project Sponsor	Land Use Agency/ Special District
This program is currently being developed as part of a Caltrans Partnership Grant that was awarded to SANDAG and the County of San Diego. ▶ **VMT Exchange Program for Local VMT Reducing Infrastructure:** SANDAG shall participate in and help facilitate a regional VMT exchange program that allows local jurisdictions to advertise unfunded VMT reducing in which land use development projects can implement to offset their VMT-related impacts. This will allow land use development projects located in more rural and suburban jurisdictions with limited VMT mitigation options to offset their VMT-related impacts by constructing infrastructure in other local jurisdictions with more VMT reducing opportunities. This program may fund construction of local VMT reducing infrastructure not included in the proposed Plan that not have been funded otherwise. The measure could thereby reduce VMT production within the San Diego region beyond the reductions projected in Tables 4.16-7 through 4.16-10. Similar to the VMT Credit/Banking Program, this program is currently being developed as part of a Caltrans Partnership Grant that was awarded to SANDAG and the County of San Diego. The following mitigation measures presented in Section 4.8, "Greenhouse Gas Emissions," will further reduce both the total VMT and VMT per capita: ▶ GHG-4a Allocate Grant Funding to Projects that Reduce GHG Emissions. ▶ GHG-4b Coordination and Support to SANDAG Member Agencies to Adopt, Update, and Monitor GHG Reduction Plans. ▶ GHG-4d Implement Measures to Reduce GHG Emissions from Transportation Projects. ▶ GHG-4e Implement Measures to Reduce GHG Emissions from Development Projects. The following mitigation measures presented in Section 4.3 "Air Quality," will further reduce both the total VMT and VMT per capita: ▶ AQ-2b. Regional Plan VMT Credit/Banking Program.							
GHG-4a Allocate Grant Funding to Projects that Reduce GHG Emissions. See Greenhouse Gas Emissions and Climate Change Section for Mitigation Measure GHG-4a.							
GHG-4b Coordination and Support to SANDAG Member Agencies to Adopt, Update, and Monitor GHG Reduction Plans. See Greenhouse Gas Emissions and Climate Change Section for Mitigation Measure GHG-4b.							

Mitigation Measures	Implementation Timing				Responsible Party		
	Planning/ Design/CEQA Review	Grading/ Construction	**Post-Construction**	Ongoing	SANDAG	Transportation Project Sponsor	Land Use Agency/ Special District
GHG-4d Implement Measures to Reduce GHG Emissions from Transportation Projects. See Greenhouse Gas Emissions and Climate Change Section for Mitigation Measure GHG-4d.							
GHG-4e Implement Measures to Reduce GHG Emissions from Development Projects. See Greenhouse Gas Emissions and Climate Change Section for Mitigation Measure GHG-4e.							
AQ-2b Regional Plan VMT Credit/Banking Program. See Air Quality Section for Mitigation Measure AQ-2b.							
Tribal Cultural Resources							
TCR-1a: Implement Tribal Cultural Resources Mitigation Measures for Development Projects and Transportation Network Improvements. During project-level CEQA review of development projects or transportation network improvements that would cause a substantial adverse change in the significance of a tribal cultural resource, the County of San Diego, cities, and other local jurisdictions can and should, SANDAG shall, and other transportation project sponsors, can and should develop project-level protocols and mitigation measures with consulting tribes, consistent with PRC Section 21080.3.2(a) to avoid or reduce impacts on tribal cultural resources during construction and operation of development projects and transportation network improvements. The County of San Diego, cities, and other local jurisdictions can and should, SANDAG shall, and other transportation projects sponsors can and should identify these resources through records searches, survey, consultation, or other means, in order to develop minimization and avoidance methods where possible, and consult with California Native American tribes participating in AB 52 consultation to develop mitigation measures for tribal cultural resources that may experience substantial adverse changes. To assist AB 52 consultation, the County of San Diego, cities, and other local jurisdictions can and should, SANDAG shall, and other transportation project sponsors can and should comply with the following best practices for complying with AB 52: ▶ Develop with the consulting tribe(s) identified through AB 52 consultation appropriate identification and evaluation measures for tribal cultural resources, such as the role of tribal cultural monitors in conducting comprehensive cultural resource surveys and developing significance criteria for tribal cultural resources and culturally sensitive areas.	X	X	X		X	X	X

