

18 FEDERAL AGENCIES

Submission 4027 (Christine Jihash, U.S. Department of Agriculture, United States Forest Service, August 31, 2022)

Palmdale - Burbank - RECORD #4027 DETAIL

Status : Unread
Record Date : 9/2/2022
Interest As : Federal Agency
First Name : Christine
Last Name : Jihash

Stakeholder Comments/Issues :

4027-7638

Hello. My name is Christine Jihash and I work for the USDA, U.S. Forest Service for the Angeles National Forest. We received the draft EIR/EIS and there is information on the open house and public hearing meetings coming up on the October 6th and the 18th, respectively. If you can, please provide me more information on how to access these meetings. My phone number best to reach at can be (626) 698-9724. Thank you.

Response to Submission 4027 (Christine Jihash, U.S. Department of Agriculture, United States Forest Service, August 31, 2022)

4027-7638

Refer to Standard Response PB-Response-GEN-3: Public Outreach on the Draft EIR/EIS.

The commenter requested information about the public hearing and the open house. The Authority provided a broad notice of the availability of the Draft EIR/EIS and in person meetings. Notification efforts included an e-blast, notification through social media channels, and promotion through local newspapers in English and Spanish. The Notice of Availability detailed how to access the Authority's website for information about how to join the public hearing and the open house. Refer to Standard Response PB-Response-GEN-3: Public Outreach on the Draft EIR/EIS, which provides additional information regarding the outreach efforts conducted by the project team. CEQA and NEPA require a Final EIR and EIS to respond to the comments received on environmental issues (see 14 C.C.R. §15088(a) and Federal Railroad Administration Procedures for Considering Environmental Impacts 14(s)). This comment does not address the sufficiency of the Draft EIR/EIS, nor does it suggest edits to the document. No change has been made to the document in response to this comment.

Submission 4047 (Paul Rodriquez, Bureau of Land Management, September 6, 2022)

Palmdale - Burbank - RECORD #4047 DETAIL

Status : Completed
Record Date : 9/6/2022
Interest As : Federal Agency
First Name : Paul
Last Name : Rodriquez

Stakeholder Comments/Issues :

4047-7619 | Paul Rodriguez. BLM email propriqu at blm dot gov I need a draft environmental impact report. Environmental impact statement emailed to me, please. Thank you bye now.

Response to Submission 4047 (Paul Rodriquez, Bureau of Land Management, September 6, 2022)

4047-7619

Refer to Standard Response PB-Response-GEN-3: Public Outreach on the Draft EIR/EIS. The commenter requested access to the Draft EIR/EIS. Authority staff contacted this BLM office to provide them access to the documents. The Draft EIR/EIS was also available on the Authority website and was made available via hard copy at multiple repository locations during the public review period. Associated technical reports were also provided upon request.

Submission 4102 (Paul Rodriquez, US Bureau of Land Management in Ridgecrest, September 16, 2022)

Palmdale - Burbank - RECORD #4102 DETAIL

Status : Delimited
Record Date : 9/16/2022
Interest As : Federal Agency
First Name : Paul
Last Name : Rodriquez

Stakeholder Comments/Issues :

4102-7676

Hello, Julia, this is Paul Rodriguez at the Bureau of Land Management in Ridgecrest. If you have a minute, could you give me a call? You know, what I'm trying to do is get a copy of the final EIR/EIS that was done out there. I have been trying to download it bit by bit and that will take me two days to download it. If you could possibly put in a jump drive and send it to me, I'd appreciate it. Would you please call me? Let me know. I'm at [REDACTED]. Appreciate it. Thanks. Bye.

Response to Submission 4102 (Paul Rodriquez, US Bureau of Land Management in Ridgecrest, September 16, 2022)

4102-7676

The commenter requested a copy of the EIR/EIS and expressed difficulty downloading the files from the Authority website. The commenters request is noted and a member of the project team responded and provided requested materials. CEQA and NEPA require a Final EIR and EIS to respond to the comments received on environmental issues (see 14 C.C.R. §15088(a) and Federal Railroad Administration Procedures for Considering Environmental Impacts 14(s)). This comment does not address the sufficiency of the Draft EIR/EIS, nor does it suggest edits to the document. No change has been made to the document in response to this comment.

Submission 4119 (Crystal Huerta, U.S. Army Corps of Engineers, September 22, 2022)

Palmdale - Burbank - RECORD #4119 DETAIL 4119-7502

Status : Ready for Delimiting
Record Date : 9/22/2022
Interest As : Federal Agency
First Name : Crystal
Last Name : Huerta

Stakeholder Comments/Issues :

From: Stanich, Serge@HSR
Sent: Thursday, September 22, 2022 2:14 PM
To: Huerta, Crystal L CIV USARMY CESPL (USA) <Crystal.L.Huerta@usace.army.mil>
Cc: Jackson, Timothy W (Tim) CIV USARMY CESPL (USA) <Timothy.W.Jackson@usace.army.mil>; Gayagas, Susan A CIV (USA) <Susan.A.Meyer@usace.army.mil>; Li, Veronica C CIV USARMY CESPL (USA) <Veronica.C.Li@usace.army.mil>
Subject: RE: CHST: Draft EIR/EIS P-B alignment Comment period extension request

Hi Crystal, we are extending the comment period for 30 days due to another request from a state senator.

Thanks for checking.

Serge

Serge Stanich (he/him)
Director Environmental Services
California High-Speed Rail Authority
770 L Street, Suite 620
Sacramento, CA 95814
916-431-2928 (Direct)
916-718-6981 (Mobile)
serge.stanich@hsr.ca.gov
www.hsr.ca.gov

From: Huerta, Crystal L CIV USARMY CESPL (USA) <Crystal.L.Huerta@usace.army.mil>
Sent: Thursday, September 22, 2022 2:10 PM
To: Stanich, Serge@HSR <Serge.Stanich@hsr.ca.gov>
Cc: Jackson, Timothy W (Tim) CIV USARMY CESPL (USA) <Timothy.W.Jackson@usace.army.mil>; Gayagas, Susan A CIV (USA) <Susan.A.Meyer@usace.army.mil>; Li, Veronica C CIV USARMY CESPL (USA) <Veronica.C.Li@usace.army.mil>
Subject: CHST: Draft EIR/EIS P-B alignment Comment period extension request

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Serge:

Reference is made to the Authority's submittal of the Draft EIR/EIS for the Palmdale to Burbank alignment that was received by the Corps in our LA Office around August 31, 2022 and downloaded on September 6, 2022. Due to a combined 404/408 review the Corps humbly requests a 30-day review extension from November 1, 2022 to November 30, 2022. It is our hope to provide a more detailed analysis with thorough comments during this review period. If you have any questions please feel free to contact me.

Thank you.

Crystal L.M. Huerta (she/her/hers)
Biologist/Senior Project Manager
Los Angeles District, U.S. Army Corps of Engineers Regulatory Division, North Coast Branch
60 South California Street, Suite 201
Ventura, CA 93001

Crystal.Huerta@usace.army.mil
Office: (805) 585-2143 Mobile: (213) 359-9662

Response to Submission 4119 (Crystal Huerta, U.S. Army Corps of Engineers, September 22, 2022)

4119-7502

Refer to Standard Response PB-Response-GEN-3: Public Outreach on the Draft EIR/EIS.

The commenter acknowledged the availability of the Draft EIR/EIS for review and comment and requested an extension of the public review period. Refer to Standard Response PB-Response-GEN-3: Public Outreach on the Draft EIR/EIS, which provides general information regarding the public comment period and the extension of the public comment period. The Draft EIR/EIS was originally made available for review and comment for a 60-day public review beginning on September 2, 2022. In response to agency and stakeholder requests, and in consideration of limitations caused by the novel coronavirus, the Authority extended the comment period by 30 days to December 1, 2022. CEQA and NEPA require a Final EIR and EIS to respond to the comments received on environmental issues (see 14 C.C.R. §15088(a) and Federal Railroad Administration Procedures for Considering Environmental Impacts 14(s)). This comment does not address the sufficiency of the Draft EIR/EIS, nor does it suggest edits to the document. No change has been made to the document in response to this comment.

Submission 4132 (Clifton Meek, U.S. EPA, Region 9, September 29, 2022)

Palmdale - Burbank - RECORD #4132 DETAIL 4132-7698

Status : Delimited
Record Date : 9/29/2022
Interest As : Federal Agency
First Name : Clifton
Last Name : Meek

Stakeholder Comments/Issues :

From: Juliet Martin <j.martin@circlepoint.com>
 Sent: Wednesday, September 28, 2022 5:15 PM
 To: meek.clifton@epa.gov <mee.k.clifton@epa.gov>
 Cc: Masson, Peter@HSR <Peter.Masson@hsr.ca.gov>; Simon, Rick(PB)HSR <Rick.Simon@hsr.ca.gov>; Stanich, Serge@HSR <Serge.Stanich@hsr.ca.gov>; Juan Lema <juan.lema@senerusa.com>; Scott Steinwert <s.steinwert@circlepoint.com>
 Subject: RE: Palmdale to Burbank Technical Reports

Hi Clifton,
 I'm writing to provide the requested P-B DEIR/EIS materials, please click here to download.

At the link above, you will find the Hazardous Materials and Wastes Technical Report, inclusive of supporting appendices and Supplements. We have provided the BARTR, inclusive of supporting appendices and Supplements. The 2019 iteration of the BARTR is the most recent, but supporting Supplements (included in the link above) were prepared more recently.

Also note, the Approved Jurisdictional Determination (AJD) was issued after the original impact analysis featured in the BARTR (and reflected in section 3.7, Biological and aquatic resources, of the EIR/EIS) was prepared. The AJD was distributed to EPA February 2022 (see attached email). The aquatic features covered by the AJD were removed from future analysis of impacts for WOTUS. As such, there is a very slight discrepancy in the EIR/EIS (Table 3.7-24), as it still accounts for features removed for Corps jurisdiction. The difference only applies to the SR14A Build Alternative; there would be 28.19 acres of impacts to nonwetlands (as opposed to 28.87) for a total of 29.06 – 30.44 impacts (as opposed to 29.74 – 30.44).

Thank you,
 Juliet Martin, Senior Associate Environmental Planner
 Circlepoint | 42 S First Street, Suite D, San Jose, CA 95113
 tel 408.715.1505 | www.circlepoint.com

From: Meek, Clifton <mee.k.clifton@epa.gov>
 Sent: Monday, September 26, 2022 3:34 PM
 To: Stanich, Serge@HSR <Serge.Stanich@hsr.ca.gov>
 Cc: Chang, Mark@HSR <Mark.Chang@hsr.ca.gov>
 Subject: Palmdale to Burbank Technical Reports

4132-7698 | Hi Serge-
 Do you have a copy of the "Hazardous Materials and Wastes Technical Report" for Palmdale to Burbank you

could share? Also, do you know if the BARTR report was updated at all after circulation of the Admin Draft EIS?

Thanks,

Clifton

.....
 Clifton Meek, Life Scientist
 U.S. EPA, Region 9
 Environmental Review Branch - Transportation Team
 75 Hawthorne Street, TIP-2
 San Francisco, CA 94105
 415-972-3370
 meek.clifton@epa.gov

Response to Submission 4132 (Clifton Meek, U.S. EPA, Region 9, September 29, 2022)

4132-7698

Refer to Standard Response PB-Response-GEN-7: Access to Technical Reports.

The commenter requested a copy of the Hazardous Materials and Wastes Technical Report. The commenter also inquired about whether the BARTR report was updated after the circulation of the Admin Draft EIR/EIS. The commenter's request and question has been noted. A member of the project team responded to the commenters request and provided requested materials. Please refer to Standard Response PB-Response-GEN-7: Access to Technical Reports for instructions on how to access technical reports. CEQA and NEPA require a Final EIR and EIS to respond to the comments received on environmental issues (see 14 C.C.R. §15088(a) and Federal Railroad Administration Procedures for Considering Environmental Impacts 14(s)). This comment does not address the sufficiency of the Draft EIR/EIS, nor does it suggest edits to the document. No change has been made to the document in response to this comment.

Submission 4235 (Clayton (Clay) Lay, Los Angeles, U.S. Army Corps of Engineers, October 6, 2022)

Palmdale - Burbank - RECORD #4235 DETAIL

Status : No Action Required
Record Date : 11/2/2022
Interest As : Federal Agency
First Name : Clayton (Clay)
Last Name : Lay

Stakeholder Comments/Issues :

4235-7831

USACE requested plans of the Tujunga Wash crossing and KMZs for the alternatives during a meeting with HSR.

(See attached email and provided KMZ files and Tujunga Wash Pages from 01_P2K_PEPD_Record_Set.pdf)

Response to Submission 4235 (Clayton (Clay) Lay, Los Angeles, U.S. Army Corps of Engineers, October 6, 2022)

4235-7831

The commenter referenced a previous request for plans depicting the proposed Tujunga Wash crossing and additional KMZs. A member of the project team contacted the commenter to provide the requested materials. CEQA and NEPA require a Final EIR and EIS to respond to the comments received on environmental issues (see 14 C.C.R. §15088(a) and Federal Railroad Administration Procedures for Considering Environmental Impacts 14(s)). This comment does not address the sufficiency of the Draft EIR/EIS, nor does it suggest edits to the document. No change has been made to the document in response to this comment.

Submission 4446 (Janet L Whitlock, US Department of the Interior, Office of Environmental Policy and Compliance, December 1, 2022)

Palmdale - Burbank - RECORD #4446 DETAIL
Status : Unread
Record Date : 12/2/2022
Interest As : Federal Agency
First Name : Janet L
Last Name : Whitlock
Attachments : DOI Comments on the CHSR Project Palmdale to Burbank DEIS.pdf (479 kb)

Stakeholder Comments/Issues :

Please see the attached comment letter on the subject project from the Department of the Interior.

Janet Whitlock
Regional Environmental Officer: CA, NV, AZ and Pacific Islands
Office of Environmental Policy and Compliance
US Department of the Interior
2800 Cottage Way, Room E-1712
Sacramento, CA 95825
(415) 420-0524 (cell)



United States Department of the Interior

OFFICE OF THE SECRETARY
Office of Environmental Policy and Compliance
2800 Cottage Way, Rm E-1712
Sacramento, California, 95825

December 1, 2022

In Reply Refer To:
22/0384

Serge Stanich
Director of Environmental Services
Attn: Palmdale to Burbank Draft EIR/EIS Comment
California High-Speed Rail Authority
355 S. Grand Avenue, Suite 2050
Los Angeles, California 90071

Subject: Comments of the Department of the Interior on the *California High-Speed Rail Authority Palmdale to Burbank Project Section Draft Environmental Impact Report/Environmental Impact Statement*

4446-8806

Dear Serge Stanich:

The U.S. Department of the Interior (Department) including the U.S. Fish and Wildlife Service (Service) and the National Park Service (NPS) has reviewed the *California High-Speed Rail Authority Palmdale to Burbank Project Section Draft Environmental Impact Report/Environmental Impact Statement* (DEIR/DEIS), dated August 2022. We provide the comments below pursuant to the Fish and Wildlife Coordination Act (16 U.S.C. 661 et seq.) and Section 4(f) of the Department of Transportation Act of 1966. The comments are consistent with the intent of the National Environmental Policy Act of 1969; the Clean Water Act; and the Migratory Bird Treaty Act. We are also responsible for administering the Endangered Species Act of 1973 (Act), as amended (16 U.S.C. 1531 et seq.). This information is being provided to assist you in making an informed decision regarding site selection, project design, and compliance with applicable laws, including the Endangered Species Act.

The project proposes the construction of the Palmdale to Burbank section of the proposed 800-mile California high speed rail (HSR) system, with electric propulsion and steel-wheel-on-steel-rail trains capable of operating speeds up to 220 miles per hour on a dedicated system of fully grade-separated, access-controlled steel tracks.

The Service has been working with the California High-Speed Rail Authority (Authority) to avoid and minimize impacts to Fish and Wildlife Service trust resources from the proposed project since 2009. We offer the following comments to assist the Authority in avoiding, minimizing, and providing adequate offsetting conservation for project related impacts to fish and wildlife resources, and to ensure that the project is consistent with ongoing regional planning efforts.

Submission 4446 (Janet L Whitlock, US Department of the Interior, Office of Environmental Policy and Compliance, December 1, 2022) - Continued

General Comments

4446-8807 | We appreciate the addition of the SR14 A Build Alternative (Preferred Alternative), which avoids impacts to Una Lake and incorporates extensive underground sections designed to minimize project impacts to sensitive species, habitats, and wildlife corridors.

Specific Comments

4446-8808 | *Page 3.7-189 to 3.7-191.* The DEIR/DEIS states that existing constraints to wildlife movement, such as State Route 14 (SR-14) and fencing by Una Lake, make the addition of crossing structures for the proposed project impractical as wildlife movement is already constrained in these areas. We recommend that the proposed project incorporate wildlife connectivity measures, consistent with the recommended wildlife crossing spacing interval of 1.0 mile for large crossings and 0.3 mile for small crossings (Authority 2019), to avoid constraining future efforts to improve wildlife connectivity throughout the project alignment, including in the vicinity of Una Lake and Bee Canyon. Una Lake provides an important source of water in the desert for wildlife, and existing fencing is a barrier that is easily modified and is unlikely to provide an impermeable constraint to wildlife, which can dig under and climb over the fencing. In addition, previous information provided by the Authority suggested that culverts would be needed in this area for public safety, to allow for the movement of water under the railway in the event an earthquake along the San Andreas fault were to result in dam failure at Lake Palmdale. The substantial area of alluvial fan sage scrub habitat supported within Bee Canyon provides live-in habitat for numerous species and should not be consigned to degradation by fragmentation because SR-14 is nearby. Instead, extra effort should be made to minimize habitat fragmentation to the greatest extent possible in this area, and the project should consider the location of existing culverts on SR-14 that provide for wildlife movement in the design of wildlife crossings for the project.

4446-8809 | *Appendix 3.1 A, Maps 21 and 22.* We have requested that the project footprint at Bee Canyon be minimized to avoid impacts to our trust resources. However, the DEIR/DEIS shows a project footprint at this location with a width of approximately 1,000 feet that includes a broad hill cut, maintenance access road, traction power facility, extensive drainage basins, and staging areas. The northwestern extent of the range of the federally endangered slender-homed spineflower (*Dodecahema leptoceras*) and the northeastern extent of the range of the federally threatened coastal California gnatcatcher (*Polioptila californica californica*) are located in Bee Canyon, which would be substantially impacted by the proposed project. We recommend that the project footprint be minimized at this location through use of a tunnel alignment and the removal, relocation, or minimization of the project impacts from the maintenance access road, traction power facility, drainage basins, and staging areas, to minimize impacts to the distribution of the spineflower and gnatcatcher.

4446-8810 | *Page 2-115.* The SR14 A Build Alternative (Preferred Alternative) includes three options for adits (35-foot-wide tunnel access shafts), only one of which would be constructed. One of the adit options (SR14-A1) would be within the Angeles National Forest (ANF) along Little Tujunga Canyon Road. The other two adit options (SR14-A2 and SR14-A3) would be located in Pacoima Wash. Both of these locations have the potential to result in impacts to Service trust resources. SR14-A1 would require a 2.5-mile-long and 150-foot-wide permanent impact area along Little Tujunga Canyon for a power line, as well as tunneling in proximity to fault zones, which would increase the potential for impacts to groundwater resources and springs within the ANF. The

4446-8810 | other adit locations in Pacoima Wash include suitable habitat and are in proximity to historic records for slender-horned spineflower, and surveys for this species have not been completed by the project. We request that the project first survey for and avoid impacts to slender-horned spineflower in Pacoima Wash. Surveys for this cryptic species should be completed by a qualified biologist at the time of year when detectability is greatest and should use a reference population. If surveys are negative, or spineflower is present in Pacoima Wash but an adit can be constructed without impact to the spineflower, our secondary recommendation is that the project avoid the more extensive adit footprint in Little Tujunga Canyon.

4446-8811 | *Appendix 3.1 A, Map 8.* The E1, E1A, E2, and E2A alignments include extensive impact areas in Aliso Canyon within habitat occupied by California red-legged frog (*Rana draytonii*). Richmond et al. (2013), found strong support for a rare southeastern regional group of California red-legged frogs that includes the Aliso Canyon population, and emphasized the importance of protecting boundary populations that have adaptive variation which may enable population persistence in marginal environments, or niche expansion. Thus, it is our strong recommendation that all impacts to this population of California red-legged frogs be avoided.

4446-8812 | *Page 2-23.* The DEIS/DEIR states that the project will include detention ponds up to 1 acre in size at each portal. The Footprint Mapbook (Appendix A of the DEIS/DEIR) places many of these basins within creeks and drainages along the project alignments. We request that the document be revised to include information on how these detention ponds will be located to avoid impacts to creeks and drainages, and to ensure they do not inhibit wildlife movement by impounding water in wildlife movement areas such as culverts and trestles. In addition, the document should be revised to address how these detention ponds will be managed to ensure they do not harbor invasive predators like American bullfrog (*Lithobates catesbeianus*).

4446-8813 | *Page 2-29.* The DEIS/DEIR states that the use of wildlife crossing features would be limited because of design constraints. For those that are constructed, to avoid inundation from adjacent stormwater swales, the document states, "A small berm (or lip) would be constructed at the entrance of the wildlife structure to prevent water from entering during small storm events...a minimum of 3 feet of vertical clearance (crossing-structure height), depressed no more than 1.5 feet below-grade (half of the vertical clearance), and must meet or exceed the minimum 0.41 openness factor." We request that the document be revised to include information on what storm event will cause these recessed undercrossings to flood, approximately how long it will take until they are functional again following flooding, and how they will be maintained to prevent accumulation of sediment. In addition, 0.41 is the openness factor recommended for mid-sized mammals, and 0.75 is the openness factor recommended for large mammals (Cavallaro et al. 2005). We request that the document be revised to address how large animal (deer, mountain lion) connectivity will be maintained consistent with the recommended wildlife crossing spacing interval of 1.0 mile for large crossings and 0.3 mile for small crossings (Authority 2019).

4446-8814 | *Page 3.7-205.* The footnote to Table 3.7-30 in the DEIS/DEIR states, "Three special-status bird species were identified as having suitable habitat within the... sound exposure level of 100 A-weighted decibels (dBA). The acreage of effects identified in Table 3.7-30 excludes areas permanently affected by facilities associated with the Build Alternatives and areas where noise levels generated by existing transportation facilities exceed 65 dBA." The project will generate operational noise of up to approximately 104 dBA at 50 feet (Figure 3.4, page 3.4-3). Based on the footnote to Table 3.7-30, it is our understanding that the project did not consider noise impacts below 100 A-weighted decibels, or noise impacts of 100 A-weighted decibels if baseline

Submission 4446 (Janet L Whitlock, US Department of the Interior, Office of Environmental Policy and Compliance, December 1, 2022) - Continued

4446-8814 | noise exceeded 65 dBA. Noise and vibrations associated with project operations have the potential to disrupt the behaviors of sensitive bird species in adjacent habitat by masking intraspecific communication, startling birds, and causing temporary threshold shift in birds (e.g., see Dooling and Popper 2007 for a discussion of observed effects of highway noise on birds). The DEIS/DEIR explains that the limitation of 100 dBA is based on the Federal Railroad Administration Interim Criteria for Train Noise Effects on Animals (Table 3.4-13). However, effects to wildlife occur at levels substantially below 100 dBA (Dooling and Popper 2007), including effects that could result in adverse effects to federally listed species, as defined in the Endangered Species Act (e.g., would lead to reductions in survival and reproduction of affected individuals). The document should be revised to quantify and map project related noise impacts to federally listed bird species and should include a discussion of how the quantified impacts will be offset. We recommend defining an increased noise, vibration, and light effect zone where habitat for federally listed species will experience significant impacts from project operations. At a minimum, we recommend that the mapped impact zone include all suitable habitat for listed birds that will experience a 3 dBA increase in noise from project operations (corresponding to a 50 percent reduction in listening area due to masking; Barber et al. 2009, page 183). The analysis should also consider the flushing effect on individual birds from passing trains, which will cause a periodic high pulse of noise rather than a continuous low increase in noise.

4446-8815 | *Page 3.7-113.* The DEIR/DEIS states that the Authority will prepare and implement a Compensatory Mitigation Plan (CMP) for Species and Species Habitat. Compensatory mitigation outlined in the CMP will ensure permanent and temporary impacts on special-status species and communities would be offset. We request that the Authority coordinate closely with the Service and other regulatory agencies to identify a conservation strategy that will adequately offset project impacts to listed species and critical habitats. As stated above, some proposed project impacts have the potential to affect the distribution of listed species. If these impacts are not avoidable, compensatory mitigation would need to offset project impacts in a manner that preserves the distribution of the species.

4446-8816 | Section 4f Evaluation:

As required under Section 4(f) of the Department of Transportation Act of 1966, the National Park Service has reviewed the Department of Transportation Act, Section 4(f) Evaluation in the EIR/EIS. Relevant NPS programs have indicated no comments, and no Department bureaus have identified concerns with the 4(f) evaluation. The Department has no objection to Section 4(f) approval of this project.

We appreciate the opportunity to comment on the DEIR/DEIS and to participate in the transportation planning process. If you have any questions regarding comments from the Service, please contact Sally Brown of the Service at 760-431-9440, extension 278. For all other questions or comments, please contact me at (415) 420-0524 or at janet_whitlock@ios.doi.gov.

Sincerely,

Janet Whitlock
Region Environmental Officer

4

Electronic distribution

cc: Shawn Alam, shawn_alam@ios.doi.gov
Sally Brown, sally_brown@fws.gov
Roxanne Runkel, Roxanne_runkel@nps.gov
Danette Woo, danette_woo@nps.gov

LITERATURE CITED

[Authority] California High Speed Rail Authority. 2019. Palmdale to Burbank Project Section: Wildlife Corridor Assessment Technical Report.

Barber, J., K. Crooks, and K. Fristrup. 2009. The costs of chronic noise exposure for terrestrial organisms. *Trends in Ecology and Evolution*, Volume 25(3): 180-189.

Cavallaro, L, K. Sanden, J. Schellhase, and M. Tanaka. 2005. Designing Road Crossings for Safe Wildlife Passage: Ventura County Guidelines. MS Thesis, U.C. Santa Barbara.

Dooling, R.J. and A.N. Popper. 2007. The effects of highway noise on birds. Prepared by Environmental BioAcoustics LLC for the California Department of Transportation, Sacramento, California. 74 pp.

