

**CALENDAR ITEM
C72**

A 5, 23, 35

04/26/13

W 26378.1

S 14

C. Hudson

GENERAL LEASE – PUBLIC AGENCY USE

APPLICANT:

California High-Speed Rail Authority
925 L Street
Sacramento, CA 95814

AREA, LAND TYPE, AND LOCATION:

2.613 acres, more or less, of sovereign land crossing the San Joaquin River, near the unincorporated community of Herndon, Madera and Fresno counties.

AUTHORIZED USE:

Construction, use, and maintenance of a new electric-powered high-speed, steel-wheel-on-steel-rail train system and steel truss bridge crossing.

LEASE TERM:

25 years, beginning April 26, 2013.

CONSIDERATION:

The public use and benefit, with the State reserving the right at any time to set a monetary rent if the Commission finds such action to be in the State's best interest.

SPECIFIC LEASE PROVISIONS:

1. At all times during construction, Lessee agrees to install precautionary signage or warning buoys upstream and downstream of the construction in the river in order to provide adequate warning notices to recreational users on the San Joaquin River of the potential safety hazards associated with project construction.
2. Construction activities in the San Joaquin River are limited to the period between June 15 and October 15 to avoid importing migrating salmon, and must be completed by October 15, 2017.

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OTHER PERTINENT INFORMATION:

1. Applicant has the right to use the upland adjoining the lease premises.
2. The Applicant, with support of the Federal Railroad Administration (FRA) proposes to construct and operate a rail line to support an intercity high-speed rail system. The proposed project will be constructed in phases totaling nine sections connecting the San Francisco Bay area with the Los Angeles metropolitan region, along with extensions to Sacramento and San Diego. The proposed high-speed train (HST) will consist of constructing an electrically powered, steel-wheel-on-steel rail system with the state-of-the-art safety, signaling, and automated train-control systems, and will operate at speeds up to 220 miles per hour.
3. The Applicant proposes to first construct the phase spanning from the city of Merced to the city of Fresno. The HST from Merced to Fresno section will consist of approximately 80 miles of track, two railroad passenger stations, approximately 42 road over and under crossings, and associated railway support facilities. The Merced to Fresno section alignment of the high speed train will parallel the Union Pacific Railroad Railway (UPRR) in the north and the Burlington Northern Santa Fe (BNSF) railway in the south.
4. The portion of the proposed project on the lease premises is a large span steel truss bridge crossing the San Joaquin River, adjacent to State Route 99, north of the unincorporated community of Herndon. The proposed bridge crossing will pass of a minimum of 10 feet to 15 feet above the top bank on both sides of the river, providing ample passage for flood flows and wildlife. The elevated structure is anticipated to be supported on foundations consisting of cast-in-drilled-hole (CIDH) with cast-in-place concrete column extensions. There are two basic foundations; a single large CIDH pile with a reinforced concrete column extension and a reinforced concrete footing supported by approximately four CIDH piles.
5. It is anticipated that installation of sheet pile cofferdams will be used to support in-water work. Temporary false work will consist of approximately 35 to 40 two-foot-diameter steel pipes spaced 50 feet apart from one another across the river channel. The steel pipes are approximately 50 feet in width from the centerline of the proposed bridge. There will be approximately five to eight pipes for one temporary support structure. The piles and temporary support structure will be installed by vibratory hammer to minimize underwater sound pressures and will be removed after construction is complete.

CALENDAR ITEM NO. **C72** (CONT'D)

6. During construction, a qualified fisheries biologist will conduct fish presence surveys immediately prior to any in-water work. Surveys will be conducted again if there is a multi-day pause or lapse in construction activities. The in-water construction is anticipated to take two seasons depending on the flow of the river, and an additional two seasons of construction for the upland piers and bridge deck. The proposed HST project is expected to begin in the fall of 2013 with the first season of in-water work occurring in the summer of 2014.

7. A Joint Document (JD) Environmental Impact Report/Environmental Impact Statement (EIR/EIS) State Clearinghouse No. 2009091125, was prepared for this project by the California High-Speed Rail Authority and the FRA and certified on May 3, 2012. The California State Lands Commission staff has reviewed such document and Mitigation Monitoring Program prepared in conformance with the provisions of the California Environmental Quality Act (CEQA) (Pub. Resources Code, § 21081.6) and adopted by the lead agency.

Findings made in conformance with the State CEQA Guidelines (Cal. Code Regs., tit. 14, §§ 15091, 15096) are contained in Exhibit D, attached hereto.

8. This activity involves lands identified as possessing significant environmental values pursuant to Public Resources Code section 6370 et seq., but such activity will not affect those significant lands. Based upon the staff's consultation with the persons nominating such lands and through the CEQA review process, it is the staff's opinion that the project, as proposed, is consistent with its use classification.

APPROVALS OBTAINED:

NOAA's National Marine Fisheries Service

FURTHER APPROVALS REQUIRED:

U.S. Army Corps of Engineers, U.S. Fish and Wildlife Service, State Water Resources Control Board, California Department of Fish and Wildlife, and Permittee – Responsible Mitigation Plan

EXHIBITS:

- A. Land Description
- B. Site and Location Map
- C. Mitigation Monitoring Program
- D. Findings

CALENDAR ITEM NO. **C72** (CONT'D)

RECOMMENDED ACTION:

It is recommended that the Commission:

CEQA FINDING:

1. Find that an EIR/EIS, State Clearinghouse No. 2009091125, was prepared for this Project by the California High-Speed Rail Authority and the Federal Railroad Administration and certified on May 3, 2012, and that the Commission has reviewed and considered the information contained therein.
2. Adopt the Mitigation Monitoring Program, as contained in Exhibit C, attached hereto.
3. Adopt the Findings, made in conformance with California Code of Regulations, Title 14, sections 15091 and 15096, subdivision (h), as contained in Exhibit D, attached hereto.

SIGNIFICANT LANDS INVENTORY FINDING:

Find that this activity is consistent with the use classification designated by the Commission for the land pursuant to Public Resources Code section 6370 et seq.

AUTHORIZATION:

Authorize issuance of a General Lease – Public Agency Use to California High-Speed Rail Authority, beginning April 26, 2013, for a term of 25 years, for the construction, use and maintenance of new electric-powered high-speed, steel-wheel-on-steel-rail train system and steel truss bridge crossing as described in Exhibit A and shown on Exhibit B (for reference purposes only) attached and by this reference made a part hereof; consideration being the public use and benefit, with the State reserving the right at any time to set a monetary rent if the commission finds such action to be in the State's best interest.

EXHIBIT A

W 26378.1

LAND DESCRIPTION

A parcel of submerged land situate in the bed of the San Joaquin River, lying adjacent to Section 31, Township 12 South, Range 19 East, Mount Diablo Meridian, approved June 26, 1874, Counties of Madera and Fresno, State of California and more particularly described as follows:

BEGINNING at a point on the Low Water Line of the right bank of San Joaquin River as shown on California State Lands Commission (CSLC) Administrative Map titled "San Joaquin River, Friant Dam to Gravelly Road, Fresno and Madera Counties, Sheet 17 of 27" on the file with the CSLC which bears South 52° 11' 20" East 4514.21 feet from the point (PID DG9697) having CCS 83 Zone 4 coordinates of Northing 2194533.01 feet, Easting 6285098.92 feet (Northing 2194533.08 feet, Easting 6285098.88 feet, Epoch 2010.00 per NGS Data Sheet); thence along a said low water line North 31° 41' 30" East 50.71 feet to the point on the non-tangent curve concave northeasterly and having a radius of 27983.25 feet, to which beginning of curve a radial bears South 39° 22' 36" West; thence leaving a said low water line southeasterly along said curve through a central angle of 0° 48' 09", an arc distance of 391.99 feet to a point on the low water mark of the left bank of said river; thence along a said low water mark South 26° 34' 10" West 52.43 feet to the point on the non-tangent curve concave northeasterly and having a radius of 33340.84 feet, to which beginning of curve a radial bears South 40° 14' 24" West; thence leaving a said low water line northwesterly along said curve through a central angle of 0° 40' 55", an arc distance of 396.84 feet to the point of beginning.

END OF DESCRIPTION

This description is based on Applicant provided design plans, by AECOM Technical Services Inc., entitled "CALIFORNIA HIGH-SPEED TRAIN PROJECT MERCED TO FRESNO", dated July 20, 2011. This description is to be updated once final as-built plans are submitted.

Prepared 02/04/13 by the California
State Lands Commission Boundary Unit



NO SCALE

SITE

APN 048-270-008

MADERA COUNTY

LOW WATER LINE
JOAQUIN RIVER

LEASE PARCEL OF PROPOSED RIGHT OF WAY

FRESNO COUNTY

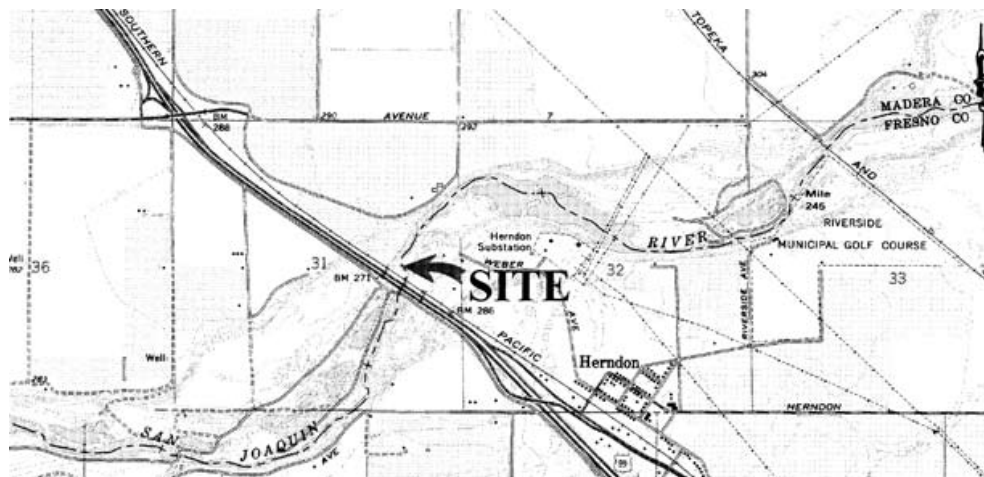
APN 504-130-22

STATE HWY 99

SAN JOAQUIN RIVER AT STATE ROUTE 99, NORTH OF HERNDON

NO SCALE

LOCATION



MAP SOURCE: USGS QUAD

Exhibit B

W 26378.1
 CALIFORNIA HIGH SPEED
 RAIL AUTHORITY
 APNs 048-270-008 & 504-130-22
 GENERAL LEASE -
 PUBLIC AGENCY USE
 MADERA & FRESNO COUNTIES



TS 02/04/13

This Exhibit is solely for purposes of generally defining the lease premises, is based on unverified information provided by the Lessee or other parties and is not intended to be, nor shall it be construed as, a waiver or limitation of any State interest in the subject or any other property.

Exhibit C: Mitigation Monitoring Program

Air Quality and Global Climate Change				
<p>AQ Impact #1: Regional Impacts – Construction of the HST would exceed the CEQA emissions threshold for volatile organic compounds (VOC) and nitrogen oxides (NOx).</p>	<p>AQ-MM#1: Reduce Criteria Exhaust Emissions from Construction Equipment. This mitigation measure will apply to heavy-duty construction equipment used during the construction phase. All off-road construction diesel equipment will use the cleanest reasonably available equipment (including newer equipment and/or tailpipe retrofits), but in no case less clean than the average fleet mix, as set forth in the California Air Resources Board’s (CARB) Non-Road/Off-Road 2007 database. The contractor will document efforts it undertook to locate newer equipment (such as, in order of priority, Tier 4, Tier 3 or Tier 2 equipment) and/or tailpipe retrofit equivalents. The contractor shall provide documentation of such efforts, including correspondence with at least two construction equipment rental companies. A copy of each unit’s certified tier specification and any required CARB or San Joaquin Valley Air Pollution Control District (SJVAPCD) operating permit will be made available at the time of mobilization of each piece of equipment. The contractor shall keep a written record (supported by equipment hours meters where available) of equipment usage during project construction for each piece of equipment.</p>	<p>Daily recording / weekly reporting</p>	<p>Implementing Party: Contractor Monitoring / Reporting Party: Contractor</p>	<p>During construction</p>
	<p>AQ-MM#2: Reduce Criteria Exhaust Emissions from On-Road Construction Equipment. This mitigation measure applies to on-road trucks used to haul construction materials, including fill, ballast, rail ties, and steel. Material hauling trucks will consist of an average fleet mix of equipment model year 2010 or newer, to the extent reasonably practicable. The contractor shall provide documentation of efforts to secure such fleet mix inclusive of its subcontractors.</p>	<p>Reporting prior to construction / weekly reporting</p>	<p>Implementing Party: Contractor Monitoring / Reporting Party: Contractor</p>	<p>During construction</p>

Exhibit C: Mitigation Monitoring Program

	The contractor and its sub-contractors shall keep a written record of equipment usage during project construction for each piece of equipment.			
	AQ-MM#4: Offset Project Construction Emissions through a San Joaquin Valley Air Pollution Control District (SJVAPCD) Voluntary Emission Reduction Agreement (VERA). The California High-Speed Rail Authority (CHSRA) and SJVAPCD will enter into a contractual agreement to mitigate (by offsetting) to net zero the project’s actual emissions that exceed thresholds by providing funds for the district’s Emission Reduction Incentive Program to fund grants for projects that achieve emission reductions, thus offsetting project-related impacts on air quality. The project will reduce actual construction emissions for VOCs and NOx that exceed significance/General Conformity thresholds through the VERA program. To lower overall cost, funding for the VERA program, to cover estimated construction emissions for any funded construction phase, shall be provided at the beginning of the construction phase. At a minimum, mitigation/offsets shall occur in the year of impact, or as otherwise permitted by 40 CFR Part 93 Section 93.163.	Reporting prior to construction / weekly reporting	Implementing Party: Contractor and CHSRA Monitoring / Reporting Party: CHSRA and SJVAPCD	During construction
AQ Impact #2: Regional Impacts – Material Hauling Outside the San Joaquin Valley Air Basin Would Exceed California	AQ-MM#2: Reduce Criteria Exhaust Emissions from On-Road Construction Equipment. (See AQ Impact #1.)	Reporting prior to construction / weekly reporting	Implementing Party: Contractor Monitoring / Reporting Party: Contractor	During construction
	AQ-MM#5: Purchase Offsets and Offsite Emission Mitigation for Emissions Associated with Hauling Ballast Material in the BAAQMD and SCAQMD. Actual NOx emissions from ballast hauling shall be reported to the SCAQMD and offsets purchased from the SCAQMD for actual emissions exceeding the	Reporting prior to construction / weekly reporting	Implementing Party: Contractor and California High-Speed Rail Authority (CHSRA)	Pre-construction and during construction

Exhibit C: Mitigation Monitoring Program

Environmental Quality Act (CEQA) Emissions Thresholds for Nitrogen Oxides (NOx) in the Bay Area Air Quality Management District (BAAQMD) and the South Coast Air Quality Management District (SCAQMD).	thresholds. In the BAAQMD, actual NOx emissions above the district's significance threshold will be mitigated through an offsite emission mitigation program to achieve emission reduction due to material hauling in BAAQMD. Potential offsite mitigation programs include the BAAQMD's Carl Moyer Memorial Air Quality Standards Attainment Program (CMP) or other air district emission reduction incentive programs.		Monitoring / Reporting Party: Contractor and CHSRA; Contractor to report hauling emissions to CHSRA, which will purchase offsets and offsite emission mitigation based on Contractor data.	
AQ Impact #3: Compliance with Air Quality Plans – Construction of the High-Speed Train (HST) would Impede Implementation of Air Quality Plans for Volatile Organic Compounds (VOC) and Nitrogen Oxides (NOx).	AQ-MM#1: Reduce Criteria Exhaust Emissions from Construction Equipment. (See AQ Impact #1.)	Daily recording / weekly reporting	Implementing Party: Contractor Monitoring / Reporting Party: Contractor	During construction
	AQ-MM#2: Reduce Criteria Exhaust Emissions from On-Road Construction Equipment. (See AQ Impact #1.)	Reporting prior to construction / weekly reporting	Implementing Party: Contractor Monitoring / Reporting Party: Contractor	During construction
	AQ-MM#4: Offset Project Construction Emissions through a San Joaquin Valley Air Pollution Control District (SJVAPCD) Voluntary Emission Reduction Agreement (VERA). (See AQ Impact #1.)	Reporting prior to construction / weekly reporting	Implementing Party: Contractor and California High-Speed Rail Authority (CHSRA)	During construction

