

FINDING OF NO SIGNIFICANT IMPACT

Carlsbad Village Double Track Project



Pursuant to 64 FR 28545 by
Federal Railroad Administration
and
San Diego Association of Governments

May 2019

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Appendix A – U.S. Fish and Wildlife Service Section 7 Biological Opinion

Appendix B – State Historic Preservation Office Section 106 Concurrence

1 Introduction

The Carlsbad Village Double Track Project (the “Proposed Action”) involves the construction of a second main track along the Oceanside-to-Carlsbad segment of the Los Angeles—San Diego—San Luis Obispo (LOSSAN) Rail Corridor. The Proposed Action is located in the northwestern portion of San Diego County, California, within the cities of Oceanside and Carlsbad along the Pacific Coastline west of Interstate 5 (I-5). This segment includes a 1.1-mile second main track to connect two adjacent double-track segments, and includes a new double-track bridge over Buena Vista Lagoon.

The Proposed Action is located within the existing North County Transit District (NCTD) railroad right-of-way (ROW) between Mile Post (MP) 228.0 in Oceanside to MP 229.6 in Carlsbad. Double-tracking this section of the LOSSAN Rail Corridor would improve commuter rail and intercity train service schedules, improve operational reliability, increase flexibility for freight operations, and provide capacity to meet future increased demand for rail services in the corridor.

In 2007, the Federal Railroad Administration (FRA) published the LOSSAN Rail Corridor Program Environmental Impact Report/Environmental Impact Statement (PEIR/PEIS) and issued a Record of Decision in March 2009). FRA served as the Lead Federal Agency for purposes of the National Environmental Policy Act (NEPA, 42 U.S.C § 4321 et seq.), while the Caltrans Division of Rail served as the Lead State Agency for purposes of the California Environmental Quality Act. The PEIR/PEIS was a Tier 1 environmental review document that evaluated conceptual corridors, alignments, and station options of improvements to the entire LOSSAN Rail Corridor, including the Proposed Action.

FRA funded the preparation of a Tier 2 Environmental Assessment (EA) and associated preliminary engineering, addressing site-specific environmental effects associated with the Proposed Action. The EA included the required analysis under NEPA and other applicable environmental and historic review requirements, including Executive Order 12898, “Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations” and Section 106 of the National Historic Preservation Act and its implementing regulations (Section 106) (36 CFR Part 800). This Finding of No Significant Impact (FONSI) is based on the information and analysis provided in the EA. The final version of the EA is available to the public on the San Diego Association of Governments (SANDAG) website at keepsandiegomoving.com/lossan/carlsbad_village_double_track_docs.aspx.

At this time, FRA does not have funding or other approvals related to construction of the Proposed Action.

2 Purpose and Need

The Carlsbad Village Double Track Project is being proposed to achieve the following purposes:

- Improve rail operations
- Improve rail reliability
- Improve passenger and freight train speed
- Increase passenger and freight rail capacity

The Proposed Action was identified in a 1987 LOSSAN State Rail Corridor Study as a priority project essential to improving the reliability of rail service. The primary purpose of the Proposed Action is to contribute to reduced travel time and enhanced operations in terms of reliability, efficiency, and safety.

The project is needed to meet projected future ridership and freight-service needs of the San Diego region (Infrastructure Development Plan for the LOSSAN Rail Corridor in San Diego County, August 2013).

The objective of the Proposed Action is to connect two adjacent double-track segments. This would achieve the Proposed Action's purpose of improving operations for both passengers and freight in terms of reliability, efficiency, and safety; improving commuter rail and intercity train service travel times; increasing flexibility for freight operations; and providing capacity to meet future increased demand for all rail services in the LOSSAN Rail Corridor.

3 Description of Alternatives

In 2011, a Project Study Report (RailPros, 2011) recommended that the second track alignment be constructed to the east of the existing track, maintaining 18-foot track centers through the station area, Grand Avenue, and Carlsbad Village Drive. In 2014, SANDAG conducted an independent evaluation of potential alternatives (T.Y. Lin, 2014a) to provide recommended alternatives to carry forward into preliminary engineering and environmental clearance that could potentially achieve the purposes of the rail improvements and avoid and/or minimize environmental impacts. Six alternatives and engineering designs were analyzed and evaluated. Alternatives were eliminated for reasons that are discussed in detail in Section 3.2 and, therefore, are not further evaluated in the EA.

3.1 Evaluated Alternatives

3.1.1 Proposed Action

The Proposed Action would install a second main track within the existing railroad ROW between MP 228.0 and MP 229.6. The Proposed Action would relocate the existing Main Track alignment (MT2) 3 feet to the west of its existing location and add 1.1 miles of new second track (MT1) varying from 15 to 20 feet east of the existing track alignment. The Proposed Action, identified as Alternative B in the EA, includes the replacement of an existing single-track bridge across Buena Vista Lagoon with a double-track bridge at a higher elevation (about 5 feet) to accommodate floods and anticipated sea level rise. The new track would pass under the existing Carlsbad Boulevard Bridge through the existing east bay.

Construction of the new pre-cast concrete double-track bridge in Buena Vista Lagoon would include additional fill material to be placed on both sides of the existing embankment to widen the embankment width from approximately 65 feet to approximately 106 feet at the base of the berm north of the Carlsbad Boulevard Bridge. The wider embankment allows for the construction of the second track approximately 20 feet east of the existing tracks (centerline to centerline). The new bridge would be approximately the same length as the existing bridge.

South of the Carlsbad Boulevard Bridge, the new track improvements would gradually return to the existing elevation. The existing at-grade pedestrian crossing at the Carlsbad Village Station would be eliminated and a new pedestrian undercrossing would be located within the railroad ROW north of the station building (in the vicinity of Beech Avenue [MP 229.0]). Additional project elements include at-grade-crossing improvements, wayside signals, a maintenance road, and drainage features.

3.1.2 No Action Alternative

Under the No Action Alternative, this section would continue to be single railroad track alignment. Under this alternative, rail operations and reliability would not be improved, and passenger and freight rail capacity would not be increased.

3.2 Alternatives Dismissed

As discussed above, SANDAG conducted an independent evaluation of potential alternatives (T.Y. Lin, 2014a) to carry forward for environmental review. The Proposed Action in the EA was identified as Alternative B in the report. This section briefly describes the five alternatives (Alternatives A, C, D, E, and F) that were considered but not carried forward for analysis in the EA. This section also describes the Trenching Alternative considered in the 2007 Tier 1 LOSSAN Rail Corridor PEIR/PEIS, which was eliminated from further review in the EA. Trenching through downtown Carlsbad is not consistent with SANDAG's Regional Plan, as it was not identified as a high-priority project because of the associated high cost.

3.2.1 Alternative A

Alternative A proposed to maintain the existing track as MT2 (west) and to construct a new MT1 (east) track with an offset to the east side of the existing tracks. Alternative A was eliminated from further review because a section of the existing Carlsbad Village Station building would need to be removed to provide adequate clearances. Approximately 17 parking stalls would be lost to improvements at the existing station under this alternative.

3.2.2 Alternative C

Alternative C proposed to offset the tracks at the station, similar to Alternative B. Along the Lagoon Segment, the existing tracks would be maintained as MT1 (east) and MT2 would be built 20 feet to the west of MT1. In offsetting the MT2 track to the west, the new alignment for MT2 would require the tracks to travel through the Carlsbad Boulevard Bridge under the west bay. The west bay was not previously configured to accommodate tracks. Grading of the existing slope, construction of retaining walls, and improvement to the bridge pier would be required in order to utilize the west bay. This Alternative also required a 20-foot linear encroachment in Rotary Park, resulting in additional impacts to the existing bus station and affecting an existing tennis court north and west of the lagoon. Alternative C was eliminated from further review because of the need for retaining walls and bridge piers due to impacts on adjacent bus station, Rotary Park, and tennis court.

3.2.3 Alternative D

Alternative D proposed to push the tracks along the Lagoon Segment 30 feet east of the existing track along the Lagoon Segment and construct the new MT1 track along the station east of the existing tracks. The alignment would utilize the east bay of Carlsbad Boulevard Bridge to run the new track alignment under the existing bridge. Alternative D was eliminated from further review because a section of the existing Carlsbad Village Station building would need to be removed to provide adequate clearances.

3.2.4 Alternative E

Alternative E proposed to offset MT2 to the west of the existing tracks for both segments, aligning the second track with the existing double track at Control Point (CP) Longboard. The new track alignment would require the tracks to travel through the westerly bay of the Carlsbad Village Bridge, requiring grading and retaining wall improvements to make the bay accessible to the new track alignment. The 18-foot offset of the track along the station would place the portions of the proposed platform/underpass improvements outside of the NCTD ROW, thus requiring additional ROW. Alternative E was eliminated from further review because of property acquisition takes and concerns for community/stakeholder acceptance.