Richmond, J.Q., K.R. Barr, A.R. Backlin, A.G. Vandergast and R.N. Fisher. 2013. Evolutionary dynamics of a rapidly receding southern range boundary in the threatened California Red-Legged Frog (*Rana draytonii*). *Evolutionary Applications*. 6 (2013) 808-822.

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Response to Submission 4446 (Janet L Whitlock, US Department of the Interior, Office of Environmental Policy and Compliance, December 1, 2022)

4446-8806

The commenter noted that comments were provided by the U.S. Department of the Interior on the Palmdale to Burbank Project Section to assist the Authority in avoiding, minimizing, and providing adequate offsetting conservation for project related impacts to fish and wildlife resources, and to ensure that the project is consistent with ongoing regional planning efforts. Specific comments raised by the commenter are addressed in Response to Comment #8807 through #8816.

4446-8807

The commenter expresses support for the SR14A Build Alternative, the Preferred Alternative because it would avoid impacts on Una Lake and minimize impacts to sensitive species, habitats, and wildlife. This comment does not address the sufficiency of the Draft EIR/EIS nor does it suggest edits to the document. As a result, no change has been made to the document in response to this comment.

4446-8808

Refer to Standard Response PB-Response-BIO-1: Impacts in Bee Canyon, PB-Response-BIO-3: Wildlife Movement Corridors.

The commenter is concerned that the Draft EIR/EIS states the existing constraints to wildlife movement, such as the SR 14 freeway and fencing by Una Lake, make the addition of crossing structures for the proposed project impractical. The commenter recommends incorporating wildlife crossing spacing at recommended intervals to avoid constraining future efforts to improve wildlife connectivity, as well as minimize habitat fragmentation to greatest extent possible in the Bee Canyon area. The Palmdale to Burbank Project Section Wildlife Corridor Assessment (WCA) Report (Authority 2019c) highlights permanent effects on wildlife movement that would result from operation of the Build Alternatives. Despite existing constraints (SR 14 and suburban land uses), a majority of the Build Alternatives would be permeable (i.e., no impediments to wildlife movement) outside of the urban areas of Palmdale and the San Fernando Valley. These permeable areas occur where the Build Alternatives would be underground in a tunnel or elevated on a viaduct because wildlife can travel above tunneled segments or under elevated viaducts, respectively. Tunnels and viaducts provide essentially unimpeded connectivity for wildlife and would have no impact on wildlife movement and connectivity. The Authority concluded that as long as there is a viaduct/tunnel/at-grade transition and/or drainage structure within 1.0-mile intervals for large crossings and 0.3-mile intervals for small crossings, wildlife movement would not be impeded. The WCA analyzed what locations would benefit from a wildlife crossing, given existing constraints. Of the at-grade segments of the SR14A Build Alternative (the Authority's Preferred Alternative) that exceed the recommended threshold lengths, there is one segment, SR14A Segment 1, that would benefit from wildlife crossings. SR14A Segment 1 is in an area that includes several barriers to wildlife, including the adjacent SR 14 freeway to the west, the California Aqueduct that bisects Segment 1 from west to east, and the Sierra Highway to the east. The SR 14 freeway and the California Aqueduct provide a barrier to wildlife, except at Courson Ranch Road, which provides a linkage to wildlife movement across existing barriers. Wildlife connectivity across the 3.01-mile at-grade segment would benefit from adding two dedicated wildlife crossings along the SR14A Segment - one crossing located north of East Barrel Springs Road (east of Una Lake) and a second crossing located south of the Soledad Siphon (south of the California Aqueduct). As described in Section 3.7, Biological and Aquatic Resources,

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4446-8808

mitigation measure BIO-MM#64 of the Draft EIR/EIS, the Authority will incorporate features to accommodate wildlife movement into the design of bridges and culverts that are replaced or modified as part of project construction, wherever feasible. Project Biologist review of final construction design for consistency with placement and dimensions of wildlife crossings will be verified in a memorandum provided to the Authority. The commenter also suggests extra effort should be made to minimize habitat fragmentation to the greatest extent possible. The SR14 and SR14A Build Alternatives maintain wildlife connectivity from the alluvial fans sage scrub habitat in Bee Canyon by way of the Santa Clara River. The at-grade segment for the SR14A Build Alternative is slightly over 1 mile with significant movement opportunities on either side of the at-grade segment. Please also refer to Standard Responses PB-Response-BIO-1: Impacts in Bee Canyon and PB-Response-BIO-3: Wildlife Movement Corridors in the Final EIR/EIS.

4446-8809

Refer to Standard Response PB-Response-BIO-1: Impacts in Bee Canyon, PB-Response-BIO-2: Construction and Operations Impacts to Special-Status Plants and Wildlife.

The commenter notes the large (approximately 1,000 feet in width) project footprint in Bee Canyon, which is a sensitive area and known location for presence of slender-horned spineflower and coastal California gnatcatcher. The commenter requests that the project footprint within Bee Canyon be minimized in order to reduce impacts to slender-horned spineflower and California gnatcatcher, which are federally listed species.

The Authority understands the sensitivity of Bee Canyon. The construction footprint (e.g., construction staging areas) has been designed to ensure no activities are occurring in the floodplain and channel bed. The Draft EIR/EIS includes many mitigation measures intended to reduce the project's impacts on sensitive biological resources that may be present within and near the project footprint. These measures would restrict work from occurring in areas of biological sensitivity, and such areas would be delineated and fenced in order to keep construction activities from occurring in these sensitive areas. These measures ensure that construction activities occur in areas of less biological sensitivity and only those areas necessary for construction purposes. As discussed in Section 3.7, Biological and Aquatic Resources, Mitigation Measures (BIO-MM#1: Conduct Presence/Absence Pre-construction Surveys for Special-Status Plant Species and Special-Status Plant Communities; BIO-MM#6: Prepare and Implement a Restoration and Revegetation Plan; BIO-MM#38: Compensate for Impacts on Listed Plant Species; BIO-MM#53: Prepare a CMP for Species and Species Habitat; BIO-MM#56: Conduct Monitoring of Construction Activities; BIO-MM#58: Establish Environmentally Sensitive Areas and Nondisturbance Zones; BIO-MM#60: Limit Vehicle Traffic and Construction Site Speeds; BIO-MM#79: Conduct Surveys for Coastal California Gnatcatcher; BIO-MM#85: Establish Construction Zones and Environmentally Sensitive Areas; BIO-MM#98: Minimize Permanent Intermittent Impacts on Aerial Species Wildlife Movement; BIO-MM#101: Minimize Permanent, Intermittent Noise Impacts on Special-Status Bird Habitat) and impact avoidance and minimization features (IAMFs) (BIO-IAMF#1: Designate Project Biologist, Designated Biologists, Species-Specific Biological Monitors, and General Biological Monitors; BIO-IAMF#3: Prepare WEAP Training Materials and Conduct Construction Period WEAP Training; BIO-

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4446-8809

IAMF#4: Operation and Maintenance Period Worker Environmental Awareness Program Training; BIO-IAMF#5: Prepare and Implement a Biological Resources Management Plan; BIO-IAMF#8: Delineate Equipment Staging Areas and Traffic Routes; BIO-IAMF#10: Clean Construction Equipment; and BIO-IAMF#12: Design the Project to be Bird Safe) will be implemented to reduce adverse impacts to biological resources within the project footprint in Bee Canyon. Please refer to Standard Responses PB-Response-BIO-1: Impacts in Bee Canyon for more information about impacts to the Bee Canyon and PB-Response-BIO-2: Construction and Operations Impacts to Special-Status Plants and Wildlife for discussion of construction related impacts to special-status plants and wildlife.

The commenter requested that the Authority minimize the footprint by moving the alignment into a tunnel in Bee Canyon. Construction of a tunnel in the Bee Canyon area and under Santa Clara River is not feasible since it would require a vertical profile for HSR to return to grade that exceeds the maximum allowable grade of 2.5% as defined in CHSR's Technical Memorandum (TM) 2.1.2 Section 3.3.1. Furthermore, constructing the HSR alignment in tunnel in the northern portion of Bee Canyon and then emerging from tunnel only for the portion crossing over the Santa Clara River with a viaduct would not be feasible. The alignment requirements and the topography of the area do not allow for maintaining the minimum vertical clearance of the rail viaduct over Soledad Canyon Road. Additionally, this approach would result in deeper cut sections in the southwestern part of the Canyon, which could result in a larger environmental footprint in this area and a net increase in excavated volume. The Authority is aware of the status of slender-horned spineflower and California gnatcatcher as well as the significance of Bee Canyon with regard to the range and climate change resiliency needs of these species. The Refined SR14 and SR14A Build Alternatives pass through the northern extent and close to a known population of slender-horned spineflower, and modeled suitable habitat for the species occurs to the north of the alignment in Bee Canyon where the alignment will be at grade. The Authority conducted a focused rare plant survey in Bee Canyon in May 2023 to determine the presence and extent of slender-horned spineflower. The species was not detected during the survey; however, potentially suitable habitat was mapped. Results of the survey in May 2023 show that the habitat suitability modeling overestimated the extent of suitable habitat and the actual suitable habitat present in Bee Canyon was refined to a smaller area.

4446-8809

Accordingly, ground-truthed potentially suitable habitat for slender-horned spineflower occurs over a small area of the project impact footprint and the 100-foot plant buffer in Bee Canyon. To mitigate impacts to slender-horned spineflower, mitigation measures are provided in Section 3.7.7 of the Draft EIR/EIS (specifically: BIO-MM#1: Conduct Presence/Absence Pre-construction Surveys for Special-Status Plant Species and Special-Status Plant Communities, BIO-MM#2: Prepare and Implement Plan for Salvage and Relocation of Special-Status Plant Species, BIO-MM#6: Prepare and Implement a Restoration and Revegetation Plan, BIO-MM#38: Compensate for Impacts on Listed Plant Species, BIO-MM#53: Prepare a CMP for Species and Species Habitat, BIO-MM#55: Prepare and Implement a Weed Control Plan, BIO-MM#56: Conduct Monitoring of Construction Activities, BIO-MM#58: Establish Environmentally Sensitive Areas and Nondisturbance Zones, and BIO-MM#60: Limit Vehicle Traffic and Construction Site Speeds).

The Refined SR14 and SR14A Build Alternatives pass through the northern extent of the range of the coastal California gnatcatcher, and while the majority of the alignment for each Build Alternative is in tunnel and has no significant surface impact, the section passing through Bee Canyon is at grade and on viaduct. As a linear construction feature through Bee Canyon, the rail alignment has potential to impact coastal California gnatcatcher habitat in Bee Canyon. If construction occurs during the breeding season (generally February 15 to August 30), active nests in proximity to construction activities could be disturbed, potentially causing the loss of eggs or developing young (i.e., nest abandonment during the incubation, nestling, or fledgling stages), and activities generating noise above 65 dBA could cause birds to avoid adjacent suitable nesting and foraging habitat. During operations, intermittent noise from train operations could cause coastal California gnatcatcher to avoid adjacent habitat in Bee Canyon and may result in disruption to movement across the rail alignment. To mitigate impacts to coastal California gnatcatcher, mitigation measures are provided in Section 3.7.7 of the Draft EIR/EIS; specifically: BIO-MM#14: Conduct Pre-construction Surveys and Delineate Active Nest Buffers Exclusion Areas for Breeding Birds, BIO-MM#53: Prepare a CMP for Species and Species Habitat, BIO-MM#56: Conduct Monitoring of Construction Activities, BIO-MM#58: Establish Environmentally Sensitive Areas and Nondisturbance Zones, BIO-MM#60: Limit Vehicle Traffic and Construction Site Speeds, BIO-MM#79: Conduct Surveys for Coastal California Gnatcatcher, and BIO-MM#101: Minimize

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4446-8809

Permanent, Intermittent Noise Impacts on Special-Status Bird Habitat. BIO-MM#101 specifically addresses the permanent, intermittent impact of noise on suitable special-status bird habitat, including coastal California gnatcatcher habitat, and under this measure, the Authority will build sound barriers to minimize or avoid such impacts in locations, such as Bee Canyon, where special-status bird habitat would be exposed to 65 A-weighted decibels of permanent intermittent noise impact outside the fenced right-of-way. Sound barriers will be designed with the goal of minimizing exposure to noise produced by HSR trains by providing a 10 A-weighted decibel attenuation of sound, as measured 50 feet from the noise barrier. Typically, this level of sound attenuation requires a 10- to 17-foot-tall sound barrier, and the engineering design in Bee Canyon calls for a 14-foot-tall sound barrier. The final location, length, and height of the barriers will be determined based on detailed noise modeling for areas of high-quality special-status bird habitat, and measurement of existing conditions so that the noise-attenuating effects of topography and other existing features can be accounted for during the final design phase. The Authority will be responsible for obtaining noise measurements to inform the modeling to determine final sound barrier requirements. Where noise and other impacts cannot be avoided, compensatory mitigation will be provided to offset the effect of loss of habitat and loss of breeding/nesting and migrating opportunities. Under BIO-MM#53, the Authority will prepare a Compensatory Mitigation Plan (CMP) that sets out the compensatory mitigation that will be provided to offset permanent and temporary impacts on federal and state-listed species and their habitat, including coastal California gnatcatcher.

4446-8810

Refer to Standard Response PB-Response-BIO-2: Construction and Operations Impacts to Special-Status Plants and Wildlife.

The commenter is concerned about the location of the adits having impacts on groundwater and springs within the Angeles National Forest (ANF). The commenter is also concerned about adits located in the Pacoima Wash area negatively impacting the slender-horned spineflower habitat. The commenter is requesting surveys for the slender-horned spineflower be completed by a qualified biologist at the time of year when detectability is greatest to determine the impacts of adits on the species in Pacoima Wash.

The Authority obtained right-of-entry permission to private lands in Pacoima Wash to perform surveys in 2023 to determine the extent of suitable habitat compared to model estimates of suitability. There are no known occurrences of slender-horned spineflower in the construction footprint. The Authority has included mitigation measures in the Draft EIR/EIS to require full protocol surveys for rare plants prior to construction and as properties become accessible. Information obtained from the survey will be communicated to the relevant resource agencies and used to support subsequent consultation and permitting activities. If slender-horned spineflower is detected in the construction footprint, reinitiation of Section 7 consultation with USFWS would be required. Impact and Avoidance Minimization Features (IAMFs) and mitigation measures outlined in Section 3.7, Biological and Aquatic Resources (Section 3.7.8.1) of this Final EIR/EIS would provide avoidance, minimization, and compensatory mitigation for direct and indirect surface construction impacts on slender-horned spineflower. Specifically, BIO-IAMF#1 includes the requirement for biologists to be approved by the applicable resource agencies prior to implementing avoidance and minimization measures and biological resource monitoring activities. BIO-MM#1 includes conducting presence/absence pre-construction surveys for special-status plants and BIO-MM#2 includes the requirement to prepare and implement a plan for salvage and relocation of special-status plant species. Additional IAMFs and BIO-MMs include but are not limited to, implementation of surveys prior to construction to establish the presence and location of species, avoidance buffers if species are present, and biological monitoring. Combined, these IAMFs and MMs would provide protection to species to avoid or minimize significant impacts, and implementation of habitat restoration and conservation

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4446-8810

efforts would provide species-level compensatory mitigation to offset unavoidable impacts. Please refer to PB-Response-BIO-2: Construction and Operations Impacts to Special-Status Plants and Wildlife.

The Authority has not selected the preferred adit location at this time and notes the commenter's concerns relative to each of the adits being evaluated for the SR14A alternative. Adit SR14-A1, which would be located on a private in-holding within the Angeles National Forest would have the potential as noted to affect groundwater resources. The construction of this adit would follow the same procedure, IAMFs, and mitigation measures as noted for other tunneling in the ANF including implementation of the Adaptive Management and Monitoring Plan (AMMP) required under HYD-MM#4 and set forth in BIO-MM#93 which will minimize impacts that occur and, if necessary, provide compensatory mitigation for unavoidable impacts on surface aquatic resources.

The Authority appreciates the comment and is committed to continued consultation with the resource agencies to further refine our mutual understanding of species occurrences and the potential for impacts from project construction and operation.

4446-8811

The commenter expresses concerns regarding the E1, E1A, E2, and E2A Build Alternative impacting populations of the California red-legged frog in Aliso Canyon. Section 3.7.4.4 of the Draft EIR/EIS describes the methodology and results of the California red-legged frog (CRLF) surveys. The surveys were conducted by qualified Regional Consultant biologists familiar with identification of CRLF and other amphibian species that co-occur with the species. The CRLF surveyor qualifications were reviewed and approved by the USFWS. The last paragraph of Section 3.7.4.4 discusses Aliso Canyon and Arrastre Canyon and explains that protocol CRLF surveys were not performed at these locations because CRLF are known to occur there and are therefore presumed present, meaning the Authority and the USFWS are treating these areas as occupied at these locations crossed by Build Alternatives E1, E1A, E2, and E2A. None of the drainages crossed by the Refined SR14 Build Alternative or the SR14A Preferred Alternatives are known to have CRLF populations present, nor was CRLF observed during the protocol surveys at these locations. For Build Alternatives E1, E1A, E2, and E2A, a suite of mitigation measures listed in Impact BIO#2 in Section 3.7 of the Draft EIR/EIS would be applied to reduce construction impacts on special-status amphibians, including CRLF. Per BIO-MM#7, pre-construction surveys would be conducted that include locations where Build Alternatives E1, E1A, E2, and E2A cross Aliso Creek. Should special-status amphibians be observed, avoidance and minimization measures would be implemented, including the following: BIO-MM#8 (Implement Avoidance and Minimization Measures for Special-Status Reptile and Amphibian Species), BIO-MM#34 (Monitor Construction Activities within Jurisdictional Waters), BIO-MM#36 (Install Aprons or Barriers within Security Fencing), BIO-MM#56 (Conduct Monitoring of Construction Activities), BIO-MM#58 (Establish Environmentally Sensitive Areas and Nondisturbance Zones), BIO-MM#60 (Limit Vehicle Traffic and Construction Site Speeds), BIO-MM#61 (Establish and Implement a Compliance Reporting Program), BIO-MM#62 (Prepare Plan for Dewatering and Water Diversions), BIO-MM#63 (Work Stoppage), and BIO-MM#76 (Implement Wildlife Rescue Measures). Should impacts to CRLF be unavoidable, BIO-MM#53 (Prepare and Implement a Compensatory Mitigation Plan for Species and Species Habitat) requires preparations an implementation of a CMP for special-status species and their associated habitats, including CRLF. Furthermore, implementation of BIO-MM#47 (Prepare and Implement a CMP for Impacts on Aquatic Resources) would offset construction impacts on aquatic resources, which also serve as breeding habitat for special-status amphibian species, such as CRLF.

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4446-8812

The commenter asks about the location of detention ponds and potential impacts. The commenter also asks how these detention ponds will be managed. Appendix 2-D (page 2-25) in the Draft EIR/EIS specifies that the permanent portal facilities will include a detention pond for stormwater runoff at each portal location. The installation of this detention pond would occur in accordance with CHSRA Technical Memorandum TM 2.4.6 (High-Speed Train Tunnel Portal Facilities). These detention ponds will have adequate size to handle run-off quantities calculated for the individual portal locations and will prevent contamination of groundwater. As described in TM 2.6.5 (Hydraulics and Hydrology Design Guidelines), the detention basins will be designed according to Caltrans' Stormwater Quality Handbooks: Project Planning and Design Guide. For design methodologies not provided in this Design Guide, FHWA Urban Drainage Design Manual, Hydraulic Engineering Circular 22 will be referenced. These design requirements will ensure that detention ponds will have adequate size to handle run-off quantities. Typical layouts for tunnel portal facilities are included in TM 2.4.6 (Drawing), TM 2.4.6-A and TM2.4.6-D. These detention ponds will not be installed within creeks and drainage along the project alignment. Appendix 3.1-A (Footprint Mapbook) in the Draft EIR/EIS shows the permanent drainage basin areas, not the detention ponds. Detention ponds will be installed within the tunnel permanent portal footprint. Regarding the concern about management of detention ponds, Section 3.7, Biological and Aquatic Resources in the Draft EIR/EIS includes mitigation measure BIO-MM#36, which requires that permanent right-of-way adjacent to natural habitats be protected with a barrier to prevent fossorial mammals, reptiles, amphibians, and other predators from gaining access to the right-of-way, and thus the detention ponds. As these ponds would be located within the permanent footprint of the project, they were included in the assessment of wildlife movement presented in Chapter 3.7 and the Palmdale to Burbank Wildlife Corridor Assessment Report.

4446-8813

Refer to Standard Response PB-Response-BIO-3: Wildlife Movement Corridors.

The commenter requested the document be revised to include information on what storm event will cause recessed undercrossing to flood, approximately how long it will take until they are functional again following flooding, and how they will be maintained to prevent accumulation of sediment. In addition, the commenter requested the document to be revised regarding how large animal (deer, mountain lion) connectivity will be maintained consistent with the recommended wildlife crossing spacing interval of 1.0 mile for large crossings and 0.3 mile for small crossings. The berms would be designed so that no wildlife crossing will be impeded following flooding. Furthermore, the openness factor of 0.41 for medium-sized mammals and 0.75 for large mammals is achieved on all viaducts. This has been revised in Chapter 2, Alternatives (Section 2.3.6), of the Final EIR/EIS for clarity. The recommended wildlife crossing intervals are considered ideal targets. These target intervals were not considered applicable in urbanized settings and in areas where wildlife movement is already constrained, such as at the California Aqueduct, SR 14, and Una Lake. The Wildlife Crossing Assessment (WCA) includes a robust analysis of wildlife connectivity and movement. Electronic copies of the WCA and other technical reports are available through submitting a request on the Public Records Act portal (available at: <https://hsr-ca.nextrequest.com/>). As described in the WCA, the SR 14 freeway and California Aqueduct represent significant bottlenecks and constraints to regional wildlife movement, as shown on Figure 5-7 in the WCA. Figure 5-7 also shows how the crossing opportunities align with the wildlife movement areas being maintained at the series of tunnels and viaducts. The detailed design of the supplemental wildlife crossing recommended in the Final EIR/EIS will be developed after Record of Decision is issued and during the detailed design phase. The wildlife crossings will be designed based on standards recommended in the Wildlife Crossing Structure Handbook Design and Evaluation in North America (Federal Highway Administration 2011 [identical to Clevenger and Huijser 2009 and Meese et al. 2009]). As discussed in Section 3.7, Biological and Aquatic Resources, in the event of a storm, mitigation measure BIO-MM#83 indicates that crossing structures and fences will be regularly inspected and maintained to keep the openings of wildlife crossing structures free of debris or sediment. Any damaged "funnel fencing" will be repaired, and any "hanging lip" created by scouring water flows will be remedied in time to prevent degradation of the structure's functionality. In addition, the Authority recognizes and

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4446-8813

commits to implementing the following design recommendations, as outlined in Impact BIO#13 in Section 3.7 of the Draft EIR/EIS: •Undercrossing intended to be used by large mammals (i.e., mule deer) within the mule deer species range would have a 10-foot-tall concrete arch to accommodate the mammals' larger stature. •Any culvert intended to function as an undercrossing for carnivores and small animals would be no smaller than a 6-foot-wide arch culvert for lengths up to 200 feet, or an 8-foot-wide arch culvert for lengths up to 300 feet. The substrate would be natural soil of the surrounding area, and the grade would not exceed 2 percent. Culverts longer than 200 feet would not be considered wildlife crossing structures. If any portion of the bottom of the wildlife undercrossing is likely to be inundated longer than 24 hours at least once per year, the structure would have a dry ledge. Ledges or tunnels and cover features to prevent predation will also be incorporated into the design to facilitate safe passage of small wildlife. The structure would be straight enough that a mammal entering the culvert can see to the other end of the culvert. •Slope within the crossing structure would be consistent with the natural (pre-construction) grade (optimally less than 2 percent). Slopes that follow natural grades greater than 2 percent are acceptable in bridged undercrossing (viaducts). How long these crossings would be inundated by water would depend on the duration and intensity of each storm event, but as noted, the intent is to design the recessed undercrossings in a manner, and with a dry ledge, that continue to facilitate wildlife movement even after major storm events, followed by regular inspections and maintenance to clear them of debris or sediment after floods, as necessary.

4446-8814

Refer to Standard Response PB-Response-BIO-2: Construction and Operations Impacts to Special-Status Plants and Wildlife, PB-Response-N&V-3: Noise Impacts on Domestic Animals/Wildlife.

The commenter states, based on their review of the Draft EIR/EIS, the analysis did not consider the effects of operational noise levels between 65 and 100 A-weighted decibels (dBA) to sensitive bird species. The commenter also states that the EIR/EIS should be revised to quantify and map project-related operational noise impacts to federally listed bird species and to include a discussion of how impacts will be offset. Additionally, the commenter recommends the EIR/EIS be revised to define an increased noise, vibration, and light effect zone where habitat for federally listed bird species would experience significant impacts from project operations; at a minimum, the commenter, recommends depicting the suitable habitat for listed birds that would experience a 3-dBA increase in noise from project operations. Finally, the commenter states the analysis should consider the flushing effect on individual birds from passing trains because passing trains will cause a periodic high pulse of noise rather than a continuous low increase in noise.

Please see Standard Responses PB-Response-N&V-3: Noise Impacts on Domestic Animals/Wildlife, which explains that for special-status nesting birds a 65 A-weighted decibels threshold was used.

As noted under Impact BIO#14: Project Operation Effects on Habitat for Special-Status Species Individuals and Communities in Section 3.7, Biological and Aquatic Resources, of the Draft EIR/EIS, Table 3.7-30 (Table 3.7-31 in the Final EIR/EIS) summarizes the acreage of modeled habitat for special-status bird species that would be subject to noise in excess of 65 A-weighted decibel, excluding areas permanently affected by facilities associated with the Build Alternatives and areas where noise levels generated by existing transportation facilities exceed 65 dBA. Where habitat for other special-status bird species overlaps with the noise impact areas identified, those species would be subject to noise impacts as well. Masking may disrupt bird calls and associated life cycle behaviors such as mating within the noise impact areas. The calculations from Table 3.7-31 are based on mapping of special-status bird habitat overlaid with the area where it is assumed noise in excess of 65 dBA would occur; this mapping is documented in the Biological and Aquatic Resources Technical Report. Please refer to

Response to Submission 4446 (Janet L Whitlock, US Department of the Interior, Office of Environmental Policy and Compliance, December 1, 2022) - Continued

4446-8814

Impact BIO#14 in the Final EIR/EIS for a quantified assessment of impacts to special-status bird species from operational noise.

The commenter recommends depicting the suitable habitat for listed birds that would experience a 3-dBA increase in noise from project operations. The methodology used to determine impacts to special-status bird species did not involve taking baseline measurements to analyze the degree of change in noise levels. Instead, a threshold of 65 dBA was used, as described above.