Exhibit C: Mitigation Monitoring Program

			Monitoring / Reporting Party: CHSRA and SJVAPCD	
Biological Resources				
Bio Impact #10: Construction of the High-Speed Train (HST) would disturb Nesting Swainson's hawk.	<p>Bio-MM#3: Prepare and Implement a Worker Environmental Awareness Program (WEAP). Prior to ground-disturbing activities, the Contractor will prepare and implement a WEAP for construction crews. WEAP training materials will include the following: discussion of the federal Endangered Species Act (ESA), California Endangered Species Act (CESA), Bald and Golden Eagle Protection Act (BGEPA), and the Migratory Bird Treaty Act (MBTA); consequences and penalties for violation or noncompliance with these laws and regulations and project permits; identification and value of special-status plants, special-status wildlife, jurisdictional waters, and special-status plant communities; hazardous substance spill prevention and containment measures; the contact person in the event of the discovery of a dead or injured wildlife species; and review of mitigation measures. In the WEAP, the Contractor will detail construction timing in relation to habitat and species' life stage requirements and discuss project maps, showing areas of planned minimization and avoidance measures.</p> <p>A fact sheet prepared by the Contractor conveying this information will be prepared for distribution to the construction crews and to other individuals who enter the construction footprint. Upon completion of the WEAP training, construction crews will sign a form stating that they attended the training and understand and will comply with the information presented. Construction crews will be informed during the WEAP</p>	Training of all crew / construction personnel prior to start of construction. Provide weekly/monthly reporting as required by permit	Implementing Party: Contractor Monitoring / Reporting Party: Contractor	Pre-construction and during Construction

Exhibit C: Mitigation Monitoring Program

	<p>training that, to the extent possible, travel within the marked project site will be restricted to established roadbeds. Established roadbeds include all pre-existing and project-constructed unimproved, as well as improved roads.</p>			
	<p>Bio-MM#5: Prepare and Implement a Biological Resources Management Plan (BRMP). During final design, and prior to construction, the Contractor will prepare the BRMP and assemble the biological resources mitigation measures. In the BRMP, the Contractor will include terms and conditions from applicable permits and agreements and make provisions for monitoring assignments, scheduling, and responsibility. The BRMP will also include habitat replacement and revegetation, protection during ground-disturbing activities, performance (growth) standards, maintenance criteria, and monitoring requirements for temporary and permanent native plant community impacts. The BRMP will form the parameters for the biology mitigation measures from the Project Environmental Impact Report / Environmental Impact Statement (EIR/EIS), including terms and conditions as applicable from the U.S. Fish and Wildlife Service (USFWS), U.S. Army Corps of Engineers (USACE), State Water Resources Control Board (SWRCB), and California Department of Fish and Wildlife (CDFW) permits. The BRMP will be prepared for all phases of project implementation, but may be exclusively prepared for each construction package.</p> <p>The goal of the BRMP is to assist the Contractor with an organized reporting tool to ensure the mitigation measures and terms and conditions are implemented in a timely manner and are reported on. These include all avoidance, minimization, repair, mitigation, and</p>	<p>Following implementation and reporting schedule as established by agency permit conditions.</p>	<p>Implementing Party: Contractor Monitoring / Reporting Party: Contractor</p>	<p>Pre-construction</p>

Exhibit C: Mitigation Monitoring Program

	<p>compensatory actions stated in the mitigation measures or terms and conditions from the permits referenced above. These measures and conditions are tracked through final design, implementation, and post-construction phases. Specific performance standards are habitat based and are related to success of onsite or offsite repair of temporary impacts, or more permanent impacts that are compensated at an offsite location. Habitat-based mitigation applies to compensatory mitigation or permittee-responsible mitigation for impacts on special-status plants, special-status wildlife, special-status plant communities, or jurisdictional waters and are generally addressed in the Bio-MM#58 as part of the Permittee-Responsible Mitigation Plan (PRMP). Performance standards are targets for determining the effectiveness of the mitigation and assessing the need for adaptive management (e.g., mitigation design or maintenance revisions). Success criteria are formal criteria that must be met after a specific timeframe to meet regulatory requirements of the permitting agencies. These are habitat-based performance standards that include consideration for the establishment of a species or habitat. Since species are nested within habitats, the performance standards are primarily based on vegetation, substrate, and hydrology conditions. The performance standards for the establishment of any temporary or permanent impacts on these resources are recognized in those resource categories, but are more specifically covered in the specific performance standards/guidelines shown in Bio-MM#58. The overarching goal is to neutralize the impacts with respect to species and habitat impacted. The BRMP will help the long-term perpetuation of biological resources within the temporarily disturbed areas, as</p>			

Exhibit C: Mitigation Monitoring Program

	<p>well as protect adjacent targeted habitats. The BRMP will contain but not be limited to the following information:</p> <ul style="list-style-type: none"> a) Specific measures for the protection of special-status species. b) Identification (on construction plans) of the locations and quantity of habitats to be avoided or removed, including locations where habitats are to be restored. c) Procedures for vegetation analyses of temporarily impacted habitats to approximate their relative composition, as well as procedures for site preparation, irrigation, planting, and maintenance. This information may be used to determine the requirements of the revegetation areas for both onsite temporary impacts and offsite compensatory sites. d) Sources of plant materials and methods of propagation. e) Specific parameters for determining the amount of replacement habitat for temporary disturbance areas identified consistent with mitigation ratios and permit conditions. f) Specification of parameters for maintenance and monitoring of re-established habitats, including weed control measures, frequency of field checks, and monitoring reports for temporary disturbance areas. g) Specification of performance standards for the re-established plant communities within the construction limits. h) Remedial measures, such as a form of adaptive management, to be taken if performance standards are not met. i) Methodologies and requirements for monitoring 			

Exhibit C: Mitigation Monitoring Program

	<p>the restoration/replacement efforts, which will be a combination of qualitative and quantitative data consistent with mitigation measures and permit conditions.</p> <ul style="list-style-type: none"> j) Measures to preserve topsoil and control erosion. k) Design of protective fencing around environmentally sensitive areas (ESAs) and environmentally restricted areas (ERAs) and the construction staging areas. l) Specification of location and quantities of gallinaceous guzzlers (catch basin/artificial watering structures) if needed; specification of monitoring of water levels in guzzlers. m) Location of trees to be protected as wildlife habitat (roosting sites) and locations for planting replacement trees. n) Specification of the purpose, type, frequency, and extent of chemical use for insect and disease control operations as part of vegetative maintenance within sensitive habitat areas. o) Specific construction monitoring programs for habitats of concern and special-status species, as needed. p) Specific measures for the protection of vernal pool habitat and riparian areas. These measures may include but are not limited to: erosion and siltation control measures, protective fencing guidelines, dust control measures, grading techniques, construction area limits, and biological monitoring requirements. q) Provisions for biological monitoring during ground-disturbing activities to confirm compliance and success of protective measures. The monitoring procedures will: (1) identify specific locations of wildlife habitat and sensitive species to be 			

Exhibit C: Mitigation Monitoring Program

Potential Impact	Mitigation Measure	Monitoring / Reporting Action	Party Responsible	Timing
	<p>monitored, (2) identify the frequency of monitoring and the monitoring methodology (for each habitat and sensitive species to be monitored), (3) list required qualifications of biological monitor(s), and (4) identify reporting requirements.</p>			
	<p>Bio-MM#7: Delineate Environmentally Sensitive Areas (ESAs) and Environmentally Restricted Areas (ERAs)(on plans and in field). Prior to ground-disturbing activities, to the extent practicable, the Contractor will verify that ESAs and ERAs are delineated as appropriate. ESAs are areas within the construction zones containing suitable habitat for special-status species and habitats of concern that may allow construction activities, but have restrictions based on the presence of special-status species or habitats of concern at the time of construction. ERAs are areas outside the construction footprint that must be protected in-place during all construction activities. Prior to ground-disturbing activities, the Contractor will include all ESAs and ERAs on final construction plans (including grading and landscape plans). Prepare, review and approve the map of all ESAs and ERAs on the design drawings and work to update the map as necessary.</p> <p>Prior to ground-disturbing activities, the Contractor will mark ESAs and ERAs with high visibility temporary fencing to prevent encroachment of construction personnel and equipment onto sensitive areas. Designate the two categories, ESA and ERA, differently in the field (e.g., different colored flagging/fencing). Use sub-meter accurate GPS equipment to delineate all ESAs and ERAs. Remove ESA and ERA fencing when construction is complete or the resource has been cleared according to agency permit conditions and construction drawings and specifications. The</p>	<p>Prior to construction / Post-construction. Follow reporting requirements as established by agency permit conditions</p>	<p>Implementing Party: Contractor Monitoring / Reporting Party: Contractor</p>	<p>Pre-construction and during Construction</p>

Exhibit C: Mitigation Monitoring Program

	Contractor will submit memoranda regarding the field delineation of all ESAs/ERAs to the California High-Speed Rail Authority (CHSRA). These areas will receive ongoing monitoring during site preparation and construction activities.			
	Bio-MM#8: Equipment Staging Areas. Prior to ground-disturbing activities, the Contractor will locate staging areas for construction equipment outside sensitive biological resources including habitat for special-status species, habitats of concern (e.g., wetlands, waters of the U.S., riparian communities), and wildlife movement corridors, to the maximum extent possible. The Contractor will submit memoranda to the California High-Speed Rail Authority (CHSRA) documenting compliance.	Prior to construction Follow reporting requirements as established by agency permit conditions	Implementing Party: Contractor Monitoring / Reporting Party: Contractor	Pre-construction and during Construction
	Bio-MM#10: Vehicle Traffic. During ground-disturbing activities, the Contractor will restrict project-related vehicle traffic, within the construction area, to established roads, construction areas, and other designated areas. Establish vehicle traffic locations disturbed by previous activities to prevent further adverse effects. Observe a 20 mph speed limit for construction areas with potential special-status species habitat. Clearly flag and mark access routes and prohibit off-road traffic. The Contractor will submit a memorandum to the California High-Speed Rail Authority (CHSRA) documenting compliance on a weekly basis.	During ground-disturbing activities. Report on weekly basis.	Implementing Party: Contractor Monitoring / Reporting Party: Contractor	Pre-construction and during Construction

Exhibit C: Mitigation Monitoring Program

	<p>Bio-MM#12: Work Stoppage. During ground-disturbing activities, the Contractor will halt work in the event that a special-status wildlife species gains access to the construction footprint. This work stoppage will be coordinated with the resident engineer and/or the California High-Speed Rail Authority (CHSRA) or its designee. The work stoppage will occur within the area where the potential construction activity could affect the species; other work may continue. This will be determined prior to direction given to the Contractor. At this direction the Contractor will suspend ground-disturbing activities in the immediate construction area that could reasonably result in a “take” of special-status wildlife species. The Contractor will continue the suspension until the individual leaves voluntarily, is relocated to a release area using U.S. Fish and Wildlife Service- (USFWS-) and/or California Department of Fish and Wildlife- (CDFW-) approved handling techniques and relocation methods, or as required by USFWS or CDFW. The Contractor will submit a memorandum to the CHSRA documenting compliance within 1 day of the work stoppage and subsequent action.</p>	<p>During ground-disturbing activities. Submit a memorandum to the Mitigation Manager documenting compliance within 1 day of the work stoppage and subsequent action.</p>	<p>Implementing Party: Contractor Monitoring / Reporting Party: Contractor</p>	<p>Pre-construction and during Construction</p>
	<p>Bio-MM#13: ‘Take’ Notification and Reporting. The Contractor will notify the U.S. Fish and Wildlife Service (USFWS) and/or California Department of Fish and Wildlife (CDFW) immediately in the case of an accidental death or injury to a federal or state listed species during project-related activities. The California High-Speed Rail Authority (CHSRA) or its designee will be notified prior to the notification to the agencies. The Contractor will submit a memorandum to the CHSRA documenting compliance.</p>	<p>Following incident, immediately report to USFWS and/or CDFW. Prepare report and document in weekly/monthly report.</p>	<p>Implementing Party: Contractor Monitoring / Reporting Party: Contractor</p>	<p>Pre-construction and during Construction</p>

Exhibit C: Mitigation Monitoring Program

	<p>Bio-MM#14: Post-Construction Compliance Reports. After each construction period is completed, the Contractor will submit post-construction compliance reports consistent with the appropriate agency (e.g., U.S. Fish and Wildlife Service [UFSWS], National Marine Fisheries Service [NMFS] and California Department of Fish and Wildlife [CDFW]) protocols, including compliance with resource agency permits (i.e., Section 7 of Federal Endangered Species Act [ESA], Section 2081 of the California Endangered Species Act [CESA] and Section 401 and 404 of the Federal Clean Water Act [CWA] and 1600 of Fish and Wildlife Code). The Contractor will submit a memorandum to the California High-Speed Rail Authority (CHSRA) documenting compliance. The frequency of the memorandum compilation and submission will be consistent with regulatory compliance permits.</p>	Reporting post-construction. Follow reporting requirements as established by regulatory compliance permits.	<p>Implementing Party: Contractor</p> <p>Monitoring / Reporting Party: Contractor and CHSRA; each Contractor will submit a Post Construction Compliance Report at substantial contract completion for its own scope of work. CHSRA will aggregate all reports and continue post-construction compliance reporting as required.</p>	Post-construction
	<p>Bio-MM#29: Conduct Pre-Construction Surveys and Monitoring for Raptors. Prior to ground-disturbing activities, the Contractor will conduct preconstruction surveys for nesting raptors if construction and habitat removal activities are scheduled to occur during the breeding season (February 1 to August 15). The Contractor will conduct surveys in areas within 300 feet of the construction footprint. Modify the required survey dates based on local conditions. If breeding raptors with active nests are found, establish a 300-foot buffer around the nest and phase construction activities within the buffer(s) until the young have fledged from the nest or the nest is abandoned. Approve construction</p>	Pre-construction surveys, prior to ground-disturbing activities, and during construction	<p>Implementing Party: Contractor</p> <p>Monitoring / Reporting Party: Contractor</p>	Pre-construction and during construction

Exhibit C: Mitigation Monitoring Program

	<p>activities within the buffer area, pending site conditions that will not jeopardize the nest. The Contractor will conduct pre-construction surveys for bald and golden eagle nests within ¼ mile of the construction footprint. If nesting bald or golden eagles are identified, the Contractor will establish a 1,000-foot buffer area. The Contractor will adjust the 1,000-foot buffer as needed to reflect existing conditions including ambient noise, topography, and disturbance with the approval of the U.S. Fish and Wildlife Service (USFWS) or California Department of Fish and Wildlife (CDFW), as appropriate. The Contractor will conduct regular monitoring of the nest to determine success/failure and to confirm that project activities are not conducted within the buffer(s) until the nesting cycle is complete or the nest fails. The Contractor will document the results of the surveys and the ongoing monitoring, and provide a copy of the monitoring reports for impact areas to the respective agencies. The Contractor will approve ground-disturbing activities within the buffer area, pending site conditions that will not jeopardize the nest. The Contractor will submit a memorandum to the California High-Speed Rail Authority (CHSRA) documenting compliance.</p>			
	<p>Bio-MM#31: Raptor Protection on Power Lines. During final design, the Contractor will verify that the catenary system and masts are designed to be raptor-safe, in accordance with the Suggested Practices for Avian Protection on Power Lines: The State of the Art in 2006. The Contractor will check the final design drawings and submit a memorandum to the California High-Speed Rail Authority (CHSRA) documenting compliance.</p>	<p>Final design, completed prior to construction.</p>	<p>Implementing Party: Contractor Monitoring / Reporting Party: Contractor</p>	<p>Pre-construction</p>