Mitigation Measures	Implementation Timing				Responsible Party		
	Planning/ Design/CEQA Review	Grading/ Construction	**Post-Construction**	Ongoing	SANDAG	Transportation Project Sponsor	Land Use Agency/ Special District
▶ Develop with the consulting tribe(s) identified through AB 52 consultation appropriate avoidance and preservation measures, focused on identifying: appropriate avoidance, protection in place and buffering measures; protecting tribal cultural resources through fencing, signage and restricted access requirements; and appropriate use of GIS-based sensitivity zones (heat maps) for use in project siting and land use decisions. ▶ Develop with the consulting tribe(s) identified through AB 52 consultation appropriate construction phase measures including: tribal monitoring requirements; stop work and notification protocols for inadvertent discoveries of tribal cultural resources; and development of protocols for artifact handling, curation, and reburial. ▶ Develop with the consulting tribe(s) identified through AB 52 consultation protocols for long-term stewardship and monitoring of preserved tribal cultural resource areas. ▶ Gather relevant cultural resources information, such as California Historical Resources Information System (CHRIS) records search results, prior archaeological or ethnographic studies, Sacred Lands File (SLF) checks, or tribal input, early in the planning process to help identify tribal cultural resources and preserve options for avoidance or preservation in place. ▶ Build working relationships with tribes that are traditionally and culturally affiliated to the project area or to the agency's geographic area of jurisdiction. In consultation, agencies should deal with officially designated representatives of the tribe who have written designation to speak on behalf of the tribe. ▶ Avoid inadvertent discoveries of California Native American burials and work with tribes in advance to determine culturally appropriate treatment and disposition if burials are inadvertently discovered. ▶ Maintain the confidentiality of information shared during consultation, consistent with PRC Section 21082.3(c)(2), unless the tribe provides written consent to disclose. This measure helps prevent looting, vandalism, or damage to tribal cultural resources. ▶ Implement any mitigation measures agreed upon during AB 52 consultation. In the absence of any specific mitigation measures agreed upon during AB 52 consultation, the County of San Diego, cities, and other local jurisdictions can and							

Mitigation Measures	Implementation Timing				Responsible Party		
	Planning/ Design/CEQA Review	Grading/ Construction	**Post-Construction**	Ongoing	SANDAG	Transportation Project Sponsor	Land Use Agency/ Special District
should, SANDAG shall, and other transportation project sponsors can and should develop standard mitigation measures as set forth in PRC Section 21084.3(b). The following are standard mitigation measures for tribal cultural resources: 1. Avoidance and preservation of the resources in place, consisting of, but not limited to, planning and construction to avoid the resources and protect the cultural and natural context, or planning greenspace, parks, or other open space, to incorporate the resources with culturally appropriate protection and management criteria. 2. Treating the resource with culturally appropriate dignity, taking into account the tribal cultural values and meaning of the resource, consisting of, but not limited to, the following: a. protecting the cultural character and integrity of the resource b. protecting the traditional use of the resource c. protecting the confidentiality of the resource 3. Record permanent conservation easements or other interests in real property, with culturally appropriate management criteria for the purposes of preserving or utilizing the resources or places. 4. Protecting the resource as agreed upon during the tribal consultation process. 5. Provide tribal cultural resource training for transportation project sponsor staff with oversight for project planning, development, and construction activities.							
TCR-1b: Implement Monitoring and Mitigation Programs for Development Projects and Transportation Network Improvements. During project-level CEQA review and during construction of development projects and transportation network improvements, the County of San Diego, cities, and other local jurisdictions can and should, SANDAG shall, and other transportation project sponsors can and should identify and implement monitoring and mitigation measures to reduce impacts on both known and undiscovered tribal cultural resources, during construction and operation activities, as applicable, consisting of but not limited to the following: ▶ Require tribal cultural resource areas identified in any required monitoring and mitigation plan to be monitored during the grading phase of individual projects by a qualified archaeologist, and tribal monitor who has been approved by the consulting tribe(s) identified through AB 52 consultation.	X	X			X	X	X