The commenter indicates the analysis should consider the flushing effect on individual birds from passing trains. While flushing behavior (to fly away suddenly) alone does not correspond with a threshold of impacts in determining effects to special-status birds, the Authority agrees that frequent flushing over a long enough period of time would constitute a significant impact. The frequency and duration of flushing behavior that rises to the level of a significant impact is not known (but see Dooling and Popper 2007). BIO-MM#101, Minimize Permanent, Intermittent Noise Impacts on Special-Status Bird Habitat, has been included to address the impact of noise on suitable special-status bird habitat. BIO-MM#101 requires the construction of sound barriers to minimize or avoid impacts in locations where suitable special-status bird habitat would be exposed to 65 A-weighted decibels of permanent intermittent noise impact outside the fenced right-of-way. The Authority understands that before the start of construction, additional surveys will be needed (BIO-MM#79, BIO-MM#80, BIO-MM#81).

4446-8815

The commenter requests that the Authority coordinate closely with the U.S. Fish and Wildlife Service and other regulatory agencies on the Compensatory Mitigation Plan (CMP) to identify a conservation strategy that will adequately offset project impacts on listed species and critical habitats. Comment noted. The Authority will continue to coordinate with the U.S. Fish and Wildlife Service and other regulatory agencies on the CMP.

4446-8816

The commenter notes that there are no objections to the 4(f) findings in the Draft EIR/EIS. No revisions are required to the EIR/EIS based on this comment.

Submission 4525 (Roman Luis Torres, United States Department of Agriculture - Angeles National Forest, November 30, 2022)

Palmdale - Burbank - RECORD #4525 DETAIL

Status : Action Pending
Record Date : 12/8/2022
Interest As : State Agency
First Name : Roman Luis
Last Name : Torres
Attachments : Nov 29-FY23-596381 California High Speed Rail Draft EIR-EIS - Palmdale to Burbank.pdf (216 kb)
Nov 29-FY23-596381 ATTACH - ANF_HSR_Draft BE Review_2022-01-21.pdf (5 mb)
Nov 29-FY23-596381- ATTCH - ANF_HSR_EIR-EIS Review_Memo_2022-10-09.pdf (100 kb)
Nov 29-FY23-596381- ATTCH - Angeles NF EIS-EIR_Palmdale-Burbank_Comment_XLS_2022-10-09.pdf (350 kb)
Nov 29-FY23-596381- ATTCH - ANF_HSR_WhitePaper_20190204_ReviewMemo_20190505 draft.pdf (134 kb)

Stakeholder Comments/Issues :

Hello Mr. Serge; Please find attached correspondence referenced above and additional attachments.

Thank you,

Roman Luis Torres
Forest Supervisor
Forest Service
Angeles National Forest
p: 626-574-5216
c: 304-642-6893
roman.torres@usda.gov
701 N. Santa Anita Ave.
Arcadia, CA 91006
www.fs.fed.us

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701 North Santa Anita Avenue
Arcadia, CA 91006-2725
626-574-1613

File Code: 1380; 2710

Date: November 30, 2022

Mr. Serge Stanich
Director of Environmental Services
California High-Speed Rail Authority
770 L Street, Suite 620
Sacramento, CA 95814
Serge.Stanich@hsr.ca.gov

Subject: Comments on High-Speed Rail Palmdale-Burbank Draft EIR/EIS

Dear Mr. Stanich:

Thank you for the opportunity to comment on this draft Environmental Impact Review/Environmental Impact Statement (EIR/EIS). This document includes comments and recommendations that intend to reduce, minimize, and avoid impacts to Angeles National Forest (ANF) resources (HSRA Summary 12.3.3). As a Cooperating Agency, the ANF comments directly assess the potential site-specific impacts associated with activities on National Forest System lands administered by the ANF.

This letter is a summary of our key findings, concerns, and comments related to the potential impacts of the project to surface resources, hydrogeology and ground water monitoring, and final Right-of-Way acquisition by High-Speed Rail Authority by either applying for a Special Use Permit, or the issuance of a Title 23 Easement.

Surface Resources

The Angeles National Forest was established for watershed values, as well as for other values when originally established as a Forest Reserve in 1892. The resources on the ANF remain water-dependent, since this establishment and are dependent upon wells, springs and seeps, riparian streamflow and habitat, and groundwater aquifers that feeds streams and adjudicated basins.

As discussed on February 4, 2021, there are concerns about the risk assessment based on known wells, seeps, and springs. As they have not been inventoried thoroughly and identified, the presence of additional seeps and springs cannot be ruled out. Thus, some (or many) other areas within the Resource Study Area may have yet to be identified seeps and springs and those areas would then be at least "moderate risk" areas.

Construction and operation will require avoidance, minimization and mitigation for impacts related to audits and ancillary structures, construction staging areas, utilities, transportation on Forest Service roads, and other surface land impacts. The ANF remains actively engaged with the Vulcan Company in meeting the reclamation



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Submission 4525 (Roman Luis Torres, United States Department of Agriculture - Angeles National Forest, November 30, 2022) - Continued

Mr. Serge Stanich

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Mr. Serge Stanich

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4525-10290

requirements of their federal mineral authorizations. These activities are regulated by the Surface Mining and Reclamation Act, with the Forest Service and County of Los Angeles, Department of Regional Planning as lead agencies. The Draft mentions the potential opportunity to deposit tunnel spoils in the mining pit areas. I ask that careful coordination occur with relevant agencies moving forward to ensure that any future use of these areas is consistent with the ongoing reclamation.

4525-10296

important to start with a definitive plan that incorporates to the extent practicable all aspects of the program. For instance, a goal of the monitoring program will be to understand the potential temporal lag in water flow changes, that originate from any tunnel inflows that occur. The ANF staff will work with you to develop a monitoring plan.

4525-10291

Hydrogeology

The heavily faulted and fractured rock makes it difficult to predict water movement that follows tunnel inflows. Further, discussions can identify triggers and thresholds for corrective action leading towards developing more specific impact, avoidance, and mitigation factors (IAMPs).

4525-10297

Special Use Permit

The authorization process for a Special Use Permit (SUP) often starts with the informal cooperation between proponent and the Forest Service. The process is defined in the Code of Federal Regulations (CFR) Title 36 Part 251. The CFR's require proposals to pass defined criteria called "screening" prior to being accepted as applications for an SUP.

4525-10292

Tunneling techniques and ability to reduce groundwater losses will depend on the yet-undesigned tunnel boring machines built for these conditions. Design criteria (17 or 25 bar or higher) and baseline monitoring will set the specifications for liners, gaskets, and grouting for both construction and operation.

Permitting is the typical method the Forest Service uses to authorize activities, improvements, and occupancy across the National Forest System. However, Title 23 Easements have also been issued by the Federal Highway Administration proving to be an effective tool in lieu of special use permits. As we continue to cooperate with you and other Federal agencies to facilitate this process, we intend to consider all of the tools available to us including investigative SUPs, construction SUPs, occupancy permits, and the potential to utilize a Title 23 Easement, which is the same authority utilized by FRA to delegate their NEPA authority to HSRA.

4525-10293

Application of 40 CFR 1502.22 still needs to be addressed in the environmental document, as there are reasonably foreseeable significant adverse effects on the human environment, incomplete or unavailable information, and a requirement that the agency makes clear that such information is lacking. The project's "reasonably foreseeable" impacts could have catastrophic consequences; although probability of occurrence is potentially low, analysis of impacts must be supported by scientific evidence.

4525-10298

Closing

Our relationship as "cooperating agencies" will facilitate both the development of the High-Speed Rail project, and the protection of the Angeles National Forest values, benefitting Californians today and in the future. The ANF staff are available to meet with your staff and consultants in the next several months to discuss comments and concerns, perhaps in topic-focused smaller meetings.

4525-10294

At a February 4, 2021, meeting there was agreement about a collaborative approach to groundwater model development with Forest Service, CHSRA, and consultant expert participation. This would start with the objectives of the groundwater model and the design elements that could avoid, minimize, and/or mitigate impacts of the tunneling on the ANF resources in this complex geology.

Sincerely,

4525-10295

Biology

Tunnel construction and operation have considerable potential to impact the plants and animals in the project area, as six plant communities are groundwater dependent (GWD). These effects may occur in areas currently identified as No/Low Risk as well as Moderate and High Risk, and there was agreement in February 2022 to calculate estimated impacted acreages within the entire Tunnel Resource Study Area (1-mile from alignment). Further discussions are anticipated, as the Biological Evaluation is finalized.

ROMAN TORRES
Forest Supervisor

Enclosures: ANF HSR_Draft BE Review_2022-01-21; ANF_HSR_EIR-EIS Review_Memo_2022-10-09; ANF_HSR_WhitePaper_20190204_ReviewMemo_20190505 draft; Angeles NF_EIS-EIR_Palmdale-Burbank_Comment_XLS_2022-10-09

4525-10296

Monitoring

Progression of the project will depend on accelerating and expanding the baseline monitoring. As there is inherent variability in precipitation and a high degree of complexity in factors that influence water flow in fractured rock aquifers, any monitoring program needs to be carefully considered, data needs to have a sufficient record and specific goals. It is therefore extremely

cc: Justin Seastrand, ANF Public Services Staff Officer; Jamie Uyehara, ANF Resources Staff Officer

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4525-10299

GeomorphIS

4525-10299

To: Julie Uyehara, Angeles National Forest D.O. No.: AG-9158-K-17-0081

From: Anne Fege, Assistant Program Manager Proj. No. 9210-011-001
afege@geomorphis.com

Date: 1/21/2022 Copy: Project File

Ref: California High Speed Rail Environmental Services, Planning, and GIS Project

Subject: Review of the California High Speed Rail Authority Draft Biological Evaluation for the Palmdale to Burbank Project Section, second memo

REVIEW OF DRAFT BIOLOGICAL EVALUATION

This review is intended to prepare Angeles National Forest (ANF) and GeomorphIS biologists and managers for further discussions about the draft BE and are not shared directly with California High Speed Rail Authority (CHSRA). It was prepared by Mary Ann Hawke, project ecologist.

The draft Biological Evaluation (BE) with Appendices A-G was dated May 2021.¹ An earlier review of the draft BE was sent to the ANF on August 17, 2021 and included the following topics:

- Definition of Groundwater Dependent (GWD) biological resources
- Vegetation mapping of modeled habitat and species in entire 2-mile footprint
- Impact calculations, to include all acres
- Summary of comments provided to CHSRA on the hydrogeology of seeps, springs and groundwater covered in the draft EIR-EIS (draft EIR-EIS)

This led to CHSRA adding Appendix 3.7-C to the Administrative Draft EIR-EIS² which explained how GWD habitats and species were being defined for this project. The CHSRA team presented that their analysis of GWD biological resources to ANF and GeomorphIS on a call on November 18, 2021. In response to our request for data, KMZ files were sent to GeomorphIS by Rincon on December 23, 2021. This review of the BE is based on the analysis of those data layers by GeomorphIS (in the context of Appendix 3.7-C) and focuses mostly on plants rather than wildlife.

The acres in the various tables need to be recalculated, and this was acknowledged in a January 18 phone call with Sue Meyer and Anne Fege. These acreages will be inserted into the tables and analyses in the BE and also in Chapter 3.7³ of the draft EIR-EIS. Guidance on these recalculations need to be sent to Meyer as soon as possible so consultants can prepare and insert revised tables into the draft EIR-EIS.

Overview

The BE is intended to evaluate the potential direct, indirect, and cumulative effects of the SR14A Build Alternative (including A1 adit and W1 window options) on Forest Sensitive Species (FSS) on the ANF. Since most of the project on ANF land involves underground tunnels, identifying the indirect effects of tunneling on FSS species that may result from potential disruption of groundwater is key to the effects analysis because those hydrogeological impacts could create more acres of impact than any direct effects from other activities. Understanding which species and habitats are groundwater-dependent

¹ Draft Biological Evaluation, Palmdale to Burbank, May 2021, 144 pages

² Appendix 3.7-C: Supplemental Analysis of Tunneling Effects on Biological Resources, November 2021, 50 pages

³ Chapter 3.7, Biological and Aquatic Resources, Administrative Draft EIR/EIS, January 2021

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(GWD) is the priority since they could be at highest risk from project activities. Knowing where those most vulnerable biological resources are located, how much of them there is, and what level of risk they face from the proposed project is critical.

The next step is to recalculate the acres and then revise environmental documents. Recommended revisions are outlined in Appendix A for the draft EIR-EIS Appendix 3.7-C; draft BE; and Chapter 3.7 Biological Resources in the draft EIR-EIS. Meyer agreed that another meeting could be held after the acreages are recalculated and Appendix 3.7-C is revised, and before the BE is revised.

The following recommendations are made about the proposed project's effects analysis.

1. **Clearly define which plant communities/habitats and FSS species are GWD.** The next version of the BE (and draft EIR-EIS) must be made consistent with the new analysis of GWD species and ecosystems outlined in Appendix 3.7-C of the draft EIR-EIS. See our comments on revising that Appendix below. Highlight the most vulnerable GWD habitats and FSS species (and communities of highest management concern to ANF) by addressing them first in tables and text.
2. **Discuss and come to an agreement with CHSRA about the total acres of each plant community type/habitat within the entire 2-mile wide project area as well as the 100 ft and 1000 ft buffers.** Also confirm what defines the direct and indirect impacts that will be used to calculate acres of impact to biological resources.
3. **Analyze the indirect effects within the 1-mile buffer as well as the 100 ft and 1000 ft buffers.** It appears that the draft BE does not examine the potential impacts and their effects out to 1 mile on either side of the alignment, even though it is stated that it represents the zone of potential effects on groundwater from tunneling.
4. **Specifically analyze and discuss the potential indirect effects on biological resources due to groundwater disruption.** This represents a distinct category of potential impacts that are of special concern to ANF and warrants its own discussion.
5. **Separately analyze and report the effects on habitat and FSS species within each of the four Risk Areas.** Either the draft BE does not discuss this, or the information is hard to find. It is also unclear whether the effects analysis was limited to 100 ft (for plants) and 1000 ft (for wildlife) inside the Risk Areas, or whether it evaluated what was inside the full extent of each Risk Area polygon. Since the Risk Areas represent the zones of highest risk of groundwater disruption, the ANF needs to know what biological resources may be impacted in the zones of high, moderate, and low risk. Reporting only presence/absence (Y/N in tables) of biological resources in the No/Low Risk Areas is insufficient so those must also be quantified in acres.
6. **Continue conversations with CHSRA about the size and shape of the Risk Areas.** The extent of the Risk Areas is important since the acres of impact are calculated within those polygons. The risk analysis for biological resources depends on clearly understanding where the highest probability of groundwater disruption may occur. Yet there is scant hydrogeological data and modeling, therefore high uncertainty about the locations and shapes of the risk areas. The SR14 Geologic Profiles are included in Appendix B, with a paragraph describing biological implications.

The first steps are to recalculate the acreages and revise tables in Appendix 3.7-C and some of the tables in the BE. Then Appendix 3.7-C needs to be revised (and reviewed again) before the draft BE is revised. The draft BE (particularly the effects analysis in Section 6) needs to be updated to make it consistent with the revised analysis of GWD vegetation and species presented in Appendix 3.7-C. The calculations in the effects analysis of the BE need to be checked to ensure they are consistent and explained clearly.

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ATTACHMENT A

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Recalculation of Acres

In a memo to CHSRA December 2, 2021, GeomorphIS and ANF requested KMZ files from Rincon, including boundaries of the SR14A alignment, construction project footprint, RSAs, Risk Areas and data for modeled habitat for all of the plant communities, FSS and FESA plant and wildlife species. Data files were received on December 23, 2021, including the vegetation communities and habitat suitability models for the FESA species but no data for the FSS species. GeomorphIS used those data to calculate acreages to compare with those reported in the BE; however, the numbers didn't match.

Assumptions include the following:

- The six GWD plant communities are: Chamise-redshank chaparral (CRC), Coastal oak woodland (COW), Coastal scrub (CSC), Desert Wash (DW), Montane hardwood-conifer (MHC), and Valley foothill riparian (VRI).
- Modeled habitat for listed and FSS species is assumed to be occupied for the purpose of the effects analysis.
- Listed or FSS species that inhabit GWD habitats are themselves defined as GWD whether the species themselves are included in the database of phreatophytic species or not.

Acres need to be recalculated for the following:

- List the GWD communities and species first (or report them in separate tables) to highlight them and reflect their importance in the analysis.
- Report the total acres of each plant community type present within all three of these buffers: 1-mile, 1000 ft, and 100 ft on either side of the alignment.
- Report the total acres of suitable habitat for all of the listed and FSS species within all three of those buffers (i.e., report acres of suitable habitat for listed and FSS plant species not just within 100 ft but also for 1000 ft and 1 mile, and report acres of suitable habitat for listed and FSS wildlife not just within 1000 ft but also within 100 ft and 1 mile).
- Include the total acres of each plant community type in the entire ANF, to reflect the proportion of the total available that could potentially be impacted by the project.
- Distinguish between direct and indirect (and permanent/temporary) effects.
- Distinguish between indirect impacts from tunneling vs. other impacts (e.g., from construction of adit or other surface activities) when reporting out acres of impact.
- Report the acres of potential impact to the GWD communities and species within each of the four Risk Areas.
- Report also the acres of potential indirect impact to GWD communities and species in the Low/No Risk Areas out to 1-mile (i.e., outside the four Moderate and High-Risk Areas) rather than reporting only presence/absence.

Direct and Indirect effects are defined in Table 3.7-1 from Chapter 3.7 and Table 6.1 in the draft BE (see next page). The Biological Resources and Aquatic Resources Report⁴ (BARTR) defines direct effects as those that result in the immediate removal or disturbance of the resource and indirect effects are those that are separated from the activity in space and time (BARTR page 7-1). These differences in definitions need to be addressed and resolved.

⁴Draft Biological Resources and Aquatic Resources Technical Report, EEPB-CIR-TK05-RE-0024_Rev05, Feb. 2019

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Permanent and temporary impacts are defined in section 6.1 in the draft BE. Direct Impacts are considered permanent. Indirect impacts could also be permanent or temporary i.e., GW disruption could cause harm to vegetation. If restored or mitigated, those indirect effects would be temporary.

Table 3.7-1 Biological and Aquatic Resource Study Areas

Resource Study Area	Area of Effect	RSA Acreage
Core Habitat RSA		
Direct effects	Build Alternative footprint and Supplemental Work Area	36,258 acres
Indirect effects	1,000-foot buffer outside Build Alternative footprint	
Auxiliary RSA		
Indirect effects	Extends up to 10 miles outward from the Build Alternative footprint	813,282 acres
Aquatic Resource RSA		
Direct effects	Build Alternative footprint and Supplemental Work Area	13,911 acres
Indirect effects	250-foot buffer outside the Build Alternative footprint	
Special-Status Plant RSA		
Direct effects	Build Alternative footprint and Supplemental Work Area	8,783 acres
Indirect effects	100-foot buffer outside the Build Alternative footprint	
Tunnel Construction RSA		
Indirect effects	One mile buffer of the centerline of each Build Alternative	

RSA = Resource Study Area

Table 6-1 Definition of Risk Areas

Risk Area Designation	Description of Risk Designation / Definition of Risk Areas
Low Risk / No Risk	<ul style="list-style-type: none"> • All areas not designated Moderate or High Risk within one mile of the centerline of the tunnel alignment alternatives on each side of the SR14A Build Alternative.
Moderate Risk	<ul style="list-style-type: none"> • Tunnel alignment alternative intersects a fault where groundwater pressures are estimated to be equal or below 25 bar at the tunnel depth or areas with no mapped faults, but with known springs within one-half mile of the tunnel alignment where groundwater pressures are estimated to be above 25 bar at the tunnel depth. • The lateral extent of potential surface and groundwater impacts for a Moderate Risk Area is defined as the length of the fault out to one-half mile from where the tunnels intersect the fault and the area that encompasses the approximate width of the fault zone and associated fractured rock.
High Risk	<ul style="list-style-type: none"> • Tunnel alignment alternative intersects a fault where groundwater pressures are estimated to be above 25 bar at the tunnel depth. • The lateral extent of potential surface and groundwater impacts for a High-Risk Area is defined as the length of the fault out to one mile from where the tunnels intersect the fault and the area that encompasses the approximate width of the fault zone and associated fractured rock.

Review of draft EIR-EIS Appendix 3.7-C

This November 2021 document was written after the discussions about GWD habitats and species. It defines groundwater dependent ecosystems (GDE) and associated biological resources. It lists various categories of vegetation types as well as special-status plants present within the Resource Study Area (RSA – defined here as the area within 1-mile of the centerline) and identifies which ones the analysis considers to be GWD. In the November 18, 2021 meeting, we disagreed with their draft list of 4 GDEs in

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Table B-1 and agreed to revise it to six, including these three tree-dominated habitats (COW, VRI, MHC) and 3 shrub-dominated habitats (DSW, CRC, CSC).

Tables in this Appendix summarize the acres of potential impacts to vegetation types or special-status plants from groundwater depletion (broken out for the High and Moderate Risk Areas); however, the analysis assumes that effects in the No/Low Risk Area “are unlikely to occur” (see Section 2 Methods) therefore it does not quantify the vegetation or species present there (we disagree).

Maps are included, showing the distribution of some vegetation types and some special-status species, with the high- and medium-risk areas drawn.

The following revisions are needed in the text of Appendix 3.7-C:

Section 2 Methods – second last sentence of first paragraph, delete “because effects in those areas are unlikely to occur”. Last sentence should delete “but the acres were not quantified”.

Section 2.3.2 Special-Status Plant Species – add the fact that none of the FSS plants in the analysis is phreatophytic since they aren’t included in the plant rooting depth database.

Section 2.2.3 Special-Status Plant Communities – add Bigcone Douglas Fir Forest as GWD too (see Table B-3) because its *Quercus* associates are phreatophytic and it is part of MHC which they already declared was GWD. Their definition is too narrow because it only considers the dominant species; but these are SS Plant Communities – not SS Plant Species so the associate species also matter.

Section 3.1.1 – add the names of the three tree-dominated, and three shrub-dominated GWD plant communities and ensure they align with the row names in the tables (Table C-1 in particular).

Section 3.1.3 Special-Status Plant Communities – correction needed – all seven are GWD (including Bigcone Douglas Fir Forest).

The following revisions are needed in tables B-1 to B-4:

Table B-1 – CRC and CSC need to be revised to YES in the Groundwater Dependent column. We agreed on this during the Nov 18 call because their associates are listed as phreatophytes.

Table B-2 – several plants listed in the table are not classified as GWD yet they occur in GWD communities (e.g., VRI or COW as defined in Table B-3). It is not clear what rules were consistently used to designate the plants as GWD. Also, the FSS status needs to be double-checked and corrected because some species are not labelled as FSS in this table but they are in the BE (see Section 5.1 and Appendix B).

Table B-3 – Bigcone Douglas fir forest should also be labelled as GWD because its main associates are phreatophytic (*Quercus agrifolia* or *Q. chrysolepis*).

The following revisions are needed in tables C-1 to C-3:

Table C-1 needs to report impact acres for the 6 GWD vegetation communities in column 1. It should quantify the acres of impact in the No/Low Risk Area instead of just reporting presence/absence. A footnote should specify the buffer size used (1-mile on each side of the alignment) and we recommend reporting acres of impact within both 100 and 1000 ft buffers as well. It may be unnecessary to break out SGMNM from ANF lands.

Table C-2 title should be Special-Status Plants (not SS Habitat).

Table C-3 revise title to say Potential Impacts on *Groundwater Dependent* Special-Status Plant Communities from Groundwater Depletion. There should be agreement between the named categories of habitat types in this table and Table B-3 (this table includes new types, e.g., lacustrine and FW

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emergent wetland and omits others e.g., black willow thickets and it lumps together cottonwood forest and sycamore woodlands).

Tables C-4 to C-8 for wildlife were not reviewed.

No revisions are recommended for Figures 1a through 6b. If possible, it would be helpful to include figures identifying the location of expected direct and indirect impacts to the 6 GWD vegetation types that would point the reader to where the acres of impact reported in Table C-1 are distributed.

Review of Draft Biological Evaluation

The draft BE⁵ evaluates the potential direct, indirect, and cumulative effects of the proposed action (approval or denial of a special use permit and right-of-way easement) on species listed as Forest Service Sensitive (FSS) with the potential to occur in lands managed by the USFS in the ANF. The proposed project (the SR14A Build Alternative) includes the A1 adit and the W1 intermediate window options.

The effects analysis focuses on loss of suitable habitat for FSS species as the primary impact. A total of 10 FSS plant species and 11 FSS wildlife species are considered. The action area includes the proposed California HSR System right-of-way and associated facilities (traction power substations, communication towers, electrical power lines, switching and paralleling stations, and areas associated with modifying or relocating roadways for those facilities, including overcrossings and interchanges), construction areas (including adit, access roads, laydown, storage, and similar areas), disposal sites, and areas outside of the project footprint with potential indirect effects. The action area is defined as the project footprint within the ANF where direct effects to FSS species and their suitable habitat may occur plus a 100-foot buffer for FSS plants and 1,000-foot buffer for FSS wildlife that were analyzed for indirect effects to FSS species and their suitable habitats.

The draft BE includes the project description (Section 2) descriptions of habitat surveys and assessments (Section 3), vegetation communities (Section 4) and Forest sensitive species (FSS) (Section 5) in the action area. The effects analysis on biological resources is in Section 6 and the Determinations are in Section 7. Acreage recalculations will change tables in many sections and thus some of the projected impacts in the BE (and Chapter 3.7 of the draft EIR-EIS).

The BE should also break out and separately report the acres of potential impacts within the full extent of each of the High, Moderate, and Low/No Risk Areas (and not just within the 100 or 1000 ft buffers inside each Risk Area). Definitions of Direct vs Indirect effects need to be clarified to make them consistent with Section 7 of the BARTR.

Section 5.1.5

There appear to be some inconsistencies in the potential suitable habitats provided for FSS plants in the species accounts in Section 5, the effects analysis in Section 6.5.1, and Table B-2 in Appendix 3.7-C. This is a problem when potential suitable habitat is assumed to be occupied and is therefore being used to calculate acreages.