Exhibit C: Mitigation Monitoring Program

	<p>Bio-MM#32: Conduct Pre-Construction Surveys for Swainson’s Hawks. The Contractor will conduct pre-construction surveys for Swainson’s hawks during the nesting season (March 1 through September 15) within the construction footprint and within a 0.5-mile buffer. The Contractor will conduct the pre-construction nest surveys at least 30 days prior to ground-disturbing activities and phase with project construction. The pre-construction surveys will determine the status (i.e., active, inactive) of the nest and then will be used to set up nest avoidance strategies (Bio-MM#33). The Contractor will submit a memorandum to the California High-Speed Rail Authority (CHSRA) documenting compliance with the measure.</p>	<p>Condition of Design/Build Contract</p> <p>Pre-construction surveys at least 30 days prior to ground-disturbing activities and construction</p>	<p>Implementing Party: Contractor</p> <p>Monitoring / Reporting Party: Contractor</p>	<p>Pre-construction</p>
	<p>Bio-MM#33: Swainson’s Hawk Nest Avoidance. If active Swainson’s hawk nests (defined as a nest used one or more times in the last 5 years) are found within 0.5 mile of the construction footprint during the nesting season (March 1 to September 15), the Contractor will implement buffers restricting construction activities, following the California Department of Fish and Wildlife’s (CDFW) Staff Report Regarding Mitigation for Impacts to Swainson’s Hawks (<i>Buteo swainsoni</i>) in the Central Valley of California. Adjustments to the buffer(s) will require prior approval by CDFW as coordinated by the Contractor. The buffers and nest condition will then be monitored (see Bio-MM#34). The Contractor will submit a memorandum to the California High-Speed Rail Authority (CHSRA) documenting compliance on a weekly basis.</p>	<p>Weekly reports during nesting season (March 1 – September 15)</p>	<p>Implementing Party: Contractor</p> <p>Monitoring / Reporting Party: Contractor</p>	<p>Pre-construction and during construction</p>

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	<p>Bio-MM#34: Monitor Removal of Nest Trees for Swainson’s Hawks. Prior to ground-disturbing activities, the Contractor will monitor nest trees for Swainson’s hawks in the construction footprint that are not removed. If a nest tree for a Swainson’s hawk must be removed, the Contractor will obtain a Management Authorization (including conditions to offset the loss of the nest tree) from the California Department of Fish and Wildlife (CDFW), as described in CDFW’s Staff Reporting Regarding Mitigation for Impacts to Swainson’s Hawks (<i>Buteo swainsoni</i>) in the Central Valley of California. The Management Authorization will specify the tree removal period, generally between October 1 and February 1. If ground-disturbing activities or other project-related activities may cause nest abandonment by a Swainson’s hawk or forced fledging within the specified buffer area, monitoring of the nest site (funded by the California High-Speed Rail Authority [CHSRA]) by the Contractor will be required to determine if the nest is abandoned. The Contractor will submit a memorandum to the CHSRA documenting compliance on a weekly basis during the appropriate season.</p>	<p>Reporting prior to ground-disturbing activities, during construction.</p>	<p>Implementing Party: Contractor Monitoring / Reporting Party: Contractor</p>	<p>Pre-construction and during construction</p>
<p>Bio Impact #11: Construction of the High-Speed Train (HST) would disturb breeding birds, including</p>	<p>Bio-MM#3: Prepare and Implement a Worker Environmental Awareness Program. (See Bio Impact #10.)</p>	<p>Training of all crew / construction personnel prior to start of construction. Provide weekly/monthly reporting as required by permit</p>	<p>Implementing Party: Contractor Monitoring / Reporting Party: Contractor</p>	<p>Pre-construction and during Construction</p>

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raptors.	Bio-MM#5: Prepare and Implement a Biological Resources Management Plan. (See Bio Impact #10.)	Following implementation and reporting schedule as established by agency permit conditions.	Implementing Party: Contractor Monitoring / Reporting Party: Contractor	Pre-construction
	Bio-MM#7: Delineate Environmentally Sensitive Areas and Environmentally Restricted Areas (on plans and in-field). (See Bio Impact #10.)	Prior to construction / Post-construction. Follow reporting requirements as established by agency permit conditions	Implementing Party: Contractor Monitoring / Reporting Party: Contractor	Pre-construction and during Construction
	Bio-MM#8: Equipment Staging Areas. (See Bio Impact #10.)	Prior to construction. Follow reporting requirements as established by agency permit conditions	Implementing Party: Contractor Monitoring / Reporting Party: Contractor	Pre-construction and during Construction
	Bio-MM#10: Vehicle Traffic. (See Bio Impact #10.)	During ground-disturbing activities. Report on weekly basis.	Implementing Party: Contractor Monitoring / Reporting Party: Contractor	Pre-construction and during Construction
	Bio-MM#12: Work Stoppage. (See Bio Impact #10.)	During ground-disturbing activities. Submit a memorandum to the Mitigation Manager documenting compliance within 1 day of the work stoppage and subsequent action.	Implementing Party: Contractor Monitoring / Reporting Party: Contractor	Pre-construction and during Construction

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	Bio-MM#13: 'Take' Notification and Reporting. (See Bio Impact #10.)	Following incident, immediately report to U.S. Fish and Wildlife Service (USFWS) and / or California Department of Fish and Wildlife (CDFW). Prepare report and document in weekly/monthly report.	Implementing Party: Contractor Monitoring / Reporting Party: Contractor	Pre-construction and during Construction
	Bio-MM#14: Post-Construction Compliance Reports. (See Bio Impact #10.)	Reporting post-construction. Follow reporting requirements as established by regulatory compliance permits.	Implementing Party: Contractor Monitoring / Reporting Party: Contractor and California High-Speed Rail Authority (CHSRA); each Contractor will submit a Post Construction Compliance Report at substantial contract completion for its own scope of work. CHSRA will aggregate all reports and continue post-construction compliance reporting as required.	Post-construction

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	Bio-MM#29: Conduct Pre-Construction Surveys and Monitoring for Raptors. (See Bio Impact #10.)	Pre-construction surveys, prior to ground-disturbing activities, and during construction	Implementing Party: Contractor Monitoring / Reporting Party: Contractor	Pre-construction and during construction
	Bio-MM#30: Conduct Pre-Construction Surveys and Delineate Active Nest Exclusion Areas For Other Breeding Birds. In the event active bird nests are encountered during the pre-construction survey, the Contractor will determine the nest avoidance buffer zones as appropriate. The Contractor will establish the suitable buffers consistent with the intent of the Migratory Bird Treaty Act (MBTA). The Contractor will delineate nest avoidance buffers established for ground nesting birds in a manner that does not create predatory bird perch points in close proximity (150 feet) to the active nest site. The Contractor will monitor active bird nests weekly or more frequently pending status of nest and status of fledgling development. The Contractor will maintain the nest avoidance buffer zone until nestlings have fledged or the nest is abandoned. The Contractor will submit a memorandum to the California High-Speed Rail Authority (CHSRA) documenting compliance.	Pre-construction surveys and during construction	Implementing Party: Contractor Monitoring / Reporting Party: Contractor	Pre-construction
	Bio-MM#31: Raptor Protection on Power Lines. (See Bio Impact #10.)	Final design, completed prior to construction.	Implementing Party: Contractor Monitoring / Reporting Party: Contractor	Pre-construction

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<p>Bio Impact #17: Construction of the High-Speed Train (HST) would have indirect impacts on Jurisdictional waters.</p>	<p>Bio-MM#3: Prepare and Implement a Worker Environmental Awareness Program (WEAP). (See Bio Impact #10.)</p>	<p>Training of all crew / construction personnel prior to start of construction. Provide weekly/monthly reporting as required by permit</p>	<p>Implementing Party: Contractor Monitoring / Reporting Party: Contractor</p>	<p>Pre-construction and during Construction</p>
	<p>Bio-MM#4: Prepare and Implement a Weed Control Plan. Prior to ground-disturbing activities, the Contractor will prepare and implement a Weed Control Plan to minimize or avoid the spread of weeds during ground-disturbing activities. The Weed Control Plan will address the following:</p> <ul style="list-style-type: none"> • Schedule for conducting noxious weed surveys to be conducted in coordination with the Biological Resources Management Plan (BRMP)(Bio-MM#5). • Success criteria for noxious and invasive weed control as established by a qualified biologist. The success criteria will be linked to the Permittee-Responsible Mitigation Plan (PRMP) for compensatory mitigation sites, and the standards for onsite work during construction will limit invasive species to less than 5% and non-native herbaceous species to less than 25%. If these success criteria have not been met by the end of the BRMP monitoring and implementation period, monitoring and control efforts will continue and remedial actions will be identified and implemented until success criteria are met. Based on monitoring results, additional or revised measures may be needed to ensure the introduction and spread of noxious weeds is not promoted by the construction and operation of the HST. 	<p>Prior to construction / monthly memorandum to document the progress of the Weed Control Plan and implementation</p>	<p>Implementing Party: Contractor Monitoring / Reporting Party: Contractor</p>	<p>Pre-construction and during construction</p>

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	<ul style="list-style-type: none"> Provisions to ensure that the development of the Weed Control Plan will be coordinated with development of the Restoration and Revegetation Plan (RRP)(Bio-MM#6) so that the RRP incorporates measures to reduce the spread and establishment of noxious weeds and incorporates percent cover of noxious weeds into revegetation performance standards. Identify weed control treatments including permitted herbicides, and manual and mechanical methods for application. Restrict herbicide application from use in environmentally sensitive areas (ESAs). Determine timing of the weed control treatment for each plant species. Identify fire prevention measures. <p>The Contractor will implement the Weed Control Plan during the construction period and require that maintenance crews follow the guidelines in the Weed Control Plan during the project period. The California High-Speed Rail Authority (CHSRA) will appoint the responsible party during the operations period. A monthly memorandum will be prepared by the Contractor to document the progress of the Plan and its implementation.</p>			
	<p>Bio-MM#5: Prepare and Implement a Biological Resources Management Plan (BRMP). (See Bio Impact #10.)</p>	<p>Following implementation and reporting schedule as established by agency permit conditions.</p>	<p>Implementing Party: Contractor Monitoring / Reporting Party: Contractor</p>	<p>Pre-construction</p>

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	Bio-MM#7: Delineate Environmentally Sensitive Areas and Environmentally Restricted Areas (on plans and in field). (See Bio Impact #10.)	Prior to construction / post-construction. Follow reporting requirements as established by agency permit conditions	Implementing Party: Contractor Monitoring / Reporting Party: Contractor	Pre-construction and during Construction
	Bio-MM#8: Equipment Staging Areas. (See Bio Impact #10.)	Prior to construction. Follow reporting requirements as established by agency permit conditions	Implementing Party: Contractor Monitoring / Reporting Party: Contractor	Pre-construction and during Construction
	Bio-MM#10: Vehicle Traffic. (See Bio Impact #10.)	During ground-disturbing activities. Report on weekly basis.	Implementing Party: Contractor Monitoring / Reporting Party: Contractor	Pre-construction and during Construction
	Bio-MM#44: Restore Temporary Impacts on Jurisdictional Waters. During or post-construction, the Contractor will restore disturbed jurisdictional waters using stockpiled and segregated soils. The Contractor will conduct revegetation using appropriate plants and seed mixes, and conduct maintenance monitoring consistent with the provisions in the Permittee-Responsible Mitigation Plan (PRMP) (Bio-MM#58). The Contractor will document compliance with memorandum submitted to the California High-Speed Rail Authority (CHSRA).	Construction and post-construction . Follow reporting as determined by regulatory agency permit conditions.	Implementing Party: Contractor Monitoring / Reporting Party: Contractor	During construction and Post-Construction

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	<p>Bio-MM#45: Monitor Construction Activities within Jurisdictional Waters. During ground-disturbing activities, the Contractor will conduct monitoring within jurisdictional waters, including monitoring of the installation of protective devices (silt fencing, sandbags, fencing, etc.), installation and/or removal of creek crossing fill, construction of access roads, vegetation removal, and other associated construction activities. The Contractor will conduct biological monitoring to document adherence to habitat avoidance and minimization measures addressed in the project mitigation measures and as listed in the U.S. Fish and Wildlife Service (USFWS), California Department of Fish and Wildlife (CDFW), State Water Resources Control Board (SWRCB), and U.S. Army Corps of Engineers (USACE) permits conditions. The Contractor will report and document compliance consistent with requirements in the permitting documents, including frequency and timing and submittals.</p>	<p>Construction and post-construction. Follow reporting as determined by regulatory agency permit conditions.</p>	<p>Implementing Party: Contractor Monitoring / Reporting Party: Contractor</p>	<p>During construction and Post-Construction</p>
<p>Bio#37: Project period impacts from the High-Speed Train (HST) would permanently convert jurisdictional waters.</p>	<p>Bio-MM#4: Prepare and Implement a Weed Control Plan. (See Bio Impact #17.)</p>	<p>Prior to construction / monthly memorandum to document the progress of the Weed Control Plan and implementation</p>	<p>Implementing Party: Contractor Monitoring / Reporting Party: Contractor</p>	<p>Pre-construction and during construction</p>
	<p>Bio-MM#14: Post-Construction Compliance Reports. (See Bio Impact #10.)</p>	<p>Reporting post-construction. Follow reporting requirements as established by regulatory compliance permits.</p>	<p>Implementing Party: Contractor Monitoring / Reporting Party: Contractor and CHSRA; each Contractor will</p>	<p>Post-construction</p>

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			submit a Post Construction Compliance Report at substantial contract completion for its own scope of work. CHSRA will aggregate all reports and continue post-construction compliance reporting as required.	
	<p>Bio-MM#57: Conduct Delineation of Jurisdictional Waters and State Streambeds. The Contractor, prior to final design, will conduct a jurisdictional delineation, documenting jurisdictional waters and state streambeds consistent with U.S. Army Corps of Engineers (USACE), State Water Resources Control Board (SWRCB), and California Department of Fish and Wildlife (CDFW) guidance. As part of the delineation, determine the functions and values of the jurisdictional waters using accepted methods such as the California Rapid Assessment Method (CRAM) so that the functions and values have been replaced and that no net loss of jurisdictional waters and state streambed values occurs. Develop habitat replacement guidelines to identify and quantify habitats that are to be removed and identify the locations for restoring or relocating habitats. The Contractor will submit a memorandum to the California High-Speed Rail Authority (CHSRA) documenting compliance.</p>	Prior to ground-disturbing activities	<p>Implementing Party: Contractor</p> <p>Monitoring / Reporting Party: Contractor</p>	Pre-construction

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	<p>Bio-MM#58: Prepare and Implement a Permittee-Responsible Mitigation Plan (PRMP). As part of the U.S. Fish and Wildlife Service (USFWS), U.S. Army Corps of Engineers (USACE), State Water Resources Control Board (SWRCB) and California Department of Fish and Wildlife (CDFW) permit applications and prior to ground-disturbing activities, the Contractor will prepare a PRMP to mitigate for temporary and permanent impacts on jurisdictional waters and state streambeds. The PRMP will detail performance standards, including percent cover of native species, survivability, canopy cover requirements, wildlife utilization, the acreage basis, restoration ratios, and the combination of onsite and/or offsite mitigation. Preference shall be given to conduct the mitigation within the same watershed where the impact occurs. The California High-Speed Rail Authority (CHSRA) and Contractor will conduct work with the USACE, SWRCB, and CDFW to develop appropriate avoidance, minimization, mitigation, and monitoring measures to be incorporated into the PRMP. The intent of the PRMP is to mitigate for the lost functions and values of impacts on jurisdictional waters and state streambeds consistent with resource agency requirements and conditions presented in Sections 404 and 401 of the Federal (CWA) and Section 1600 of the California Fish and Wildlife Code (CFWC). It is also anticipated that since listed species such as California tiger salamander, colusa grass, and vernal pool branchiopods are nested within these habitats, the PRMP will also serve to mitigate for listed species through Section 7 of Federal Endangered Species Act (ESA) and California Endangered Species Act (CESA) Section 2081. The Contractor will submit a memorandum to the CHSRA documenting compliance.</p>	<p>Annual monitoring reports for 5 years (or less if success criteria are met as described earlier) and/or other documentation prescribed in the resource agency permits.</p>	<p>Implementing Party: Contractor and CHSRA Monitoring / Reporting Party: Contractor and CHSRA</p> <ol style="list-style-type: none"> 1. For off-site and compensatory mitigation activities, the CHSRA will be responsible for the production of that specific PRMP and implementation, monitoring and reporting against it 2. Any modifications of mitigation ratios will require consultation and agreement with CHSRA 3. Annual monitoring reports will be produced by the Contractor for its scope of work until substantial completion of the 	<p>Pre-construction, during construction, post-construction, and during operations</p>