3.2.5 Alternative F

Alternative F proposed to utilize the existing station's configuration for future double-tracking within the Developed Segment and proposed to shift both tracks to the east within the Lagoon Segment. The alignment would have utilized the east bay for access through the Carlsbad Boulevard Bridge. The rail geometry requires two reverse curves and one broken-back curve on MT1 and two reverse curves and two broken-back curves on MT2. Therefore, the tracks would have too many curves back and forth, which would provide for a less comfortable ride for passengers and would create additional maintenance issues for the railroad. In addition, a section of the existing Carlsbad Village Station building would need to be removed to provide adequate clearances; therefore, Alternative F was eliminated from further review.

3.2.6 Trenching Alternative

Caltrans and the FRA considered trenching in the City of Carlsbad as part of the Tier 1 LOSSAN Rail Corridor PEIR/PEIS. In a letter addressed to the California Coastal Commission on July 17, 2014, the City of Carlsbad provided comments on the draft North Coast Corridor Public Works Plan and Transportation and Resource Enhancement Program (PWP/TREP). The comment letter included a request that SANDAG evaluate both an at-grade railroad option and a trench alternative. The City of Carlsbad, in cooperation with SANDAG, initiated preparation of a Feasibility Study for the grade separation of the railroad tracks and construction of the second track (Carlsbad Village Double Track – Railroad Trench Alternative Economic Analysis and Feasibility Study, January 2017).

The Feasibility Study considered two trench alternatives that consisted of a Short Trench and Long Trench. The Short Trench Alternative would construct the double-track railroad lowered in a trench passing under new vehicular overpasses at Grand Avenue, Carlsbad Village Drive, and Oak Avenue, with new pedestrian overpasses at the Beech Ave/Carlsbad Village Station and Chestnut Avenue. The Long Trench Alternative would construct a railroad trench passing under new vehicular overpasses at Grand Avenue, Carlsbad Village Drive, Oak Avenue, Chestnut Avenue, and Tamarack Avenue, with a new pedestrian overpass at the Beech Avenue/Carlsbad Village Station. Both trench options would require replacement of Carlsbad Boulevard Overcrossing with a new bridge spanning the tracks.

The Proposed Action of at-grade double-tracking would not preclude trenching in the future. SANDAG considers projects on a regional basis and prioritizes them in San Diego Forward: The Regional Plan (2015 Regional Plan). Trenching through downtown Carlsbad is not consistent with the 2015 Regional Plan, as it was not identified as a high-priority project because of the associated

high cost. The Railroad Trench Alternative Economic Analysis and Feasibility Study identified that the Short Trench would have an estimated cost of between \$215 million and \$235 million, while the Long Trench would have an estimated cost of between \$320 million and \$350 million. For comparison, the Proposed Action is estimated to cost approximately \$53.6 million. SANDAG will continue to study the possibility of trenching in the future; however, the trenching alternative was eliminated from further review in the EA.

4 Summary of Environmental Effects

Environmental effects of the Proposed Action are summarized in this section.

4.1 Aesthetics and Scenic Resources

The Proposed Action would not cause a substantial adverse change to the overall existing visual impact because the Proposed Action would be located within the existing railroad ROW and not change the overall use in the Project area.

FRA finds that the Proposed Action would not result in any significant impacts to aesthetics or scenic resources.

4.2 Air Quality and Greenhouse Gas Emissions

Implementation of the Proposed Action would be in conformity with Clean Air Act requirements and would not exceed National Ambient Air Quality Standards. The Proposed Action would result in negligible adverse impacts and potentially beneficial long-term impacts to regional air quality and greenhouse gas emissions through reductions in vehicle miles traveled on regional roadways and locomotive idling time along the corridor, improvements at two at-grade crossings where vehicular traffic delays now occur, and replacement of an at-grade pedestrian crossing at the Carlsbad Village Coaster Station with a pedestrian underpass. The Proposed Action would not result in adverse impacts associated with toxic air contaminants or odors.

No mitigation measures are required as a result of implementation of the Proposed Action. However, SANDAG would implement the avoidance and minimization measures described in Section 7 to further reduce air quality impacts, as well as those measures identified in the LOSSAN Rail Corridor PEIR/PEIS.

FRA finds that the Proposed Action would not result in any significant impacts to air quality or greenhouse gas emissions.

4.3 Biological Resources and Wetlands

Permanent impacts would occur to vegetation communities within the Buena Vista Lagoon and south of the lagoon where creation of a second track is proposed. Temporary impacts to vegetation communities would result from use of access paths, staging areas, and areas necessary to construct the bridge over the lagoon. Direct impacts to open water and coastal and valley freshwater marsh, regardless of classification as permanent or temporary, would be adverse. Direct impacts to disturbed Diegan coastal sage scrub and non-native grassland, regardless of classification as permanent or temporary, would be adverse, since these vegetation communities are regionally considered to be sensitive habitat types. Impacts to the following upland communities, regardless of classification as permanent or temporary, would not be considered adverse, since these habitats are not regionally considered to have high conservation value: non-native vegetation, eucalyptus woodland, disturbed habitat, and urban/developed

land. However, implementation of avoidance, minimization, and mitigation measures by SANDAG would reduce impacts to a negligible level.

The U.S. Fish and Wildlife Service (USFWS) was consulted as required by Section 7 of the Endangered Species Act. On May 8, 2018, the USFWS completed the consultation and approved a Biological Opinion (BO) for the project. Based on the lack of suitable habitat and/or lack of detection during project surveys, SANDAG/FRA determined that the Proposed Action would not affect the federally endangered least Bell's vireo (*Vireo bellii pusillus*), southwestern willow flycatcher (*Empidonax traillii extimus*), San Diego fairy shrimp (*Branchineta sandiegonensis*), Riverside fairy shrimp (*Streptocephalus woottoni*), or federally threatened coastal California gnatcatcher (*Poliioptila californica californica*). Updated surveys for the San Diego fairy shrimp and Riverside fairy shrimp would be completed within one year prior to project construction. The BO addressed impacts of the Proposed Action on the federally endangered light-footed Ridgway's rail (*Rallus obsoletus levipes*) and included measures to avoid, minimize, and offset impacts to the species, identified in Section 7. The Proposed Action would likely result in take of Ridgway's rails through the permanent and temporary loss of habitat, elevated noise levels during construction, and temporary night lighting during construction. Indirect impacts to the Ridgway's rail are expected from increasing noise generated through additional train trips accommodated by a second track. However, due to the length of time over which noise would increase, Ridgway's rails are expected to become acclimated to the increased ambient noise conditions. Additionally, the BO included an incidental take statement for the Proposed Action with reasonable and prudent measures and terms and conditions detailed in Section 7 below. The BO concluded that the Proposed Action is not likely to jeopardize the continued existence of the Ridgway's rail.

The Proposed Action would not result in impacts to federally listed floral species, as none are present within the project area.

Indirect impacts could occur to the California least tern (*Sternula antillarum browni*) from a temporary loss of foraging habitat. Additionally, direct permanent impacts would occur through a decrease in available open water as a result of the addition of the second track. However, based on conservation measures committed by SANDAG/FRA (BO, Appendix A) in the BO, USFWS concurs with the SANDAG/FRA determination that the Proposed Action is not likely to adversely affect the federally endangered California least tern. The Proposed Action would likely result in take of the light-footed Ridgway's rail (*Rallus obsoletus levipes*) as a result of permanent and temporary loss of habitat, elevated noise levels during construction, and temporary night lighting during construction. However, SANDAG and FRA agreed to implement conservation measures (BO, Appendix A) as part of the Proposed Action to avoid, minimize, and offset impacts to the light-footed Ridgway's rail.

Construction of the Proposed Action within the vicinity of Buena Vista Lagoon would result in direct, permanent, and long-term temporary impacts to federally regulated waters. All direct impacts to federal waters, regardless of classification as permanent or long-term temporary, would be adverse. Construction of the Proposed Action also would be expected to result in indirect impacts to federally regulated waters and would be considered adverse. However, SANDAG's implementation of avoidance, minimization, and mitigation measures would ensure that no net loss of jurisdictional functions and values would occur. Therefore, the Proposed Action would not result in significant impacts to federally regulated wetlands.

Due to the limited corridors for wildlife within the project area, the Proposed Action is not expected to result in adverse impacts to wildlife movement patterns or intensity. Although the Proposed Action could

result in direct permanent and temporary impacts to habitat of marsh nesting birds, these impacts are not considered to be impacts to nursery sites, due to the absence of colonial nesting areas, rookeries, or other established nursery sites. Therefore, there are no anticipated adverse impacts to wildlife corridors or nursery sites through implementation of the Proposed Action.