For example, the Species Account for Palmer’s Mariposa Lily (page 5-2) states that “suitable habitat for Palmer’s mariposa lily occurs in approximately 122.5 acres of mixed chaparral, chamise-redshank chaparral, and montane hardwood-conifer woodland”. In Table B-2 of Appendix 3.7-C none of those habitats are included, and it says there the known habitat is only VRI and it inhabits “meadows and seeps”. Yet in the effects analysis in Section 5.6.1.5 it quantified MCH, CRC and MHC (not VRI) as the potential suitable habitat. For Club-haired mariposa lily, MHC is included as a suitable habitat in both

⁵ Draft Biological Evaluation, Palmdale to Burbank, May 2021, 144 pages

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tables B-2 of Appendix 3.7-2 and Table 3.7-4 in the draft EIR-EIS but not in the Species Account in Section 5 of the BE. Palmer's Mariposa Lily isn't even included as a special-status plant in Table 3.7-4 of the DERI-EIS.

There has to be agreement about which habitats the FSS plants occupy, before the effects analysis can be completed correctly. It is recommended that all the special-status plant tables and descriptions in the various documents be checked and made consistent.

Section 6.1 Impact and Effects Analysis Area (delete the word Area)

In the first paragraph, this sentence is confusing, "Revise sentence stating that "The action area includes all areas of surface effects associated with tunnel construction; **below-ground tunnels are excluded from calculations of permanent and temporary impacts to habitat.**" It implies that the indirect effects to groundwater due to tunnel construction are excluded from the analysis. If so, that would contradict the statement immediately following, which says that tunnel construction under the ANF has the potential to alter hydrogeological conditions and change groundwater levels (and the statements in 6.2, 6.4 and 6.4.1 that the hydrology of GWD ecosystems at the surface could be affected, resulting in adverse effects on species).

The BE ought to include (not exclude) the permanent and temporary indirect effects of potential hydrogeological disruption on habitats caused by construction of underground tunnels on the ANF and it is not clear that it does that (there is no table quantifying those impacts). That analysis should also include the potential effects within the entire 1-mile buffer (on each side of the centerline of the alignment) where groundwater disruptions may occur.

This section has the core concerns about the draft BE. The action area is only 100 ft for plants and 1000 ft for wildlife which might make sense for considering direct effects from surface-based activities and disturbance; however, the hydrogeological disruptions from underground tunnel construction can extend out to 1 mile on either side of the alignment, so the potential indirect impacts to biological resources on the ANF need to be quantified and discussed for that entire 2-mile wide buffer zone.

Section 6.2 Indirect Effects to Suitable Habitat Related to Tunnel Construction:

Paragraph 1 (last sentence) needs to be updated reflect the new definitions of GWD species and habitats as outlined in Appendix 3.7-C

Section 6.2.1 Risk Areas:

We recommend a careful review of the definitions of the Risk Areas to see how they match the size and shape of the polygons drawn on the Figures, because those polygons will be used to calculate the acres of impacts to biological resources that are at the highest risk on the ANF.

Especially for the High Risk Area, the zone of high groundwater pressure (from 25 to > 35 bar) extends much farther than the boundary of the current polygon so that could possibly influence the calculation of acres of high impact. See figures in Appendix B showing elevational cross-sections and also the hatched area showing groundwater pressure over 25 bar. The draft Biological Assessment⁶ has a map (Figure 4-4) with cross-hatching for areas projected to exceed 25 bar (page 4-22) but a much smaller High Risk polygon within the cross-hatched area.

The Risk Area discussion is narrowly focused on physical risks to hydrogeology and minimizes discussion of the risks to biological resources by saying that project design and CM-GEN-34 will negate any biological impacts. There is inadequate discussion in the BE about the amount and significance of the

⁶ Draft Biological Assessment, June 2021

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biological resources inside the four Risk Areas and the extent of the risks they face from potential groundwater disruption due to tunnel construction, yet this is key to understanding the environmental impact of the proposed project.

Page 6-four Risk Areas Associated with the SR14A Alignment:

The second sentence "Outside of these four Risk Areas, in areas of the SR14A tunnel alignment designated as No/Low Risk Areas, **no water dependent resources have been mapped.**" needs to be revised to clarify that this refers to mapping of physical aquatic resources and doesn't refer to water-dependent **biological** resources. For example, there are many important water-dependent biological resources present in the No/Low Risk Areas that need to be taken into consideration in the effects analysis.

Section 6.3 Vegetation Impacts: (rename as Assessment of Effects on Vegetation Communities)

Paragraph 1 - The third sentence says there are 10 vegetation communities listed in Table 6-3 but it only includes 9 rows.

Paragraph 2 needs to be completely rewritten to reflect the new information on GWD vegetation communities from draft EIR-EIS Appendix 3.7-C.

Paragraph 3 – This needs to be revised to clarify what impacts are being discussed (i.e., surface disturbance due to construction/maintenance of above-ground infrastructure vs. impacts resulting from groundwater disruption due to underground tunnel construction or impacts from tunnels vs. adit). If the alignment was segmented in the discussion by mile marker (measured from the north to south ANF border), the general location of the permanent and temporary impacts (and Risk Areas) could be provided (along with maps, if possible).

Table 6-3 should be re-organized to reflect the significance of the communities by grouping the GWD together, listing the management indicator communities from the USFS LMP first (MHC and VRI), followed by the group that are not GWD. The discussion should be revised to clarify the difference between indirect impacts due to potential groundwater disruption from tunnel construction vs. impacts due to other disturbances (e.g., from tunnel portal, roads, staging areas, stockpiling, power lines, adit, window, etc.). The table (or new tables) should also present impacts separately from within the 100 ft, 1000 ft and 1 mile buffers. The vegetation communities within each of the four Risk Areas (and the total number of acres as well as the acres of potential impacts for each) should be presented in a table.

Section 6.4 Assessment of Effects to Species (rename as Assessment of Effects on Species)

Tables need to be created to fully report all the acres of impact e.g., Direct, Indirect, Permanent or Temporary. Table 6-4 only reports a sub-set of those data therefore it does not present a complete picture of the total impacts (or where they will be located). Since most of the project on ANF land will consist of underground tunnels, quantifying the acres of impact from indirect effects of groundwater disruption from tunneling is of utmost interest to ANF.

There is inconsistency in reporting which FSS are GWD, and which plant communities/habitats they live in. The most GWD communities and species should always be presented first in order to reflect their importance and heightened vulnerability to groundwater disruption. Table 6-4 should also be reorganized to reflect the significance of the FSS by listing the ones that occur in the wettest habitats (COW, VRI) first, e.g., Satintail, Palmer's Mariposa Lily, Club-haired Mariposa Lily, Mesa Horkelia and Parry's Spineflower.

The BE includes the assumption that all suitable habitat is occupied. Appendix 3.7-C included Figures 6a and 6b highlighting in yellow the extent and location of suitable habitat for all of the FESA listed (and

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non-listed) plant species. What those figures show is that most of the ANF land in the SR14A project area is suitable habitat. Some of that suitable habitat is also GWD and therefore at risk.

We suggest a table be added that cross-walks all the FSS with the vegetation types, and shows which ones are GWD. The table could also summarize the total acres of impact so it would provide a concise summary of the biological resources that are at risk.

6.5 Direct, Indirect and Cumulative Effects on FSS

This section is confusing and repetitive. It should rely on the tables that summarize the direct and indirect impacts (in acres) for each species. In the current draft BE, some of that acre-based impacts are provided only in the narrative, and some of the acres in the tables and narratives aren't consistent. For some of the FSS plants, there isn't agreement between the tables and the narratives, on which vegetation communities they inhabit. For each FSS, the first paragraph needs to explain why this species is known to be GWD.

The same paragraph is provided for Direct and Indirect Effects for many species, "Due to the documented occurrences of Palmer's mariposa lily within 10 miles of the action area and the presence of potentially suitable habitat, there is a low potential for the species to be present in the action area." Yet if there is documented occurrences within 10 miles plus potentially suitable habitat, how does that translate into low potential?

The species narratives may be shortened and simplified by describing the Avoidance and Minimization of Effects and Conservation Measures that apply to all (or most) species, instead of repeating the two long paragraphs in every species description. Then exceptions to those measure could be inserted into each description.

Some of the conclusions are not supported. For example, this section for the California satintail (page 6-15), the third point states that 139.2 acres or 54.7 percent of suitable habitat in the action area will be removed and argues that is small compared to regional or range-wide populations. For ANF to lose more than half of that habitat in the project area seems significant.

Once again, the impact analysis concentrates on permanent, direct impacts from surface activities next to the alignment, and minimizes the indirect effects over a wider area that are caused by alteration of habitat from groundwater disruption during tunnel construction. It also suggests that project design features and AMMs will avoid and minimize any impacts from groundwater disruption. This argument is repeated for every FSS in the BE and leads to a determination that the proposed action will only impact 0.1 percent of suitable habitat for FSS species on the ANF and therefore will not result in a loss of viability to individuals or populations of the FSS plant species (Section 7). If the underpinning assumptions and subsequent calculation of impact acres are not correct, then that conclusion will need to be revisited after the effects analysis is updated.

Assumptions in the BE

Various assumptions are stated in the BE and in Appendix 3.7-C of draft EIR-EIS, and we agree on these:

- Tunnel construction under the ANF has the potential to alter hydrogeological conditions, resulting in inflows of groundwater into the tunnel and subsequent changes to groundwater levels (BE Section 6.1)
- The hydrology evaluation in Section 3.8 determined that hydrologic impacts from tunnel construction would occur within 1 mile of the centerline of the tunnels (Appx 3.7-C draft EIR-EIS-Section 2 Methods)

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- The presence of FSS is assumed in vegetation communities potentially providing habitat, in lieu of surveys. (BE Section 6.1)
- The duration of groundwater flows into the tunnels is expected to be a matter of days to months and the potential period of effect on groundwater levels due to construction could be days or months, up to several years after tunnel completion (BE Section 6.1)
- VRI, MHC and COW communities would potentially be stressed if tunnel construction disrupts subsurface water flow.
- Adverse effects may occur as a result of changes in groundwater levels from tunnel construction, which could alter the inundation period and cause desiccation and mortality of SS plants and SS plant communities or affect the germination or ability of plants to complete their life cycle due to drought stress. (BE Section 6.4)

Assumptions were also made about the No/Low Risk Areas, that we still do not agree with. Without the hydrogeology analysis of low-risk areas, the BE needs to assume that all acres, including No/Low risk, will potentially be impacted.

- Areas outside of Moderate and High Risk Areas, but within 1 mile of the centerline, were identified as No/Low Risk areas, with the rationale that effects in those areas are unlikely to occur. For the No/Low Risk Areas, the analysis notes whether suitable habitat for a species is present/absent (columns with Y/N). The No/Low risk acres were not quantified in the tables (Appx 3.7-C Section 2 Methods), but need to be.

Appendices A-G, Draft Biological Evaluation

The appendices to the BE⁷ include the list of FSS, determination of potential for these species to occur, plus information from the California Natural Diversity Database (CNDDB) searches and field surveys. Appendix C outlines proposed conservation measures⁸ that are drawn from the draft EIR-EIS. Appendix G provides vegetation community figures. Some of these appendices need to be modified based on the revised GWD approach from Appendix 3.7-C, but a list of changes was not developed for this review.

In Appendix C, CM-GEN-34 is often invoked in the BE as acting to prevent impacts to biological resources from groundwater disruption, so it is particularly relevant to the ANF.

CM-GEN-34: Implement Adaptive Management and Monitoring Plan for Groundwater Effects to Species and Habitat

"To avoid, minimize and mitigate for potential impacts on seeps, springs, streams, riparian vegetation, and special-status plant and wildlife species, the Authority would prepare and implement an adaptive management and monitoring plan (AMMP) prior to, during, and after tunnel construction." It proposes an inventory to establish baseline hydrologic conditions within the Tunnel Construction RSA (the 2 mile-wide buffer zone). "Baseline surveys would characterize potential aquatic resources, including but not limited to mapping of wetland and riparian vegetation; hydroperiod (the duration of inundation); flow rates; area of feature; and the potential for special-status plant and fish and wildlife species to occur."

CM-GEN-34 also includes:

⁷ Appendices A-G for Biological Evaluation, 390 pages

⁸ Biological Evaluation, Appendix C: Conservation Measures Applied for the Proposed Action, May 2021, 18 pages

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- Pre-tunneling supplemental water infrastructure provision, to maintain baseline water supply - the Authority would install water storage tanks or water lines in advance of tunneling on or near properties with seeps, springs, and streams.
- Construction monitoring of springs and wells to capture nearly real-time changes in groundwater conditions (e.g., flow, pressure readings) that might be related to tunnel construction.
- Adaptive management triggers
- Supplemental water
- Temporary relocation of aquatic species
- Some plans for transportation/translocation of sensitive species

Chapter 3.7 Biological Resources, Draft EIR-EIS

Chapter 3.7 ⁹ needs revisions to 3.7.4.4 Biological Resources Methodology, based on the approach to groundwater dependent species in Appendix 3.7-C.

In 3.7.5 Affected Environment, changes are eventually needed in several tables (3.7-3, 3.7-4, 3.7-9, 3.7-10, 3.7-11 and others) for Refined SR-14 route, to reflect the GWD approach. For example, Palmer’s Mariposa Lily is missing from Table 3.7-4 and FSS status needs to be made consistent between this table, Table B-2 and Section 5-1 in Appendix 3.7-C and the list of FSS in Appendix B of the BE. The description of Direct and Indirect Impacts need to be revised to reflect the GWD approach for special-status plant communities (pages 96-98, 103-105) and other groups of biological resources (aquatic, wildlife, fish, invertebrates).

In 3.7.7 Mitigation Measures, changes are also eventually needed in the text and tables to reflect the GWD approach. These include 3.7.8.8 Tunnel Construction Effects to Biological and Aquatic Resources and 3.7.11 United States Forest Service Impact Analysis.

Comments on many of the sections of the administrative draft EIR-EIS were submitted to CHSRA in February, 2021, including 3.7.4.2 Impact Avoidance and Minimization Features, 3.7.6 Environmental Consequences including list of Mitigation Measures (page 107), and 3.7.7 Mitigation Measures. When the draft EIR-EIS is released in March, it is expected that the impact acres and tables will be revised, and the biological comments from the ANF will be fewer and more focused (about 100 comments provided in February 2021).

⁹ EIR-EIS, Chapter 3.7 Biological and Aquatic Resources, January 2021, 270 pages

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ATTACHMENT B

SR14 Geologic Profile and Anticipated Tunnel Conditions

Appendix B includes three figures providing the geologic profile and tunnel location along the Palmdale-Burbank SR14 project section, taken from the first three pages in Appendix A of the 2017 hydrogeology report.¹⁰ Annotations mark the approximate location of the three moderate-risk and one high-risk areas, so that tunnel depth, as well as the topography, geology, faults, and hydrologic pressures present in those risk areas can be more clearly related to the biological resources present on the surface.

In Section 6.2.1 of the BE, the Risk Areas are defined as High, Moderate or Low/No Risk based on the presence of the tunnel alignment, faults, and the expected groundwater pressures at tunnel depth. Based on the KML files provided to GeomorphIS, it is unclear whether the Risk Area polygons are general approximations of the size, shape and location of each Risk Area, or how they were used as the boundaries for the calculation of acres of vegetation types and acres of potential impact. The shape and size of the Risk Area polygons do not seem to match the written descriptions in Table 6-1.

The Risk Area definitions and the size and shape of the polygons (high and moderate risks) need to be carefully reviewed, because those polygons are used to calculate the acres of impacts to biological resources that are at the highest risk on the ANF. Especially for the High Risk Areas, the zone of high groundwater pressure (from 25 to > 35 bar) extends much farther than the boundary of the current polygon. That could influence the calculation of acres of high impact.

These concerns highlight the importance of starting the hydrogeologic team, modeling efforts, and field data collection.

¹⁰ Geotechnical Tunnel Feasibility Evaluation for High-Speed Rail Tunnels Beneath the Angeles National Forest, 2017, EEPB-SEN-TK04-RE-0008_Rev01_PEPD_Geotech Tunnel Feasibility Eval_201710.pdf

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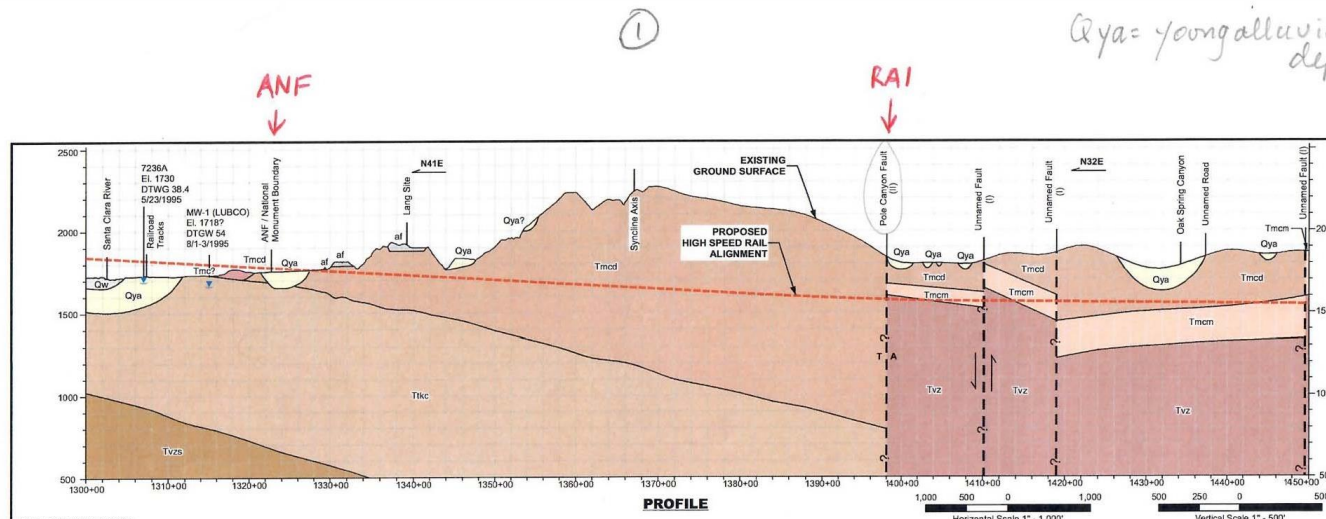
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SOURCE: CHSR, 04/2016, CGS 2014.

Tunnel Information	TBM 28" ID			
Formation	Mint Canyon Formation (Tmcd)	Mint Canyon Formation (Tmcm)	Mint Canyon Formation (Tmcd)	Mint Canyon Formation (Tmcm)
Lithology	arkosic sandstone, with conglomeratic sandstone and interbedded siltstone and claystone, tuffaceous and marly	lacustrine/fluvial arkosic sandstone and conglomeratic sandstone with siltstone	arkosic sandstone, with conglomeratic sandstone and interbedded siltstone and claystone, tuffaceous and marly	interbedded, cross bedded, arkosic sandstone with conglomeratic sandstone and claystone
Fracturing / Bedding / Structure	interbedded, cross bedded	thickly bedded to massive, interbedded, thin beds of limestone in mudstone	interbedded, cross bedded	interbedded, cross bedded
Key Features / Geologic Hazards	conglomeratic, medium to high abrasiveness			
Hydraulic Conductivity (Lugeon)	Low to Moderate (0.01-5)	Low to High (0.01-50)	Low to Moderate (0.01-5)	
Groundwater Head (bar)	Low (<5)	Moderate (5-10)	Low (<5)	Moderate (5-10)
Intact Rock Strength (MPa)	Soft to Hard (1-100)		Very Soft to Mod. Hard (<1-50)	
RMR, GSI	Fair (41-60)		Very Poor to Fair (0-60)	
Q	Very Poor to Fair (0.1-10)		Ext. Poor to Fair (0.004-10)	
In-Situ Stress	Low	Low to Moderate		Moderate
Ground Condition	Ravelling, Running/Flowing		Mild to Mod Squeezing, Swelling, Ravelling, Flowing	

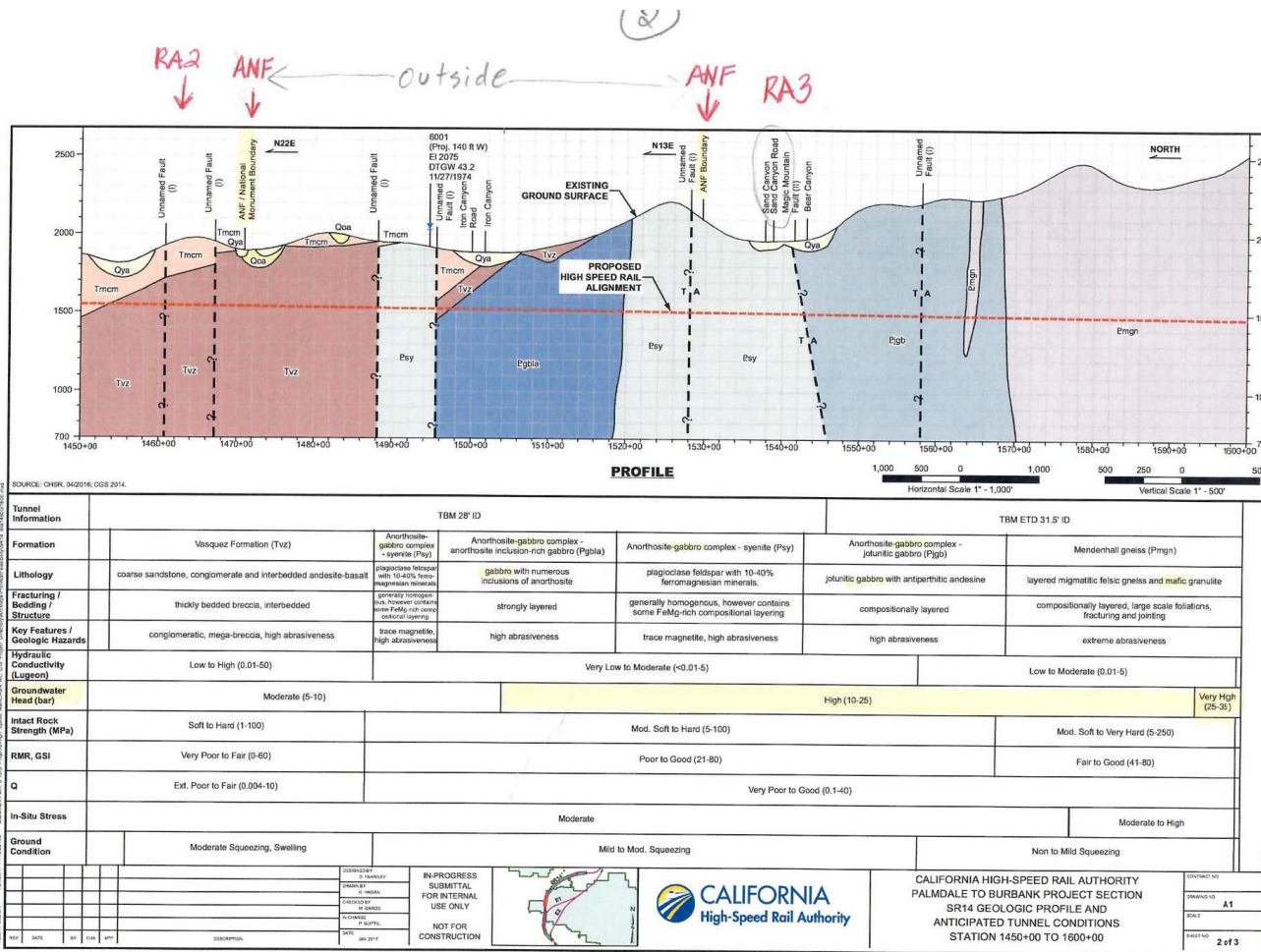
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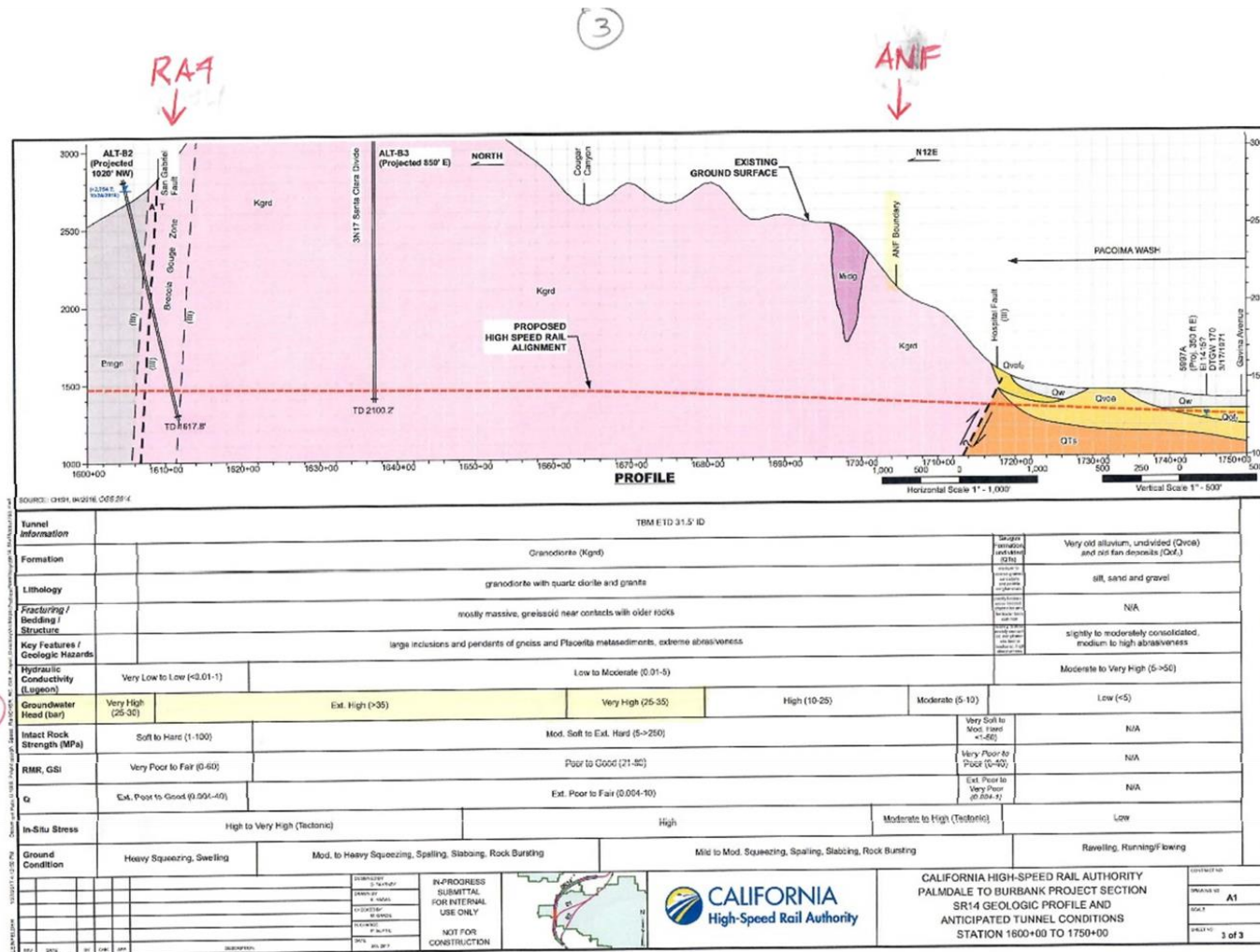
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ANF HSR

Review of Draft EIR/EIS for Palmdale-Burbank High Speed Rail

- Memo dated 01/21/2022, "Review of the California High Speed Rail Authority Draft Biological Evaluation for the Palmdale to Burbank Project Section, second memo." It covers the draft Biological Evaluation (BE) and draft Appendix 3.7-C, which explained how groundwater-dependent (GWD) habitats and species were being defined for this project.