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	<p>In the PRMP, the applicant or its designee shall incorporate the following standard requirements consistent with USACE, SWRCB, and CDFW guidelines:</p> <ul style="list-style-type: none"> • Description of the project impact/site. • Goal(s) (i.e., functions and values) of the compensatory mitigation project. • Description of the proposed compensatory mitigation site. • Implementation plan for the proposed compensatory mitigation site. • Maintenance activities during the monitoring period. • Monitoring plan for the compensatory mitigation site. • Completion of compensatory mitigation. • Contingency measures. <p>Additionally, the following will be included at a minimum for the implementation plan:</p> <ul style="list-style-type: none"> • Site analysis for appropriate soils and hydrology. • Site preparation specifications based on site analysis, including but not limited to grading and weeding. • Soil and plant material salvage from impact areas, as appropriate to the timing of impact and restoration as well as the location of restoration sites. • Specifications for plant and seed material appropriate to the locality of the mitigation site. • Specifications for site maintenance to establish the habitats, including but not limited to weeding and temporary irrigation. <p>Habitat restoration, enhancement, and/or establishment activities will be conducted on some of the compensatory (i.e., selected permittee-responsible)</p>		<p>work at which time the CHSRA shall assume responsibility for production or assign the responsibility to other contractors.</p>	

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	<p>mitigation sites to achieve the mitigation goals. A detailed design of the mitigation habitats will be created in coordination with the permitting agencies and be described in the PRMP. It is recognized that several PRMPs will be developed consistent with the selected mitigation sites and the resources mitigated at each. The Contractor will ensure that construction is implemented in a manner that minimizes disturbance of such areas to the extent feasible. Temporary fencing will be used during construction to avoid sensitive biological resources that are adjacent to construction areas and can be avoided.</p> <p>Performance standards are targets for determining the effectiveness of the mitigation and assessing the need for adaptive management (e.g., mitigation design or maintenance revisions). Success criteria are formal criteria that must be met after a specific timeframe to meet regulatory requirements of the permitting agencies. Where applicable, replacement planting/seeding will be implemented if monitoring demonstrates that performance goals or success criteria are not met during a particular monitoring interval.</p> <p>The criteria for measuring performance will be used to determine whether the habitat improvement is trending toward sustainability (i.e., reduced human intervention) and to assess the need for adaptive management. These criteria must be met for the habitat improvement to be declared successful, both during a particular monitoring year and at the end of the establishment period. These performance criteria will be developed in consultation with the permitting agencies. The criteria include:</p> <ul style="list-style-type: none"> • Percent survival of planted trees (65–85%). • Percent survival of transplanted trees (60–85%). 			

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	<ul style="list-style-type: none"> • Percent relative canopy cover (5–35%). • Percent cover of invasive species (<1%). • Percent cover of nonnative herbaceous plants (<10–25%). • Percent absolute cover of native species (>50–80%). • Percent relative cover of native species (>50%). • Percent total cover of plant species (20–75%). • Percent relative cover of wetland indicator species (75–90%). • Water level within +/-6 inches (or other measurement) of design. • Species composition and community diversity, relative to reference sites, and/or as described in the guidelines issued by permitting agencies (e.g., USFWS conservation guidelines for valley elderberry longhorn beetle). <p>Performance goals and success criteria will be provided for each of the years of monitoring and will be specific to habitat types at each permittee-responsible mitigation site. The monitoring schedule will be detailed in the site-specific PRMPs. To be deemed successful, the site may be required to meet the success criteria only in selected years. However, if success criteria are not met in specific years, remedial measures, including regrading adjustment to modify the hydrological regime, and/or replacement planting or seeding, must be implemented and that year’s monitoring must be repeated the following year until the success criteria are met. The success criteria specified must be reached without human intervention (e.g., irrigation, replacement plantings) aside from maintenance practices described in the site-specific PRMPs for maintenance during the establishment period.</p> <p>Where the HST alignment affects an existing mitigation</p>			

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	<p>bank, the CHSRA or its designee will modify the mitigation ratio to meet the vernal pool mitigation requirement. The CHSRA or its designee will relocate the affected portion of the mitigation bank or compensate the landowner in accordance with the Uniform Relocation and Real Property Policy Act of 1970, as amended.</p> <p>The Contractor in coordination with the CHSRA will oversee the implementation of all PRMP elements and monitor consistent with the prescribed maintenance and performance monitoring requirements.</p> <p>The Contractor will prepare annual monitoring reports for 5 years (or less if success criteria are met as described earlier) and/or other documentation prescribed in the resource agency permits. In addition, the Contractor will document compliance and submit to the CHSRA.</p>			
	<p>Bio-MM#59: Compensate for Permanent Impacts on Jurisdictional Waters. The California High-Speed Rail Authority (CHSRA) will mitigate permanent wetland impacts through compensation determined in consultation with the U.S. Fish and Wildlife Service (USFWS), U.S. Army Corps of Engineers (USACE), State Water Resources Control Board (SWRCB) and California Department of Fish and Wildlife (CDFW), in order to be consistent with the Permittee-Responsible Mitigation Plan (PRMP) (Bio-MM#58). Regulatory compliance for jurisdictional waters includes relevant terms and conditions from the USACE 404 Permit, SWRCB 401 Permit, and CDFW 1600 Streambed Alteration Agreement. The CHSRA will document compliance. Performance standards for jurisdictional waters are generally described in Bio-MM#58. It is important to recognize that Bio-MM#58 includes</p>	<p>Prior to operations</p>	<p>Implementing Party: CHSRA to compensate based on area of permanent jurisdictional waters impacted by the Contractor</p> <p>Monitoring / Reporting Party: CHSRA</p>	<p>Pre-construction, during construction, and post-construction</p>

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	<p>standards that apply to several resource areas (e.g., jurisdictional waters, riparian habitat, California tiger salamander habitat).</p> <p>Compensation could include one of the following:</p> <ul style="list-style-type: none"> • Purchase of credits from an agency-approved mitigation bank. • Fee-title-acquisition of natural resource agency-related property. • Purchase or establishment of a conservation easement with an endowment for long-term management of the property-specific conservation values. • In-lieu fee contribution determined through negotiation and consultation with the various natural resource regulatory agencies. <p>Base compensation for permanent impacts on the following ratios (acres of mitigation to acres of impact), pending agency confirmation:</p> <ul style="list-style-type: none"> • Vernal pools and other seasonal wetlands: 2:1 Preservation and 1:1 Creation. • Coastal and Valley Freshwater Marsh: 1:1. • Other Wetlands: Between 1.1:1 and 1.5:1 (1:1 onsite and 0.1 to 0.5:1 offsite), based on function and values lost. • Ratios determined in consultation with the appropriate agencies. <p>The CHSRA will mitigate impacts on jurisdictional waters by replacing, creating, restoring, or preserving the identified resource at the ratios presented below or other ratio that compensates for functions and values lost. The CHSRA or its designee will consider modifying the vernal pool mitigation ratio in the final permits based on site-specific conditions and the specific life history requirements of vernal pool branchiopods, California tiger salamanders, and</p>			

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	<p>western spadefoot toads.</p> <p>Where the HST Alternative affects an existing mitigation bank, the CHSRA or its designee will modify the mitigation ratio to meet the vernal pool mitigation requirement. Relocate the affected portion of the mitigation bank or provide compensation to the holder of the conservation easement, in accordance with the Uniform Relocation and Real Property Policy Act of 1970, as amended. Through the PRMP reporting program and the applicable terms and conditions from the USACE 404 Permit, SWRCB 401 Permit, and the CDFW 1600 Streambed Alteration Agreement, the CHSRA will document compliance.</p>			
	<p>Bio-MM#60: Offsite Habitat Restoration, Enhancement and Preservation. Prior to site preparation at the mitigation site, the California High-Speed Rail Authority (CHSRA) or its designee will consider the offsite habitat restoration, enhancement, or preservation program, and identify short-term temporary and/or long-term permanent effects on the natural landscape. A determination will be made on any effects from the physical alteration of the site to onsite biological resources, including plant communities, land cover types, and the distribution of special-status plants and wildlife.</p> <p>Appropriate seasonal restrictions (e.g., breeding season) may be applicable if appropriate habitats exist onsite. Activities resulting in the physical alteration of the site include grading/modifications to onsite topography, stockpiling, storage of equipment, installation of temporary irrigation, removal of invasive species, and drainage feature treatments. In general, the long-term improvements to habitat functions and values will offset temporary effects during restoration,</p>	Reporting pre-construction, construction, post-construction.	<p>Implementing Party: CHSRA to implement offsite mitigation based on effects from the physical alteration of onsite biological resources by the Contractor</p> <p>Monitoring / Reporting Party: CHSRA; The Contractor shall monitor any activities and prepare any reports required where its construction activities contribute to the requirement for this mitigation</p>	Pre-construction, during construction, and post construction

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	<p>enhancement, or preservation activities.</p> <p>The offsite habitat restoration, enhancement, and preservation program will be designed, implemented, and monitored consistent with the terms and conditions of the U.S. Army Corps of Engineers (USACE) Section 404 Permit, California Department of Fish and Wildlife (CDFW) 1600 Streambed Alteration Agreement, and California Endangered Species Act (CESA) and Federal Endangered Species Act (ESA) as they apply to their jurisdiction and resources onsite. Potential effects on site-specific hydrology and the downstream resources will be evaluated as a result of implementation of the restoration-related activity. Site-specific best management practices (BMPs) and a Stormwater Pollution Prevention Plan (SWPPP) will be implemented as appropriate.</p> <p>The CHSRA or its designee will report on compliance with permitting requirements. The CHSRA will be responsible for the monitoring and tracking of the program and will document compliance.</p>		measure	
Aesthetics and Visual Resources				
VQ#1: Visual Disturbance during Construction.	<p>VQ-MM#1: Minimize Visual Disruption During Construction and from Construction Activities.</p> <p>Adhere to local jurisdiction construction requirements (if applicable) regarding construction-related visual / aesthetic disruption. In order to minimize visual disruption, construction will employ the following activities:</p> <ul style="list-style-type: none"> • Minimize the pre-construction clearing to that necessary for construction. • Limit the removal of buildings to those that would obstruct project components. • When possible, preserve existing vegetation, 	Construction / Weekly reporting	Implementing Party: Contractor Monitoring / Reporting Party: Contractor	Pre-construction and during construction

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	<p>particularly vegetation along the edge of construction areas that may help screen views.</p> <ul style="list-style-type: none"> • After construction, degrade areas disturbed by construction, staging, and storage to original contours and revegetate with plant material similar in replacement numbers and type to that which was removed upon completion of construction, based upon local jurisdictional requirements. If there are no local jurisdictional requirements to follow, replace remove vegetation at a 1:1 replacement ratio for shrubs and small trees, and a 2:1 replacement ratio for mature trees. For example, if 10 mature trees in an area are removed, replant 20 younger trees that after 5 to 15 years (depending on the growth rates of the trees) would provide coverage that was similar to the coverage provided by the trees that were removed for construction. • To the extent feasible, do not locate construction staging sites within immediate foreground distance (0 to 500 feet) of existing residential, recreational, or other high-sensitivity receptors. Where such siting is unavoidable, staging sites will be screened from sensitive receptors using appropriate solid screening materials such as temporary fencing and walls. Any graffiti or visual defacement of temporary fencing and walls will be painted over or removed within 5 business days. 			

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VQ#2: Nighttime Lighting during Construction.	VQ-MM#2: Minimize Light Disturbance During Construction. Where construction lighting will be required during nighttime construction, shield such lighting and direct it downward in such a manner that the light source is not visible offsite, and so that the light does not fall outside the boundaries of the project site to avoid light spillage offsite. Implementation of this mitigation measure is not expected to result in secondary impacts.	Construction / Weekly reporting	Implementing Party: Contractor Monitoring / Reporting Party: Contractor	Pre-construction and during construction
Cultural and Paleontological Resources				
Arch#1: Effect on Significant Prehistoric and Historic-Era Archaeological Resources During Construction	Arch-MM#1: Conduct Archaeological Training. Prior to ground-disturbing activities within the project alternatives, a qualified professional archaeologist, who meets the Secretary of the Interior's (SOI's) Standards for Archaeology, will develop a training program and printed material to be presented to construction personnel. The purpose of this training and accompanying materials will be to familiarize construction personnel with the relevant legal (Section 106 / National Environmental Policy Act [NEPA] / California Environmental Quality Act [CEQA]) context for cultural resources of the project and with the types of cultural sites, features, and artifacts that could be uncovered during construction activities. These training sessions will be conducted prior to commencing construction within discrete portions of the project alternatives or as needed as construction crews and supervisors may change. The archaeological training program is further detailed in the Archaeological Treatment Plan (ATP), which will focus on the treatment of known buried historic properties and will provide guidance in the event of unanticipated discoveries. This is being developed with input from all consulting parties, including:	Prior to ground-disturbing activities / weekly monitoring	Implementing Party: Contractor, in consultation with the California State Lands Commission (CSLC), the Native American Heritage Commission (NAHC), and SHPO, as appropriate. Monitoring / Reporting Party: Contractor, in coordination with California High-Speed Rail Authority (CHSRA), SHPO and appropriate consulting agencies	Pre-construction

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	<ul style="list-style-type: none"> • Merced County • City of Merced • City of Merced Design Review Board / Commission and Historic Preservation Commission • Fresno County • City of Fresno • City of Fresno Historic Preservation Program • Fresno County Landmarks and Records Advisory Commission • Madera County • City of Madera • California State Historic Preservation Office (SHPO) • Advisory Council on Historic Preservation (ACHP) <p>In addition, consultation is being undertaken with participating parties and entities that have expressed a formal interest in being involved with the project, including Native American tribes. The ATP will reflect the input of all parties. The ATP is a living document, monitored by all of the consulting parties so that compliance activities and mitigation commitments can be tracked. The ATP will be also be tied to the Memorandum of Agreement (MOA), which will also contain compliance and tracking stipulations tied to each specific mitigation item. The combination of the ATP and the MOA, along with ongoing coordination with the consulting parties, tracks and measures the commitments.</p>			

Exhibit C: Mitigation Monitoring Program

	<p>Arch-MM#2: Halt Work in the Event of an Archaeological Discovery. If any cultural resources are discovered during ground-disturbing activities, all work within 50 feet of the resources will halt, and the project proponent will consult with a qualified archaeologist to assess the significance of the find, according to California Environmental Quality Act (CEQA) Guidelines Section 15064.5, and any work may proceed on other parts of the project site while mitigation for historical resources or unique archaeological resources is being carried out. An Unanticipated Discoveries Plan will be developed in coordination with the consulting parties to detail the specific procedures to be followed if archaeological materials are found during construction. This plan is a part of the Archaeological Treatment Plan (ATP), which is also being developed through a consultative process. The California State Lands Commission (CSLC) will be notified if the find is a cultural resource on or in the submerged lands of California, consequently under the jurisdiction of the CSLC. The project proponent will comply with all applicable rules and regulations promulgated by CSLC with respect to cultural resources located in submerged lands, and in accordance with the Programmatic Agreement (PA).</p> <p>If human remains are encountered, the project proponent will comply with applicable laws and regulations regarding notification and disposition of the remains. If the coroner determines that the remains are Native American, the coroner will notify the Native American Heritage Commission (NAHC) under Health and Safety Code 7050.5.</p> <p>If any find is determined to be significant, the project proponent and the archaeologist will meet to determine the appropriate avoidance measures or other appropriate mitigation in conjunction with the State</p>	<p>To be implemented throughout construction</p>	<p>Implementing Party: Contractor, in consultation with CSLC, NAHC, and SHPO, as appropriate.</p> <p>Monitoring / Reporting Party: Contractor, in coordination with CHSRA, SHPO and appropriate consulting agencies</p>	<p>During construction</p>
<p>April 2013</p>	<p>Historic Preservation Office (SHPO) and the Memorandum of Agreement (MOA) signatories. All significant cultural materials recovered will be, as necessary and at the discretion of the consulting archaeologist, subject to scientific analysis</p>	<p>California High-Speed Train Project – Merced to Fresno Section Environmental Impact Report</p>	<p>Environmental Impact Statement</p>	