The project area has the potential to be utilized by regionally common migratory birds and raptors that are not federally listed species but are protected under the federal Migratory Bird Treaty Act. Since avian species could potentially nest in the project area, the Proposed Action could result in adverse impacts to active bird and/or raptor nests. SANDAG and FRA are constructing a number of railroad projects within similar habitats and have negotiated standard biological protection measures to protect threatened and endangered (T&E) species, avoid and minimize impacts to T&E species habitats, and compensate for impacts that are unavoidable. These measures are referred to as “conservation measures, reasonable and prudent measures, and terms and conditions” in the Biological Opinion issued for the Carlsbad Village Double Track Project. Through past projects, SANDAG has demonstrated the effectiveness of these measures to reduce impacts to a negligible level.

Based on the effectiveness of the standard measures to be implemented by SANDAG, FRA finds that no significant impacts to biological resources would occur.

4.4 Community Impacts and Environmental Justice

Under the Proposed Action, existing railroad crossings would continue to operate, although one pedestrian crossing within the station would be closed and replaced with an underpass. The Proposed Action would not isolate any portion of a neighborhood or ethnic group, nor would it separate residences from community facilities near the project area. No general social group would specifically benefit or be harmed by the Proposed Action, as the project would not disrupt existing developments or communities. The Proposed Action does not propose any features that would alter the existing demographic or socioeconomic makeup of the surrounding communities.

The Proposed Action would not cause disproportionately high and adverse impacts to minority or low-income populations. There are no minority population criteria in the project area, but the project area includes low-income populations. No adverse impacts were identified in the EA that would affect the public or human populations and therefore, the Proposed Action could not cause disproportionately high and adverse impacts to low-income populations.

The Proposed Action would result in temporary and permanent benefits from increased jobs and demand for goods and services in the project area. The Proposed Action is not expected to cause any substantial temporary adverse effect to businesses in the project area. Construction-related congestion in the downtown area during construction would be minimized through the preparation and implementation of a traffic control plan.

The Proposed Action would improve operational reliability and railroad capacity, which would reduce freeway congestion and greenhouse gas emissions and provide employment opportunities within the railroad operations and maintenance field.

FRA finds that the Proposed Action would not result in any significant community or environmental justice impacts.

4.5 Cultural and Historic Resources

No previously recorded cultural resources were identified within the direct or indirect effects Area of Potential Effect (APE). However, seven historic resources were identified within the APE. The Santa Fe Railroad is the only historic property within the direct effects of the APE. FRA determined the segment of railroad within the direct effect of the APE is not eligible for listing in the National Register of Historic Places (NRHP) due to a lack of integrity. However, six historic properties located within the indirect effects APE were determined eligible for the NRHP.

FRA determined that the Proposed Action would not result in adverse direct impacts or indirect visual or auditory effects. However, it is possible that vibration during construction could damage some of the historic fabric of the Carlsbad Santa Fe Depot. SANDAG will take measures to minimize or avoid this potential impact.

The Proposed Action would not result in long-term operational impacts to historic properties.

FRA has obtained concurrence on the determination that the Proposed Action, as proposed, results in no adverse effects to historic properties.

4.6 Geology/Soils

Groundwater was encountered during investigative borings within the developed portion of the project area. However, it is not anticipated that implementation of the Proposed Action would result in any adverse impacts associated with groundwater. Artesian groundwater was encountered during investigative borings within the area comprising the lagoon and adjacent undeveloped area. These conditions would need to be investigated further and quantified in a future geotechnical investigation, as they could present construction issues for the proposed replacement structure foundation. As such, potential impacts associated with groundwater would be considered adverse. However, with SANDAG's implementation of geology/soils standard engineering design measures identified in Section 7, it is anticipated that impacts would be reduced to a negligible level. In addition, groundwater monitoring wells are recommended to be installed as part of a supplemental geotechnical investigation performed during final design to provide the contractors with the necessary information to determine the appropriate Cast-In-Drilled-Hole pile excavation methods.

The onsite soils of the developed portion of the project area are classified to be non-corrosive while onsite soils in the Lagoon Segment are classified to be corrosive. As such, potential impacts associated with corrosive soils would be considered adverse. However, with SANDAG's implementation of geology/soils standard engineering design measures identified in Section 7, it is anticipated that impacts would be reduced to a negligible level.

No major faults are known to extend through the project site; therefore, the potential for surface rupture is considered low. However, the Proposed Action is located in seismically active southern California and would be subject to shaking from both local and distant earthquakes. The possibility of large seismic events on the nearby Newport Inglewood–Rose Canyon fault zone would have the potential to result in adverse impacts to the project site.

Due to the very dense nature of the coarse-grained site soils within the developed portion of the project area, the liquefaction potential of site soils is considered low. However, the near-surface marine and estuary deposits in the Lagoon Segment were observed to be loose to medium dense and potentially

liquefiable. As such, potential impacts would be considered adverse. However, with SANDAG's implementation of geology/soils standard engineering design measures identified in Section 7, it is anticipated that impacts associated with liquefaction and seismically induced settlement would be reduced to a negligible level.

Under existing conditions, there are no existing significant issues with scour in the project site since the Buena Vista Lagoon is protected from tidal influence by a weir located at the lagoon mouth (SANDAG, 2013d). However, a scour evaluation currently is being conducted as part of the Buena Vista Lagoon Enhancement Project. The enhancement project is evaluating four potential alternatives, all of which are expected to increase the current scour potential. The results of the scour analysis would be incorporated into the geotechnical recommendations during final design for improvements with the lagoon and adjacent undeveloped area.

FRA finds that no significant impacts to geology and soils would occur with implementation of the standard engineering design measures identified in Section 7.

4.7 Hazardous Materials/Hazardous Waste

The project site was not identified on the environmental database search report obtained for the project. A number of surrounding sites were identified in the environmental database search report and documented releases affecting soil and groundwater have been identified. Based on review and analysis of the database listings, two of the surrounding sites were determined to pose a potential Recognized Environmental Condition to the project site because of their open status, reported releases, and location in relation to the subject property. Therefore, the Proposed Action could have an adverse impact related to hazardous materials/hazardous waste. However, with SANDAG's implementation of hazardous materials/hazardous waste standard engineering design measures identified in Section 7, the Proposed Action will minimize potential adverse impacts.

FRA finds that the Proposed Action would not result in any significant hazardous materials or hazardous waste impacts with the implementation of standard engineering design measures identified in Section 7.

4.8 Hydrology/Floodplains

The Proposed Action would increase the total impervious area on the project site by 0.02 acres. However, the existing overall drainage patterns in the area would be maintained and the peak flows in the existing storm drain system would not increase – thus, no adverse impacts to the system would occur.

The Proposed Action involves construction of a new double-tracked bridge that would remove the tracks from within the Special Flood Hazard Area and eliminate potential flood hazard impacts to rail service. The new bridge also would be sufficiently high to avoid flood risks associated with the 100-year storm event and the increase in mean sea level projected for the year 2100. This also would be sufficiently high to accommodate the additional risk associated with flow changes attributed to the currently anticipated future improvements to the two other Buena Vista Lagoon bridges (the I-5 bridge and the Coast Highway bridge). Additionally, the proposed bridge would not cause adverse flooding impacts during either construction or operation.

FRA finds that the Proposed Action would not result in any significant hydrology and floodplains impacts.

4.9 Land Use, Zoning, and Property Acquisitions

The Proposed Action would demonstrate Coastal Consistency through a Federal Coastal Consistency Certification. It is expected that the California Coastal Commission would consider the City of Carlsbad's and City of Oceanside's Local Coastal Program during hearing for the certification that would be required for a future Clean Water Act Section 404 permit.

The Proposed Action is consistent with the City of Carlsbad and City of Oceanside General Plan goals and policies that are applicable to the Proposed Action. The Proposed Action is consistent with the goals of the Carlsbad Village Master Plan that are applicable to the Proposed Action. The project site lies within multiple City of Carlsbad and City of Oceanside zoning districts. The Proposed Action is consistent with the City of Carlsbad zoning, as the project site occurs entirely within the existing railroad ROW presently located in a Transportation Corridor zone. Railroads are not specifically addressed as an allowable use within the City of Oceanside Zoning Ordinance but would be deemed allowable because railroads are an existing use.

The Proposed Action is consistent with the objectives of the Carlsbad Habitat Management Plan (HMP). SANDAG would implement the objectives of the Carlsbad HMP by avoiding impacts to habitat to the extent practicable, minimizing unavoidable impacts, and mitigating any impacts that cannot be avoided or minimized. The Proposed Action is consistent with the goals and objectives of the Oceanside Subarea Habitat Conservation Plan (SHCP). SANDAG would implement the objectives of the Oceanside SHCP by avoiding impacts to habitat to the extent practicable, minimizing unavoidable impacts, and mitigating any impacts that cannot be avoided or minimized.

The Proposed Action is an element of the LOSSAN Rail Corridor project identified in the 2015 Regional Plan. Therefore, implementation of the Proposed Action would meet the goals and objectives of the 2015 Regional Plan without conflict.

There are no property acquisitions associated with the Proposed Action. All work will occur within the existing ROW. Therefore, there are no adverse impacts associated with property acquisitions.