That memo includes six recommendations about project effects, all incorporated into EIR/EIS comments.

1. **Clearly define which plant communities/habitats and FSS species are GWD.** The next version of the BE (and draft EIR-EIS) must be made consistent with the new analysis of GWD species and ecosystems outlined in Appendix 3.7-C of the draft EIR-EIS. It needs to highlight the most vulnerable GWD habitats and FSS species (and communities of highest management concern to ANF) by addressing them first in tables and text.
2. **Discuss and come to an agreement with CHSRA about the total acres of each plant community type/habitat within the entire 2-mile wide project area as well as the 100 ft and 1000 ft buffers.** Also confirm what defines the direct and indirect impacts that will be used to calculate acres of impact to biological resources.
3. **Analyze the indirect effects within the 1-mile buffer as well as the 100 ft and 1000 ft buffers.** It appears that the draft BE does not examine the potential impacts and their effects out to 1 mile on either side of the alignment, even though it is stated that it represents the zone of potential effects on groundwater from tunneling.
4. **Specifically analyze and discuss the potential indirect effects on biological resources due to groundwater disruption.** This represents a distinct category of potential impacts that are of special concern to ANF and warrants its own discussion.
5. **Separately analyze and report the effects on habitat and FSS species within each of the four Risk Areas.** Since the Risk Areas represent the zones of highest risk of groundwater disruption, the ANF needs to know what biological resources may be impacted in the zones of high, moderate, and low risk. Reporting only presence/absence (Y/N in tables) of biological resources in the No/Low Risk Areas is insufficient so those must also be quantified in acres.
6. **Continue conversations with CHSRA about the size and shape of the Risk Areas.** The extent of the Risk Areas is important since the acres of impact are calculated within those polygons. The risk analysis for biological resources depends on clearly understanding where the highest probability of groundwater disruption may occur. Yet there is scant hydrogeological data and modeling, therefore high uncertainty about the locations and shapes of the risk areas.

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Memo

To: **George Farra, Angeles National Forest** D.O. No.: **AG-9158-K-17-0081**
 From: **Anne Fege, Assistant Program Manager** Proj. No. **9210-011-001**
 Date: **05/05/2019 DRAFT** Copy: **Project File**
 Ref: **California High Speed Rail Environmental Services, Planning, and GIS Project**
 Subject: **Review of Memorandum on Potential Hydrological Impacts, dated February 4, 2019, and Water Resources Annual Report, dated February 2019**

TECHNICAL REVIEW OF REPORTS

The memorandum, "Approach to Addressing Potential Hydrogeological Impacts on U.S. Forest Service Lands in the Palmdale to Burbank Environmental Impact Statement, February 4, 2019, was prepared by the California High Speed Rail Authority (CHSRA), and is known as the "white paper." A summary was presented at the March 20, 2019 meeting. The report, "Water Resources Monitoring, Annual Summary Data Report, Angeles National Forest, February 2019" was provided to the GeomorphIS team in April.

The memorandum and report were reviewed by consultants to GeomorphIS, including geologist Scott Snyder, Snyder Geologic; tunnel engineer Paul Nicholas, AECOM; hydrologist Neil Berg; and Assistant Project Manager Anne Fege.

POTENTIAL HYDROGEOLOGICAL IMPACTS MEMORANDUM, February 4, 2019

1. Introduction

This section provides narrative commitments for addressing potential surface and subsurface construction-related impacts from the tunnels and associated construction, and these commitments could be highlighted in future discussions. It will be challenging to develop detailed, measurable actions and implement them.

"Adaptive Management Management and Monitoring" is undefined in this document. It was mentioned in the context of habitat conservation plans, at the March 20 meeting, yet such adaptive management would be far different for a geotechnical construction project. The San Bernardino National Forest (SBNF), with guidance from Michelle Bearmar, has issued an Adaptive Management Plan (AMP) and associated documents for Arrowhead springs, at https://data.ecosystem-management.org/nepaweb/nepa_project_exp.php?project=48530, that could be a model for some of the tunnel monitoring. This Arrowhead project AMP includes forest plan objectives, monitoring to assess if objectives and goals being met, actions to meet those objectives, and monitoring to assess success of mitigation and restoration.

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Review of "White Paper" on Hydrogeological Impacts

2. Characterization of existing conditions in the EIS

The one-mile buffer for potential indirect biological impacts (item 2.2a), and the one-mile survey distance for potential springs (item 5.1.1.a) are reasonable. The memorandum lists geotechnical data collected, biological surveys and modeling, and general habitat surveys. Current data was provided in mid-April in the February 2019 report, reviewed later in this memo.

For potential impacts, changes in natural water flows need to include losses in streams in alluvial valleys. Groundwater as a resource should be protected, not just water at existing wells.

In the statements about biological surveys and hydrogeological impacts during construction, there is no evidence for the assertion that impacts would be temporary in nature. "Likely" isn't defined. This could lead to a "do nothing" or "walk away" approach.

Baseline needs to be defined. Is it the condition just prior to construction? The duration is critical, because of high variability precipitation in southern California. If significant impacts to groundwater or surface flow occur during construction, the geologic structure may be physically altered such that the groundwater flow may not be able to return to pre-construction conditions.

3. EIS analysis of potential impacts to hydrogeological conditions

The text (item 3a) limits concern about surface water flows to "seeps and springs that significantly affect habitat conditions for plants and/or wildlife." This is too limited. Seep and spring flow in and of themselves are critical and important resources that the Forest Service is mandated to protect. Flow assessment shouldn't be limited to areas that could significantly affect habitat conditions.

Groundwater is a critical resource (item 3b), irrespective of existing wells and potentially affected well production. The six completed boreholes, plus existing wells, do not sufficiently represent groundwater dynamics in the project area, and wells have not been monitored. An assessment should be completed to determine the need for and locations of additional boreholes for monitoring of groundwater levels, along the proposed route.

The report commits to "conduct[ing] additional geotechnical investigations and data collection to further evaluate tunnel design, construction methods, and foreseeable impacts to [ANF] resources." As this would follow the Environmental Impact Statement scheduled for release this year and the related Record of Decision, there is concern that the decision would preclude specific or strong conditions in the Special Use Permit.

4. EIS avoidance and minimization measures

One of the great uncertainties is the reality of the tunnel Boring Machine (TBM) and the tunnel support and waterproofing method claims in this "white paper." Some of these concerns were raised in GeomorphIS experts' technical review (dated 9/26/2018) of the October 2017 evaluation report about the six drilling holes, "Geotechnical Tunnel Feasibility Evaluation for High-Speed Rail Tunnels Beneath the Angeles National Forest," October 2017, EEPB-SEN-TK04-RE-0008 prepared for the California High Speed Rail Authority (CHSRA).

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The tunnel design elements are accurately described, according to tunnel engineer Paul Williams. He noted that some of the European tunnel constructions have better Fire Life Safety compliance to National Fire Protection Association standards which effects design of the liner system. The long-term permanent pressure of 25 Bar is reasonable, and gasket and liner designs continue to develop so that higher pressures are possible.

The statements about construction methods and their impacts are mostly accurate, according to tunnel engineer Paul Williams. It is likely that dual mode or Hybrid TBM's would be used, running in closed or open mode to allow for faster excavation in open mode with cutter changes under normal air pressure where ground water flows are slight.

While the October 2017 report states that methods will need to be developed to manage these pressures, this means that the engineering must be able to develop a system capable of handling pressures more than double those that are considered manageable with current techniques, otherwise, groundwater losses should be expected and could be significant. As in the Arrowhead water tunnels, the management will be multi phase: 1) drilling and grouting ahead of the TBM to control pressures during excavation with special liner design as well; and 2) permanent design with waterproofing, and drainage system with a secondary liner.

All transportation tunnels have a drainage system with either gravity or pumped removal of collected water from rain water coming off the trains/vehicles, and allowable water ingress into the tunnel through its liner. Nearly all tunnels have an allowable "leakage rate = X gallons/over Y tunnel length. If this has to be zero, then a 100% sealed tunnel tube has to be designed but increases costs. Most likely there would be a maximum acceptable level of leakage into the tunnel during excavation; this level will need to be determined in the design documents and will affect excavation costs.

5. Adaptive management and monitoring program

The adequacy of this "baseline data" for Hydrological and Hydrogeological Monitoring (5.1.1) will be governed by the amount of time that elapses between the start of monitoring and the start of potential construction effects. Pre-construction monitoring is already overdue, as a (yet undetermined) number of years are needed for that monitoring.

Control sites outside the potential impact area also need to be monitored to the same extent as those within the construction corridor, to document changes in groundwater conditions outside of the influence of tunneling. Data for seeps, springs, wells, and bore hole pressure transducers need to be accessible by telemetry.

Hydrogeological Modeling (5.2.2) needs to incorporate any new structural and geologic information that could impact hydrogeologic conditions. These refinements would also presumably update the mining and grouting models that are part of the construction design.

Tunnel piezometers could be employed to monitor pressures along the portions of the tunnel that have been "sealed" during the first pass with the segmental concrete liner. This can give an indication of connectedness within the geology and provide advanced warning to excessive pressure buildup.

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Review of "White Paper" on Hydrogeological Impacts

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For this model to anticipate potential hydrogeological changes and to develop a reliable groundwater model for fractured bedrock, data from wells is needed but has not been initiated.

For habitat monitoring, control sites may also help with identifying impacts, especially since the baseline duration will be limited and the pronounced climatic fluctuations over the past two decades are expected to accelerate with climate change.

With regard to habitat restoration and enhancement, "baseline" is critical and has been discussed briefly at several meetings with CHSRA. If the baseline is conducted following dry years this may not be an adequate representation of habitat during wet or "normal" years. If the "baseline" is conducted during a time that only encompasses a wet year or two, then it may not be reasonable to ensure the habitat always has enough water to support that condition.

6. Mitigation measures

This narrative commitment needs to be detailed within the construction and operation special use permits, and then backed by a performance bond. The commitment needs to be part of public disclosure, to alleviate concerns groundwater, surface water, and habitats.

Supplemental water of adequate quality may be needed. This could be very important to local species that need water within specific parameters to survive or thrive.

WATER RESOURCES MONITORING, ANNUAL REPORT, February 2019

Current data was provided in mid-April in the report, "Water Resources Monitoring, Annual Summary Data Report, Angeles National Forest, February 2019." There are about 120 pages of narrative and tables, and another 1100 pages of data sheets. This report is essentially an update from prior reports, with some new information (through December 2018) and limited interpretations.

The report reasonably concludes (page 7-1) that:

"Preliminary interpretation of the hydrogeology of the Project area within ANF indicates a high likelihood of proposed construction affecting groundwater and surface water resources especially in areas of high fracturing of the rock such as near faults, if these impacts are not properly planned for and mitigated during the design and construction phases of the project."

References in this report to previous research or analysis of the hydrology and hydrogeology of the San Gabriel Mountains seem inadequate. Aside from CHSRA documents, the list of previous studies (Section 3.1) lists only one Los Angeles Department of Power and Water publication for hydrogeology, and none on surface water hydrology.

Data continues to be collected from the six bore holes, and no changes in the data trends were noted. Data from four wells were included in Table 5-2. They are taken from the San Gabriel Mountains area of the Groundwater Ambient Monitoring and Assessment (GAMA) studies managed by the USGS and reported in 2014. This report is available at <https://pubs.usgs.gov/ds/0874/pdf/ds874.pdf>

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Identification of springs, seeps and wells

There are relatively few expressions of surface water in the project area. Since they will provide critical biological habitat, more effort must be made to monitor these surface waters. The springs were chosen solely from USGS topographic 7.5-minute quadrangle (page 4-1), without significant on-the-ground or from-the-air field reconnaissance. SBNF experience is that, in the Inland Feeder Project, Metropolitan Water District found surface water expressions from ground surveys in the San Bernardino Mountains that were unanticipated from other information sources.

This report refers to a March 2016 memorandum, "Water Resources Monitoring for Groundwater Model, Angeles National Forest," includes a list of domestic water wells and springs located on private land. This report has not been reviewed by the GeomorphIS team. The February 2019 report (page 14-1) summarizes the requirement for written permission to enter the property, identifies four wells and three springs on private land, reported that letters were sent but no written permissions returned. Thus, no domestic water wells or private springs were monitored. Proactive assistance from ANF staff may be needed to access these and other springs and wells and springs.

Data from springs and seeps

This report, as well as all prior HSR documents, does not explicitly describe how spring flow discharge is measured or spring water samples collected. Was the spring flow discharge measured by the volumetric measurement technique, for low flows, or by current meter for larger flows? The spring discharges are so low that it might be inferred that "channel" flow didn't exist, so the relevance of the Figure 4-2 diagram is suspect.

Figures 6-1 through 6-14 have graphs of both the monthly precipitation data and the quarterly flow data collected at each of the 14 springs. The graphs provide a visual representation of the temporal dynamics of the spring water flow. Correlating the spring flow with the precipitation would help to identify relationships between precipitation timing and amount and spring flow.

The data from the springs was also provided as a multi-tab spreadsheet with the field measurements and laboratory analyses. There are data for all monitoring events, including spring name, monitoring date, water discharge, field water chemistry, and laboratory analyses. This data was not independently reviewed or analyzed by the GeomorphIS team.

Precipitation data

Figures 3-1 lists the ten rainfall stations in proximity to the project, and Figure 3-2 lists the duration of available precipitation data (started in 1988 to 2005). Figures 4-9 through 4-18 graph the monthly and annual precipitation data at these ten stations. This could be applied to determining baseline duration.

The precipitation data was also provided to the GeomorphIS team as a multi-tab spreadsheet listing the names, locations, elevation range and data range for 14 precipitation gages in the greater project area, starting in 1989 to 2004. Monthly data (some or all of the following: solar radiation, mean wind speed, mean wind direction, maximum wind gust, several air temperature metrics, several relative humidity metrics, and precipitation) for each gage is also given as are several summary graphs. Source of the data is the Desert Research Institute (<https://raws.dri.edu/index.htm>). Several of the gages are distant from

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the project area (e.g., Mill Creek BF toward the eastern edge of the SBNF There are other gages in the project area that aren't included in the spreadsheet.

The frequency of the data listed in the spreadsheet is monthly. At best this frequency is adequate for a climatic assessment, but too infrequent for operational use for real time or near real-time groundwater recharge. As such the utility of this data set is unclear. Daily data are, nevertheless, available from the sites and potentially from other sites.

ATTACHMENTS

None

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4525-10303

Angeles National Forest
Comments on Draft EIR/EIS for Palmdale-Burbank

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Chapter 2021	Section Number 2021	Page 2021	Chapter 2022	Section Number 2022	Page 2022	Comments on September 2022 Draft, referring to 2021 draft	Comments Submitted on Administrative Draft, February 2021
0	0	1				ES 1 Summary	ES 1 Summary
0	0	1				Thank you for the opportunity to comment on this formal draft, as a cooperating agency. As this EIR/EIS is written to support the Record of Decision to proceed with planning and constructing one of the alignments, the specific environmental effects relating to the ANF will need to be assessed prior to the final decision on the Special Use Permit.	Thank you for the opportunity to comment on this administrative draft, as a cooperating agency. As this EIR/EIS is written to support the Record of Decision to proceed with planning and constructing one of the alignments, the specific environmental effects relating to the ANF will need to be assessed prior to the final decision on the Special Use Permit. A cover letter will be sent from Forest Supervisor to Mr. Serge Slanich.
0	0	1				The draft knowledgeable that all the alternatives transect hazardous and potentially hazardous faults. Only surface effects are addressed, even as at-grade impacts could be displacement effects.	Surface resources. The Angeles National Forest was established for watershed values, and resources remain water-dependent. These include wells, springs and seeps, riparian streamflow and habitat, and groundwater aquifers that feeds streams and adjudicated basins. As discussed on February 4, there are concerns about the risk assessment based on known wells, seeps and springs. As they have not been inventoried thoroughly and identified, the presence of seeps and springs cannot be ruled out. Thus, some (or many) other areas within the Resource Study Area have seeps and springs and would then be at least "moderate risk" areas. Construction and operation will require avoidance, minimization and mitigation for impacts related to adits and ancillary structures, construction staging areas, utilities, transportation on Forest roads, and other surface land impacts. Spoils removed from beneath the Forest are subject to mineral material regulations and regulations regarding disposal.
0	0	1				Keep	Hydrogeology. The heavily faulted and fractured rock make it difficult to predict water movement that follows tunnel inflows. Further discussions can identify triggers and thresholds for corrective action, and on developing more specific impact, avoidance and mitigation factors (IAMPs). Tunneling techniques and ability to reduce groundwater losses will depend on the yet-undesignated tunnel boring machine built for these conditions. Design criteria (17 or 25 bar or higher) and baseline monitoring will set the specifications for liners, gaskets and grouting for both construction and operation. The project's "reasonably foreseeable" impacts have catastrophic consequences, low probability of occurrence is low, and analysis of impacts supported by scientific evidence. One of the next steps will be to collaboratively develop a groundwater model, with USFS, CHSRA and consultant expert participation. That would start with the objectives of the groundwater model and the design elements that could avoid, minimize and/or mitigate impacts of the tunneling on the ANF resources in this complex geology.

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4525-10304	0		1			Keep	Monitoring. Progression of the project will depend on accelerating and expanding the baseline monitoring. As there is inherent variability in precipitation and geology-fractured rocks, there are high error bars on any monitoring data and compelling reasons to start with a solid plan. Monitoring needs to design for the lags in detecting water flow changes, that originate from any tunnel inflows that occur. The ANF staff will work with CHSRA to grant Special Use Permit(s) for further monitoring.
4525-10305	0	0	1			Keep	Special Use Permit application process. The authorization process for a Special Use Permit (SUP) often starts with the informal cooperation between proponent and the Forest Service. That facilitates gathering baseline monitoring and other information, refining the proposed action, preparing environmental documentation, developing the permit conditions, and issuing a final Record of Decision. Some (but not all) of the information is fulfilled by this environmental document, and more by the steps in the application process. One of the initial screening criteria is financial feasibility, and the lack of confirmed project funding suggests a strategy that builds on continued interagency cooperation but delayed formal application.
4525-10306	2.4	2.4	1			2 Alternatives	2 Alternatives
	2.4	2.4.2	37			The draft needs to specify that the analysis and the decision document for this draft EIR/EIS will become part of the documentation for the SUP application.	Criteria for Special Use Permits on USFS land requires that the proponent explain the location of the proposed use and why use of National Forest System lands is necessary, and why private (or of other ownership) lands cannot be used. The two reports, Palmdale to Burbank Project Section Supplemental Alternatives Analysis Report (June 2015 and April 2016) outline the environmental assessment and the meetings with agencies, stakeholders and the public. The off-forest alternatives SR14-1 and SR14-2 were eliminated and replaced by SR14-Refined for further analysis. Reasons included that SR14-Refined would minimize surface encounters with sensitive community and environmental resources, by tunneling in a more direct route between Palmdale and Burbank (2.3.4, page 50, 2016 report). This documentation needs to be incorporated into the Special Use Permit application process to address the requirement that the non-NFS land is not available and justify the use of NFS lands.
4525-10307	3.2	3.2	1			3.2 Transportation	3.2 Transportation
	3.2	3.2	1			Keep	This entire section is incomplete, as a travel analysis is needed for Forest Service roads. The increased vehicle weight and anticipated cubic yards of spoils transported will cause sedimentation and tread impacts. Additional traffic will require additional road management and maintenance.

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4525-10308	3.2	3.2.4.2	13			Keep	The Impact Avoidance and Minimization Features need to cover Road Maintenance and Planning for Emergencies (FSH 7709.59 Ch-6), and Annual Maintenance Plan (FSM 7732.11) requirements that include operational and objective maintenance levels. TR-IAMF#3 states that " Contractor shall identify adequate off-street parking for all construction related vehicles. ... Impact TR-IAMF#7 covers delivery of construction-related equipment and materials. These activities need to comply with RS FSH 2509.22, section 12.21 (Road management), and are subject to Storm Water Protection Permits (SWPP) and/or Erosion Control Plans (ECP).
4525-10309	3.2	3.2.10.1	132			Keep	USFS regulations for transportation are outlined in the Forest Service Handbooks, including FSH 7709.59 Road System Operations and Maintenance Handbook and FSH 2509 Water Quality Management Handbook. Regional supplements (USFS Region 5) for these handbooks also need to be followed.
4525-10310	3.2	3.2.10.2	138			Keep	The USFS Resource Analysis needs much more location-specific information for each roadway segment. Road management, maintenance and monitoring protocols with identified thresholds for the selected alignment, as part of the Special Use Permit application process. A travel analysis is needed, with soil sedimentation limits, dirt to asphalt transitions, spills from spoils transports, impacts to OHV designated roads, plans for emergency vehicle travel, and more. Road Management (FSH 7709.59 Ch-10) needs to be addressed, with design, operations, and maintenance criteria. Storm Water Protection Plan (SWPP) or Erosion Control Plan (ECP) addressing transportation, roads, parking/staging areas or road sedimentation from transported spoils.
4525-10311	3.3	3.3	1			3.3 Air Quality and Global Climate Change	3.3 Air Quality and Global Climate Change
	3.3	3.3.2.4	12			Same comments (didn't review 2022 draft)	This section states that South Coast AQMD and Antelope Valley AQMD New Source Review (NSR) regulations are applicable but the document is silent on federal NSR. Clarification needed on which, if any Federal NSR permits are applicable or why local NSR is triggered but not federal. If NSR Prevention of Significant Deterioration is not applicable, which would require analysis of visibility impacts to the Class I airsheds on the Angeles NF, a statement would clarify this.
4525-10312	3.3	3.3.6.3	48			Same comments (didn't review 2022 draft)	Table 3.3-40 Payback of Greenhouse Gas Emissions (Months) is unclear. Text below states "Payback periods were estimated by dividing the GHG emissions during construction years by the annual GHG emission reduction during operation." Were total construction emissions divided by annual emissions reductions or one year of construction emissions? Or does this table display that it will take several months over several years to payback GHG emissions?

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4525-10313	3.3	3.3,6.3	69			Same comments (didn't review 2022 draft)	Table 3.3-14, Carbon monoxide concentrations from construction emissions. These are expressed in ug/m ³ equivalent, which is unusual in this chapter, so the reasons for this metric could be provided. The state and local air districts reports monitoring data in parts per million (PPM), and NAAQS threshold for carbon monoxide is in PPM. Both ppm and tons/year are used several times in the chapter.
4525-10314	3.4	3.4	1			Chapter 3.4 Noise and Vibration	Chapter 3.4 Noise and Vibration
	3.4	3.4.4	34			Same comments (didn't review 2022 draft)	The effects of noise and vibration are well established, although they vary by species. Chapter 3.7 mentions noise relative to several wildlife groups but does not cite documented effects on mating and young, foraging behavior, predator-prey interactions, individual fitness and community structure. Vibration effects on various wildlife groups are also not cited and include some of the same effects. The assumptions are reasonable, that noise and vibration in the tunnels will not be sensed at the surface.
4525-10315	3.4	3.4.10	171			Same comments (didn't review 2022 draft)	Construction and operation of the adits include ventilation equipment, and the transportation of spoils will produce truck-related noise. The specific avoidance and minimization features for these impacts need to be considered in the Special Use Permit application process. For recreation impacts, the tunnel will be underground and the tunnel entrances and adits are not within designated recreation areas. Any noise impacts to the Pacific Crest trail are addressed in the 4(f) chapter.
4525-10316	3.7	3.7	1			3.7 Biological and Aquatic Resources	3.7 Biological and Aquatic Resources
	3.7	3.7	3.7			Keep	The risk assessment only provides a rough approximation and possibly an underestimation of the areas of potential impact. The risk assessment does not acknowledge the fractures and infiltration that occur along fractures, nor localized aquifers which could be drained by the tunnel construction, nor the presence of seeps and springs that are yet unmapped and unsurveyed. The assumptions need to be more inclusive of these effects, as the current assumptions have underestimated acres of Moderate and High Risk areas.

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4525-10317	3.7	3.7.4.4	22	4	3.7.4.4	26	Keep	Historical occurrence data is likely more accurate for species predictions, generally from the California Natural Diversity Database, and is not referenced in the report. The mitigation interagency expert modeling for the Habitat Suitability Modeling is outlined briefly, but no references provided to describe the modeling approach, or to the field survey reports that informed the models. No mention is made, of whether the models can (or did) help biologists determine where to focus field surveys based on the most likely suitable conditions to find special status species. There is little discussion in Section 3.7 about how the modelling effort was applied or relied upon to inform recommendations. With these concerns, there are great uncertainties about the narratives and tables that need to be acknowledged. The mitigation interagency modeling did not show where the staging areas, adits, nor the roads, nor the electrical input trenching would overlap with suitable habitat for this particular 14A alternative. When the mitigation models were built, this 14A alternative was not being considered, so there are no acreages that were generated for suitable habitat modeling, nor with the potential for groundwater-to-surface connectivity. The acreages from those suitable habitat models should be used for effects analysis along the whole route and along potential fractures.
4525-10318				3.7	3.7.4.1	12	It says here (under Core Habitat RSA) that "Project-specific vegetation mapping was conducted within this 1,000-foot buffer." If that is the case, where is that mapping provided? Provide reference here to a report, table or maps if that mapping and acreages are available. Also, Table 3.7-4 only provides acres of vegetation within the 100-ft SS Plant RSA. Why was the 1,000-ft Core Habitat RSA not used instead (or reported in addition to the 100-ft SS Plant RSA) if that information was available? It is very hard to understand the context for the acres of impact reported in this document, if you don't know how they relate to the total amount in the larger area. For example, in Table 3.7-4 it reports that 1-47 acres of coastal oak woodland (COW) could be impacted in the SR14 alignments. Is that just a small fraction of the COW present in the 2-mile wide Tunnel Construction RSA, or all of it?	