Exhibit C: Mitigation Monitoring Program

	<p>Arch-MM#4: Conduct Archaeological Monitoring in Proximity to Identified Sites or Areas of Sensitivity. Ground-disturbing activities that have the potential to affect archaeological remains may occur in areas that have been identified as either the location of a known archaeological site, or in an area known to be sensitive for the presence of buried cultural resources. The California High-Speed Rail Authority (CHSRA) will retain the services of a qualified archaeological monitor who will be present during all ground-disturbing construction activities occurring in native sediments/soils. The process for archaeological monitoring, presented in overview below, will be specified in detail in the Archaeological Treatment Plan (ATP), developed in coordination with all of the project’s consulting parties.</p> <p>In the event that cultural resources are exposed during construction, following guidelines presented in the ATP, the archaeological monitors will be empowered to temporarily halt activities in the immediate vicinity of the discovery while it is evaluated for significance. If the archaeologist determines that the cultural resources exposed are unique archaeological resources as defined by Section 21083.2 of the California Environmental Quality Act (CEQA), then the archaeologist will conduct additional excavations to avoid impacts on these resources by the development. If they are not “unique,” then no further mitigation will be input and consultation under terms and conditions specified in the ATP and the Memorandum of Agreement (MOA).</p> <p>Performance tracking of this mitigation measure is based upon successful implementation and approval of the documentation by the State Historic Preservation Office (SHPO) and appropriate consulting parties as</p>	<p>Construction / Weekly reporting</p>	<p>Implementing Party: Contractor Monitoring / Reporting Party: Contractor, in coordination with the CHSRA, SHPO and appropriate consulting agencies</p>	<p>Pre-construction, during construction and post-construction</p>

Exhibit C: Mitigation Monitoring Program

	<p>required. Unique cultural resources will be determined based on the criteria set forth in Section 21083.2 of CEQA. The CHSRA will seek Native American input and consultation under terms and conditions specified in the ATP and MOA.</p> <p>Performance tracking of this mitigation measure is based upon successful implementation and approval of the documentation by the SHPO and appropriate consulting parties.</p>			

EXHIBIT D – CALIFORNIA HIGH-SPEED TRAIN PROJECT MERCED TO FRESNO SECTION

STATEMENT OF FINDINGS

INTRODUCTION

The California State Lands Commission (CSLC), acting as a responsible agency under the California Environmental Quality Act (CEQA), makes these findings to comply with CEQA as part of its discretionary approval to authorize issuance of a General Lease – Public Agency Use to the California High-Speed Rail Authority (CHSRA) for use of sovereign lands associated with the proposed California High-Speed Train (HST) Project, Merced to Fresno Section (Project). (See generally Pub. Resources Code, § 21069; State CEQA Guidelines, § 15381.)¹ The CSLC has jurisdiction and management authority over all ungranted tidelands, submerged lands, and the beds of navigable lakes and waterways. The CSLC also has certain residual and review authority for tidelands and submerged lands legislatively granted in trust to local jurisdictions (Pub. Resources Code, §§ 6301, 6306). All tidelands and submerged lands, granted or ungranted, as well as navigable lakes and waterways, are subject to the protections of the Common Law Public Trust.

The CSLC is a responsible agency under CEQA for the Project because the CSLC must approve a lease for the Project to go forward and because the CHSRA, as the CEQA lead agency, has the principal responsibility for approving the Project and has completed its environmental review under CEQA. The U.S. Department of Transportation's Federal Rail Administration (FRA) is the federal lead agency under the National Environmental Policy Act (NEPA) (42 U.S.C. § 4321 et seq.). CHSRA and FRA analyzed the environmental impacts associated with the Project in an Environmental Impact Report / Environmental Impact Statement (EIR/EIS) (State Clearinghouse [SCH] No. 2009091125). In May, 2012, CHSRA certified the EIR/EIS and adopted the Project Mitigation Monitoring and Reporting Program (MMRP), Findings, and Statement of Overriding Considerations (SOC) and approved the Project.

CHSRA proposes to construct rails and other ancillary facilities and structures to support an HST between the cities of Merced and Fresno, as part of the larger, statewide High-Speed Rail Project. The Merced to Fresno Project would include the following components:

- Tracks. Depending on the alternative ultimately selected and approved, the Project would consist of 74 to 95 miles of track;
- High-Speed Rail Stations. Two stations, in Merced and Fresno, consisting of station platforms and trackway, and station arrival/departure facilities;
- Grade Separations. The type of grade separation employed at any particular road, track or other crossing would depend site conditions;

¹ CEQA is codified in Public Resources Code section 21000 et seq. The State CEQA Guidelines are found in Title 14 of the California Code of Regulations section 15000 et seq.

- Railroad Wyes. Wyes will make it possible for trains to change direction;
- Traction Power Distribution. A catenary system, drawing power from a series of power substations positioned along the HST corridor via extended power lines would supply the train with electricity for operation; and
- Maintenance Facilities. One Maintenance of Way Facility would be required along the Merced to Fresno section of track, and the Heavy Maintenance Facility (HMF) to serve the entire, statewide track may be located in this section.

The alignment's San Joaquin River crossing constitutes the only component of the Project over which the CSLC has approval authority.

The CHSRA and FRA determined that the Project could have significant environmental effects on the following environmental resources:

- Transportation
- Air Quality and Global Climate Change
- Noise and Vibration
- Public Utilities and Energy
- Biological Resources and Wetlands
- Socioeconomics, Communities, and Environmental Justice
- Agricultural Lands
- Parks, Recreation, and Open Space
- Aesthetics and Visual Resources
- Cultural and Paleontological Resources
- Cumulative

Of those 10 resources areas, however, the components of the Project within the jurisdiction of the CSLC (i.e., the proposed crossing over the San Joaquin River) could have significant environmental effects only on the following 4 areas.

- Air Quality and Global Climate Change (AQ)
- Biological Resources and Wetlands (Bio)
- Aesthetics and Visual Resources (VQ)
- Cultural and Paleontological Resources (Hist or Arch)

In certifying the EIR/EIS and approving the Project, CHSRA imposed various mitigation measures for Project-related significant effects on the environment as conditions of Project approval and concluded that Project-related impacts would be substantially lessened with implementation of mitigation measures; however, even with the integration of feasible mitigation, the EIR/EIS concluded that some of the identified impacts would remain significant. The EIR/EIS determined that, after mitigation, the Project may still have significant impacts on the following resource areas:

- Noise and Vibration (N&V)
- Agricultural Lands (AG)
- Parks, Recreation, and Open Space (PK)
- Aesthetics and Visual Resources
- Cultural and Paleontological Resources
- Cumulative

As a result, CHSRA adopted an SOC, which justified CHSRA's approval of the Project despite these significant and unavoidable impacts (See Attachment A). However, the significant and unavoidable impacts identified in the EIR/EIS all would result from construction and operation in other areas of the approximately 80-mile alignment as described below, and so are outside the jurisdiction and approval authority of the CSLC.

- N&V Impact #3 – Operational Noise Impacts (*Project-specific and Cumulative*) – Although operation of the HST will have long-term noise impacts on sensitive receptors, such as residences, parks and churches, in parts of the alignment, the San Joaquin River crossing is not located near such receptors.
- AG Impact #1 – Permanent Conversion of Agricultural Land to Non-agricultural Use (*Project-specific and Cumulative*) – Construction of the HST will result in permanent conversion of a substantial acreage of agricultural land within the alignment; however, the San Joaquin River crossing is located in a riverbed, not in agricultural fields, and will not result in any conversion of farm land.
- PK Impact #4 – Restricted Use at Camp Pashayan (City of Fresno) (*Project-specific*) – HST construction activities will preclude recreational uses in parts of Camp Pashayan for a number of years; however, Camp Pashayan, and construction occurring within it, is outside of the jurisdiction of the CSLC.
- PK Impact #8 – Noise Impacts at Roeding Park (*Project-specific and Cumulative*) – Operation of the HST near Roeding Park in Fresno will result in long-term, significant noise impacts on park visitors; however, the San Joaquin River crossing is located more than eight miles northwest of Roeding Park and will not contribute to the impact.
- VQ Impact #5 – Lower Visual Quality in the West of State Route (SR) 99 Landscape Unit (*Project-specific*) – The Project involves construction of an overpass in the SR 233/Robertson Boulevard scenic corridor, part of a state scenic highway, within the West of SR 99 landscape unit, and would significantly impact scenic resources in the corridor; however, the San Joaquin River crossing is located more than 20 miles southeast of the corridor and will not contribute to the impact.
- VQ Impact #11 – Sound Barriers and Retaining Walls Would Block Views (*Project-specific*) – Construction of sound barriers and retaining walls to reduce operational noise impacts in urban areas would have varying impacts on visual quality and character of each area. The areas identified in the Final EIR where noise mitigation would be applied, however, do not include the San Joaquin River crossing, which is outside of urbanized areas. Therefore, no sound barriers or retaining walls will be constructed as part of the CSLC's approval.
- Hist Impact #1 – Effects on Historically Significant Built Environmental Resources During Construction (*Project-specific*) – Construction of the HST would cause substantial adverse changes to up to 11 historical resources along the alignment, as well as Roeding Park, but none of the identified resources are located within or adjacent to the San Joaquin crossing.

- Hist Impact #3 – Effects on Historically Significant Built Environmental Resources During Operation – Similar to PK Impact #8 above, operation of the HST will have significant noise impacts on visitors to Roeding Park, which includes a Japanese-American World War II Memorial and so is considered an historical resource as well as a recreational park; however, the San Joaquin River crossing is located more than eight miles northwest of Roeding Park and will not contribute to the impact.
- Conversion of wetlands to urban and transportation uses (Cumulative) – The overall amount of land that would be converted to urban and transportation uses under the cumulative condition and buildout of the HST System, would result in cumulatively considerable impacts on wetlands; however, the San Joaquin River crossing would span the width of the river and would not permanently convert habitat within the river channel.
- Cumulative visual impacts (Cumulative) – Temporary visual impacts due to construction of the HST and HST stations, particularly along SR 99 and in urbanized areas, could be cumulatively considerable when considered with other urban development and infrastructure projects. Construction of the San Joaquin River crossing, however, will be located away from urbanized areas, will only take place between June 15 and October 15 of a given year to avoid impacts to migrating salmon, and will constitute less than a tenth of a mile of the approximately 80-mile alignment.
- Permanent loss of archaeological / historical resources (Cumulative) – It is likely that known and unknown archaeological resources could be disturbed and cultural resources damaged or destroyed during Project construction activities. Historical architectural resources could also be damaged or require removal from areas in and around the Project area. The CSLC's jurisdiction is limited to the bed of the San Joaquin River, however, where, unlike less-disturbed areas such as the banks of rivers, it is not likely that unknown cultural resources have withstood long-term exposure to running water. There are no historical architectural resources along or adjacent to the San Joaquin River crossing. Therefore, the CSLC's action will not contribute to cumulatively considerable impacts to archaeological or historical resources.

As a responsible agency, the CSLC complies with CEQA by considering the lead agency's EIR/EIS and reaching its own conclusions on whether, how, and with what conditions to approve a project. In so doing, the CSLC may require changes in a project to lessen or avoid the effects, either direct or indirect, of that part of the project which the CSLC will be called on to carry out or approve. In order to ensure the identified mitigation measures and/or Project revisions are implemented, the CSLC adopts the Mitigation Monitoring Program (MMP) as set forth in Exhibit C as part of its Project approval.

FINDINGS

The CSLC's role as a responsible agency affects the scope of, but not the obligation to adopt, findings required by CEQA. Findings are required under CEQA by each public agency that approves a project for which an EIR/EIS has been certified that identifies one or more significant impacts on the environment (Pub. Resources Code, § 21081, subd. (a); State CEQA Guidelines, § 15091, subd. (a)). Because the EIR/EIS certified by CHSRA for the Project identifies potentially significant impacts that fall within the scope of the CSLC's approval, the CSLC makes the Findings set forth below as a responsible agency under CEQA. (CEQA Guidelines, § 15096, subd. (h); *Resource Defense Fund. v. Local Agency Formation Comm. of Santa Cruz County* (1987) 191 Cal.App.3d 886, 896-898.)

While the CSLC must consider the environmental impacts of the Project as set forth in CHSRA's EIR/EIS, the CSLC's obligation to mitigate or avoid the direct or indirect environmental impacts of the Project is limited to those parts which it decides to carry out, finance, or approve (Pub. Resources Code, § 21002.1, subd. (d); CEQA Guidelines, §§ 15041, subd. (b), 15096, subds. (f)-(g)). Accordingly, because the CSLC's exercise of discretion involves only the construction and operation of the San Joaquin River crossing:

- The CSLC is responsible for considering only the environmental impacts related to lands or resources subject to the CSLC's jurisdiction.
- With respect to all other impacts associated with implementation of the Project, the CSLC is bound by the legal presumption that the EIR/EIS fully complies with CEQA.

The CSLC has reviewed and considered the information contained in the Project EIR/EIS. All significant adverse impacts of the Project identified in the EIR/EIS relating to the CSLC's approval of a General Lease – Public Agency Use for the San Joaquin River crossing, are included herein and organized according to the resource affected. These Findings, which reflect the independent judgment of the CSLC, are intended to comply with CEQA's mandate that no public agency shall approve or carry out a project for which an EIR has been certified that identifies one or more significant environmental effects unless the agency makes written findings for each of those significant effects. The possible findings on each significant effect are:

- (1) Changes or alterations have been required in, or incorporated into, the project which mitigate or avoid the significant effects on the environment;
- (2) Those changes or alterations are within the responsibility and jurisdiction of another public agency and have been, or can and should be, adopted by that other agency;
- (3) Specific economic, legal, social, technological, or other considerations, including considerations for the provision of employment opportunities for highly trained

workers, make infeasible the mitigation measures or alternatives identified in the EIR.²

These Findings are based on the information contained in the EIR/EIS, as well as information provided by CHSRA to CSLC staff, all of which is contained in the administrative record. The mitigation measures are briefly described in these Findings; more detail on the mitigation measures is included in CHSRA's EIR/EIS and the MMP adopted by the CSLC as set forth in Exhibit C as part of its Project approval .

The CSLC is the custodian of the record of proceedings upon which its decision is based. The location of the CSLC's record of proceedings is in the Sacramento office of the CSLC, 100 Howe Avenue, Suite 100-South, Sacramento, CA 95825.

I. IMPACTS REDUCED TO LESS THAN SIGNIFICANT LEVELS WITH MITIGATION

The following impacts related to the CSLC's discretionary action were determined in the EIR/EIS to be potentially significant absent mitigation: AQ Impacts #1, #2 and #3, Bio Impacts #10, #11, #17 and #37, VQ Impacts #1 and #2, and Arch Impact #1. After application of mitigation, however, the impacts were determined to be less than significant.

A. AIR QUALITY AND GLOBAL CLIMATE CHANGE

CEQA FINDING AQ IMPACT #1

Impact: **AQ Impact #1. Regional Impacts – Construction of the HST would exceed the CEQA emissions threshold for volatile organic compounds (VOC) and nitrogen oxides (NOx).**

Finding(s): (1) Changes or alterations have been required in, or incorporated into, the project that mitigate or avoid the significant environmental effect as identified in the EIR.