FRA finds that the Proposed Action would not result in any significant land use, zoning, and property acquisitions impacts.

4.10 Noise and Vibration

As reported in the 2014 Draft Noise and Vibration Impact Assessment for the Pacific Surfliner Carlsbad Village Double-Track Project prepared by ATS Consulting the increase in noise levels associated with implementation of the Proposed Action when compared to noise levels that would occur without implementation of the Proposed Action, would be below the FRA thresholds for allowable increase and would not result in any moderate or severe noise impacts.

The potential vibration impact from rail operations was assessed based on the increase in the future train operations with the Proposed Action as compared to the existing conditions. At some locations, there would be an increase in vibration levels with implementation of the Proposed Action. At other locations, there is either no change or a decrease in vibration levels. These changes are due to the change in distance between the proposed double track and the existing residences. Since the vibration levels do not exceed the existing levels of the FRA threshold at any of the residential or recreational receivers,

implementation of the Proposed Action would not result in any adverse long-term operational vibration impacts.

FRA finds that the Proposed Action would not result in any significant noise or vibration impacts.

4.11 Parks and Recreational Areas

All park and recreational lands are outside the Proposed Action's permanent and temporary impact area. Construction of the new Proposed Action would be limited to the NCTD ROW. Temporary construction noise impacts could adversely affect utilization of open space by recreationalists within the Buena Vista Lagoon Ecological Reserve., SANDAG's implementation of standard biological protection measures outlined in Section 7 for Biological Resources will minimize adverse impacts to the open space and its recreational users by restricting construction operations during certain seasons and maintaining access to the limited allowable uses.

FRA finds that the Proposed Action would not result in any significant impacts to parks or recreational areas with the implementation of standard biological protection measures identified in Section 7.

4.12 Public Health and Safety

The Proposed Action would not increase the area's population and would therefore not increase the need for additional fire or police protection services. Additionally, the Proposed Action includes improvements to medians and the installation of pedestrian crossing gates to improve public safety in this area of downtown Carlsbad. For these reasons, fire emergency service and police service response times would not be affected substantially by construction or operation of the Proposed Action. Furthermore, the Sheriff's COASTER/Railroad Enforcement Unit would continue to provide law enforcement to the railroad ROW. The Proposed Action would not increase the need for additional medical facilities. The Carlsbad and Mission Urgent Care centers would continue to provide medical services to the project area located within the City of Carlsbad. Therefore, there would be no impact to hospitals, or other medical facilities resulting from implementation of the Proposed Action. Therefore, no substantial adverse impacts to fire, police, or medical services would occur as a result of the Proposed Action.

Although the expansion of service of the railroad track would result in a minor increase in total wastewater generation aboard trains, it is not expected to be a noticeable change regionally because the total population served by regional wastewater treatment facilities would not change. In addition, the project area would continue to be provided with water, electricity, and communications by the same utility companies that currently service the cities of Carlsbad and Oceanside. A number of utility lines (i.e., sewer, gas, storm drain, transmission) would need to be relocated to accommodate some of the components of the Proposed Action. However, it can be expected that all affected utility lines would be relocated within the project APE. Therefore, implementation of the Proposed Action would not result in adverse impacts to utilities.

The Proposed Action does not contain a residential component that would increase population in the area and consequently increase the need for additional school facilities. There are no Carlsbad or Oceanside Unified School District schools located within a half-mile of the Proposed Action. Therefore, there would be no impact to schools resulting from implementation of the Proposed Action.

FRA finds that the Proposed Action would not result in any significant impact to public health and safety.

4.13 Relocation Impacts

Implementation of the Proposed Action would not result in adverse relocation impacts, since no property acquisition is required.

FRA finds that the Proposed Action would not result in any significant relocation impacts.

4.14 Water Quality and Water Resources

The Proposed Action would not substantially alter the drainage patterns in the project area but may generate pollutants of concern. A preliminary analysis revealed that a bioswale could be constructed along the north end of the east platform and the track and a bioretention swale could be constructed along the curb and sidewalk on the northeast side of the parking lot. To help ensure optimal water quality during project construction and operation, SANDAG would implement Best Management Practices (BMPs) consistent with the requirements of the State of California construction general permit for storm water discharges.

The drainage flows in the project site north of Oak Avenue in Carlsbad would drain into the Buena Vista Lagoon, which exists in a freshwater condition due to a weir located at the mouth of the lagoon. The site runoff reaching the lagoon would also be freshwater and thus would not impact the freshwater/saltwater balance of the lagoon. Additionally, there is heavy vegetation along the banks of the lagoon that would provide protection from erosion, and riprap energy dissipators would be constructed by SANDAG at the discharge points to address 100-year storm water runoff velocities. The drainage flows in the project site south of Oak Avenue would flow within a storm drain to Agua Hedionda Lagoon. There is no anticipated increase in runoff to Agua Hedionda Lagoon and therefore, there would be no impact to the salinity of the lagoon.

FRA finds that the Proposed Action would not result in any significant water quality or water resources impacts.

4.15 Section 4(f) and Section 6(f) Evaluation

The Proposed Action will not result in the use of any resources protected by Section 4(f) of the Department of Transportation Act of 1966. No public parkland or recreation areas would be permanently incorporated into the Proposed Action as these resources are outside the Proposed Action's permanent and temporary impact area and will not be directly impacted. Additionally, Section 4(f) protected parklands will not be indirectly impacted through disruption of park access, increase in noise/vibration, or visual changes.

The Buena Vista Lagoon Ecological Reserve qualifies for protection under Section 4(f). However, the Proposed Action would not permanently incorporate any portion of the Reserve and the minor temporary impacts associated with noise during construction do not substantially impair the activities, features, or attributes making the Reserve eligible for protection under Section 4(f) (i.e., The resource: (1) is publicly owned, (2) is being used as a refuge, and (3) is considered significant by the authority with jurisdiction.

There are seven historic properties within the APE that are either listed or eligible for listing in the NRHP. These resources could be subject to indirect effects from the Proposed Action. Although no significant visual, auditory, or atmospheric effects were identified as a result of the evaluation of indirect effects on the resource sites, the Proposed Action has the potential to result in a temporary vibration impact during

construction to the Carlsbad Santa Fe Depot, which is within close proximity to the Proposed Action. SANDAG proposes to protect the Depot during construction and will implement a vibration monitoring plan to ensure vibrational impacts do not adversely affect the Depot. SHPO has concurred that no historic properties will be affected by the project (SHPO letter to FRA dated May 14, 2015).

The Buena Vista Lagoon Ecological Reserve qualifies as a Section 6(f) resource. However, all potential impacts would be within the rail ROW and would not convert any portion of the property that has received Land and Water Conservation Fund Act funding.

FRA finds that the Proposed Action would not use a Section 4(f) resource or convert a Section 6(f) resource.

4.16 Construction Impacts

The proposed construction schedule would be Monday through Friday from 7 a.m. to 7 p.m. Weekend work and night work also would be required when work must be done near or on the existing track and train traffic must be stopped for work to proceed. Limited nighttime construction would be necessary within the existing ROW where the existing track would be realigned and where new track would connect to the existing track. Construction access routes and staging areas would be provided along the length of the project.

Impacts associated with construction of the Proposed Action would be local and temporary. Most construction impacts cease once construction activity in a specific location is completed. Construction-related activities would generally result in impacts to air quality, biological resources, historic resources, geology and soils, hazardous materials and hazardous waste, hydrology, noise and vibration, water quality and water resources, Section 4(f) resources, and paleontological resources. Noise monitoring would occur during construction to ensure compliance with applicable local noise regulations. Furthermore, measures identified in Section 7 would be implemented as needed to meet the noise limit standards.

Potential vibrations generated during construction have the potential to damage the historic Carlsbad Santa Fe Depot, which is adjacent to the Proposed Action. However, potential impacts of the Proposed Action would be reduced through implementation of an approved Vibration Monitoring Plan.

Since the Proposed Action is located in seismically active southern California, it would be subject to shaking from both local and distant earthquakes, and seismically induced settlement could pose a potential adverse geologic hazard in the Lagoon Segment. However, the Proposed Action would be required to incorporate the seismic design criteria provided in the American Railway Engineering and Maintenance-of-Way Association (AREMA) Manual pursuant to 49 CFR 237 and the National Earthquake Hazards Reduction Program Recommended Seismic Provisions Manual pursuant to the provisions of the Earthquake Hazards Reduction Act of 1977. In addition, through implementation of standard engineering design measures identified in Section 7, the Proposed Action would not result in adverse impacts.

Potential impacts to human and/or environmental health resulting from exposure to contaminants potentially present on the Proposed Action site would be considered adverse. However, preliminary media sampling would identify the location of potential contaminants, and measures to reduce their exposure would be developed at that time.

BMPs would be implemented to suppress dust and noise as well as to protect water quality from sedimentation and runoff. Discharges of sediment into waterways would be minimized during construction by preparing a Stormwater Pollution Prevention Plan (SWPPP) and implementing the BMPs identified within. Erosion-control methods would follow all governing regulations and permits.