Mitigation Measures	Implementation Timing				Responsible Party		
	Planning/ Design/CEQA Review	Grading/ Construction	**Post-Construction**	Ongoing	SANDAG	Transportation Project Sponsor	Land Use Agency/ Special District
▶ Should a previously undiscovered cultural resource be encountered during construction activities that is determined to be a tribal cultural resource by the CEQA lead agency in consultation with California Native American tribes, the qualified archaeologist, or tribal monitor, shall direct the contractor to temporarily divert all ground-disturbing activities in the area of the discovery. The CEQA lead agency in collaboration with the qualified archaeologist and consulting tribe(s) shall prepare and implement a mitigation plan consistent with, but not necessarily limited to, standard mitigation measures set forth in PRC Section 21084.3(b), in consultation with California Native American tribes. ▶ Any archaeological testing program or data recovery program must be developed in consultation with the consulting tribe(s) identified through AB 52 consultation. ▶ No invasive or non-invasive testing or 3D printing of any tribal cultural resources or cultural resources affiliated with the consulting tribe(s) shall occur without prior written consent being given by the consulting tribe(s) identified through AB 52 consultation. ▶ Any documentation and recording of tribal cultural resources must occur through professional practices approved by the consulting tribe(s) identified through AB 52 consultation; such professional practices may limit documentation and recording to the least impactful process, i.e. a sketch versus a photograph. ▶ If cultural or tribal cultural materials are curated, the curator of the materials must provide written proof within six (6) months following completion of the monitoring program for the project of the acceptance of said collection by a qualifying institution meeting federal standards (36 CFR 79) for a repository within the county where the curated materials were located or as agreed upon by the consulting tribe(s). ▶ The qualified archaeologist shall be responsible for ensuring that all records associated with the survey, testing, data recovery, and monitoring of future projects are curated with an appropriate regional information center, such as the South Coastal Information Center (SCIC) at San Diego State University. The construction contractor(s) and lead agency shall assist the tribe(s) with the respectful reburial of the culturally sensitive soils or objects. This includes providing a reburial location that is consistent with the tribe's preferences, excavation of the reburial location, and assisting with the reburial upon written request by a designated representative of the tribe. This shall be completed in consultation with the California Native American representative and does not include California Native American human remains and associated burial items, the disposition of							

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which should be determined in consultation with the designated Most Likely Descendants (MLDs). ▶ Upon completion of all ground-disturbing activity, the qualified archaeologist shall prepare and submit a draft and final monitoring report to the CEQA lead agency that describes the results, analysis, and conclusions of all phases of the monitoring program, including the provisions for curation and repatriation, if applicable, and copies of any signed curation agreements to verify completion of the required monitoring program. A copy of the final monitoring report, and appendices thereto, will be provided to designated representatives of consulting tribe(s) upon request.							
Water Supply							
WS-1a Implement Water Conservation Measures for Transportation Network Improvements. SANDAG shall, and other transportation project sponsors can and should, implement feasible water conservation measures during planning, design, project-level CEQA review, construction, operations, and maintenance of transportation network improvements, consisting of, but not limited to, the following: ▶ Install drip or other water-conserving or weather-based irrigation systems for landscaping. ▶ Install native plant species and noninvasive drought-tolerant/low-water-use plants in landscaping, consistent with the most recent state, regional, and local government plans; laws; and policies. ▶ Incorporate the use of reclaimed water (also known as recycled water) during planning, design, project-level CEQA review, construction, operations, and maintenance of transportation network improvements to reduce the use of potable water.	X	X	X	X	X	X	X
WS-1b Implement Water Conservation Measures for Development Projects. The County of San Diego, cities, and other local jurisdictions can and should implement feasible water conservation measures during planning, design, and project-level CEQA review of development projects, consisting of, but not limited to, the following: ▶ Install native plant species and noninvasive drought-tolerant/low-water-use plants in landscaping, consistent with the most recent state, regional, and local government plans; laws; and policies.	X	X	X	X			X

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▶ Install low-flow plumbing fixtures. ▶ Install water-efficient appliances. ▶ Incorporate the use of reclaimed water. Measures to incorporate reclaimed water may consist of, but are not limited to, on site water recycling; the use of recycled water to fill lakes, ponds, and ornamental fountains; the use of recycled water for irrigation, to mix concrete, and to control dust at construction sites; the use of recycled water for certain industrial processes and for flushing toilets and urinals in nonresidential buildings; and the use of recycled water for street sweeping purposes.							
WS-1c Ensure Adequate Water Supply for Development Projects. During planning, design, and project-level CEQA review for development projects, the County of San Diego, cities, and other local jurisdictions can and should ensure that adequate water supply will be available to meet or satisfy projected water demands, consistent with applicable UWMPs, master plans, and general plan projections of water supply and demand. This can and should be documented in the form of an SB 610 Water Supply Assessment, an SB 221 Water Supply Verification, or other water supply analysis.	X						X
WS-2 Implement Groundwater Measures to Ensure Sustainable Yield for Development Projects. The County of San Diego, cities, and other local jurisdictions can and should ensure sustainable yield of groundwater basins during planning, design, and project-level CEQA review of development projects, by taking measures consisting of, but not limited to, the following: ▶ Participate in a groundwater-trading program to enable permanent transfer and potentially long-term and short-term lease of baseline-pumping allocations to allow groundwater users or new development to purchase needed groundwater allocation from others. ▶ Ensure that projects requiring continual dewatering facilities implement monitoring systems and long-term administrative procedures to ensure proper water management that prevents degrading of surface water and minimize, to the greatest extent possible, adverse impacts on groundwater for the life of the project. Comply with appropriate building codes and standard practices including the Uniform Building Code.	X	X					X