FACTS SUPPORTING THE FINDING(S)

Regional emissions from construction, including construction of the San Joaquin River crossing, would occur with the construction of the Hybrid Alternative. Specifically, NOx emissions would exceed CEQA significance thresholds from 2013 through 2020 and VOC emissions would exceed CEQA significance thresholds in 2014, 2015, and 2019. This could cause violations of nitrogen dioxide (NO₂) and ozone (O₃) air quality standards or contribute substantially to NO₂ and O₃ existing or projected air quality violations.

² See Public Resources Code section 21081, subdivision (a) and State CEQA Guidelines section 15091, subdivision (a).

Exceeding or contributing to an exceedance of any air quality standard or contributing substantially to an existing or projected air quality violation is considered a significant impact under CEQA. VOC emissions and NOx emissions during construction would exceed CEQA significance thresholds, in the years noted, and the Project may violate an air quality standard and/or contribute substantially to an existing or projected air quality violation for VOC and NOx and therefore would be a significant impact under CEQA.

To mitigate this potential impact to less than significant, **AQ-MM#1, #2 and #4** shall be implemented.

- **AQ-MM#1: Reduce Criteria Exhaust Emissions from Construction Equipment.** All off-road construction diesel equipment shall use the cleanest reasonably available equipment, but in no case less clean than the average fleet mix, as set forth in California Air Resources Board's (CARB) Non-Road/Offroad 2007 database.
- **AQ-MM#2: Reduce Criteria Exhaust Emissions from On-Road Construction Vehicles.** Material hauling trucks shall consist of an average fleet mix of equipment model year 2010 or newer, to the extent reasonably practicable.
- **AQ-MM#4: Offset Project Construction Emissions through a SJVAPCD Voluntary Emissions Reduction Agreement (VERA).** CHSRA shall enter into a contractual agreement with the San Joaquin Valley Air Pollution Control District (SJVAPCD) to mitigate the Project's actual emissions that exceed thresholds by providing funds for the district's Emission Reduction Incentive Program to fund grants for Projects that achieve emission reductions, thus offsetting Project-related impacts on air quality.

Although VOC emissions and NOx emissions would exceed CEQA significance thresholds during certain years of construction, this impact would only last through the construction period and emissions could be reduced through use of newer, less emissive construction equipment (**AQ-MM #1, AQ-MM #2**) and would be offset through the VERA program (**AQ-MM#4**).

LEVEL OF SIGNIFICANCE AFTER MITIGATION

With the mitigation described above, this impact is reduced to a less than significant level.

CEQA FINDING AQ IMPACT #2

Impact: **AQ Impact #2. Regional Impacts – Material Hauling Outside the San Joaquin Valley Air Basin Would Exceed CEQA Emissions Thresholds for NOx in the Bay Area Air Quality Management District (BAAQMD) and the South Coast Air Quality Management District (SCAQMD).**

Finding(s): (1) Changes or alterations have been required in, or incorporated into, the project that mitigate or avoid the significant environmental effect as identified in the EIR.

FACTS SUPPORTING THE FINDING(S)

The Hybrid Alternative would be constructed using ballast, sub-ballast, and concrete slabs. Sub-ballast and concrete slab would be available within the SJVAB (emissions from which are accounted for in AQ Impact #1). However, at least some of the ballast, including potentially ballast used in the San Joaquin River crossing, may be transported from the Bay Area air basin and the South Coast air basin, thereby exceeding or contributing to an exceedance of the NOx air quality standards applicable in those air basins, or contributing substantially to an existing or projected

To mitigate this potential impact to less than significant, **AQ-MM#2 and #5** shall be implemented.

- **AQ-MM#2: Reduce Criteria Exhaust Emissions from On-Road Construction Vehicles.** (See above.)
- **AQ-MM#5: Purchase Offsets and Offsite Emission Mitigation for Emissions Associated with Hauling Ballast Material in BAAQMD and the SCAQMD Air Districts.** CHSRA shall report actual NOx emissions from ballast hauling to the SCAQMD and offsets purchased from SCAQMD for actual emissions exceeding the thresholds. In the BAAQMD, actual NOx emissions above the district's significance threshold will be mitigated through an offsite emission mitigation program to achieve emission reduction due to material hauling in BAAQMD.

Emissions would be reduced by use of newer, lower-polluting material hauling equipment (**AQ-MM#2**), and any remaining NOx exceedances in the Bay Area and South Coast Air Basins would be mitigated through purchase of regionally specific offsets (**AQ-MM#5**), and calculation and offset of any remaining emission exceedances,

LEVEL OF SIGNIFICANCE AFTER MITIGATION

With the mitigation described above, this impact is reduced to a less than significant level.

CEQA FINDING AQ IMPACT #3

Impact: **AQ Impact #3. Compliance with Air Quality Plans – Construction of the HST would Impede Implementation of Air Quality Plans for VOC and NOx.**

Finding(s): (1) Changes or alterations have been required in, or incorporated into, the project that mitigate or avoid the significant environmental effect as identified in the EIR.

FACTS SUPPORTING THE FINDING(S)

Construction activities, including construction of the San Joaquin River crossing, would involve heavy-duty construction equipment and have the potential to cause adverse air quality impacts. VOC emissions and NOx emissions during construction would exceed CEQA significance threshold during certain years of construction (see AQ Impact #1) which may impede the 8-hour SJVAPCD 2007 Ozone Plan and the 2004 Extreme Ozone 1-hour Plan.

Exceeding or contributing to an exceedance of any air quality standard or contributing substantially to an existing or projected air quality violation which then causes conflict with or obstruction of implementation of applicable air quality plans are considered as significant impacts under CEQA. VOC emissions and NOx emissions during construction would exceed CEQA significance thresholds (see AQ Impact #1) and the Project would therefore conflict with the 1-hour Ozone Attainment plan and the 8-hour Ozone Attainment Plan and therefore would be a significant impact under CEQA.

To mitigate this potential impact to less than significant, **AQ-MM#1, #2 and #4** shall be implemented.

- **AQ-MM#1: Reduce Criteria Exhaust Emissions from Construction Equipment.** (See above.)
- **AQ-MM#2: Reduce Criteria Exhaust Emissions from On-Road Construction Vehicles.** (See above.)
- **AQ-MM#4: Offset Project Construction Emissions through a SJVAPCD Voluntary Emissions Reduction Agreement (VERA).** (See above.)

VOC emission and NOx emissions that may interfere with air quality plan compliance could be reduced through use of newer, less emissive construction equipment (**AQ-MM #1, AQ-MM #2**) and would be further offset through the VERA program (**AQ-MM#4**).

LEVEL OF SIGNIFICANCE AFTER MITIGATION

With the mitigation described above, this impact is reduced to a less than significant level.

B. BIOLOGICAL RESOURCES

CEQA FINDING BIO IMPACT #10

Impact: **Bio Impact #10. Construction of the HST would disturb nesting Swainson's hawk.**

Finding(s): (1) Changes or alterations have been required in, or incorporated into, the project that mitigate or avoid the significant environmental effect as identified in the EIR.

FACTS SUPPORTING THE FINDING(S)

Raptors nest in exposed sites within riparian habitat, roadside trees, windbreaks, oak woodlands, and power lines; such habitat exists along the San Joaquin River. Several species were identified within the survey area, including Swainson's hawks. Construction disturbance within the April 1 to September 1 breeding season could result in the loss of fertile eggs or nestlings through nest abandonment. Loss of Swainson's hawk nests through physical removal, nest abandonment, or reproductive suppression of these regionally rare species would constitute a significant impact under CEQA.

- **Bio-MM#3: Prepare and Implement a Worker Environmental Awareness Program.** A Worker Environmental Awareness Program (WEAP) shall be prepared and implemented by the Contractor for construction crews prior to the commencement of ground-breaking activities; the WEAP will include, among other topics as identified in the mitigation measure, relevant biological resource protection laws and regulations, consequences and penalties for violation and noncompliance with those laws, identification of special status plants, wildlife, and habitat, and measures to take if special-status species are discovered.
- **Bio-MM#5: Prepare and Implement a Biological Resources Management Plan.** The Project Biologist shall prepare a Biological Resources Management Plan (BRMP) and assemble the biological resources mitigation measures to provide the Project Biologist with an organized reporting tool to ensure the mitigation measures and terms and conditions are implemented in a timely manner and are reported on. The BRMP will include success criteria and performance standards for such measures.
- **Bio-MM#7: Delineate Environmentally Sensitive Areas and Environmentally Restricted Areas (on plans and in-field).** Prior to ground-disturbing activities, to the extent practicable, the Project Biologist will verify that environmentally sensitive areas (ESAs) and environmentally restricted areas (ERAs) are delineated as appropriate.
- **Bio-MM#8: Equipment Staging Areas.** Prior to ground-disturbing activities, the Contractor shall locate staging areas for construction equipment outside sensitive biological resources including habitat for special-status species, habitats of concern (e.g., wetlands, waters of the U.S., riparian communities), and wildlife movement corridors, to the maximum extent possible.

- **Bio-MM#10: Vehicle Traffic.** During ground-disturbing activities, the Contractor shall restrict Project-related vehicle traffic, within the construction area, to established roads, construction areas, and other designated areas, such as previously disturbed areas. A 20 mph speed limit shall be observed for construction areas with potential special-status species habitat.
- **Bio-MM#12: Work Stoppage.** During ground-disturbing activities, the Project Biologist or Biological Monitor will halt work in the event that a special-status wildlife species gains access to the construction footprint. The work stoppage will occur within the area where the potential construction activity could affect the species; other work may continue. The Contractor will continue the suspension until the individual leaves voluntarily, is relocated to a release area using U.S. Fish and Wildlife Service- (USFWS-) and/or California Department of Fish and Wildlife- (CDFW-) approved handling techniques and relocation methods, or as required by USFWS or CDFW.
- **Bio-MM#13: 'Take' Notification and Reporting.** The USFWS and/or CDFW will be notified immediately in the case of an accidental death or injury to a federal or state listed species during Project-related activities.
- **Bio-MM#14: Post-Construction Compliance Reports.** After each construction period is completed, the Project Biologist shall submit post-construction compliance reports consistent with the appropriate agency (e.g., USFWS, National Marine Fisheries Service [NMFS], and CDFW) protocols, including compliance with resource agency permits (i.e., Section 7 of the federal Endangered Species Act [ESA], Section 2081 of the California Endangered Species Act [CESA] and Section 401 and 404 of the Federal Clean Water Act [CWA] and 1600 of Fish and Wildlife Code).
- **Bio-MM#29: Conduct Pre-Construction Surveys and Monitoring for Raptors.** Prior to ground-disturbing activities, the Project Biologist or designee shall conduct pre-construction surveys for nesting raptors if construction and habitat removal activities are scheduled to occur during the breeding season (February 1 to August 15) and, if, necessary, establish construction buffer areas around and regularly monitor any nests found.
- **Bio-MM#31: Raptor Protection on Power Lines.** The Project's catenary system and masts shall be designed to be raptor-safe in accordance with the the California Energy Commission's *Suggested Practices for Avian Protection on Power Lines: The State of the Art in 2006*.
- **Bio-MM#32: Conduct Pre-Construction Surveys for Swainson's Hawks.** Pre-construction surveys for Swainson's hawks shall be conducted for construction that occurs during the nesting season (March 1 through September 15) within the construction footprint and within a 0.5-mile buffer and, if necessary, implementation of avoidance strategies as specified in **Bio-MM#33**.
- **Bio-MM#33: Swainson's Hawk Nest Avoidance.** This mitigation measure requires establishment of specified construction buffers around any active Swainson's hawk nests identified either in pre-construction surveys (**BIO-MM#32**) or at anytime

during construction activities in the Swainson's hawk nesting season (March 1 through September 15).

- **Bio-MM#34: Monitor Removal of Nest Trees for Swainson's Hawks.** This measure establishes specific criteria to follow when removing nest trees for Swainson's Hawk, as detailed in the CSLC's MMP for the Project (Exhibit C).

Implementation of **Bio-MM#3**, **#5** and **#7** will ensure that construction personnel and biological monitors are properly trained for identification of Swainson's hawk and environmentally sensitive areas, as well as steps to be taken when discovering Swainson's hawk and establishing and working around established buffers. With execution of **Bio-MM#8**, **#29**, **#31**, **#32** and **#33** the Contractor and Project Biologist will be able to design construction activities to actively avoid existing Swainson's hawk and suitable habitat in the Project area. **Bio-MM#10**, **#12**, **#33**, and **#34** will help further avoid impacts during construction, and **Bio-MM#13** and **#14** will keep permitting wildlife agencies informed of the effectiveness of mitigation identified in the EIR/EIS and any other relevant permits.

LEVEL OF SIGNIFICANCE AFTER MITIGATION

With the mitigation described above, this impact is reduced to a less than significant level.

CEQA FINDING BIO IMPACT #11

Impact: **Bio Impact #11. Construction of the HST would disturb breeding birds, including raptors.**

Finding(s): (1) Changes or alterations have been required in, or incorporated into, the project that mitigate or avoid the significant environmental effect as identified in the EIR.

FACTS SUPPORTING THE FINDING(S)

Construction activities (e.g., grubbing, grading, excavation, and driving off-road) could remove or disturb potential nesting habitat for birds, including raptors that may nest along the San Joaquin River. If construction occurs during the breeding season (February 1 to September 1), active nests could also be disturbed, potentially causing the loss of eggs or developing young. The direct or indirect loss of nests through physical removal, nest abandonment, or reproductive suppression of these species would constitute a significant impact under CEQA.

- **Bio-MM#3: Prepare and Implement a Worker Environmental Awareness Program.** (See above.)
- **Bio-MM#5: Prepare and Implement a Biological Resources Management Plan.** (See above.)
- **Bio-MM#7: Delineate Environmentally Sensitive Areas and Environmentally Restricted Areas (on plans and in-field).** (See above.)

- **Bio-MM#8: Equipment Staging Areas.** (See above.)
- **Bio-MM#10: Vehicle Traffic.** (See above.)
- **Bio-MM#12: Work Stoppage.** (See above.)
- **Bio-MM#13: 'Take' Notification and Reporting.** (See above.)
- **Bio-MM#14: Post-Construction Compliance Reports.** (See above.)
- **Bio-MM#29: Conduct Pre-Construction Surveys and Monitoring for Raptors.** (See above.)
- **Bio-MM#30: Conduct Pre-Construction Surveys and Delineate Active Nest Exclusion Areas for Other Breeding Birds.** In the event active bird nests are encountered during the pre-construction survey, appropriate nest avoidance buffers will be established and monitored.
- **Bio-MM#31: Raptor Protection on Power Lines.** (See above.)

Implementation of **Bio-MM#3**, **#5** and **#7** will ensure that construction personnel and biological monitors are properly trained for identification of breeding birds and environmentally sensitive areas, as well as steps to be taken when discovering breeding birds and establishing and working around established buffers. With execution of **Bio-MM#8**, **#29**, **#30**, and **#31**, the Contractor and Project Biologist will be able to design construction activities to actively avoid existing breeding birds and suitable habitat in the Project area. **Bio-MM#10** and **#12**, will help further avoid impacts during construction, and **Bio-MM#13** and **#14** will keep permitting wildlife agencies informed of the effectiveness of mitigation identified in the EIS/EIR and any other relevant permits.

LEVEL OF SIGNIFICANCE AFTER MITIGATION

With the mitigation described above, this impact is reduced to a less than significant level.

CEQA FINDING BIO IMPACT #17

Impact: **Bio Impact #17: Construction of the HST would have indirect impacts on jurisdictional waters.**

Finding(s): (1) Changes or alterations have been required in, or incorporated into, the project that mitigate or avoid the significant environmental effect as identified in the EIR.

FACTS SUPPORTING THE FINDING(S)

Indirect impacts on jurisdictional waters resulting from HST construction would potentially include: erosion, siltation, and runoff into natural and constructed watercourses, and soil and water contamination from construction equipment leaks. These impacts would be significant under CEQA.