The Proposed Action is located in an area of moderate paleontological sensitivity, and excavation associated with construction would have the potential to uncover significant paleontological resources. Therefore, prior to site grading, a qualified paleontologist would be retained by SANDAG to carry out a standard program to minimize any potential impacts.

FRA finds that the Proposed Action would not result in any significant construction impacts with the implementation of the measures identified in Section 7.

5 Cumulative Effects

Under Council on Environmental Quality regulations, cumulative effects are defined as “the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative effects can result from individually minor but collectively significant actions take place over a period of time” (40 CFR § 1508.7).

The EA identified six projects within close proximity to the Proposed Action, which were analyzed for potential cumulative impacts, including the CP North Oceanside Double Track Project, Carlsbad Double Track Project, Poinsettia Station Improvements, Batiquitos Lagoon Double Track Project, replacement of the Buena Vista Lagoon I-5 bridge as part of the I-5 North Coast Corridor Project, and the proposed Buena Vista Lagoon Enhancement Project, which is an existing project under review. Cumulative impacts associated with air quality, biological resources, and geology and soils were analyzed in detail in Section 3.17, “Cumulative Impacts,” of the EA. As further detailed in the EA, there are no unmitigated impacts anticipated for four of the cumulative projects. The Environmental Impact Report for the Buena Vista Lagoon Enhancement Project has not been certified; however, the preferred alternative would result in significant unavoidable environmental impacts and the design for the I-5 Bridge Replacement in Buena Vista Lagoon has not been finalized. There are no unmitigated impacts associated with the Proposed Action with implementation of measures identified in Section 7.

6 Public Involvement

SANDAG established communication objectives in order to ensure that all of the interested and affected stakeholders were informed of the status of the project and were able to provide input throughout the project development process. Public outreach techniques included informational public meetings, project update presentation meetings, web-based media, media coordination, resource agency consultation, stakeholder outreach, collateral materials development, materials translation, and video/multimedia. The public outreach process began in May 2013 with developing and maintaining a stakeholder database.

The EA was released for a 30-day public comment period between May 18, 2018, and June 17, 2018. The EA was made available on the Keep San Diego Moving Website at keepsandiegomoving.com/lossan/carlsbad_village_double_track.aspx. No public comments were received.

7 Environmental Commitments

SANDAG will secure all required permits, which may include a combination of some or all of the following permits/certifications/consultations:

- U.S. Army Corps of Engineers – Clean Water Act Section 404 and Rivers and Harbors Act Section 10. Impact to wetlands and waters of the U.S.;
- Regional Water Quality Control Board – Clean Water Act Section 401. Required for a Section 404 permit;
- California Coastal Commission – Coastal Zone Management Act Federal Consistency Certification;

FRA has identified the following environmental commitments as a practicable means to avoid and minimize impacts of the Proposed Action on the environment. SANDAG might also implement additional measures, as necessary, and may also modify or replace the measures below for consistency with required permits.

Air Quality and Greenhouse Gas Emissions

1. It has been determined that operational air quality and greenhouse gas emission impacts resulting from implementation of the Proposed Action would be beneficial. However, the following avoidance and minimization measures will be implemented, as feasible, to further reduce air quality impacts; the measures listed below are derived from the LOSSAN Rail Corridor PEIR/PEIS. NCTD, as the railroad operator, will implement the following avoidance and minimization measures during operations:
 - Install diesel particulate filters on locomotives
 - Use liquefied natural gas for engines
 - Reduce idling time to reduce diesel particulate matter and other emissions
 - Install anti-idling devices on locomotives, designed to automatically shut off the main diesel internal combustion engine used for locomotive motive power after a specified time period when specified parameters (e.g., engine water temperature, ambient temperature, battery charge, railcar brake pressure, etc.) are at acceptable levels and automatically restart the engine when parameters are no longer at acceptable levels
 - Retrofit head-end power sources in passenger locomotives with after-treatment technologies to reduce emissions
 - Use a combination of lean-NOx catalyst and diesel particulate matter filter
 - Design stations and associated ingress/egress to provide efficient vehicle movements to reduce idling time and congestion (SANDAG)
2. It also has been determined that construction of the Proposed Action will not exceed *de minimis* thresholds for pollutant emissions. Therefore, no mitigation measures are required during construction of the Proposed Action. However, the following avoidance and minimization measures will be implemented by SANDAG to further reduce air quality impacts during construction; the measures listed below are derived from the LOSSAN Rail Corridor PEIR/PEIS:

- Water all active construction areas at least twice daily
- Cover all trucks hauling soil, sand, and other loose materials or require that all trucks maintain at least two feet of freeboard
- Pave, apply water three times daily, or apply (non-toxic) soil stabilizers on all unpaved access roads, parking areas, and staging areas at construction sites
- Sweep daily (with water sweepers) all paved access roads, parking areas, and staging areas at construction sites
- Sweep streets daily (with water sweepers) if visible soil material is carried onto adjacent public streets
- Hydroseed or apply (non-toxic) soil stabilizers to inactive construction areas (previously graded areas inactive for ten days or more)
- Enclose, cover, water twice daily, or apply (non-toxic) soil binders to exposed stockpiles (dirt, sand, etc.)
- Limit traffic speeds on unpaved roads to 15 miles per hour
- Install sandbags or other erosion-control measures to prevent silt runoff to public roadways
- Replant vegetation in disturbed areas as quickly as possible
- Use alternative fuels for construction equipment when feasible
- Minimize equipment idling time
- Maintain properly tuned equipment

Biological Resources

The following standard biological protection measures will be implemented by SANDAG and are referred to as “conservation measures, reasonable and prudent measures, and terms and conditions” in the BO dated May 8, 2018 (Appendix A).

3. SANDAG will conduct updated surveys for San Diego fairy shrimp and Riverside fairy shrimp within 1 year prior to initiating project construction. If any listed fairy shrimp are detected within the project site, SANDAG/FRA will reinitiate consultation to address potential impacts to these species that may result from the project.
4. Construction of the I-5 North Coast Corridor Bridge over Buena Vista Lagoon must be constructed concurrently with the Carlsbad Village Double Track Project unless there is an environmentally superior reason to proceed with construction of one project first.
5. Impacts to 1.14 acres coastal and valley freshwater marsh will be offset by creation/restoration/enhancement of 3.42 acres of Ridgway’s rail habitat at the W19 restoration site in San Dieguito Lagoon or another location approved by the Carlsbad Fish and Wildlife Office (CFWO). SANDAG will submit a draft wetland creation/restoration/enhancement plan to the CFWO for review and approval prior to initiating project impacts. SANDAG will provide the final plans to the CFWO for approval prior to initiating creation/restoration/enhancement. The draft plan will conform to the following requirements and conditions:

- a. All final specifications and topographic-based grading, planting, and irrigation plans with one-foot contours for the creation/restoration/enhancement sites. All wetland creation areas will be graded to the same elevation as adjacent existing U.S. Army Corps of Engineers jurisdictional wetlands areas and/or to within one foot of the groundwater table and will be left in a rough-grade state with microtopographic relief (including channels for wetlands) that mimics natural topography. Planting and irrigation will not be installed until the CFWO has approved of the creation/restoration site grading and preparation. All plantings will be installed in a way that mimics natural plant distribution, not in rows.
- b. Planting palettes (plant species, size, and number/acre) and seed mix (plant species and pounds/acre). The plant palettes proposed in the draft plans will include native species specifically associated with the habitat type(s). Unless otherwise approved by the CFWO, only locally native species (no cultivars) obtained within San Diego County available from as close to the project area as possible will be used. The source and proof of locally native status of all plant material and seed will be provided.
- c. Container plant survival will be 80 percent of the initial plantings for the first two years. At the first and second anniversary of plant installation, all dead plants will be replaced unless their function has been replaced by natural recruitment.
- d. A final implementation schedule that indicates when all native habitat impacts, as well as offsite creation/restoration/enhancement grading, planting, and irrigation, will begin and end. Offsite creation/restoration/enhancement will begin before project impacts occur or during the concurrent or next planting season (i.e., late fall to early spring) after receiving the CFWO's approval of grading. Any temporal loss of native habitat caused by delays in restoration/enhancement will be offset through additional creation/restoration/enhancement at a 1:1 ratio for every year of delay. In the event that SANDAG is wholly or partly prevented from performing obligations under the final plans (causing temporal losses due to delays) because of unforeseeable circumstances or causes beyond the reasonable control of SANDAG, including but not limited to natural disasters, labor disputes, or actions by Federal or State agencies or other governments, SANDAG will be excused by such unforeseeable cause(s).
- e. Five years of success criteria for creation/restoration/enhancement areas, including separate percent cover criteria for herbaceous understory, shrub midstory, and tree overstory and a total percent absolute cover for all three layers at the end of five years for wetlands; evidence of natural recruitment of multiple species for all habitat types; 0 percent cover for weed species categorized as High or Moderate in the California Invasive Plant Council (Cal-IPC) Invasive Plant Inventory; and no more than 15 percent relative coverage for other weed species.
- f. A minimum of five years of maintenance and monitoring of creation/restoration/enhancement areas unless success criteria are met earlier, and all artificial water supplies have been off for at least two years.
- g. A qualitative and quantitative vegetation-monitoring plan with a map of proposed sampling locations. Photo points will be used for qualitative monitoring and stratified random sampling will be used for all quantitative monitoring.