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4525-10319			37	3.7.4.1	13	Table 3.7-1 needs to be clarified. Does the column "RSA Acreage" represent the Direct Effects, Indirect Effects, or both? What is the Supplemental Work Area (not defined anywhere in this chapter). What is the difference between the "Build Alternative Footprint" in this Table and the "Project Footprint" in Fig 3.7-1 or are they the same (if so use the same term everywhere)? Does the acreage in the Table include both the 100 ft of permanent project footprint and the additional feet of "buffer"? Why is the 2 mile wide Tunnel Construction RSA included in the Table but not shown on Fig 3.7-1? Also, why does it report 8,419 acres as the size of the Special Status Plant RSA in Table 3.7-1 when on pg 3.7-26 (under Constraints and Predictive Modeling) it reports that same RSA as 57,498 acres? Similarly, the Core Habitat RSA is reported as 35,357 acres in Table 3.7-1 but 76,178 acres on pg 26.		
4525-10320	37	3.7.4.4	24	37	3.7.4.4	The determination of "groundwater-dependent" species are central to this chapter. Yet the evaluation criteria are not identified, for the determination of groundwater-dependent species for special-status plants and other species (Tables 3.7-10, -11, -13, -15, -17, -20). Was it based on modelling, or a literature search, or some other method? Who made the decision? The BARTR does not explain how that was determined either. Chapter 3.8-C (AMMP) relies on USFS Standard 11, to address changes in hydrologic conditions caused by tunnel construction that could result in impacts on special status species dependent on such groundwater, so definition of groundwater-dependent species is essential to the project.		
4525-10321	37	3.7.4.4	24	37	3.7.4.4	24	For groundwater-dependent species, the habitat suitability models were overlaid with the Tunnel Construction RSA and Risk Areas to determine the amount of modeled suitable habitat that could be adversely affected. As the seeps, springs and other surface waters have not been fully identified (Chapter 3.8), the acres of Moderate and High Risk are underestimated and thus also the acres of potential impacts are underestimated (Table 3.7-10 and others). Since the duration of groundwater inflows is expected to be days-months, and after-effects up to several years post-construction, the effectiveness of mitigation measures seem unlikely and there is high risk to these sensitive species.	

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4525-10322			37	3.7.4.4	29	This chapter needs to include a Figure showing the location of all the Risk Areas. Or refer to Figs 3.7-37 and 38 which show both the Risk Areas and the 2 mile wide Tunnel Construction RSA for context. Why are the Risk Areas oval shaped? Why don't the Moderate Risk Areas extend out to the 2 mile wide Tunnel Construction RSA? Were the impact acreages that are reported in the tables calculated based on the area within the oval polygons or were they only calculated for the 100 ft SS Plant RSA inside the polygons?	
4525-10323			37	3.7.4.4	29	There should be reference here to Appendix 3.7-C which explains how groundwater dependent species and ecosystems were defined. Also there should be reference to the Tables that list which species and communities were determined to be GWD. (See comment below about there being a discrepancy in the number of those reported in various places).	
4525-10324			37	3.7.5.4	57	On pg 109 it refers back to Table 3.7-6 on pg 57 and says that 4/7 special status plant communities have been identified as GWD but Table B-3 in Appx 3.7-C lists 5 GWD SS plant communities. Why the discrepancy?	
4525-10325	37	3.7.5.6	52			Delete	Hydric soils are mentioned but no reference made to the Build Alternative Supplement to Aquatic Resources report, a supplement to the Biological Resources and Aquatic Resources Technical Report (BARTR). The BARTR report (section 3.4.1) lists two hydric soils present in the ANF Area portion of the habitat study area but there is no map or info explaining where those occur (if at all) along the various alignments. It would be useful to include the acreage and where those hydric soils occur within the Resource Study Areas. Without this, it is assumed that the soils were not reviewed and considered in assessing species impacts.
4525-10326	37	3.7.6.3	90			Delete	This 114-page-long section is very difficult to navigate and lacks parallel organization and sub-headers. The impacts (BIO#1 to BIO#13) cover both construction and operations, and then surface vs. tunnel sections within these, then species descriptions. Then six routes and CEQA analysis with avoidance, minimization and mitigation measures (MM and IMAF). Sections could be organized consistently and break up lengthy narrative by sub-section headers.
4525-10327			37	3.7.6.1	83	Title of BIO#1 should read "Project Construction Effects on Special Status Plants and Plant Communities" both here and on pg 95 (to mirror titles for all the other BIO impacts).	

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4525-10328			3.7	3.7.6.2	94	Discussion of the No Project Alternative is minimal. Will "improvements and expansions to the intercity transportation system" actually significantly relieve development pressure in LA County and therefore protect the environment? If so then refer to where that is discussed. There is little explanation here of the trade-off between improved inter-city transportation and protection of environmental resources (especially in the ANF - there is no benefit to the ANF from doing this project). If there is a discussion elsewhere of the effect of the No Action Alternative on air quality or greenhouse gas emissions (or other factors that may impact biological resources) then refer to that here. It is not clear how the No Project Alternative would lead to more impacts (such as habitat loss, fragmentation, degradation, or mortality/injury of protected plants and animals) compared with doing the project. Disturbance and permanent impacts to sensitive biota will result from the project, and those won't occur if the project is not done. There is also no mention of the potential disruption to groundwater (and resulting impacts to biota) that would be avoided in the No Project Alternative.	
4525-10329			3.7	3.7.6.3	94	Clearer headings are needed in this section. It is the key impact analysis for biological resources but it is very confusing. Impacts due to Surface Construction vs. Tunnel Construction need to be more obvious and easier to find under each BIO effect.	
4525-10330			3.7	3.7.6.3	96	Table 3.7-10 title is unclear and needs to specify that these are the permanent impacts due to construction activities on the surface. Why did the acreages in this Table change since the last version?	
4525-10331			3.7	3.7.6.3	101	Need to refer to the impacts reported in Table 3.7-10 somewhere in the text on pg 101 under Surface Construction.	
4525-10332			3.7	3.7.6.3	100	Here it says 7 special status plant communities have been identified as occurring and refers to Table 3.7-6 but that Table only lists 5 SS plant communities. On pg 101 it says there are 5. Why the discrepancy?	
4525-10333	3.7	3.7.6.3	97			Delete	The discussion of direct/indirect/cumulative impacts on plants from surface and tunnel construction need to provide more detail about alteration of surface water due to surface construction and the possible effects.

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4525-10334	3.7	3.7.6	98	3.7	3.7.6	104	Groundwater depletion during tunnel construction is addressed, with impacts that may last from days to months and result in effects several years beyond tunnel completion. So the damage to special species plant habitats/communities/individuals may be long-term, or even irreversible, for groundwater-dependent species, even if the MMs are carried out. How can those impacts be considered "LTS" when the plants or their habitats are stressed and/or damaged, perhaps for a long time, and complex mitigation is required? Can the mitigation really reduce the ecological disruption and loss of the original soil, habitat, population or community to a less than significant level for all special species and communities?	
4525-10335			3.7	3.7.6.3	100	Under Non-FESA Listed Species it says there is habitat for 40 species, but Table 3.7-10 only lists 39 species with habitat in the SS Plant RSA. Why the discrepancy?		
4525-10336			3.7	3.7.6.2	102	Underlined header should read "Tunnel Construction Impacts on Modelled Suitable Habitat for SS Plant Species"		
4525-10337			3.7	3.7.6.2	103	Refer to the Table that lists the 15 special-status plants with suitable habitat in the tunnel construction RSA that have been identified as requiring wetland or aquatic habitats (including riparian habitats) and therefore could be adversely affected by changes in groundwater levels. If those are the ones presented in Table 3.7-11 then add to that Table title that they are all GWD SS plants		

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4525-10338			3.7	3.7.6.2	103	This is not a "worst case" evaluation of effects because it only documents a limited area within the few Moderate and High Risk Area polygons (illustrated in Figs 3.7 & 3.8) even when the EIR-EIS states that groundwater disruption effects may occur within the 2-mile wide Tunnel Construction RSA, and those effects may last from months to 5 years (see pg 103). So considering only the Moderate and High Risk Areas is actually a "best case" scenario. A "worst case" evaluation would instead report the potential effects on biological resources within the 2-mile buffer along the entire alignment, which would account for the No/Low Risk Areas in the analysis. (Note that fifteen groundwater dependent plant species have suitable habitat in the No/Low Risk Areas - see pg 103). For example, Fig 4-4 in the draft Biological Assessment (also Fig 6-3 in the draft Biological Evaluation) shows the High Risk Area polygon along with an additional red hatched area labelled as a "Potential Zone with Groundwater Pressure Above 25 bar" that extends far beyond the boundary of the High Risk Area polygon. So only calculating the acres of impact within the polygon and not within that entire area of groundwater pressure above 25 bar does not represent the "worst case scenario". It also states on pg 109 that besides GWD plants, even upland trees could be impacted: "As discussed in Section 3.8, Hydrology and Water Resources, the groundwater study area is a complex		
4525-10339			3.7		104	Title of Table 3.7-11 should be changed to be more clear, e.g., "Potential Impacts on Suitable Habitat for Groundwater Dependent Special Status Plant Species from Changes in Hydrologic Conditions". It is confusing when the current Table title refers to habitat when the Table lists species instead. It also needs to make clear that these are the 15 GWD SS plant species referred to throughout the chapter (those are often referred to in the text without pointing to a Table where they are actually listed).		
4525-10340	3.7	3.7.6.3	103	3.7	3.7.6.3	108	Keep	This page has an example of some inconsistencies. It states that Moderate and High risk areas for SR14144 respectively contain 4 and 7 ephemeral streams and says they will not be affected because they are not dependent on GW. But there is no mention of these ephemeral streams on pg 97 where impacts of surface construction are discussed.

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4525-10341	3.7	3.7.6.3	103	3.7	3.7.6.3	108	Keep	The inflow into tunnels is addressed, that it may occur even after various HYD-IAMFs are implemented and that the AMMP (BIO-MM#93) may need to "provide compensatory mitigation for unavoidable impacts to surface aquatic resources including special status plant habitat." The actions outlined (revegetate or restore habitat, relocate species, or fund habitat enhancement and restoration actions outside the affected areas) do not seem to be a "LTS" impact, as stated in section 3.7.9 CEQA Significance Conclusions and Table 3.7-35). Such serious mitigation action does not seem to meet the USFS Fish & Wildlife Standard 11 (AMMP pg 3.8-C-2) to protect the habitat and well-being of special status species within USFS lands.
4525-10342	3.7	3.7.4.4	106				Delete	Table 3.7-11: are units of impact supposed to be in miles? Or should it be acres (as in the rest of the similar tables)?
4525-10343	3.7	3.7.8.1	236	3.7	3.7.8.1	246	Table 3.7-29 (Now 3.7-31) shows that between 1300-1400 acres of habitat for 3 FE plant species (plus approx. 10,000-20,000 acres of non-FESA plants plus 500-600 acres of SS plant communities) could be significantly impacted by this project. (Note that new Table 31 lacks the Total acres row that was in the previous Table 29). The CEQA Conclusion sections throughout 3.7.6 state that the IAMFs will not sufficiently prevent these impacts e.g. pg 179 (of the August 2022 draft EIR-EIS) under IMPACT BIO#9 states "Although implementation of the IAMFs listed above would minimize direct and indirect surface construction impacts, construction of each of the six Build Alternatives would have a substantial adverse effect on aquatic resources including riparian habitat". It goes on to say that implementing the MM would only "reduce surface construction impacts". Yet this EIR-EIS concludes that the combination of IAMFs and MMs will reduce all the biological impacts to "Less Than Significant" (Table 3.7-35) (Now 3.7-37) for CEQA and "No Adverse Effect" for NEPA (now Table 3.7-31). While that would be desirable, it seems uncertain and unlikely. For example, MM#2 and #6 (for Salvage, Relocation, Propagation, Revegetation or Restoration) acknowledge the destruction of habitat and/or individuals and the greater effectiveness of avoidance/minimization.	Table 3.7-29 says that between 1300-1400 acres of habitat for 3 FE plant species (plus 10,000-20,000 acres of non-FESA plants plus 500-600 acres of SS plant communities) could be significantly impacted by this project. The CEQA conclusions in 3.7.6 state that the IAMFs will not sufficiently prevent these impacts. Yet this report concludes that the combination of IAMFs and MMs will reduce all the biological impacts to "Less Than Significant" (Table 3.7-35). While that would be desirable, it seems uncertain and unlikely. MM#2 and #6 (for Salvage, Relocation, Propagation, Revegetation or Restoration) acknowledge the destruction of habitat and/or individuals and the greater effectiveness of avoidance/minimization.
4525-10344	3.7	3.7.10	264				Delete	Comments are not provided in this table on the project effects on Federally listed species and critical habitat, as the ANF is participating with the US Fish and Wildlife Service and other agencies in consultation.
4525-10345	3.7	3.7.9	264				Delete	Some CEQA Significance Conclusions are not supported by the narrative in section 3.7.6. An example is given for special status plants on page 236. The conclusions are that the combination of IAMFs and MMs will reduce all the biological impacts to "Less Than Significant" (Table 3.7-35). That seems uncertain and unlikely.

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4525-10346	3.7	3.7.1	1		1	Delete	More specific comments follow, starting again with page 1. About chapter organization, at the beginning of each Direct and Indirect Impacts section, the list of species included in the analysis needs to be included. For each special status species group, a table is included that shows the amount of habitat within each build alternative footprint. This table must distinguish between temporary and permanent impacts. At the beginning of each CEQA Conclusion section, the list of species included in the analysis needs to be included.
4525-10347	3.7	3.7.1	1		1	Keep	The level of survey completed for this project is insufficient to support defensible conclusions regarding species distribution and suitable habitat. There are discrepancies between areas mapped as suitable habitat and the actual ground conditions. Focused and/or protocol surveys will be required prior to the initiation of construction to locate and map special status species and their habitats.
4525-10348	3.7	3.7.1	1		1	Keep	The analysis of impacts to amphibians is focused on breeding habitat. Focusing only on impacts to breeding habitat is not acceptable. In addition to reproductive activity, many other essential life phases are associated with the stream and riparian area. Impacts to stream and riparian areas outside of breeding habitat need to be quantified and analyzed.
4525-10349	3.7	3.7.1	1		1	Keep	Compensatory mitigation can be implemented, but the species and their habitat within the affected area are still subject to permanent adverse effects. It is not possible to reverse habitat loss or injury, mortality or permanent displacement of individuals. The value of these individuals and their habitats is intrinsically tied to their place within the local landscape and in relationship to other organisms in the area. Compensatory mitigation cannot replace the value of lost habitat or individuals. This is particularly true in situations where compensatory mitigation cannot be implemented within the same watershed or within the area occupied by the impacted species. The impacts to individuals and habitats within the project area are not reduced or eliminated as a result of compensatory mitigation and it is not appropriate to overstate the ability of this action to negate project impacts. Additionally, what action will be taken if it is determined that compensatory mitigation cannot be successfully implemented?

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4525-10350	3.7	3.7.1	1		1	Keep	ESAs can't be established in all areas subject to construction and are limited in their ability to reduce impacts. Special status species and sensitive habitats within a construction area will be impacted as required for project completion. Regardless of the establishment of ESAs, the project disturbance area must be kept to a minimum and areas subject to disturbance must be identified prior to project initiation. The limits of the project activities will be marked on the ground. To analyze the ability of an ESA to protect individuals and their habitats, specific details regarding seasonal restrictions and buffer sizes are needed.
4525-10351	3.7	3.7.1	1		1	Keep	In general, the CEQA Conclusion section for all species includes a determination of impacts that is not supported. Adequate surveys have not been conducted to determine the amount of suitable habitat or the actual location of special status species. The analysis of effects relies upon the successful implementation of all mitigation measures. Some mitigation measures cannot be successfully implemented as written, will not provide the intended protection or will provide limited protection even with implementation as prescribed. Mitigation measures may reduce, but will not avoid all project impacts. Compensatory mitigation will not prevent the loss of individuals and habitat in the project area. Impacts will still occur and there is no level of analysis provided in this document to support the conclusion that the impacts will be less than significant. The analysis acknowledges the potential for habitat restoration to fail. This would constitute a permanent adverse effect to habitats and individuals as a result of the tunnel construction.
4525-10352	3.7	3.7.1	1		1	Keep	While measures are described for surveys, monitoring and implementation of buffers to protect species and habitats during construction, there is limited description of how species and habitats will be protected over time during operation and maintenance activities. What corrective measures would be taken if unexpected impacts are identified? For example, what action will be taken if it is determined that groundwater depletion becomes permanent?
4525-10353	3.7	3.7.1	1		1	Keep	Impacts associated with ancillary project features are not well described. For example, the distribution lines, access roads and communication towers are all features that will result in impacts that may occur outside the ROW and will require long-term maintenance. The intensity of use or type of use associated with these different types of features may vary and this would influence the range of impacts that would be expected.
4525-10354	3.7	3.7.4.1	12		12	Keep	Concern about the Resource Study Area only set at 250 feet. The aquatic RSA distance should be same area as used for evaluating hydrological impacts. A 100 foot buffer is not sufficient to evaluate impacts to botany resources. The ANF botanist recommends a 500 foot buffer.

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4525-10355	3.7	3.7.4.2	18		18	Keep	BIO-IAMF#2 On National Forest lands, the ANF requires access to the project site. BIO-IAMF#5 The ANF will need to review and approve both the Restoration and Revegetation Plan and the Weed Control Plan where it applies to FS lands. BIO-IAMF#7 A biologist must inspect the excavation prior to it being covered. If any wildlife is detected in the excavation, they must either be removed or provided a means for escape before the cover is put in place. BIO-IAMF#9 If a site is already identified as needing restoration post-disturbance, efforts should be made to remove and store the topsoil in a manner that would allow for it to be replaced as part site restoration. BIO-IAMF#10 equipment will need to be cleaned prior to entering the Forest. BIO-IAMF#11 The FS will need to review and approve the BMP manual for any activities on National Forest Lands.
4525-10356	3.7	3.4.7.2	20	3.7	3.4.7.2	20	Keep
4525-10357	3.7	3.7.5.5	55	3.7	3.7.5.5	58	Keep

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4525-10358	3.7	3.7.5.5	58	3.7	3.7.5.5	61	Keep
4525-10359	3.7	3.7.5.7	62			Delete, sentence was removed	This section is specific to designated critical habitat, but this sentence refers to either marine or anadromous fish essential habitat. No designated essential fish habitat occurs within the RSA, and thus no essential fish habitat would be affected by the Palmdale to Burbank Project Section.
4525-10360	3.7	3.7.5.10	87			Delete, too specific	Should unarmored threespine stickleback be included as part of this list of Habitat Conservation or recovery plans? Information is needed whether or not the unarmored threespine stickleback recovery plan identifies this location as a recovery area.
4525-10361	3.7	3.7.6.3	100		114	Keep	Impact BIOR2: California Red-Legged Frog (Figure 3.7-23): The discussion of California red-legged frogs has multiple deficiencies. California red-legged frogs are confirmed in Aliso Canyon, Gleason Canyon and Arrastre Canyon. The list of breeding habitat locations needs to include Aliso Canyon Creek, Gleason Canyon Creek and Arrastre Canyon Creek. CRLF have been confirmed at the confluence of Aliso and Gleason Canyon Creek. Additionally, the focus of the surveys and habitat assessment was breeding habitat. Dispersal, foraging and upland refugia habitats are also essential for the species and are habitat components that must be assessed and identified. For Southern Mountain Yellow-Legged Frog (Figure 3.7-28), there are no known mountain yellow-legged frog occurrences in the locations described in this section and many of these locations are not suitable for MYLF. What assessment was done to confirm these areas are suitable for MYLF. While modeling might indicate potentially suitable habitat, there can be other factors such as presence of predators that might render habitats unsuitable.

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4525-10362	3.7	3.7.6.3	111		116	Keep	Comments on Direct and Indirect Impacts: Implementation of mitigation measures is often described as "to the extent feasible". This offers no assurance of protection. Without specified buffers, required seasonal restrictions, etc., no measures that describe protection of resources from project activities can offer any assurance they will be effective if the caveat "to the extent feasible" is included. Including a description of which conditions would make it infeasible to implement protective mitigation measures would make it easier to anticipate project impacts. It would also offer the assurance of consistency. Tunnel impacts are described as having the potential to last days to years. What assurance is there that these impacts won't be permanent? In the discussion of tunnel construction effects, impacts to coast range newt and western spadefoot are dismissed because these species are not groundwater dependent. Even if the species is not groundwater dependent, tunnel construction may still have an adverse impact. The noise, vibration and traffic associated with tunnel construction may adversely affect individuals. Additionally, use of CSAs and access roads could occur in areas with either suitable habitat or species presence. Table 3.7-13 then presents contradicting information that shows the number of acres of coast range newt and western spadefoot habitat that would be affected by groundwater depletion. According to table 3.7-13, there are no potential impacts to arroyo load as a result of groundwater depletion. This does not seem to line up with the
	3.7	3.7.6.3	111		116	Keep	Comment on the last paragraph in the Direct and Indirect Effects analysis for Tunnel Construction. Considering the areas of either occupied or critical habitat, how is this conclusion supported? The Santa Clara River is designated critical habitat and is considered occupied by arroyo toads. Also Canyon and Arrastre Canyon are occupied CRLF habitat. According to the document maps, these species occur within identified risk areas.
4525-10363	3.7	3.7.6.3	118			Delete, this was addressed	Impact BIO#3. For the California Condor, I do not know what data was used to conclude that there is no breeding habitat within 10 miles. Unless the USFWS has confirmed the absence of breeding habitat, it is more defensible to say there is no known breeding activity within 10 miles. For the Least Bell's Vireo (Figure 3.7-25), there are records of nesting least Bell's vireos below Pasocima Dam. The analysis of project effects does not include a sufficient discussion of this occurrence and potential impacts associated with project activities including the establishment of a CSA at this location.
4525-10364	3.7	3.7.6.3	131		134	Keep	BIO-MM#67, for special status birds. Nest relocation could result in injury or death and adversely impact future reproductive success. Why are no mitigation measures required for these four build alternatives?

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4525-10365	3.7	3.7.6.3	132		138	Keep	BIO#4. Direct and Indirect Impacts. The impacts described for fish would also apply to CRLF and arroyo toad and other stream dependent amphibians where their occurrence in the project area overlaps the fish species. Table 3.7-17. Potential Impacts of Special-Status Fish Habitat from Groundwater Depletion. Why are the number of acres for Santa Ana sucker different from the number of acres for arroyo chub and Santa Ana speckled dace? Santa ana sucker, arroyo chub and Santa Ana speckled dace typically occupy the same areas in Big Tujunga Creek. Why aren't Santa Ana suckers included in this risk area along with arroyo chub and Santa Ana speckled dace.
4525-10366	3.7	3.7.6.3	139		224	Keep	BIO-MM#55 Weed control plan. What is the threshold for "significantly degrade"? The WCP must ensure that project activities will not introduce or increase the spread of invasive species.
4525-10367	3.7	3.7.6.3	139		223	Keep	BIO-MM#85. Establish construction zones and environmentally sensitive areas. 10 feet is too close to the stream channel. If the stream is dry at the time of construction, there would be no restrictions on activities affecting the stream channel or riparian vegetation.
4525-10368	3.7	3.7.6.3	144		148	Keep	Impact BIO#6. Special-status mammal habitat. The statement about ringtails is not accurate. Bats and other mammal species are reliant on pools, springs and streams to provide them with drinking opportunities. Additionally, areas with surface waters often support concentrations of prey items such as insects and provide excellent foraging opportunities for species such as bats. Loss of surface water could result in displacement or stress if individuals are forced to travel longer distances for water or foraging. Based on this, impacts associated with groundwater depletion are not limited to ringtail. Ringtails are not the only mammal species potentially impacted by groundwater depletion. This table will need to be updated to reflect the change in determination regarding species impacted by groundwater depletion.
4525-10369	3.7	3.7.6.3	151		217	Keep	BIO-MM#26 implement bat avoidance and relocation, and BIO-MM#27, but exclusion and deterrence. Both of these measures have potential to adversely impact individuals and lead to the loss of entire roosting colonies. Relocation of bat roosting colonies is difficult and success rates are low.

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4525-10370	3.7	3.7.6.3	178		180	Keep	Impact BIO#10. For surface construction on SR14, this effort to minimize the impact of affecting 6.2 acres of arroyo load critical habitat fails to recognize the significance of these acres being attached to the stream and immediate surrounding area. The majority of acres designated as arroyo load critical habitat are upland habitats. Impacts to upland habitats would represent a less significant impact than those occurring in the stream and adjacent habitats in the riparian area and floodplain. The last sentence needs to be removed. The statement on tunnel construction does not agree with the effects of tunnel construction described in the surface construction effects for SR14 and SR14A where it states dewatering could occur as a result of tunnel construction. For the permanent HSR infrastructure, the recommended intervals for large crossings and small crossings may still create a situation where movement is impeded. For example, movement may be impeded for smaller species because of the distance between openings. Additionally, the majority of available wildlife crossings will be associated with the viaducts, tunnels and culverts that are an inherent part of the built design. The location of these crossings may not correspond with the locations where wildlife would most likely traverse based on terrain, vegetation, water, hazards or other conditions that influence their travel corridor. As a result, these crossings may be underutilized.
4525-10371	3.7	3.7.6.3	184		187	Keep	Impact BIO#13, wildlife movement corridors. The Forest LMP includes a standard (S22) that addresses linear infrastructure that impacts wildlife movement. Based on S22, the LMP requires that linear infrastructure be designed to facilitate movement of fish and wildlife. S22 reads as follows: Except where it may adversely affect threatened and endangered species, linear structures such as fences, major highways, utility corridors, bridge upgrades or replacements, and canals will be designed and built to allow for fish and wildlife movement. The analysis acknowledges the project will restrict wildlife movement, but also downplays this by stating that the impact is reduced based on the already existing SR14 barrier to wildlife movement. The addition of another linear structure in the area represents yet another barrier to wildlife movement and cumulatively adds to the fragmentation of the area.
4525-10372	3.7	3.7.6.3	196		199	Delete, this was addressed	Impact BIO#14, indirect impact on habitat. Any use of second generation anticoagulant rodenticides for rodent control could have significant adverse impacts on local scavengers and predators such as mountain lions.