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▶ Maximize, where practical and feasible, permeable surface area in existing urbanized areas to protect water quality, reduce flooding, allow for groundwater recharge, and preserve wildlife habitat. Minimize new impervious surfaces to the greatest extent possible, including the use of in-lieu fees and off site mitigation. ▶ Avoid designs that require continual dewatering where feasible. Where feasible, do not site transportation facilities in groundwater recharge areas to prevent conversion of those areas to impervious surface.							
WS-3 Implement Measures for New or Expanded Water Facilities. During planning, design, and project-level CEQA review of development projects and water projects, MWD, SDCWA, the County of San Diego, cities, and other local jurisdictions can and should apply necessary mitigation measures to avoid or reduce significant environmental impacts associated with the construction or expansion of new or expanded water facilities. Mitigation measures should be implemented by the water management agencies directly responsible for the construction of new or expanded water facilities. Significant environmental impacts requiring mitigation may consist of but are not limited to air quality, noise, traffic, biological resources, cultural resources, paleontological resources, tribal cultural resources, energy, greenhouse gas emissions, hydrology and water quality, and water supply.	X	X					X
Wildfire							
WF-1 Reduce Wildfire Risk for Development and Transportation Projects. During planning, design, and project-level CEQA review of future development and transportation projects located in State Responsibility Areas (SRAs) or Local Responsibility Areas (LRAs) classified by CAL FIRE as High and Very High Fire Hazard Severity Zones (FHSZs), as well as the Wildland-Urban Interface (WUI), SANDAG shall, to the degree allowed by its authority, and other agencies (the County of San Diego, cities, and other local jurisdictions such as fire protection agencies) can and should ensure that project applicants implement measures to reduce wildfire impacts. Such measures include, but are not limited to, the following: ▶ Reducing the area and density of allowable development, through general plan updates and other processes, within areas mapped by CAL FIRE as High and Very High FHSZs. ▶ Establishing site-specific safety measures for new development and transportation projects to protect local resources from wildfire. Such measures may include fire	X	X	X	X	X	X	X

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hazard identification (e.g., flammable and combustible materials, ignition sources), hazard controls and safeguards (e.g., setbacks, containment), equipment maintenance, fire protection technology and equipment (e.g., fire alarm, suppression, and shut-off systems), employee/worker training, agency coordination and mutual aid, and other elements. ▶ Preparing project-specific fire protection plans for new development and transportation projects. Fire protection plans should be developed by the project applicant during project-level CEQA review and identify measures that reduce the risk of structural and human loss from wildfire, such as the use of ignition resistant materials, incorporation of fuel modification techniques and brush clearance, and providing for adequate fire-flow water supply in compliance with applicable fire safety regulations. Fire protection plans should be based on appropriate wildfire modeling that accounts for site-specific conditions related to wildfire. ▶ Educating residents and businesses regarding local emergency communications and notification systems (e.g., Firewise USA, Community Risk Reduction). ▶ Adhering to the most current building code requirements for new development and transportation projects, including ignition-resistant construction and inclusion of design features that prevent the intrusion of flames and embers. Fire-resistant features could include ember-resistant vents, fire-resistant roofs, and maintenance of defensible spaces around structures. ▶ Ensuring sufficient emergency water supply and pressure (local water providers) in accordance with the Emergency Water Standards of the SRA Minimum Fire Safe Regulations (CCR Title 14, Division 1.5, Section 1270 et seq) and most current version of the California Fire Code (CCR Title 24, Part 9) for new projects by working with water management agencies. ▶ Enforcing state and local defensible space regulations to keep overgrown and unmanaged vegetation, accumulations of trash, and other flammable material away from structures. ▶ Providing public education about wildfire risk and fire prevention measures, and safety procedures and practices to allow for safe evacuation and/or options to shelter-in-place. ▶ Planning for and promoting rapid revegetation of burned areas to help prevent erosion and protect bare soils.							