- **Bio-MM#3: Prepare and Implement a Worker Environmental Awareness Program.** (See above.)
- **Bio-MM#4: Prepare and Implement a Weed Control Plan.** Prior to ground-disturbing activities, the Contractor shall prepare and implement a Weed Control Plan, that meets the criteria specified in the measure, to minimize or avoid the spread of weeds.
- **Bio-MM#5: Prepare and Implement a Biological Resources Management Plan.** (See above.)
- **Bio-MM#7: Delineate Environmentally Sensitive Areas and Environmentally Restricted Areas (on plans and in-field).** (See above.)
- **Bio-MM#8: Equipment Staging Areas.** (See above.)
- **Bio-MM#10: Vehicle Traffic.** (See above.)
- **Bio-MM#15: Restore Temporary Riparian Impacts.** All disturbed riparian areas shall be revegetated after construction using appropriate plants and seed mixes, as specified in the Permittee-Responsible Mitigation Plan (PRMP) required by Bio-MM#58, described below.
- **Bio-MM#44: Restore Temporary Impacts on Jurisdictional Waters.** During or post-construction, the Contractor shall restore disturbed jurisdictional waters using stockpiled and segregated soils.
- **Bio-MM#45: Monitor Construction Activities within Jurisdictional Waters.** During grounddisturbing activities, the Project Biological Monitor will conduct monitoring within jurisdictional waters, including monitoring of the installation of protective devices (silt fencing, sandbags, fencing, etc.), installation and/or removal of creek crossing fill, construction of access roads, vegetation removal, and other associated construction activities, to document adherence to required habitat avoidance and minimization measures.

Implementation of **Bio-MM#3**, **#5** and **#7** will ensure that construction personnel and biological monitors are properly trained for working around jurisdictional waters and implementing required impact avoidance measures. With execution of **Bio-MM#4** and **#8**, the Contractor and Project Biologist will be able to design construction activities to actively impacts to jurisdictional waters, including water quality impacts and spread of invasive species, in the Project area. **Bio-MM#10** and **#45**, will help further avoid impacts during construction, and **Bio-MM#15** and **#44** will keep ensure that all temporarily disturbed land is restored to pre-Project conditions.

LEVEL OF SIGNIFICANCE AFTER MITIGATION

With the mitigation described above, this impact is reduced to a less than significant level.

CEQA FINDING BIO IMPACT #37

Impact: **Bio Impact #37: Project period impacts from the HST would permanently convert jurisdictional waters**

Finding(s): (1) Changes or alterations have been required in, or incorporated into, the project that mitigate or avoid the significant environmental effect as identified in the EIR.

FACTS SUPPORTING THE FINDING(S)

Construction of the HST would displace wetlands and jurisdictional waters regulated by CDFW, USFWS, and the U.S. Army Corps of Engineers (USACE). This conversion would be significant under CEQA.

- **Bio-MM#4: Prepare and Implement a Weed Control Plan.** (See above.)
- **Bio-MM#14: Post-Construction Compliance Reports.** (See above.)
- **Bio-MM#57: Conduct Delineation of Jurisdictional Waters and State Streambeds.** Prior to final Project design, a jurisdictional delineation will be conducted, documenting jurisdictional waters and state streambeds consistent with USACE, State Water Resources Control Board (SWRCB), and CDFW guidance. As part of the delineation, the functions and values of the jurisdictional waters will be determined, using accepted methods such as the CRAM so that the functions and values have been replaced and that no net loss of jurisdictional waters and state streambed values occurs.
- **Bio-MM#58: Prepare and Implement a PRMP (Formerly Habitat Mitigation and Monitoring Plan).** Prior to ground-disturbing activities, CHSRA or its designee will prepare an PRMP to mitigate for temporary and permanent impacts on jurisdictional waters and state streambeds. The PRMP will detail performance standards, including percent cover of native species, survivability, canopy cover requirements, wildlife utilization, the acreage basis, restoration ratios, and the combination of onsite and/or offsite mitigation. The intent of the PRMP is to mitigate for the lost functions and values of impacts on jurisdictional waters and state streambeds consistent with resource agency requirements and conditions presented in Sections 404 and 401 of the CWA and Section 1600 of the California Fish and Wildlife Code.
- **Bio-MM#59: Compensate for Permanent Impacts on Jurisdictional Waters.** The CHSRA or its designee will mitigate permanent wetland impacts through compensation (by replacing, creating, restoring or preserving identified resources) determined in consultation with the USACE, SWRCB, USFWS, and CDFW, in order to be consistent with the PRMP (Bio-MM#58).
- **Bio-MM#60: Offsite Habitat Restoration, Enhancement, and Preservation.** Prior to site preparation at the mitigation site, CHSRA or its designee will consider the offsite habitat restoration, enhancement, or preservation program, and identify short-term temporary and/or long-term permanent effects on the natural landscape. A determination will be made on any effects from the physical alteration of the site

to onsite biological resources, including plant communities, land cover types, and the distribution of special-status plants and wildlife. Appropriate seasonal restrictions (e.g., breeding season) may be applicable if appropriate habitats exist onsite. The offsite habitat restoration, enhancement, and preservation program will be designed, implemented, and monitored consistent with the terms and conditions of the USACE Section 404 Permit, CDFW 1600 Streambed Alteration Agreement, and CESA and federal ESA as they apply to their jurisdiction and resources onsite. Potential effects on site-specific hydrology and the downstream resources will be evaluated as a result of implementation of the restoration-related activity. Site-specific best management practices and a stormwater pollution prevention plan will be implemented as appropriate.

Implementation of **Bio-MM#4** will help avoid long-term impacts to ecosystems on jurisdiction lands. **Bio-MM#14** and **#57** will ensure that permanent impacts to jurisdictional waters are properly recorded and calculated for post-construction, off-site mitigation and compensation (**Bio-MM#59** and **#60**). Finally, **Bio-MM#58** would ensure consistency among and implementation of mitigation measures related to Project construction and long-term habitat compensation.

LEVEL OF SIGNIFICANCE AFTER MITIGATION

With the mitigation described above, this impact is reduced to a less than significant level.

C. AESTHETICS AND VISUAL RESOURCES

CEQA FINDING VQ IMPACT #1

Impact: **VQ Impact #1. Visual Disturbance during Construction.**

Finding(s): (1) Changes or alterations have been required in, or incorporated into, the project that mitigate or avoid the significant environmental effect as identified in the EIR.

FACTS SUPPORTING THE FINDING(S)

Construction equipment, earthmoving activities, the construction of structures, and concrete plant operations may degrade the visual aesthetics for adjacent viewers. Construction can cause dust, and material stockpiles can create an untidy appearance, collectively degrading the visual unity and intactness of the surroundings.

The substantial degradation of the existing visual character or quality of the site and its surroundings, including along the San Joaquin River, is considered a significant impact under CEQA. The construction activities could create visual nuisance in some urban areas, particularly in areas adjacent to residential areas, and therefore would be a significant impact under CEQA.

- **VQ-MM#1: Minimize Visual Disruption During Construction and from Construction Activities.** The Project will adhere to local jurisdiction construction

requirements (if applicable) regarding construction related visual/aesthetic disruption, and will minimize visual disruption through implementation of other required activities, such as avoiding vegetation, restoring temporarily-disturbed areas, and locating construction staging areas outside of the foreground of sensitive resources, specified in further detail in the CSLC's MMP for the Project (Exhibit C).

Implementation of **VQ-MM#1** will substantially lessen or avoid impacts associated with the visual disturbance during construction.

LEVEL OF SIGNIFICANCE AFTER MITIGATION

With the mitigation described above, this impact is reduced to a less than significant level.

CEQA FINDING VQ IMPACT #2

Impact: **VQ Impact #2. Nighttime Lighting during Construction.**

Finding(s): (1) Changes or alterations have been required in, or incorporated into, the project that mitigate or avoid the significant environmental effect as identified in the EIR.

FACTS SUPPORTING THE FINDING(S)

Construction lighting would result in temporary impacts on areas surrounding construction activities. Lighting associated with nighttime construction would affect aesthetics and visual resources through an increase in ambient light, which may adversely affect nighttime views. This may be an annoyance not only in urban areas, such as Merced and Fresno, which is just south of the San Joaquin River, but also in residential areas along the alignment. The creation of a new source of substantial light or glare which would adversely affect day or nighttime area views is considered a significant impact under CEQA. The lighting associated with nighttime construction activities would affect nighttime views in some urban areas, particularly in areas adjacent to residential areas, and therefore would be a significant impact under CEQA.

- **Mitigation VQ-MM#2: Minimize Light Disturbance during Construction.** Where construction lighting will be required during nighttime construction, shield such lighting and direct it downward in such a manner that the light source is not visible offsite, and so that the light does not fall outside the boundaries of the Project site to avoid light spillage offsite. Implementation of this mitigation measure is not expected to result in secondary impacts.

Although the light disturbance during nighttime construction would be more noticeable in urban areas adjacent to residences and parkways, particularly the Merced and Fresno downtown areas and Madera Acres, the construction activities are considered temporary as they would cease after completion.

Impacts associated with the light disturbance during nighttime construction will be substantially lessened or avoided with implementation of **VQ-MM #2**.

LEVEL OF SIGNIFICANCE AFTER MITIGATION

With the mitigation described above, this impact is reduced to a less than significant level.

D. CULTURAL AND PALEONTOLOGICAL RESOURCES

CEQA FINDING ARCH IMPACT #1

Impact: **Arch Impact #1. Effect on Significant Prehistoric and Historic-Era Archaeological Resources During Construction.**

Finding(s): (1) Changes or alterations have been required in, or incorporated into, the project that mitigate or avoid the significant environmental effect as identified in the EIR.

FACTS SUPPORTING THE FINDING(S)

The construction of the Project would affect six archaeological resources. These archaeological sites include one National Register of Historic Places (NRHP)-eligible prehistoric site, one multi-component site, three prehistoric sites, one potential, but as-yet-unconfirmed prehistoric site (the potential burial site). The Project, including the San Joaquin River crossing, also crosses both named and unnamed streams and rivers that are considered to be sensitive for prehistoric archaeological resources which may be affected by construction activities.

A substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5 is considered a significant impact under CEQA. All of these resources or potential resources identified with the Project alignment are subject to construction period impacts and therefore would be a significant impact under CEQA.

- **Arch-MM#1: Conduct Archaeological Training.** Prior to ground-disturbing activities within the Project alternatives, a qualified professional archaeologist will develop a training program and printed material to be presented to construction personnel. The purpose of this training and accompanying materials will be to familiarize construction personnel with the relevant legal context for cultural resources of the Project and with the types of cultural sites, features, and artifacts that could be uncovered during construction activities.

The archaeological training program will be further detailed in the Archaeological Treatment Plan (ATP), which shall be developed with input from relevant public agencies and will focus on the treatment of known buried historic properties and will provide guidance in the event of unanticipated discoveries.

- **Arch-MM#2: Halt Work in the Event of an Archaeological Discovery.** If any cultural resources are discovered during ground-disturbing activities, all work within 50 feet of the resources will halt, and CHSRA will consult with a qualified archaeologist to assess the significance of the find, according to CEQA Guidelines Section 15064.5, and any work may proceed on other parts of the project site while

mitigation for historical resources or unique archaeological resources is being carried out. The CSLC will be notified if the find is a cultural resource on or in the submerged lands of California, consequently under the jurisdiction of the CSLC.

If human remains are encountered, the project proponent will comply with applicable laws and regulations regarding notification and disposition of the remains. If the coroner determines that the remains are Native American, the coroner will notify the Native American Heritage Commission (NAHC) under Health and Safety Code 7050.5.

If any find is determined to be significant, the project proponent and the archaeologist will meet to determine the appropriate avoidance measures or other appropriate mitigation in conjunction with the SHPO and the Memorandum of Agreement (MOA) signatories. All significant cultural materials recovered will be, as necessary and at the discretion of the consulting archaeologist, subject to scientific analysis, professional museum curation, and documentation according to current professional standards as determined in the project MOA.

- **Arch-MM#4: Conduct Archaeological Monitoring in Proximity to Identified Sites or Areas of Sensitivity.** Ground-disturbing activities that have the potential to affect archaeological remains may occur in areas that have been identified as either the location of a known archaeological site, or in an area known to be sensitive for the presence of buried cultural resources. The Authority will retain the services of a qualified archaeological monitor who will be present during all ground-disturbing construction activities occurring in native sediments/soils. The process for archaeological monitoring, presented in overview below, will be specified in detail in the ATP, developed in coordination with all of the project's consulting parties.

In the event that cultural resources are exposed during construction, following guidelines presented in the ATP, the archaeological monitors will be empowered to temporarily halt activities in the immediate vicinity of the discovery while it is evaluated for significance.

Arch-MM#1 will ensure that construction personnel understand how to avoid known and likely present cultural resources in the Project area, while **Arch-MM#2** and **#3** provide protections in the event unknown cultural resources are present in areas proposed for ground disturbance.

LEVEL OF SIGNIFICANCE AFTER MITIGATION

With the mitigation described above, this impact is reduced to a less than significant level.

ATTACHMENT A
CALIFORNIA HIGH-SPEED RAIL AUTHORITY
STATEMENT OF OVERRIDING CONSIDERATIONS

7.0 STATEMENT OF OVERRIDING CONSIDERATIONS

The Final Project EIR/EIS and the CEQA Findings of Fact conclude that implementing the Hybrid Alternative will result in certain significant impacts to the environment that cannot be avoided or substantially lessened with the application of feasible mitigation measures or feasible alternatives. This Statement of Overriding Considerations is therefore necessary to comply with CEQA, Public Resources Code, section 21081, and the State CEQA Guidelines, section 15093. The significant and unavoidable impacts and the benefits related to implementing the HST system in the Merced to Fresno Section via the Hybrid Alternative are described below. The Authority Board has carefully weighed these impacts and benefits of the Hybrid Alternative. As described below, the Authority finds that the benefits of implementing the Hybrid Alternative outweigh the significant and unavoidable environmental impacts.

7.1 General Findings on Significant and Unavoidable Impacts Associated with the Hybrid Alternative

Based upon the Final Project EIR/EIS and the CEQA Findings of Fact contained herein, as well as the evidentiary materials supporting these documents, the Authority finds that implementing the Hybrid Alternative could result in the following list of significant and unavoidable impacts to the environment:

Noise and Vibration

- N&V IMPACT # 3 – Operational Noise Impacts

Agricultural Lands

- AG IPMACT # 1 – Permanent Conversion of Agricultural Land to Non-agricultural Use

Parks, Recreation, and Open Space

- PK IMPACT # 4 – Restricted Use at Camp Pashayan (City of Fresno)
- PK IMPACT # 8 – Noise Impacts at Roeding Park (City of Fresno)

Aesthetics and Visual Resources

- VQ IMPACT# 5 – Lower Visual Quality in the West of SR 99 Landscape Unit.
- VQ IMPACT# 6 – Lower Visual Quality in the West of SR 99 Landscape Unit.
- VQ IMPACT# 11 – Sound Barriers and Retaining Walls Would Block Views:

Cultural and Paleontological Resources

- Hist IMPACT# 1 – Effects on Historically Significant Built Environmental Resources During Construction

- Hist IMPACT # 3 - Effects on Historically Significant Built Environmental Resources During Operation

Cumulative Impacts

- The operation of the HST Hybrid Alternative would result in a net decrease in GHG emissions as a result of a reduction in regional traffic and would have a cumulatively beneficial effect on global climate change, thereby helping the region to attain air quality standards. Construction of the HST, in combination with the buildout of other projects envisioned in the General Plans of local communities, would result in a cumulatively considerable impact under CEQA.
- Noise impacts of past, present and foreseeable projects resulting in incremental increases in noise urban areas in combination with the HST Project, would be cumulatively considerable.
- The overall amount of land that would be converted to urban and transportation uses under the cumulative condition and buildout of the HST System, would result in cumulatively considerable impacts on wetlands.
- Impacts associated with the conversion of agricultural lands to nonagricultural land uses would result in cumulatively considerable impacts.
- The multiple planned projects in and around Roeding Park, including the HST, that would result in permanent closure of a portion of the park and result in noise, dust, and visual impacts would be cumulatively considerable under CEQA.
- While the Hybrid Alternative would have the least potential for cumulative visual impacts, the visual impacts associated with construction of multiple projects in a large area for several years would have cumulatively considerable impacts.
- Due to the high likelihood of permanent loss of archaeological and cultural resources, the impacts of the project would be cumulatively considerable under CEQA.