- h. Contingency measures in the event of creation/restoration/enhancement failure.
 - i. Annual maintenance and monitoring reports submitted to the CFWO no later than January 31 of each year.
 - j. If maintenance of a wetland creation/restoration/enhancement area potentially occupied by Ridgway's rails is necessary between March 15 and September 15, a biologist with at least 40 hours of independent Ridgway's rail observation in the field and documented experience of at least 20 hours of locating and monitoring Ridgway's rail nests will survey for these species within the creation/restoration/enhancement area, access paths to it, and other areas susceptible to disturbances by creation/restoration/enhancement site maintenance. More than one biologist may be used if necessary. Surveys will consist of three visits separated by two weeks starting March 15 of each maintenance/monitoring year. Restoration work will be allowed to continue on the site during the survey period. However, if Ridgway's rails are found during any of the visits, SANDAG will notify and coordinate with the CFWO to identify measures to avoid and/or minimize effects to the species (e.g., nests and an appropriate buffer will be flagged by the biologist and avoided by the maintenance work).
6. Bridge 228.6 will be designed to accommodate a channel with a bottom elevation of at least -6 feet, National Geodetic Vertical Datum, consistent with recommendations in the I-5 Bridge Study at Buena Vista Lagoon Fluvial Hydraulics and Residence Time Analysis (Everest, 2012) to allow for future restoration of Buena Vista Lagoon.
7. If feasible, SANDAG will incorporate a permanent wildlife movement corridor level with existing Ridgway's rail habitat on both the northern and southern abutments underneath Bridge 228.6. SANDAG will submit the draft design for the corridor to the CFWO for approval at least 30 days prior to initiating project construction.
8. All areas of temporary impact will be revegetated with native species, excluding existing ornamental and developed areas. These areas will be returned to original grade as feasible. Prior to initiating project impacts, a revegetation plan will be developed for the temporary impact areas. The plan will be submitted to the CFWO for review and approval. Following the completion of construction activities within each area of impact, the revegetation plan will be implemented for two years. Temporary impact areas will be planted as soon as possible following regrading after completion of construction to prevent encroachment by non-native plants.
9. All native or sensitive habitats outside and adjacent to the permanent and temporary impact limits will be designated as Environmentally Sensitive Areas on project maps. Environmentally Sensitive Areas will be temporarily fenced during construction with clearly demarcated fencing such as orange plastic snow fence, orange silt fencing, or, in areas of flowing water, with stakes and flagging. No personnel, equipment, or debris will be allowed within the Environmentally Sensitive Areas. Fencing and flagging will be installed in a manner that does not impact habitats to be avoided and such that it is clearly visible to personnel on foot and operating heavy equipment. SANDAG will submit to the CFWO for approval, at least five days prior to initiating project impacts (except for impacts resulting from clearing to install temporary fencing), the final plans for initial clearing and grubbing of habitat and project construction. These final plans will include photographs that show the fenced and flagged limits of impact and all areas to be impacted or avoided. If work occurs within Ridgway's rail habitat

beyond the fenced or demarcated limits of impact, all work will cease until the problem has been remedied to the satisfaction of the CFWO. Temporary construction fencing and markers will be maintained in good repair until the completion of each phase of project construction and removed upon completion of each project phase. This fencing can be combined with the Ridgway's rail exclusionary fencing required by EC 13A where applicable.

10. Clearing and grubbing of wetland habitat will occur between September 16 and March 14 to avoid the Ridgway's rail nesting season. Clearing and grubbing may occur before September 16 if the Biological Monitor described in EC 12 determines that all nesting is complete in coordination with the CFWO.
11. All construction within Buena Vista Lagoon will occur between September 16 and March 14 to avoid the Ridgway's rail nesting season. Construction may occur before September 16 if the Biological Monitor described in EC 12 determines that all nesting is complete in coordination with the CFWO.
12. A CFWO-approved biologist (Biological Monitor) will be on site: a) during clearing and grubbing; and b) weekly during all project construction within 500 feet of Ridgway's rail habitat to ensure overall compliance with all conservation measures. SANDAG will submit the biologist's name, address, telephone number, and work schedule on the project to the CFWO at least five working days prior to initiating project impacts. The contract of the Biological Monitor will allow direct communication with the CFWO at any time regarding the proposed project. The Biological Monitor will be provided with a copy of this consultation. The Biological Monitor will be available during pre-construction and construction phases to review grading plans, address protection of sensitive biological resources, monitor ongoing work, and maintain communications with the Resident Engineer to ensure that issues relating to biological resources are appropriately and lawfully managed. The Biological Monitor will perform the following duties:
 - a. Perform a minimum of three focused surveys on separate days to determine the presence of Ridgway's rail nest building activities, egg incubation activities, or brood rearing activities within 500 feet of project construction that will occur outside of Buena Vista Lagoon during the breeding season. The surveys will begin a maximum of seven days prior to project construction and one survey will be conducted the day immediately prior to the initiation of work. Additional surveys will be done once a week during project construction in the breeding season. These additional surveys may be suspended as approved by the CFWO. SANDAG will notify the CFWO at least seven days prior to the initiation of surveys and within 24 hours of locating any Ridgway's rails.
 - b. If an active Ridgway's rail nest is found within 500 feet of project construction outside of Buena Vista Lagoon, the Biological Monitor will contact the CFWO to discuss: 1) the best approach to avoid/minimize impacts to nesting birds (e.g., sound walls, noise monitoring); and 2) a nest monitoring program acceptable to the CFWO. Nest monitoring will occur according to a schedule approved by the CFWO. The Biological Monitor will determine whether bird activity is being disrupted. If the Biological Monitor determines that bird activity is being disrupted, SANDAG will coordinate with the CFWO to review the avoidance/minimization approach. Nest monitoring will continue until fledglings have dispersed or the nest naturally fails.
 - c. For vegetation clearing/grubbing outside the Ridgway's rail breeding season, perform a minimum of three focused preconstruction surveys on separate days to determine the presence of

Ridgway's rails in the project impact footprint. Surveys will begin a maximum of 30 days prior to performing vegetation clearing/grubbing and one survey will be conducted the day immediately prior to the initiation of vegetation clearing. If any Ridgway's rails are found in the project impact footprint, the Biological Monitor will direct construction personnel to begin vegetation clearing/grubbing in an area away from the Ridgway's rails. It will be the responsibility of the Biological Monitor to ensure that Ridgway's rails will not be injured or killed by vegetation clearing/grubbing. The Biological Monitor will also record the number and location of Ridgway's rails disturbed by vegetation clearing/grubbing. SANDAG will notify the CFWO at least seven days prior to vegetation clearing/grubbing to allow the CFWO to coordinate with the Biological Monitor on potential bird flushing activities.

- d. Before each workday begins, check to see if Ridgway's rails have entered the fenced project site. SANDAG will notify the CFWO within 24 hours of detecting any Ridgway's rails in the project site.
- e. If any Ridgway's rails are found within the project site, direct construction personnel to begin in an area away from the Ridgway's rails and flush birds towards habitat to be avoided. It will be the responsibility of the Biological Monitor to ensure that Ridgway's rails will not be injured or killed by project construction. The Biological Monitor will also record the number and location of Ridgway's rails disturbed by project construction.
- f. Oversee installation of and inspect the Ridgway's rail exclusionary fencing required by EC 13A a minimum of once per day to help ensure that any breaks in the fence are repaired immediately.
- g. Oversee installation of and inspect the temporary Ridgway's rail movement path under the Bridge 228.6 required by EC 13B.
- h. Oversee installation of and inspect erosion control measures a minimum of once per week to ensure that any breaks in erosion control measures are repaired immediately.
- i. Periodically monitor the work area to ensure that work activities do not generate excessive amounts of dust.
- j. Train all contractors and construction personnel on the biological resources associated with the project and ensure that training is implemented by construction personnel. At a minimum, training will include: 1) the purpose for resource protection; 2) a description of the Ridgway's rail and its habitats; 3) the conservation measures that should be implemented during project construction to conserve the Ridgway's rail, including strictly limiting activities, vehicles, equipment, and construction materials to the fenced project footprint to avoid sensitive resource areas in the field (i.e., avoided areas delineated on maps or on the project site by fencing); 4) environmentally responsible construction practices; 5) the protocol to resolve conflicts that may arise at any time during the construction process; and 6) the general provisions of the [Endangered Species] Act, the need to adhere to the provisions of the Act, and the penalties associated with non-compliance with the Act.
- k. Request that the Resident Engineer halt work, if necessary, until SANDAG confers with the CFWO to ensure the proper implementation of species- and habitat-protection measures. The

Biological Monitor will report any noncompliance issue to the CFWO within 24 hours of its occurrence.