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4525-10373	3.7	3.7.7	207		214	Keep	BIO-MM#6. The Restoration and Revegetation Plan for activities on National Forest lands will require review and approval by the Forest Service. Additionally, restoration is required for all areas impacted by project activities and is not limited only to those areas that potentially support special-status species, wetlands and/or other aquatic resources.
4525-10374	3.7	3.7.7	208		214	Keep	BIO-MM#7, pre-construction surveys for reptiles and amphibians. Because the initial analysis of suitable habitat and species distribution was based on insufficient survey effort, the results of that analysis are flawed and cannot be entirely relied upon to determine what areas should be surveyed for special status species. Additional surveys are needed to ensure more accurate information is available regarding suitable habitat and species distribution. If surveys are conducted no more than 30 days before the start of ground disturbing activities, this could result in surveys being conducted during a time when species will not be detected due to seasonal activity, migration, aestivation, hibernation, etc. This will limit the ability to implement effective ESAs or relocate species.
4525-10375	3.7	3.7.7	208		215	Keep	BIO-MM#14, pre-construction surveys for breeding birds. Because the initial analysis of suitable habitat and species distribution was based on insufficient survey effort, the results of that analysis are flawed and cannot be entirely relied upon to determine what areas should be surveyed for special status species. Additional surveys are needed to ensure more accurate information is available regarding suitable habitat and species distribution. If surveys are conducted no more than 30 days before the start of ground disturbing activities, this could result in surveys being conducted during a time when species will not be detected due to seasonal activity, migration, aestivation, hibernation, etc. This will limit the ability to implement effective ESAs or relocate species. Also, a nesting bird management plan is strongly recommended. In coordination with CDFW, SCE prepared a nesting bird management plan for TRTP and it facilitated flexibility in managing nesting birds in the project area and clearly established expectations. Without a pre-approved plan, modifications to buffer sizes would require CDFW approval on a case-by-case basis. This measure does not make it clear what will happen in situations where a no-work buffer can't be established and birds will be disturbed by project activities.
4525-10376	3.7	3.7.7	208		215	Keep	BIO-MM#15. Conduct Pre-construction Surveys and Monitoring for Raptors. Any reductions in buffer size would require CDFW approval.

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4525-10377	3.7	3.7.7	209		215	Keep	BIO-MM#16: Implement Avoidance Measures for California Condor. A measure needs to be added regarding the need to ensure communication towers, distribution lines and any other project infrastructure providing roosting opportunities are properly treated to prevent perching or roosting.
4525-10378	3.7	3.7.7	210		217	Keep	BIO-MM#21: Implement Avoidance and Minimization Measures for Burrowing Owl. The COFV Staff Report on Burrowing Owl Mitigation also requires a no-work buffer during the non-nesting season.
4525-10379	3.7	3.7.7	210		217	Keep	BIO-MM#25: Conduct Pre-construction Surveys for Bat Species. If surveys are conducted no more than 30 days before the start of ground disturbing activities, this could result in surveys being conducted during a time when the roost is not being used and species will not be detected. One day and one evening may not be sufficient depending on the size of the area and the number of potential roost sites. A more detailed description of the survey protocol is needed. As described, there is no assurance that bat roosts in the area would be detected. Rock and cliff faces need to be included in the roost surveys since this is a habitat type used for roosting by some of the special status bat species in the area.
4525-10380	3.7	3.7.7	210		217	Keep	BIO-MM#26: Implement Bat Avoidance and Relocation Measures. This measure describes relocation of hibernacula only. What will be done for maternity roosts where avoidance of disturbance is not possible. In reality, movement of the physical structure being used by the roosting bats will not be possible in most cases. Instead, the only other option is to facilitate movement of the roosting bats through eviction. Movement of bat roosts such as hibernacula and maternity roosts has a high potential to result in high rates of mortality and permanent displacement. Will alternate maternity roosts be constructed as well. Describe what guidance will be utilized to design and place the alternate roost. Monitoring will be required to determine if the alternate roost is being utilized or confirm the status of the displaced individuals.

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4525-10381	3.7	3.7.7	210		217	Keep	BIO-MM#27: Implement Bat Exclusion and Deterrence Measures. Clarify what constitutes "other appropriate method" as described in the first sentence of this measure. What agency or accepted method will be utilized. Alternate roosts need to be constructed and installed in every situation where roosting bats are displaced. In the second paragraph, "To the extent feasible" makes it difficult to anticipate the effectiveness of this measure. This measure says that steps will not be taken to evict bats from active maternity or hibernacula and instead, the features may be relocated. In reality, movement of the physical structure being used by the roosting bats will not be possible in most cases. Instead, the only other option is to facilitate movement of the roosting bats through eviction. Movement of bat roosts such as hibernacula and maternity roosts has a high potential to result in high rates of mortality and permanent displacement.
4525-10382	3.7	3.7.7	211		217	Keep	BIO-MM#28: Ringtail and Ringtail Den Sites, and BIO-MM#29 American Badger. For both species, the area within 500 feet of the work area needs to be included in the surveys. The buffer size needs to be increased to 500 feet around occupied maternity dens and 250 feet around occupied dens during other times of the year. What will happen if a buffer cannot be established and the den will be disturbed or destroyed?
4525-10383	3.7	3.7.7	211		218	Keep	BIO-MM#32: Restore Temporary Riparian Habitat Impacts. BIO-MM#33: Restore Aquatic Resources Subject to Temporary Impacts. For both, depending on the time of year, 90 days may not be the appropriate timeframe. Work needs to be done as soon as possible after project completion, but it must be implemented during the proper season. Use of container plants on the ANF requires FS approval. Container plants will not be utilized unless they come from a nursery that is certified to be free of Phytophthora. Each individual container plant must be tested and certified to be free of Phytophthora. All seed must be certified weed-free and come from the local area. Monitoring and removal of invasive plant species will occur. Restoration will occur in accordance with the guidelines developed in the approved RRP. On NFS lands, the RRP will require FS approval.
4525-10384	3.7	3.7.7	211		218	Keep	BIO-MM#34: Monitor Construction Activities within Jurisdictional Waters. In the first sentence of this measure, what distance is considered "adjacent"? What happens if the Project Biologist observes activities that are not compliant with the required avoidance and minimization measures? BIO-MM#43: Swainson's Hawk Nesting Trees and Habitat. What is the ratio for nesting habitat?

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4525-10385	3.7	3.7.7	213		220	Keep	BIO-MM#46: Provide Compensatory Mitigation for Permanent Impacts on Riparian Habitat. This ratio is very low for riparian habitats. The FS will have final authority on what is required to mitigate impacts on NFS lands. BIO-MM#47: Prepare and Implement a CMP for Impacts on Aquatic Resources. The FS will have final authority on what is required for impacts to NFS lands. In general, the compensatory mitigation ratios identified in this measure are very low.
4525-10386	3.7	3.7.7	215		222	Keep	BIO-MM#52: Conduct Blainville's Horned Lizards, San Joaquin Coachwhip, and Silvery Legless Lizards Monitoring, and Implement Avoidance and Minimization Measures. The last sentence of this measure states that clearance surveys will be conducted daily unless the Project Biologist determines that the surveys are no longer necessary. What conditions would prompt the determination that surveys are no longer necessary.
4525-10387	3.7	3.7.7	216		223	Keep	BIO-MM#54: Prepare and Implement an Annual Vegetation Control Plan. For activities on NFS lands, this plan will require FS approval. Will second generation anticoagulant rodenticides be used?
4525-10388	3.7	3.7.7	216		224	Keep	BIO-MM#55: Weed control plan. What is the threshold for "significantly degrade"? The WCP must ensure that project activities will not introduce or increase the spread of invasive species.
4525-10389	3.7	3.7.7	216		224	Keep	BIO-MM#56: Conduct Monitoring of Construction Activities. The Project Biologist needs to be present through all phases of the construction activities.
4525-10390	3.7	3.7.7	218		225	Keep	BIO-MM#61: Establish and Implement a Compliance Reporting Program. Qualifications of all biologist involved in surveys or monitoring must be provided. Take of any state or federally listed T&E species must be reported immediately.
4525-10391	3.7	3.7.7	222		229	Keep	BIO-MM#67: Provide Compensatory Mitigation for Loss of Eagle Nests. What action will be taken if monitoring confirms that there is no nesting activity or the nest relocation has not been successful?
4525-10392	3.7	3.7.7	222		229	Keep	BIO-MM#68: Avoid Impacts on White-tailed Kite. Decisions to reduce the size of a nesting bird buffer will require coordination with CDFW. Consideration must also be given to avoidance of foraging habitat during the nesting season.
4525-10393	3.7	3.7.7	222		229	Keep	BIO-MM#69: Conduct Surveys and Implement Avoidance Measures for Active Tricolored Blackbird Nest Colonies. This measure describes the response if tricolored blackbirds colonize habitat adjacent to construction after construction has been initiated. Any response or decision regarding buffer size will require coordination with CDFW.
4525-10394	3.7	3.7.7	223		230	Keep	BIO-MM#72: Implement Avoidance of Nighttime Light Disturbance for California Condor. Use of nighttime lighting within 0.5 miles of a night roost for condors will require coordination and approval from the USFWS.

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4525-10395	3.7	3.7.7	223		230	Keep	BIO-MM#74: Implement Bird Nest and Avian Special-Status Species Avoidance Measures for Helicopter-Based Construction Activities. What will the buffer be for listed or protected species? This buffer is very small to account for helicopter rotor wash. For SCE projects with helicopter use, the vertical buffer for raptors was identified as 200-300 feet. A nesting bird management plan is strongly recommended. In coordination with CDFW, SCE prepared a nesting bird management plan for TRTP and it facilitated flexibility in managing nesting birds in the project area and clearly established expectations. Without a pre-approved plan, modifications to buffer sizes would require CDFW approval on a case-by-case basis. There will be nesting birds throughout the construction area during the construction. Adjusting nest buffer sizes and coordinating with CDFW can be time-consuming and interfere with construction work. A CDFW- and FWS-approved Nesting Bird Management Plan like those used in big powerline projects is recommended. They provide examples of species-specific buffers that are reduced down to levels of tolerance.
4525-10396	3.7	3.7.7	224		231	Keep	BIO-MM#79: Conduct Surveys for Coastal California Gnatcatcher. On the ANF, the standard minimum buffer size is 500 feet. BIO-MM#80: Conduct Surveys for Least Bell's Vireo. On the ANF, the standard minimum buffer size is 500 feet. Where LBV nesting activity has been recently recorded (within the last ten years), but it is outside of critical habitat, would modification of this habitat occur? LBVs are known to nest below the Pacoima Dam. How will this nesting habitat be protected even outside of the breeding season. BIO-MM#81: Conduct Surveys for Southwestern Willow Flycatcher. On the ANF, the standard minimum buffer size is 500 feet. BIO-MM#82: Conduct Surveys for Western Yellow-billed Cuckoo. On the ANF, the standard minimum buffer size is 500 feet.
4525-10397	3.7	3.7.7	226		233	Keep	BIO-MM#85: Establish Construction Zones and Environmentally Sensitive Areas. A 10 foot buffer is not sufficient to ensure the stream and streamside vegetation will not be impacted.
4525-10398	3.7	3.7.7	228		234	Keep	BIO-MM#89: Implement Construction Measures for Unarmored threespine stickleback avoidance. Riparian vegetation is essential to stream health. Removal of native riparian vegetation outside the wetted channel can be impactful to unarmored threespine stickleback and will require USFWS and CDFW approval.

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4525-10399	3.7	3.7.7	229		235	Keep	BIO-AMF93: Implement Adaptive Management and Monitoring Plan for Groundwater Depletion. This measure describes the use of supplemental water. What will be the source for this supplemental water? What assurance will there be that it will not contain anything that will be harmful (toxins, bacteria, invasives, etc...). Temporary relocation is also described, but this section needs to also address the potential for some relocations to be permanent. Some relocations may be permanent if suitable holding facilities are not available or if their use is not approved by CDPW and USFWS. If holding facilities are not used, how will individuals be returned to these areas? Is it possible that extirpation could occur at some of these locations and microsites? This measure also describes compensatory mitigation for habitats not meeting restoration objectives. On NFS lands, there is no minimum size. Additionally, all impacted areas, not just special-status habitat, will require restoration. All impacted habitat not meeting restoration success criteria will require compensatory mitigation to offset the loss. Table 3.7-31 Non-FESA-Listed Special-Status Wildlife Habitat Impacts, why are the acres for fringed myotis less than pallid bat and Townsend's big-eared bat?
4525-10400	3.7	3.7.11.2	267			Keep, as the Biological Evaluation (BE) has been submitted in draft. The agreement with the Authority is that the BE will be revised after this draft EIR/EIS is released.	When will the Biological Evaluation be submitted to the ANF for review and approval? The list of FS sensitive species described in this section contains errors and does not correspond correctly with previous tables identifying FS sensitive species with potential to occur in the project area. The full list of FS sensitive species potentially occurring in the project area and the correct names must be utilized. For both FS sensitive plants and animals, the determinations discussion discloses that relatively little suitable habitat will be impacted. "Relatively little suitable habitat" is not a useful description and a quantified description of the impacts is needed. Additionally, the number of acres is only one measure of the significance of the impact. If the impacted area includes breeding habitat, even a small area of impact may have a substantial impact on the species.
4525-10401	3.8	3.8	1	4	3.8.4.1	10	3.8 Hydrology and Water Resources 3.8 Hydrology and Water Resources These could be direct effects as well, inflows into the tunnel and permanent removal of that water from the aquifer are an example of a direct effect.

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4525-10402	3.8	3.8.4.1 Added	10	4	3.8.4.1	10	The Groundwater RSA bullet is too narrow for the groundwater and associated groundwater dependent surface resources. An anisotropic "cone of depression" can extend outward from the tunnel alignment, resources within this extension could be impacted. Somehow the tunnel construction RSA and groundwater RSA need to be tied.
4525-10403	3.8	3.8.4.2	10				The draft has revised and improved these AMFs.
4525-10404	3.8	3.8.4.5	11				Delete, as this has been addressed by referring to the section where the evaluation of methods is located.
4525-10405	3.8	3.8.4.6	12				Delete, as this has been addressed
4525-10406	3.8	3.8.4.6	15	3.8	3.8.4.6	15	Paragraphs about groundwater basin recharge addresses infiltration but does not mention interbasin flow as a potential contributor. This may be from leaky boundaries where faults occur and would flow from the basin with the higher piezometric head.
4525-10407	3.8	3.8.4.6	16				Keep comment, but add this sentence: <i>Additional geological investigation would occur before final design and construction</i>
4525-10408	3.8	3.8.4.6	17				Keep

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4525-10409	3.8	3.8.4.6	18			Keep. This is not incorporated into the new document. It continues to rely solely on assumptions and makes not mention of validating those assumptions in the future.	This Groundwater section assumes a one-mile impact zone based on the Arrowhead Tunnel project, but this should be validated through in-field hydrogeologic testing. Paragraph three should address where the monitoring wells would be placed to evaluate groundwater level impacts on surface features. There will be a lag between groundwater inflows to the tunnel, water level decline in wells, and observed surface impact, so these wells need to be correctly placed and monitored very frequently, with telemetry for the data loggers in the wells.
4525-10410	3.8	3.8.5.6	27			Keep, as this section is unchanged. There could be a sentence similar to the one in the geology section... <i>Additional hydrological investigation would occur before final design and construction...</i> Although in reality that is probably too far down the road...but that is a different discussion.	This section, "Other hydrologic resources" includes seeps and springs. Some springs may be seasonal based on precipitation and others may be dependent on deeper groundwater as suggested by the 5-8 springs that had measurable flow during each monitoring event. Further investigation near seeps and springs is recommended to better understand the source of water to springs that are at risk. It looks like they used some aerial imagery to determine location of springs; however, there was not enough detail to note whether they used satellite data, or other, and over which time periods. If they could point that out, we could better evaluate whether their designation of wetlands, no vernal pools, identification of springs and seeps are valid.
4525-10411	3.8	3.8.5.5	28			Keep. This section again is unchanged and draws conclusions that may be based on misleading assumptions.	The claim that springs are not fed by deep groundwater needs further study. Parameters to look at include flow variability, chemistry, and presence of obligate plants/animals at the site. Although deeper systems may not receive recharge from precipitation, they may be connected to shallow or intermediate zones. These zones are ultimately connected to shallow aquifers that are recharged by precipitation. Since the groundwater system has not been stressed by aquifer tests or tunneling, the connections between zones, or lack thereof, is unclear. The reference to Figure 3.8-A-19 should be changed to Figures 3.8-A-20 to -23 (in separate document).
4525-10412	3.8	3.8.5.5	28			Keep	Table 3-28 The claim that springs are not fed by deep groundwater needs further study. Parameters to look at include flow variability, chemistry, and presence of obligate plants/animals at the site.
4525-10413	3.8	3.8.5.7	29			Keep	For hydrologic conditions, the discussion on page 29 regarding groundwater "compartments" suggest that impacts to isolated compartments will have no effect on other groundwater zones. While some of the groundwater data may suggest poor or a lack of connectivity for some zones, further testing will be necessary to confirm this.

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4525-10414	3.8	3.8.5.7	31			The reference to Table 3.8-8 is gone	For hydrologic conditions, the discussion on page 31 addresses data regarding very similar groundwater pressures on both sides of a fault zone, and that could be due to two conditions. Faults are either conduits to groundwater flow (not barriers) or fault zones are cross cut to the extent that groundwater is able to flow unobstructed across a fault. On that page, there is reference to Table 3.8-8 as containing typical classifications of hydraulic conductivity based on types of rock; however, Table 3.8-8 does not contain this information and a table containing this information could not be found.
4525-10415	3.8	3.8.6.1	33			Keep	To assess environmental consequences, baseline conditions will need to be monitored for a long enough period of time prior to construction to be statistically significant, in order to capture dry and wet years. Development of a groundwater model will provide estimates of the likelihood, severity, and duration of environmental consequences to hydrologic resources. The statement that the E1 and E2 routes have the largest number of springs may or may not be true since in-field verification of seeps and springs, along with remote sensing techniques, have not been completed. If the route alignment selection is based in part on minimizing risk of groundwater losses and impact to surface water resources, and those are based on the Risk Areas, the environmental consequences are based on incomplete data.
4525-10416	3.8	3.8.6.3	51		50	When addressing temporary effects there has been a reference to mitigation measure #4 added to monitoring of declining groundwater levels. The temporal descriptions of these impacts have been removed as has the reference document from Neil Berg which indicates that temporary impacts can last several years after construction.	In the discussion of CEQA conclusions, the second paragraph on this page refers to different but undefined conditions. The groundwater model and a robust baseline, construction, and post-construction monitoring program would predict these conditions. The third paragraph compares the alignments based on the Risk Areas, but there has not been an exhaustive inventory of the wells, seeps, and springs for any of the alignments.
4525-10417	3.8	3.8.6.3	52		51	To address this the wording has been changed from <i>substantial groundwater flow into the tunnels would likely occur during and after construction to groundwater inflow into the tunnels would likely occur during construction</i> . The word <i>substantial</i> is omitted as well as <i>after construction</i> . The bullets remain unchanged. Additional studies are still needed to verify assumptions	The site-specific characterizations would be conducted in collaboration with USFS hydrogeologists. Telemetry would be expected with the automated data collection systems. To develop and implement an AMP, it is expected that HSR will develop a calibrated groundwater model to better understand and quantify the "substantial groundwater flows" into the tunnels. The statement that "substantial groundwater inflow into the tunnels would likely occur during and after construction" would be contrary to the assurances that effective tunnel liners would be installed, and that groundwater losses would not continue indefinitely. The first bullet is misleading since a full assessment of wells, seeps, and springs has not yet been completed.

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4525-10418	3.8	3.8.6.3	63		52	Text has been changed tone down the intensity of the risk. For instance, words such as substantial when relating to flow have been omitted. Substantial flow occurring between first and second pass installations (2021 version) has been moderated to flow will be substantially reduced (2022 version). Still there is no mention of additional information gathering. It appears to be assumed in this risk analysis that assumptions are solid when in reality it is an analysis based on limited data, a fair amount of assumption and "professional judgement". The risk analysis assumes that the TBM moves forward at a steady pace with the first pass lining instantaneous. Production rates for drilling and mining are always related to rock quality (amongst many other things). An area that is moderate risk can drain a fair amount of water if the TBM is stuck in squeezing ground for a month. The point is that this risk analysis is a high level tool for comparison only and not a depiction of actual conditions.	Risk Areas should be re-evaluated based on updated well and spring locations. In High Risk Areas where HYD-IAMF#4 through 7 are insufficient, significant groundwater losses are expected and potentially over a greater area than currently mapped. The groundwater model would estimate these losses and evaluate alternatives to the 16-month delay between installing the first and second liners.
4525-10419	3.8	3.8.6.3	65			This is actually Tables 3.8-9, 3.8-10 and 3.8-11 in both documents. The rest of the comment stands and no changes have been made	Tables 3.8-10, 3.8-11 and 3.8-12: The columns "springs present" and "known active wells present" should be updated following further research into whether springs and wells are in fact actually present, not just in databases. Other methods should be used to identify unmapped springs and seeps.
4525-10420	3.8	3.8.6.3	66			Keep	For the CEQA conclusions, the long-term implications of groundwater inflow need to be addressed. If groundwater losses are expected to continue for "several years" after construction, after all installation is complete, what mechanism would take place that would eliminate these losses "over time" and allow conditions to return to normal? How would deep groundwater, which is said not to be recharged by precipitation and if not connected to other shallower water bearing areas, be recharged and recover to pre-construction levels or conditions? In the second paragraph on that page, the statement that the SR14 and SR14A alignments have the lowest potential risk to surface resources can not yet be made because an investigation into the number of wells and springs actually present has not yet been completed.
4525-10421	3.8	3.8.7	69			There has been an expansion of this bullet, which includes the specifics identified in the 2021 comment such as numeric triggers on tunnel inflows and groundwater levels and also daily collection of this data. The inclusion of supplemental water to affected resources is added as well.	For HVR-MM#4, third bullet mentions but does not identify triggers, which could be groundwater flow rates into the tunnel, groundwater levels, or other monitoring. The triggers need to have enough buffer to mobilize and mitigate rapidly. As groundwater losses create a domino effect ending with loss of available groundwater to habitat, springs, domestic wells, and potential off-forest reservoirs or spreading grounds. Collection and retrieval of tunnel outflows and groundwater levels in wells should be daily.

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4525-10422	3.8	3.8.7	70		68	Some text has been added to the section on construction monitoring which addresses post construction period "After construction, a substantial baseline monitoring system would be conducted to evaluate recovery of water resources... The emphasis on baseline monitoring is in the pre-construction. It is good that there will be an effort to quantify the effects of construction but this portion can happen during construction and continue after construction is complete. The project will take time to complete so and as monitoring is an ongoing process from the pre-construction through post construction so should the evaluation of any impact and recovery. Learning is a continual process and alot can be gained from analyses early on. One of the most critical items to this process (and it is constantly mentioned) is baseline data collection. This needs to be started early and with enough resolution to be useful. The FS has mentioned this from its very first meetings. How far out in front of the construction does the CHSRA intend that this should happen? With weather patterns changing there is a need to be able to track those changes over a longer period of time in order to parse out the potential effects of a changing climate.	Real time monitoring of groundwater levels in monitoring wells (first paragraph) should happen during the entire construction period, not just when approaching and in moderate to high risk areas. This is how surprises and problems can occur. Also, it is anticipated that a groundwater model and aquifer testing would be used to evaluate how quickly potential impacts would occur to surface resources after groundwater levels decline. In the second paragraph, a substantial baseline monitoring dataset will be necessary to establish when resources have recovered to pre-construction conditions.
4525-10423					66	Continuing from the 2021 comment regarding the monitoring as it applies to risk areas...this discussion remains unchanged. The risk analysis being used in this document to determine the preferred alignment is potentially incomplete with regard to the actual project. As stated earlier, additional work needs to be done along the preferred alignment to identify hydrologic resources and better characterize ground and groundwater conditions. Will there be a new risk assessment or will the current one be updated? Monitoring of resources should be continual but may be increased when construction starts to get closer to features that may affect those resources. Maybe that should be clarified.	
4525-10424	3.8	3.8.8	72		73	Keep, as this is not addressed in the new document.	For the NEPA impacts summary, there are several tables and numerous paragraphs in this section (including 3.8.8.5 and 3.8.8.6) that state the SR14/SR14A alignments would have the least impact to hydrologic resources because there are no known seeps or springs within one mile of the alignment. Again, this evaluation needs to be deferred as the number and locations of wells, seeps, and springs along each alignment are not fully known.

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4525-10425	3.8	3.8.8.6	78		80	This figure appears to be correct. This section, specifically "Incomplete or Unavailable Information Regarding Evaluation of the Effects of Tunnel Construction" discusses the need for additional information in both the surface and subsurface realms. It describes the need for additional boreholes and the information that will be obtained from those borings. It also discusses the need for more observations to understand and characterize the existing wells, springs and streams in the study but does not discuss any further exploration of potential additional resources.	Additional planned data collection needs to include location of seeps, springs, and wells not present in databases, and to identify unmapped fault and fractures. In the fifth paragraph on the next page (79), references should be to Figure 3.8-A-18 (not 13). Groundwater modeling efforts need be guided by the publication, "Modeling of Groundwater Systems," Groundwater Technical Notes, Gen. Tech. Rep. WO-92b-10, 2017, 14p..
4525-10426	3.8	3.8.8.6	80		81	Keep, as there is no change in the new document with regard to age dating and presumed hydraulic connectivity	The groundwater pressures are indicated to be as high as 50, which is double the stated capacity of the tunnel lining system (in other sections). The age dating from the core holes do not necessarily indicate that the older groundwater is cut off from the shallower groundwater. The proponents claim the deep groundwater is very old and therefore isolated from the surface. There are some irregularities in the age data including contamination by drilling fluids. Also the fact that the deepest piezometers respond to recharge events indicate a hydraulic connection to the surface that could disrupt flow in springs/streams if pressure throughout the aquifer (or fault zone) is lowered by tunneling.
4525-10427	3.8	3.8.8.6	81		82	The third paragraph under "Theoretical Approaches Available to Evaluate the Effects of Tunnel Construction" omitted this text in the new document. "The theoretical approaches employed, together with the data available, provide sufficient data and information to estimate effects for all six build alternatives that allows for a reasoned comparison and choice among the alternatives. As such, the lack of more detailed and specific information about the precise tunneling impacts does not trigger a requirement to obtain additional information." This language also expresses the idea that the conclusions at this point about supposed impacts is for the purpose of comparison and not to fully determine the validity of the assumption. It implies that additional information will be forthcoming.	
4525-10428	3.8	3.8.9	82		82	This paragraph has been removed in the new document. A previous paragraph has been expanded to include some of this information in a more generic form from most to least and has left out quantitative information. As this is a higher level comparison, that is likely more appropriate.	The first paragraph states the SR14/14A alignment would not be within one mile of seeps or springs. Again, this needs to be researched further to clearly establish the number and locations of wells, seeps, and springs along the alignment before a comparative statement like this can be made.
4525-10429	3.8	3.8.9	83			This has been changed to "Significant" before mitigation (S) for both surface and groundwater	In Table 3.8-14, it is unclear how the groundwater losses can be determined to be Less Than Significant before mitigation, as the information in this chapter outlines significant groundwater losses during tunnel construction.