With the approval of the project and the adoption of these findings, the Authority is committing to implement the mitigation measures identified for the Hybrid Alternative to ensure that significant impacts are mitigated to a less than significant level to the extent feasible, and that the project's contribution to cumulative impacts is minimized and mitigated to the extent feasible.

The Authority further finds that while the mitigation measures it adopts as part of the CEQA Findings of Fact will substantially lessen or avoid many of the significant environmental impacts discussed in the Final Project EIR/EIS, and mitigation adopted to address one area may result in beneficial effects in other subject areas, the above impacts will not all be mitigated to a less than significant level, and remain significant and unavoidable.

The Authority finds that each of the following specific economic, legal, social, technological, environmental and other considerations and benefits of the Hybrid Alternative, separately and independently, outweigh the unavoidable adverse environmental effects of the project, and each one is an overriding consideration independently warranting project approval. The Authority finds that the significant unavoidable impacts of the project are overridden by each of these considerations, standing alone. The significant unavoidable environmental effects remaining after adoption of mitigation measures are considered acceptable in light of these significant benefits of the Hybrid Alternative, as described in this statement of overriding considerations.

7.2 Overriding Considerations for the HST System and for the Hybrid Alternative

There are numerous benefits of the HST system as a whole, and of the Hybrid Alternative, which outweigh the significant and unavoidable adverse effects of implementing the Hybrid Alternative for the Merced to Fresno Section. These benefits are in the areas of transportation, the environment, land use planning, economics, and social considerations. These benefits are documented in the Final Project EIR/EIS, which considered a scenario in which the 800-mile Full System (Phase 1 and Phase 2 full buildout) would be operating and generating benefits in 2035. These benefits, summarized below, are more robust than those associated with the implementation strategy laid out in the Revised 2012 Business Plan adopted by the Authority Board on April 12, 2012. Additional information on the potential lower range of benefits in 2035 is also provided, based on the scenarios in the Business Plan. This information illustrates that while benefits would be lower in 2035 under the Business Plan scenarios, the HST system offers important benefits to the State and these benefits would build over time. A brief summary of the differences in benefits associated with the Revised 2012 Business Plan are included in each of the benefit topics below.

7.2.1 Benefits of the Statewide High-Speed Train System

7.2.1.1 Transportation Benefits

The capacity of California's intercity transportation system is insufficient to meet existing and future demand and the current and project future congestion of the system will continue to result in deteriorating transportation conditions, reduced reliability, and increased travel times. The system has not kept pace with the tremendous increase in population, economic activity, and tourism in California. The interstate highway system, commercial airports, and conventional passenger rail system serving the intercity travel market are operating at or near capacity and will require large public investments for maintenance and expansion to meet existing demand and future growth over the next 20 years and beyond. Moreover, the ability to expand major highways and key airports is uncertain; some needed expansions may be impractical or may be constrained by physical, political, or other factors.

As documented in the statewide Program EIR/EIS, the HST system would meet the need for a safe and reliable mode of travel that would link the major metropolitan areas of the state and deliver predictable, consistent travel times sustainable over time. The HST system also would provide quick, competitive travel times between California's major intercity markets. For intermediate intercity trips such as Fresno to Los Angeles, the HST system would provide considerably quicker travel times than either air or automobile transportation, and would bring frequent HST service to portions of the state such as the Central Valley that are not well served by air transportation. In addition, the passenger cost for travel via the HST service would be lower than for travel by air for the same intercity markets. The Merced to Fresno section is the backbone of the HST system and the preferred Hybrid Alternative would provide comparable travel times to the UPRR/SR 99 Alternative, but would avoid the higher cost of additional elevated construction and the greater community impacts associated with other alternatives (Section 7.4.4).

By providing a new intercity, interregional, and regional passenger mode, the HST system will improve connectivity and accessibility to other existing transit modes and airports. Travel options available in the Central Valley and other areas of the state with limited bus, rail, and air service for intercity trips will be improved. The HST system within the Central Valley would provide beneficial transportation impacts beyond additional modal connectivity. The change from vehicles to HST would reduce daily auto trips and corresponding vehicle delay and congestion. A substantial amount of intercity auto travel (primarily using SR 99) would divert to HST service, relieving projected future congestion on SR 99. The reduction in future intercity trips would also improve the ability of SR 99 to accommodate freight traffic and would improve projected travel speeds on the freeway (Section 3.2.5.1). The HST system also provides system

redundancy in cases of extreme events such as adverse weather or petroleum shortages (HST trains are powered by electricity which can be generated from non-petroleum-fueled sources; automobiles and airplanes currently require petroleum). The HST system will provide a predominantly separate transportation system that will be less susceptible to many factors influencing reliability, such as capacity constraints, congestion, and incidents that disrupt service.

The HST system will add capacity to the state's transportation infrastructure and reduce traffic on certain intercity highways and around airports to the extent that intercity trips are diverted to the HST system. Diversions from the automobile to HST could lead to a projected 6.5% to 10% reduction in vehicle miles traveled on the highway system to or from the Central Valley, or a reduction of up to 180 million vehicle miles traveled annually (Section 3.2, page 3.2-37). Under the Revised 2012 Business Plan, the reduction in VMT would be approximately 36 to 38 percent of what would be achieved under the Full System buildout described in the Final Project EIR/EIS. The HST will also eliminate delays at existing at-grade crossings where the HST system will provide grade separation. The HST system also will decrease injuries and fatalities due to diversion of trips from highways, will improve connectivity, and will add a variety of connections to existing modes, additional frequencies, and greater flexibility.

The HST system within the Central Valley would provide a new regional surface transportation system that complements and connects with existing transportation modes. At a regional level, HST service would reduce vehicle miles traveled by providing motorists an alternative to relying on existing interregional and intercity freeways and highways. Within the three counties of Merced, Madera and Fresno, vehicle miles traveled would be reduced by 6.5% to 10% depending on HST fares. The HST system would be grade-separated from freeways, highways, and roads, allowing vehicular traffic to pass unimpeded under or over the rail corridor (Section 3.2.5.3).

7.2.1.2 Benefits to the Environment

In addition to reducing highway congestion, the HST system as a whole will provide substantial improvement in air quality, transportation energy efficiency, and noise. The HST system will decrease air pollution statewide and in all air basins analyzed by reducing pollution generated by automobile combustion engines. As a result of decreased vehicle miles traveled by automobiles and decreased automobile congestion. Compared to the No Project scenario, the HST system will result in a reduction of up to 12.7 million barrels of oil by 2030 and 3.9 million metric tons (8.6 billion pounds) of greenhouse gas (GHG) emissions annually by 2035, helping the State reduce GHG emissions consistent with the goals of AB 32 and Executive Order S-3-05. The Central Valley contribution to this reduction would be up to 0.56 million metric tons (1.2 billion pounds) of GHG emissions annually by 2035 for the preferred Hybrid Alternative. The Phase 1 Blended approach outlined in the Revised 2012 Business Plan, would yield a GHG emissions reduction of approximately .84 to 1.4 million metric tons annually. The HST system will also increase energy efficiency in transportation use because HST uses less energy to move passengers than either airplanes or automobiles. A high-speed train requires about one-third of the energy required for an airplane to carry a passenger 1 mile, and less than half that required for an automobile to carry a passenger 1 mile. (Section 1.2.4.4, page 1-21). In addition, noise reduction will occur in locations where grade separations eliminate horn and crossing gate noise at existing grade crossings.

The statewide HST system has minimized environmental impacts following existing transportation corridors. The preferred alignment and stations locations for the system as a whole have been crafted to avoid and/or minimize the potential impacts to cultural, park, recreational and wildlife refuges to the greatest extent practicable. In this way, the HST system meets the purpose and need and project objectives for improving the State's transportation options, while doing so in an environmentally sensitive way.

The U.S. Army Corps of Engineers and the U.S. Environmental Protection Agency have both concurred (USACE March 26, 2012 and USEPA March 23, 2012) that the Hybrid Alternative is the Least Environmentally Damaging Practicable Alternative (LEDPA). For this reason, the Hybrid Alternative is the

network alternative for the Merced to Fresno Section that will have the highest likelihood of being efficiently constructed and operated.

7.2.1.3 Consistency with State Policies in Executive Order S-3-05, Assembly Bill 32 and Senate Bill 375

In 2005, California set statewide targets for reducing greenhouse gas (GHG) emissions. Executive Order S-3-05 requires that GHG emissions be reduced to 2000 levels by the year 2010, to 1990 levels by the year 2020, and 80% below 1990 levels by the year 2050. Shortly after the issuance of this executive order, the California State Legislature passed Assembly Bill 32 (AB 32), the Global Warming Solutions Act of 2006. AB 32 recognizes that California is the source of substantial amounts of GHG emissions and that global climate change poses a serious threat to the economic well-being, public health, natural resources, and the environment of California. AB 32 requires that the California Air Resources Board (CARB), the state agency charged with regulating air quality, establish a statewide greenhouse gas emissions limit to be achieved by 2020, with the intent that the emissions limit continue in existence and be used to maintain and continue reductions in emissions of greenhouse gasses beyond 2020. AB 32 also requires that CARB create a plan and implement rules to achieve "real, quantifiable, cost-effective reductions of greenhouse gases" in California. This plan was developed by CARB in 2008 as the Climate Change Scoping Plan (California Air Resources Board 2008), the state's road map to reaching the GHG reduction goals required by AB 32. The Plan supports the implementation of a High-Speed Rail System to provide more mobility choice and reduce GHG emissions. The "Approved Scoping Plan" was adopted by the CARB in December 2008 and reapproved by the CARB in August 2011 after additional alternatives analysis was added in response to litigation.

Adopted in September 2008, Senate Bill 375 (SB 375) provides a new planning process to coordinate community development and land use planning with Regional Transportation Plans (RTPs), in an effort to reduce sprawling land use patterns, and thereby reduce VMT and associated VMT. SB 375 is one major tool being utilized to meet the AB 32 goals. SB 375 sets priorities to help California meet GHG reduction goals and requires that RTPs prepared by MPOs include a "sustainable communities strategy" that supports the GHG emission reduction targets set by the California Air Resources Board (CARB). The first SCS document(s) for the Central Valley are not required to be completed as of 2012. However, because of the potential for increased TOD-type development and other land-use planning benefits (discussed below) in the Merced and Fresno areas from HST implementation there, the HST will be supportive of the SCS document(s) by providing a HST as a transportation opportunity with its associated benefits to land use patterns, which will can the SCS document(s) meet SB 375 GHG reduction targets. By way of analogy, the SCS recently completed by SCAG includes Phase 1 of the California HST, and therefore includes the analysis performed to demonstrate that SCAG's RTP/SCS meets the greenhouse gas emission reduction targets set by the Air Resources Board per the requirements of SB 375."

The transportation sector is responsible for about 40% of California's GHG emissions (California Air Resources Board 2010). Emissions of criteria pollutants (carbon monoxide, lead, nitrogen dioxide, particulate matter, ozone, and sulfur dioxide) and GHG emissions from motor vehicles are directly related to the amount of fuel burned and affect air quality in the San Joaquin Valley. The San Joaquin Valley Air Basin exceeds federal and state air quality standards for ozone, PM_{2.5}, and for the state's 24-hour standard for PM₁₀. The projected population growth (see Section 3.19, Regional Growth) in the San Joaquin Valley will result in an increase in VMT (see Section 3.2, Transportation) and the volume of pollutants emitted by motor vehicles. The continued increase in traffic will exacerbate the existing air quality problem and impede the region's ability to attain state and federal ambient air quality standards. Because emissions are directly proportional to the amount of fuel burned, offering effective transportation choices that can reduce driving will be critical for reducing these emissions.

Compared to travel by car, an electric-powered HST system would reduce carbon dioxide (CO₂) emissions. The HST System would provide a more energy-efficient travel mode; a trip on the HST System would use one-third the energy of a similar trip by air, and one-fifth the energy of a trip made by car (Bay Area Council Economic Institute 2008). In addition, the HST system affords a new opportunity to

serve as the backbone of a comprehensive transportation network with connectivity between the statewide, regional, and local transit systems. Providing an interconnected network of alternative transportation options that support more concentrated development around major transit access points, establishes a new framework for the state to integrate land use and transportation decision-making.

7.2.1.4 Land Use Planning Benefits

In the vicinity of HST stations, the HST system will generally be compatible with local, regional, and state plans and policies that support rail systems, including the HST, and transit-oriented development (TOD). It will offer opportunities for increased infill development and redevelopment of downtown centers, which would reduce pressures for conversion of surrounding agricultural land to non-agricultural uses. The HST system will promote transit-oriented, higher-density development around transit nodes as the key to stimulate in-fill development that makes more efficient use of land and resources, can better sustain population growth, and reduce development pressures on the surrounding agricultural lands. The increased density of development in and around HST stations yields the additional public benefit of making public infrastructure improvements more cost-effective. The HST stations in Merced and Fresno would create a beneficial change in visual character when viewed from adjacent downtown locations. The indirect effects of the project would be most noticeable at the HST stations and are expected to result in an overall increase in visual quality (Section 3.16). Additionally, the HST system is expected to be a catalyst for wider adoption of smart growth principles in communities near HST stations.

The HST system will also meet the need for improved inter-modal connectivity with existing local and commuter transit systems. HST stations in California will be multi-modal transportation hubs (Section 3.13). The concept of the HST station as a transportation hub, is also consistent with the Revised 2012 Business Plan, the primary difference being a lower level of ridership projected during the early years on implementation and operation. All the selected high-speed rail station locations will provide linkage with local and regional transit, airports, and highways. In particular, convenient links to other rail services (heavy rail, commuter rail, light rail, and conventional intercity) will promote TOD at stations by increasing ridership and pedestrian activity at these "hub" stations. A high level of accessibility and activity at the stations can make the nearby area more attractive for additional economic activity (Section 3.13). Most of the potential stations identified for further evaluation at the project level are located in the heart of the downtown/central city areas of California's major cities, minimizing potential impacts on the environment and maximizing connectivity with other modes of transportation.

7.2.1.5 Economic Benefits

The HST system will generate economic benefits related to revenue generated by the system, economic growth and jobs generated by construction and operation of the system, benefits from reduced delays to air and auto travelers, and economic advantages related to proximity to the HST system.

As noted in Chapter 1 of the 2008 Final Program EIR, the market for intercity travel in California is projects to grow substantially over the next 20 years. By 2030, the HST system is forecast to carry up to approximately 100 million intercity passengers and is expected to generate revenues that would substantially exceed operations and maintenance costs.

Construction of the HST system will generate the equivalent of about 990,000 construction related job years for construction of the blended Phase 1 HST system, including about 17,500 job years within Merced, Madera and Fresno counties Revised 2012 Business Plan, page 9-12). Operations and maintenance of the HST system would directly employ about 2,900 people by 2040, and the potential statewide creation of about 400,000 long-term permanent jobs. Operation of the HST system is estimated to create approximately 1,300 direct jobs, and overall about 32,000 new jobs within the three regional counties. In addition, the HST system would improve the economic productivity of workers engaging in intercity travel by providing an option to avoid the delays and unpredictability associated with air and highway travel. These economic benefits are in marked contrast to the cost of expanding airports and highways, which would be approximately twice the cost of the HST system to meet the future

transportation demand, even assuming this type of expansion is even feasible (Revised 2012 Business Plan, page 3-15).

Finally, experiences in other countries have shown that an HST system can provide a location advantage to those areas in proximity to an HST station because an HST system would improve accessibility to labor and customer markets, potentially improving the competitiveness of the state's industries and the overall economy. Businesses that locate in proximity to an HST station could operate more efficiently than businesses that locate elsewhere (Section 3.13). This competitive advantage may be quite pronounced in high-wage employment sectors that are frequently in high demand in many communities.

7.2.1.6 Social Benefits

The HST system would provide an opportunity for connectivity for sectors of the population who currently are limited in their travel options.. In addition, HST is a mode of transportation that can enhance and strengthen urban centers. In combination with appropriate local land use policies, the increased accessibility afforded by the high-speed service could encourage more intensive development and may lead to higher property values around stations (Section 3.12).