- I. Monitor the project site immediately prior to and during construction to identify the presence of invasive weeds and recommend measures to avoid their inadvertent spread in association with the project. Such measures may include inspection and cleaning of construction equipment and use of eradication strategies. All heavy equipment will be washed and cleaned of debris prior to entering sensitive habitat areas to minimize the spread of invasive weeds.
 - m. Submit weekly email reports (including photographs of impact areas) to the CFWO during clearing of and construction within 500 feet of Ridgway's rail habitats. The weekly reports will document that authorized impacts were not exceeded and that general compliance with all conditions was observed. The reports also will outline the location of construction activities, the type of construction that occurred, and the equipment used. These reports will specify numbers, locations, and sex of Ridgway's rails (if observed), their observed behavior (especially in relation to construction activities), remedial measures employed to avoid and minimize impacts to these species, and the suspected outcome of all nests within 500 feet of construction. Raw field notes should be available upon request by the CFWO.
 - n. Submit a final report to the CFWO within 60 days of project construction completion that includes photographs of habitat areas that were to be avoided and other relevant summary information documenting that authorized impacts were not exceeded and that general compliance with all conservation measures was achieved. Once they have been completed, as-built construction drawings with an overlay of habitat that was impacted and avoided will be provided as well.
13. SANDAG will implement the following measures during construction within Buena Vista Lagoon (i.e., vegetation clearing, pile driving, temporary bridge construction and demolition, embankment expansion):
 - a. Immediately after each area of the project construction footprint is surveyed by the Biological Monitor as required in EC 12C, a three- to five-foot tall exclusionary fence with a maximum of two-inch mesh openings will be installed to inhibit entry of Ridgway's rails into the construction footprint where construction will occur adjacent to Ridgway's rail habitat. Instead of fencing, stacked straw bales may be used in some areas adjacent to Ridgway's rail nesting habitat to minimize impacts to nesting birds as a result of construction noise and activity. If necessary, exclusionary fencing under the Bridge 228.6 may be left open during construction that will not take place directly in the lagoon to maintain the movement corridor required by EC 13B. Exclusionary fencing can be combined with the fencing required by EC 9 where applicable.
 - b. A temporary path for Ridgway's rail movement under Bridge 228.6 will be maintained throughout the project construction period except during periods of active project construction near the bridge (if necessary to keep Ridgway's rails out of active construction areas). The path for Ridgway's rail movement will always include a portion that is not submerged. Prior to initiation of impacts for construction of the bridge, SANDAG will submit a plan to the CFWO for maintaining a path for Ridgway's rail movement under the bridge.

14. If maintenance of onsite revegetation areas potentially occupied by Ridgway's rails is necessary between March 15 and September 15, the Biological Monitor will survey for Ridgway's rails within the revegetation area, access paths to it, and other areas susceptible to disturbances by revegetation site maintenance. Surveys will consist of three visits separated by two weeks starting April 1 of each maintenance year revegetation. Revegetation work will be allowed to continue on the site during the survey period. However, if Ridgway's rails are found during any of the visits, SANDAG will notify and coordinate with the CFWO to identify measures to avoid and/or minimize effects to the Ridgway's rail (e.g., nests and an appropriate buffer will be flagged by the biologist and avoided by the maintenance work).
15. Cut and fill slopes adjacent to native habitats will be revegetated with native habitats with similar composition to those within the project study area as feasible. Duff and rare plants may be salvaged from the project impact footprint to the extent practicable to aid in revegetating slopes with native habitats (excluding areas with invasive non-native species). The revegetated areas will be seeded with seeds selected in coordination with the Biological Monitor. At least two years of weeding to control non-native plants on these slopes will be conducted.
16. During project construction, all invasive species included on National Invasive Species Management Plan, the State of California Noxious Weed List, and the Cal-IPC Invasive Plant Inventory List found growing within the project alignment will be removed. Weed removal will be conducted within the alignment at least once per year during the construction period just prior to seed set. Special care will be taken during transport, use, and disposal of soils containing invasive weed seeds, and all weedy vegetation removed during construction will be properly disposed of to prevent spread into areas outside of the construction area.
17. All construction equipment used for the project will be equipped with properly operating and maintained mufflers.
18. If nighttime construction is necessary, all lighting used at night for project construction (e.g., staging areas, equipment storage sites, roadway) will be selectively placed and directed onto the roadway or construction site and away from sensitive habitats. Light glare shields will be used to reduce the extent of illumination into sensitive habitats.
19. Appropriate BMPs will be used to control erosion and sedimentation and to capture debris and contaminants from bridge construction to prevent their deposition in waterways. Sediment and debris will not be allowed to enter lagoons, creeks, rivers, or other drainages to the maximum extent practicable. All debris from construction of bridges will be contained so that it does not fall into the lagoon. Appropriate BMPs will be used during construction to limit the spread of resuspended sediment and contain debris.
20. Erosion- and sediment-control devices used for the proposed project, including fiber rolls and bonded fiber matrix, will be made from biodegradable materials, such as jute, with no plastic mesh to avoid creating a wildlife entanglement hazard.
21. FRA and/or SANDAG will monitor and report on compliance with the established take exemptions for Ridgway's rails associated with the proposed action.

- a. Take of Ridgway's rails is exempted as follows: harm resulting in death of one pair of Ridgway's rails or injury to up to three pairs of Ridgway's rails due to the direct loss of approximately 1.19 acres of primary breeding, feeding, and sheltering habitat at the project site. The take will be exceeded if more than 1.19 acres of occupied coastal and valley freshwater marsh are removed during vegetation clearing/project construction or if more than three Ridgway's rail pairs are observed within the weir/railroad basins prior to vegetation clearing/project construction.
22. FRA and/or SANDAG will notify the CFWO within 30 days of completing removal of Ridgway's rail-occupied habitat. The purpose of this notification is to ensure that impacts to Ridgway's rail-occupied habitat from the proposed project do not exceed the take exemptions.
23. FRA and/or SANDAG will submit a report to the CFWO documenting that surveys required by EC 12A and EC 12C have detected no more than three Ridgway's rail pairs within the weir/railroad basins.
24. It is recommended that FRA/SANDAG conduct protocol surveys throughout the project construction period to determine the number of Ridgway's rail pairs within the weir/railroad basins. These surveys may be combined with ongoing rangewide Ridgway's rail survey effort.
25. Reinitiation of formal consultation with the USFWS is required where discretionary Federal agency involvement or control over the action has been retained (or is authorized by law) and if 1) the amount or extent of incidental take is exceeded; 2) new information reveals effects of the agency action that may affect listed species or critical habitat in a manner or to an extent not considered in the BO; 3) the agency action is subsequently modified in a manner that causes an effect to the listed species or critical habitat not consider in the BO; or, 4) a new species is listed or critical habitat designated that may be affected by the action. In instances where the amount or extent of incidental take is exceeded, any operations causing take must cease pending reinitiation of the BO.

The Section 7 consultation was completed after the EA was finalized. Therefore, avoidance, minimization, and mitigation measures originally detailed in the EA, that are similar to measures committed to in the BO, have been replaced with the Environmental Commitments above. The following are avoidance, minimization, and mitigation measures from the EA that were not accounted for in the BO and will be completed by SANDAG during project implementation.

26. Prior to construction activities, a hazardous spill response plan would be developed and implemented by the Contractor. At a minimum for all construction within 100 feet of the lagoon, an adequately sized petroleum spill response kit would be onsite and available for deployment to avoid, or avoid or contain accidental discharges to the lagoon.
27. Prior to construction activities, a Revegetation Plan for erosion control purposes shall be required to prevent erosion over those areas that would not be permanently converted to urban use and/or restored in place. The plan shall be consistent with similar SANDAG plans and include details regarding installation, maintenance and monitoring, success criteria, and remedial measures if warranted. The planting palette shall consist of native species similar to those species currently onsite as directed by the project biologist. The planting palette shall not include those species listed by the California Invasive Plant Council (Cal-IPC) in the California Invasive Plant Inventory (Cal-IPC 2007). All native seed and plant stock shall be from seed and propagules collected from the project footprint

or within a five-mile radius of the work area to the extent practicable. Seed sources outside of the five-mile radius shall be approved by the project biologist. Maintenance and monitoring shall be required for a minimum of 90 days and for compliance with the General Construction Stormwater Pollution Prevention Plan. Supplemental irrigation would be turned off a minimum of two years prior to the termination/completion of the monitoring program.