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▶ Developing a regulatory mechanism for permitting an aggressive hazardous fuels management program. ▶ Establishing standards for fuel breaks that can slow or stop a wildfire advancing into a community or into the wildlands. Fuel breaks shall be strategically located to protect a community, structures, or routes of access and egress. Strategic locations may include ridgelines, greenbelts, or other locations to manage embers or support community-level fire suppression tactics. ▶ SANDAG shall facilitate minimizing future impacts to fire protection services through information sharing regarding fire-wise land management (vegetation data, fire-resistant building materials, locations where development is vulnerable to wildfire, and best practices for safe land management) with county and city planning departments. ▶ SANDAG, in partnership with technical experts and stakeholders, shall launch or continue existing initiatives to help local cities and counties to protect communities and economies in the San Diego region from disruption as a result of wildfire occurrences. Initiatives could include, but would not be limited to, seminars that review the risk of wildfire and approaches for preparation, including strengthening of infrastructure, emergency services, emergency evacuation plans and reviewing building safety codes.							
WF-3 Reduce Wildfire Risk Related to New or Expanded Infrastructure Required to Support Regional Growth and Land Use Development. During planning, design, and project-level CEQA review of future development projects located in State Responsibility Areas (SRAs) or Local Responsibility Areas (LRAs) classified by CAL FIRE as High and Very High Fire Hazard Severity Zones (FHSZs), as well as the Wildland-Urban Interface (WUI), (the County of San Diego, cities, other local jurisdictions, and public service and utility providers in the region) can and should ensure that project applicants implement measures to reduce wildfire impacts from new or expanded infrastructure. Such measures include, but are not limited to, the following: ▶ Establishing site-specific safety measures for new infrastructure and facilities required to provide public services and utilities for new development in order to protect local resources from wildfire. Such measures may include fire hazard identification (e.g., flammable and combustible materials, ignition sources), hazard controls and safeguards (e.g., setbacks, containment), equipment maintenance, fire protection technology and equipment (e.g., fire alarm, suppression, and shut-off	X	X					X

Mitigation Measures	Implementation Timing				Responsible Party		
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systems), employee/worker training, agency coordination and mutual aid, and other elements. ▶ Preparing project-specific fire protection plans for new infrastructure. Fire protection plans should be developed by the project applicant during project-level CEQA review and identify measures that reduce the risk of structural and human loss from wildfire, such as the use of ignition resistant materials, incorporation of fuel modification techniques and brush clearance, and providing for adequate fire-flow water supply in compliance with applicable fire safety regulations. Fire protection plans should be based on appropriate wildfire modeling that accounts for site-specific conditions related to wildfire. ▶ Adhering to wildfire safety and mitigation plans established by local utilities companies, including design and construction standards, inspection schedules, and emergency preparedness. ▶ Adhering to the most current building code requirements for structures related to public services and infrastructure, including ignition-resistant construction and inclusion of design features that prevent the intrusion of flames and embers. Fire-resistant features could include ember-resistant vents, fire-resistant roofs, and maintenance of defensible spaces around structures. ▶ Ensuring sufficient emergency water supply and pressure (local water providers) in accordance with the Emergency Water Standards of the SRA Minimum Fire Safe Regulations (CCR Title 14, Division 1.5, Section 1270 et seq) and most current version of the California Fire Code (CCR Title 24, Part 9) for new projects.							
WF-4 Reduce Post-Fire Risks Related to Flooding, Landslides, Slope Instability, or Drainage Changes for Development and Transportation Projects. During planning, design, and project-level CEQA review of future development projects and transportation network improvement projects located in State Responsibility Areas (SRAs) or Local Responsibility Areas (LRAs) classified by CAL FIRE as High and Very High Fire Hazard Severity Zones (FHSZs), as well as the Wildland-Urban Interface (WUI), SANDAG shall, to the degree allowed by its authority, and other agencies (the County of San Diego, cities, and other local jurisdictions) can and should ensure that project applicants implement measures to reduce post-fire impacts. Such measures include, but are not limited to, the following: ▶ Treating wildfire burned areas using best practices to control stormwater runoff prior to winter rains.	X	X	X		X	X	X

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▶ Restoring wildfire areas by planting native vegetation cover or encouraging the regrowth of native species using best practices as soon as possible to aid in control of stormwater runoff. ▶ Reducing potential for future flood hazard by removal of dead, woody vegetation along watercourses following a catastrophic fire to reduce the risk of future catastrophic fires. ▶ Including fire hazard reduction measures (e.g., prescribed burning, vegetation management) that maintain forest health and reduce flood risks when implementing fuel-reducing activities							