28. The following shall be made a part of project requirements: a) employees should strictly limit their activities, vehicles, equipment, and construction materials to the fenced project footprint; b) the project site shall be kept as clean of debris as possible (all food related trash items should be enclosed in sealed containers and regularly removed from the site); c) disposal or temporary placement of excess fill, brush or other debris shall not be allowed in adjacent waters or wetlands; and d) all equipment maintenance, staging, and dispensing of fuel, oil, coolant or any other such activities shall occur in designated staging areas outside of waters or wetlands within the fenced project impact limits. Fueling of equipment shall take place within existing paved/urban areas greater than 100 feet from waters or wetlands. Contractor equipment shall be checked for leaks each morning and mid-day prior to operation and shall be repaired as necessary or removed from the site.
29. All environmental permits and authorizations for work shall be kept onsite and fully reviewed and complied with by the contractor and all subcontractors.

Historic Resources

30. Vibration measurements at the Carlsbad Santa Fe Historic Depot will be conducted during all construction activities at this location. The contractor will be required to submit a Vibration Monitoring Plan prepared, stamped, and administered by an acoustical engineer. The Vibration Monitoring Plan will include the vibration instrumentation, location of vibration monitors, data acquisition, and exceedance notification and reporting procedures, as identified in the Noise and Vibration Impact Assessment prepared by ATS Consulting, Inc.

Geology and Soils

31. Following bridge type selection, a supplemental geotechnical field investigation will be performed once the final foundation type has been determined. The supplemental investigation will include one geotechnical boring near the northern abutment that will be converted over to a monitoring well at the completion of the boring to record groundwater pressures. A set of fully grouted vibrating wire piezometers will be installed at a location that can be protected through design and construction. Properly located, the piezometers will be used by SANDAG and the contractor to determine the groundwater conditions prior to and continuously throughout construction to determine necessary measures in the Cast-In-Drilled-Hole pile installation plan and to resolve potential differing site condition claims.
32. A Cone Penetration Test sounding near the northern abutment will be performed as needed for the Designer to evaluate the in-situ density of the soils within the pressurized aquifer and to provide continuous information throughout the profile to further evaluate the liquefaction potential of materials that were identified as potentially liquefiable.
33. Soil corrosivity issues will be addressed in conformance with AREMA during subsequent design efforts by the designer. Possible design measures to be implemented by SANDAG will include

increased cover for reinforcing steel and corrosion resistant cement (for concrete piles), and sacrificial steel will be provided for steel surfaces in contact with site soils.

34. All future grading and construction of the project site by the contractor will comply with the geotechnical recommendations contained in the Preliminary Foundation Reports prepared for the Carlsbad Village Station Pedestrian Undercrossing and the Buena Vista Lagoon Bridge (Earth Mechanics, Inc., 2014a and 2014b). These reports identify specific geotechnical recommendations that will be implemented during the design and construction of the project.

Hazardous Materials/Hazardous Waste

35. Conduct preliminary media sampling (surface and near-surface soils in particular) prior to any intrusive work at the site to confirm whether or not contaminants are present at the subject property.

Hydrology

36. To ensure that no permanent impacts to hydrology occur, a hydromodification management plan and a SWPPP detailing BMPs will be prepared during final design.

Noise and Vibration

37. Vibration measurements at the Carlsbad Santa Fe Historic Depot will be conducted during all construction activities at this location. The contractor will be required to submit a Vibration Monitoring Plan prepared, stamped, and administered by an acoustical engineer. The Vibration Monitoring Plan will include the vibration instrumentation, location of vibration monitors, data acquisition, and exceedance notification and reporting procedures, as identified in Appendix C of the EA.
38. Construction activities will be carried out in compliance with all applicable local noise-level standards. In addition, specific residential property line noise limits will be developed during final design and included in the construction specifications for the Proposed Action, and noise monitoring will be performed during construction to verify compliance with the limits. Furthermore, the contractor will implement the following noise control measures as needed to meet the noise limit standards:
 - Avoiding nighttime construction in residential neighborhoods
 - Using specially quieted equipment with enclosed engines and/or high-performance mufflers
 - Locating stationary construction equipment as far as possible from noise-sensitive sites
 - Constructing noise barriers, such as temporary walls or piles of excavated material, between noisy activities and noise-sensitive receivers
 - Rerouting construction-related truck traffic along roadways that will cause the least disturbance to residents
 - Avoiding impact pile driving near noise-sensitive areas, where possible. Drilled piles or the use of a sonic or vibratory pile driver are quieter alternatives where the geological conditions permit their use
39. A complaint-resolution procedure will also be put in place to rapidly address any noise issues that may develop during construction.

40. Construction of the Proposed Action poses the potential for vibration-related impacts to occur to the Carlsbad Santa Fe Historic Depot structure. SANDAG will monitor any potential adverse indirect construction-related vibration impacts to the Carlsbad Santa Fe Depot and will include notification and reporting procedures. In addition, any potential construction-related vibration impacts to any other sensitive receivers will be avoided by implementing numeric limits in the construction specifications (ATS Consulting, 2013).

Water Quality and Water Resources

41. With the implementation of a SWPPP and construction BMPs, including Standard Site Design BMPs (e.g., minimize impervious surfaces, drain into vegetated ditches, prevent erosion control), Source Control BMPs (e.g., mark storm drain inlets, landscape with and preserve existing native vegetation), low-impact development BMPs (e.g., preserve natural drainage features, use pervious surfaces), and Treatment Control BMPs (e.g., construction of bioretention swale), water quality impacts to downstream receiving waters as a result of the Proposed Action will be avoided or minimized.

Paleontological Resources

42. Prior to site grading, a qualified paleontologist will be retained by SANDAG to carry out an appropriate monitoring and recovery program. A qualified paleontologist is defined as an individual with a minimum of an MS or PhD in paleontology or geology who is familiar with paleontological procedures and techniques. In addition, the following will be implemented:

- The qualified paleontologist will be present at the pre-construction meeting to consult with the grading and excavation contractors.
- A paleontological monitor will be on site a minimum of half-time during the original cutting of previously undisturbed sediments to inspect cuts for contained fossils. In the event that fossils are discovered, it may be necessary to increase the per-day-in-field monitoring time. Conversely, if fossils are not found, then the monitoring should be reduced. A paleontological monitor is defined as an individual who has experience in the collection and salvage of fossil materials. The paleontological monitor will work under the direction of a qualified paleontologist.
- When fossils are discovered, the paleontologist (or paleontological monitor) will recover them. In most cases, this fossil salvage can be completed in a short period of time. However, some fossil specimens, such as complete large mammal skeletons, may require an extended salvage period. In these instances, the paleontologist (or paleontological monitor) will be allowed to temporarily direct, divert, or halt grading to allow recovery of fossil remains in a timely manner subject to railroad safety requirements. Because of the potential for the recovery of small fossil remains, such as isolated mammal teeth, it may be necessary in certain instances to set up a screen-washing operation on the site.
- Fossil remains collected during the monitoring and salvage portion of the monitoring and recovery program will be cleaned, repaired, sorted, and catalogued by SANDAG's paleontologist.
- Prepared fossils, along with copies of all pertinent field notes, photos, and maps, will either be deposited (as a donation) in a scientific institution with permanent paleontological collections, such as the San Diego Natural History Museum, or retained by SANDAG and displayed for the public at an appropriate location, such as the SANDAG offices.

- A final summary report will be completed by SANDAG's paleontologist and retained on file at SANDAG that outlines the results of the monitoring and recovery program. This report will include discussions of the methods used, stratigraphic section(s) exposed, fossils collected, and significance of recovered fossils.

8 Conclusion

FRA finds that the Carlsbad Village Double Track Project, as presented and assessed in the attached Tier 2 EA, satisfies the requirements of FRA's Procedures for Considering Environmental Impacts (64 FR 28545, May 26, 1999) and NEPA (42 USC § 4321) and has determined that the Proposed Action, as proposed, would have no foreseeable significant impact on the quality of the human or natural environment. Should FRA provide funding for Final Design and/or construction of the Project, FRA would be responsible for monitoring the Project sponsor's, SANDAG, full implementation of the environmental commitments identified in this FONSI.

This FONSI is based on the Tier 2 EA, which was independently evaluated by FRA and determined to adequately and accurately discuss the purpose, need, potential environmental impacts, and appropriate avoidance, minimization, and mitigation measures. The EA provides sufficient evidence and analysis for FRA to determine that an Environmental Impact Statement is not required for the Proposed Action, as presented.

As the project sponsor, SANDAG is responsible for ensuring that all environmental commitments identified in Section 7 are fully implemented.



Jamie Rennert
Director, Office of Program Delivery, Federal Railroad Administration

June 25 2019
Date

For questions or further information about this FONSI, please contact Amanda Ciampolillo. Contact information is as follows:

Amanda E. Ciampolillo
Office of Railroad and Policy Development
Federal Railroad Administration
1200 New Jersey Avenue Southeast
Washington, D.C. 20590

(617) 494-2173

amanda.ciampolillo@dot.gov

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