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4525-10430	3.8	3.8.10.2	85			Keep	Guidance on addressing groundwater issues within the Special Use Permit application process are offered in the working guide, "Groundwater Stewardship Technical Guide, Part 2: Framework for Decision Making (FS-881 Revision), Special Use Management," 2019, 19 pp.
4525-10431	3.8	3.8.10.2	88			FEMA Special Flood Hazard Areas are included on the many surface waters maps associated with the project surface features.	Flood zones are mentioned but not mapped, relative to structures that may be subject to increased flow/debris rates downstream of areas burned by wildfires. Grading and culvert improvements are listed for E1 and E2, and may not be consistent with the Critical Biological Land Use Zone identified for Aliso Canyon in the San Gabriel Mountains National Monument plan.
4525-10432	3.8	3.8.10.2	90			Although a groundwater model has been mentioned elsewhere in the document it is now specifically mentioned here. The changes to this section have been to remove the specificity as it relates to the six different alignments and instead designate the two SR-14 alignments as the least impactful.	The groundwater model will need to be populated with data representative of the fracture flow system on the ANF. In particular the faults will affect much of the flow system. Therefore, the geometry and hydraulic properties of the different faults will need to be investigated with borings and downhole testing.
4525-10433	3.9	3.9	1			Chapter 3.9 Geology, Soils, Seismicity and Paleontological Resources	Chapter 3.9 Geology, Soils, Seismicity and Paleontological Resources
4525-10434	3.9	3.9.5.4	27			Keep	Narrative describing "potential to corrode" are inconsistent with the subsequent maps, for a few locations, including adits and portal areas in E2. (narrative on pages 27 and 37)
4525-10435	3.9	3.9.5.6	47			Keep	In Map 3.9-21, the Magic Mountain Fault was not identified in any of the three categories. So it is not "nonhazardous," but is it unknown? Another category may be needed on these maps for "unknown" or "unidentified."
4525-10436	3.9	3.9.5.6	50			Acknowledged all the alternatives transect hazardous and potentially hazardous faults. Only address surface effects; at grade effects could be displacement effects.	Smaller quakes below grade at tunnel depths could affect the tunnel structure, and need to be acknowledged.
4525-10437	3.9	3.9.6.1	82			Delete, as statement has been added to both sections	For Primary Seismic Hazards/Impact GSSP#7 and GSSP#16, the statement should be added: Fault rupture could affect the tunnel structures and alter tunnel integrity.
4525-10438	3.9	3.9.6.3	85		80	Delete, as statement has been added	For Impact GSSP#4 spoils at Vulcan Mine: These spoils need to be placed in such a way as to provide a stable finished surface that meets the FS visual and re-vegetation requirements.
	3.9	3.9.6.3	87			Keep	For Impact GSSP#5/E2 Build Alternative- E2-A1 and E2-A2 adits: These areas have been listed as having a high corrosion potential for concrete. This could be significant in construction of the adit portals.

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4525-10439	3.9	3.9.6.3	88		82	Indicated that HSR/contractor will conform to guidelines specified by relevant transportation and building code agencies. Added section stating construction practices would address safety and risks	For Impact GSSP#6, the difficult excavation areas within the ANF include tunnels and adits. For Impacts GSSP#6 and GSSP#7 during construction, there is reference to GEO-IAMP#10, which has codes and standards for highway and rail structures. None are for underground/tunnels, and do not refer to anything specific about protocols to limit fault rupture and ground shaking hazards during construction. For CEQA conclusion, adherence to GEO-IAMP#10 would not assure that the alternatives would not directly or indirectly cause potential substantial effects. The impact would not be known, the impact could be significant, and the statement "CEQA does not require any mitigation" is unsubstantiated.
4525-10440	3.9	3.9.7	96			Delete, as this was added to draft	For GEO-MM#1, include restoration plan for Vulcan Mine if it is to be used for spoils retention.
4525-10441	3.9	3.9.8	97		92	Keep	To minimize impacts related to soils (third paragraph), a reclamation plan for the Vulcan Mine site would be required, if the site is used as spoils retention.
4525-10442	3.9	3.9.10.2	109		108	Keep	For soil hazards, maps on pages 27 and 37 show areas of high corrosion potential, yet none are identified in this text. These are in Aliso Canyon and Arroyo Canyon for E1 and adit options for E2.
4525-10443	3.10	3.10	1			3.10 Hazardous Materials and Wastes	3.10 Hazardous Materials and Wastes
	3.10	3.10.10	38			Keep	The transport and disposal of these large quantities of spoils are of considerable concern. The spoils are not adequately characterized to allow for assessment of CEQA significance (Table 3.10-8). The spoils and other construction-related hazardous materials will be further evaluated in the Special Uses Permit application process.
4525-10444	3.11	3.11	1			Chapter 3.11 Safety and Security	Chapter 3.11 Safety and Security
	3.11	3.11.5.3	41			Keep	State responsibilities for wildfire prevention and suppression are outlined in the Fire Hazard Severity Zones and maps. The list of consulted agencies (for this administrative draft) should include the California Department of Forestry and Fire Protection (CalFire). The ANF is within the Federal Responsibility Area, and that designation should be indicated on Figure 3.11-2.
4525-10445	3.11	3.11.6.4	68			Keep	Impact S&S#16 includes impacts in the construction and operation of the adit facilities along Little Tujunga Canyon road. There are both concerns for the ignition of ANF vegetation from any buildings or equipment, during construction and operation, and for damage to buildings or equipment during a wildfire that spreads into this area. Specific construction design elements to avoid and minimize impacts need to be considered in the Special Use Permit application process. Impact S&S#17 would apply to these same areas, particularly in the use of roads within the ANF. Impact S&S#18 would apply to the buildings and equipment in the adit facilities.

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4525-10446	3.11	3.10.10	80			Keep	The specifications for the adit buildings, utility lines, roadway modifications and the spoils deposit at the Vulcan mine site would be considered in the Special Use Permit application process.
4525-10447	3.16	3.16	1			3.16 Aesthetics and Visual Resources	3.16 Aesthetics and Visual Resources
	3.16	3.16.10	130			Same comments (didn't review 2022 draft)	The impacts to aesthetics and visual resources will be considered in the Special Uses Permit application process, as consistency with the Land Management Plan and images in Appendix 3.16-A are assessed.
4525-10448	3.17	3.17	1			Chapter 3.17 Cultural Resources	Chapter 3.17 Cultural Resources
	3.17	3.17.2.2	4			Same comments (didn't review 2022 draft)	Add the Archaeological Resources Protection Act of 1979 (ARPA), the regulations for protection of historic properties (36 CFR Part 800), and the Native American Graves Protection and Repatriation Act of 1990.
4525-10449	3.17	3.17.4.2	10			Same comments (didn't review 2022 draft)	In section for Native American Outreach and Consultation, the ANF provided HSR their Native American consultation list of Tribes, groups and individuals.
4525-10450	3.17	3.17.4.2	18			Same comments (didn't review 2022 draft)	In Table 3.17-3, the specific tour stops on 1/18/2017 and other entries should not be listed in such a public document because they are well known locations and call out exactly where the archaeological and tribal concerns are. This is the only table with names of consulted parties (in all the chapters read for this review). Have they given permission for this, and is the listing of names appropriate?
4525-10451	3.17	3.17.5.3	40			Same comments (didn't review 2022 draft)	The number of mapped archaeological resources within the APE are inconsistent: listed as 65 in 3.17.5.2 but 73 in 3.17.7.3.
4525-10452	6	6	1			6 Project Costs and Operations	6 Project Costs and Operations
	6	6	1			Keep	The financial feasibility of the project will be addressed in the Special Use Permit application process. Some initial questions are: Where does the Authority show that sufficient funds are available (or a firm commitment) to evaluate, construct, maintain, operate, complete, and remove/restore (if project fails or goes unfinished) the project? Are the amounts identified as Insurance/Unallocated contingency for this purpose? Where does the Authority demonstrate viability of the proposal thru a business plan (including income & expense worksheet)?
	App 2.0-E	App 2.0-E, App 2.0-E	1			APPENDIX 2.0-E Impact Avoidance and Minimization Features	APPENDIX 2.0-E Impact Avoidance and Minimization Features

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4525-10453	App 2.0-E, App 2.0-E	29				TBM discussion is better and properly clarified. The added figure is good and does show angled probeholes. TBM selection will need to be done after the alignment is selected and more investigation is done.	HYD-IAMF#5, Tunnel Boring Machine design and features, has a confusing discussion. TBMs are not limited to open or closed, and a single machine can be built to dual mode or mixmode to operate in each of these modes depending on ground conditions. The TBM design needs to be based on a more extensive Geotechnical Baseline Report (GBR). In addition, piezometers could be installed into the tunnel wall to monitor pressures as the TBM moves away and the liner is installed, to help monitor the recovery of the groundwater system in critical areas connected to surface water features and to help determine the effectiveness of the grouting program. The TBM horizontal probe holes could be horizontal or sub-horizontal to allow a bigger field of view in front, used for gathering other information such as rock quality, and for draining the rock in front of the heading. Groundwater "out-off" is often a goal rather than reality, so "potentially reduce" would be more accurate. Probing can be done in closed as well as open mode.
4525-10454	App 2.0-E, App 2.0-E	29				there are a couple of items here. This section has been changed a bit and detail has been added. The document discusses the leakage that is likely to occur in areas where there is only a single pass lining and a second lining will be installed (16 months later). It limits the anticipated leakage to "No significant leakage" This is defined as an amount of leakage that will create short term impacts to groundwater resources. It appears that the amount or timeframe is intended to be vague. The other detail to note that the term "Dry tunnel condition" is not really dry but is infact intended to be an amount that does not impact groundwater resources. More attention needs to be paid to both of these terms during the planning and SUA.	HYD-IAMF#6, Tunnel lining systems. Selection of tunnel lining system would depend on successful deployment of designs at these pressures, and would be approved as part of the Special Use Application process. For this EIR-EIS, the 25 bar is a reasonable design specification for a single pass bolted and gasketed segmental liner, or for a two-pass lining system.
4525-10455	App 2.0-E, App 2.0-E	30				Keep	HYD-IAMF#7, Grouting. Getting a good seal may still be difficult in areas of high water pressure and high flows. Some type of grout collar may be necessary to keep the grout from washing out before setting. The grouting also needs to manage lateral flow within the rock, especially if there is compartmentalization of groundwater along the alignment. Piezometers could be installed into the tunnel wall to monitor pressures as the TBM moves away and the liner is installed, to help monitor the recovery of the groundwater system in critical areas connected to surface water features.

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4525-10456	App 2.0-E, App 2.0-E	30				They have stuck to their guns on this. They will need to gather alot more information and do some modeling to really inform the anticipated grouting. The technology is constantly changing...especially in regard to materials. They did mention inflow requirements (water ingress flow rates) but I am not sure they fully understand the concept. The inflow requirements are a first line of defense for groundwater impacts. The groundwater model will be used to propose amounts of seepage or inflows that can occur without creating groundwater resource effects or at least lasting effects. The proponent agrees that they can meet the requirements with their technology. Those requirements become triggers that the proponent must stay within or act to bring their activities back into compliance. Everything else listed is a "will be" while this item is a "should be". That needs to be changed	HYD-IAMF#7, Grouting. There is little known about the geology along any of the alignments. Grouting is not foolproof and many construction projects demonstrate this. Inflow requirements will need to be determined in the Special Use Permit application phase. This section should reflect that little is known about the grouting specifications and effectiveness. next phase of the FS process after application proposal. Injection of grout through drill holes would be based first on anticipated conditions and then on the design of the Tunnel Boring Maching (TBM). The following comment could be added: "The overall range of criteria for length and direction of drill holes, number of holes, grout composition and injection pressures will be determined based on a more extensive Geotechnical Baseline Report (GBR) and the range of conditions anticipated from that report. The field conditions will then be used to select the appropriate application of the pre-excitation grouting technology at each specific location." There are many reasons why it is hard to seal tunnels completely, and sealing the zone in front of the TBM is not an absolute as the text implies. The following would be more accurate, "The intent of pre-excitation grouting is to create, to the extent practical, a zone of treated rock/soil (or fault gouge) in front of the TBM. This treatment helps to stabilize the section while mining through and also potentially helps to reduce inflows."
4525-10457	App 3.1-B, B, 1, App 3.1-B, B, 2	1, 7				APPENDIX 3.1-B USFS POLICY CONSISTENCY ANALYSIS Keep, as there were no detected changes in this chapter.	APPENDIX 3.1-B USFS POLICY CONSISTENCY ANALYSIS The Organic Administration Act of 1897 establishes the authority of federal government to manage federal lands for timber production, watershed protection (surface water and groundwater) and forest protection. The Forest and Rangeland Renewable Resource Planning Act of 1974 requires federal inventory and management of renewable resources on National Forest System Lands. Add the Archaeological Resources Protection Act of 1979 (ARPA) for cultural resources.
4525-10458	App 3.1-B, B, 2, 6	9				Keep	The USFS promulgated a revised Forest Planning Rule in 2012, but the 2005 ANF LMP follows the 1982 planning rule.
4525-10459	App 3.1-B, B, 3, 1	10				Keep	The regulations establishing the special use authorization requirements are outlined in this section, yet not referenced further in the document. Focused information and analyses are needed to meet the requirements, some of which has been assembled in the chapters of this EIR-EIS. Other information needs to be provided in the Special Use Permit application process.
4525-10460	App 3.1-B, B, 3, 2	11				Keep	Section 3.2 is not relevant to the HSR project. The high-speed rail project is guided by the LMP provisions, therefore only indirectly by the planning rule and not regulations applicable to this project.

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4525-10461	App 3.1-B, 4.1	14				Keep	
4525-10462	App 3.1-B, 2.3.1	14				Keep	All 2. Forest wide inventory. Reference should be made to the project's monitoring efforts, that will focus on maintaining capacity/process and systems of the ANF.
4525-10463	App 3.1-B, 4.1	18				Keep	The proposed alignments do not intersect the Pacific Crest Scenic Trail, but the effects still need to be assessed in the EIR-EIS.
4525-10464	App 3.1-B, 4.1	20				Keep	References to the Land Management Plan should be with LMP and not FMP, in a number of consistency statements.
4525-10465	App 3.1-B, 4.1	20				Keep	WAT 1 and 2. Several of the consistency statements have the same assertions in the final paragraphs, "With implementation of these mitigation measures, the Build Alternatives would not result in a substantial adverse effect to the [various strategies]." There is not enough information at this time to make such a definitive claim. Further data acquisition and analyses are still needed for the selected alignment.
4525-10466	App 3.1-B, 4.1	20				Keep	WAT 1 and 2. Several of the consistency statements have the same assertions, that there may be only temporary or indirect effects. Since the effects could be permanent and direct, the analysis should include the permanent and direct effects from groundwater depletion. If permanent and direct, this would not be consistent with the standard of no adverse effect necessitating an LMP Amendment along with minimization, design features, and mitigation to compensate for adverse effects.
4525-10467	App 3.1-B, 4.1	20				Keep	WAT 1 and 2. Several of the consistency statements have the same long paragraphs that start with, "Tunnel construction..." Several IAMFs are cited, with the assertion that they may reduce the potential for tunnel inflows and therefore also for associated resource impacts. The HYD-IAMF#s - #7 are very general and could be used for almost any project, as the magnitude of potential inflows and tunnel lining approaches have not been assessed. The effectiveness of various IAMFs would be evaluated in the groundwater model and additional field data collection in the Special Use Permit application process. In some low storage settings, a relatively small amount of inflow in the right area can have a significant effect in another area.
4525-10468	App 3.1-B, 4.1	23				Keep	WAT 1 and 2. All sections. Further work on understanding the hydrogeology of the ANF is required, as well as understanding actual quantitative and qualitative impacts to the ANF during and after tunnel construction. See Section 3.8 comments for further detail.
4525-10469	App 3.1-B, 4.1	24				Keep	WAT 2 (d) Quality water sources. The effectiveness of augmenting water supplies for reducing or offsetting impacts has not yet been determined. The scenario set out in appendix 3.8-D does not necessarily meet the water demand of one of the potentially impacted watersheds along E1 based on the assumption of using recycled construction water at 20% availability in a non-drought year. There may be species that are very sensitive to the quality or chemical components of the water (ie crinobiotics).

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4525-10469	App 3.1-B, 4.1	24				Keep	WAT 1 (f) Geologic resources and hazards. Evaluation of alternatives was done with risk assessment, not an impact assessment based on geological modeling. The preliminary analyses were based on only five bore holes in a very large area not specific to preferred alignment, so does not suffice to assess "greatest potential" for groundwater inflow. GEO-IAMF#10 is a collection of codes which address building, road and structure construction, none related to tunnel or lining construction or impact reduction. Targeted data collection and a functioning groundwater model will be necessary to identify and quantify impacts and determine consistency with LMP. Monitoring protocols will need to be specified as part of the Special Use Permit application.
4525-10470	App 3.1-B, 4.1	26				Keep	WAT 3. Hazardous materials. This should also include pre-construction activities that will be performed to inform the design documents for the Special Use Permit application.
4525-10471	App 3.1-B, 4.1	29				Keep	WAT 2 (d) Quality water sources. The effectiveness of augmenting water supplies for reducing or offsetting impacts has not yet been determined. The scenario set out in appendix 3.8-D does not necessarily meet the water demand of one of the potentially im
4525-10472	App 3.1-B, 4.1	41				Keep	Lands 3. Boundary management. Project should include the survey and posting of NFS/non-NFS land boundaries in the project area. Boundary signs, fences, barriers, etc. on NFS lands need conform to a condition and appearance acceptable to the FS.
4525-10473	App 3.1-B, 4.1	42				Keep	ME 1. Minerals management. The GEO-IM#3 can't be located, which is described as covering compensation of lease owners for losses resulting from construction.
4525-10474	App 3.1-B, 4.2	47				Keep	The Design Criteria for the ANF include a section, Part 2 Program Emphasis for Place(s). The alignments under consideration cross the Soledad Front Country, Angeles Uplands West, and The Front Country Places. This appendix needs to describe how the project expects to maintain the character and preserve the intact nature and valued attributes of these Places.
4525-10475	App 3.1-B, 4.2	47				Keep	The Design Criteria for the ANF include program emphasis for Commodity and Commercial Use. This appendix needs to describe how the project will impact these uses and whether land use above the tunnels will be encumbered or limited.
4525-10476	App 3.1-B, 4.2	49				Keep	S7 and S8. These standards would not be applicable to the project.
4525-10477	App 3.1-B, 4.1	50				Keep	S9. Scenic integrity objectives (SIO) apply only within the Forest. The ANF has no jurisdiction over activities outside the Forest. The proposed construction activities and maintenance facilities cannot be seen from the Pacific Crest Trail.

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4525-10478	App 3.1-B B, 4.2	50				Keep	S45. There is not enough information to support the statement that groundwater conditions would return to normal over time. There not enough information at this time to make the definitive claim that the project would not result in a substantial adverse effect. Further data acquisition and analyses still needs to be performed on the specific alternative selected.
4525-10479	App 3.1-B B, 4.2	50				Keep	S9. Scenic resources contribute to the aesthetic, recreation and open space values, especially those of high valued scenery such as the scenic backdrop for local communities. The inconsistency of two alternatives is acknowledged in this section.
4525-10480	App 3.1-B B, 4.2	50				Keep	Biological and vegetation management standards. Further work on understanding the hydrogeology of the ANF is required, as well as understanding actual quantitative and qualitative impacts to the ANF during and after tunnel construction. See Section 3.8 comments for further detail.
4525-10481	App 3.1-B B, 4.2	51				Keep	S46. This project is not specifically about water extraction but the required environmental analyses could indicate that there will likely be consequences to surface water diversion. If so, the consistency analysis is applicable to this section.
4525-10482	App 3.1-B B, 4.3	57				Keep	SGMNM Biological resources. This goal is applicable to the project, and the document needs to address consistency.
4525-10483	App 3.1-B B, 4.1	64				Keep	Development is not suitable in Critical Biological Land Use Zones. An LMP amendment may be needed for the selected alignment.
4525-10484	App 3.1-B B, 4.1	66				Keep	The proposed alignments do not have surface or subsurface or facilities within the Magic Mountain Wilderness Area, but the indirect effects on the wilderness conditions still need to be assessed in the EIR-EIS.
	3.7						APPENDIX 3.7-C, Supplemental Analysis of Tunneling Effects on Biological Resources

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4525-10485			Appendix 3.7-C	2.3.1	23	In the phone conference on Nov 18 2021 discussing the draft Biological Evaluation, the ANF and CAHSRA agreed to revise Table B-1 to include six groundwater dependent plant communities, including these three tree dominated communities (COW, VRI, MHC) and three shrub dominated communities (DSW, CRC, CSC). This was based on the agreement that if the dominant species in the communities were GWD then the community would be considered GWD. Yet the EIR-EIS only recognizes these four communities as GWD: COW, MHC, VRI (tree-dominated) and DSW (shrub-dominated). We disagree with some of the conclusions in the last column of Table B-1 because some of those dominant and co-dominant species are phreatophytic according to the Groundwater Resource Hub database yet they were discounted (especially for CRC and CSC). The recognition of only four instead of six GWD communities could make a significant difference to the estimation of acres of potential impact from changes to hydrologic caused by tunnel construction and (in addition to only quantifying impacts for the Moderate and High Risk Areas and not the No/Low Risk Areas) it may lead to an under-estimation of the impacts to biological resources.	
4525-10486			Appendix 3.7-C	2.3.2	4	In Section 2.3.2 Special-Status Plant Species, clarify that none of the species themselves are known to be phreatophytes since they are not included in the Groundwater Resource Hub plant rooting depth database. It should be made clear that they are being considered GWD since their suitable habitat includes GWD plant communities.	
4525-10487			Appendix 3.7-C	2.3.3	5	In Section 2.3.3 Special-Status Plant Communities - Bigcone Douglas Fir occurs in MHC which is considered to be GWD and its associates include <i>Quercus agrifolia</i> and <i>Q. chrysolepis</i> which are both phreatophytes.	

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4525-10488			Appendix 3.7-C		26	Table B 2 – several plants listed in the table are not classified as GWD yet they occur in GWD communities (e.g., VRI or COW as defined in Table B 3). It is not clear what rules were consistently used to designate the plants as GWD. Also, the FSS status needs to be double checked and corrected because some species are not labelled as FSS in this table but they are in the BE (see Section 5.1 and Appendix B). Table B 2 – several plants listed in the table are not classified as GWD yet they occur in GWD communities (e.g., VRI or COW as defined in Table B 3). It is not clear what rules were consistently used to designate the plants as GWD. Also, the FSS status needs to be double checked and corrected because some species are not labelled as FSS in this table but they are in the BE (see Section 5.1 and Appendix B).	
4525-10489			Appendix 3.7-C		43	It is not made clear why the impact analysis in this Appendix (shown in Tables C-1 to C-3) is only for ANF lands. Tunnels also occur outside the ANF and some portion of the Moderate Risk Areas falls outside the ANF. Readers of this Appendix may not know how the Risk Areas are defined so add a sentence about that or make a reference to Chapter 3.7 Hydrology and Water Resources, Section 3.8.5. Also, a figure is needed to show the Risk Areas in context (for example, include Fig 4-3 and 4-4 from the BA or refer to those figures here).	
4525-10490			Appendix 3.7-C		43	If the B and C tables had a parallel structure, they would be more comparable (the B table lists the plant communities or species while the C table provides the acres of impact for them). Organize the list of plant communities or species in the same order in each table (e.g., list tree dominated habitats first, shrub dominated second).	
4525-10491			Appendix 3.7-C		43	Table C-1 and C-3 could be combined, since the data in both tables is identical. Either that, or Table C-3 should have parallel structure to Table 3.7-6 so that the first column is similar (the name of the special status plant community). Then add another column to Table C-3 on the far right with the "associated CWHR vegetation community" similar to Table 3.7-6. The brackets in the first column of Table C-3 are confusing. The Table should highlight the SS plant communities rather than the general community they are a subset of. Table C-2 title should be more clear, e.g., "Potential Impacts from Groundwater Depletion Affecting Suitable Habitat for Special Status Plants".	

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4525-10492			Appendix 3.7-C		46	Table C-3 also adds an entirely new CWHR habitat type (Montane Riparian or MRI) that is not previously discussed or included in any other vegetation table in the EIR-EIS. If MRI is in fact an important groundwater-dependent habitat that supports two special status plant communities then why has it never been discussed (for example in Table 3.7-4 or Table 3.7-6 in Section 3.7.5.4 Special Status Plant Communities)? Why is it split out from VRI here and not elsewhere?	
4525-10493						App. 3.8-C Adaptive Management and Management Plan for ANF/SGMNM	App. 3.8-C Adaptive Management and Management Plan for ANF/SGMNM
	App. 3.8-C		App. 3.8-C, 3		3	Keep	The monitoring needs to apply to both Moderate- and High-Risk areas, not just high risk. Monitoring likely needs to also cover Low-risk areas since the effects may be catastrophic regarding groundwater dependent ecosystems and biota. The wells, seeps and springs have not been inventoried thoroughly and identified, so the presence of seeps and springs cannot be ruled out. Therefore, many of the Resource Study Areas actually have seeps and springs, and those areas would then be at least "moderate risk" areas. As the inventory is unlikely to be completed before the draft EIR-EIS is released, the risk assessment maps need to be adjusted to incorporate the expected inventory of springs and seeps. Expanded data is also expected for faults and fractures, and the risk assessment needs to be adjusted to account for fractures linking subsurface aquifers with surface water expressions.
4525-10494			App. 3.8-C	App. 3.8-C, 3.1	3	Keep	Table 1 is missing metrics for the water levels in springs and seeps, wells and in-channel flows stream flows. For USFS Standard 45, the threshold of reduction of water level below lowest documented pressure for the previous year is insufficient and not based on a statistical analysis of a robust dataset. Statistical analysis of a dataset of at least 5 years should be used to account for wetter and drier years, or a period of years that encompasses El Nino and La Nina conditions. Measured pressure at deeper levels may not be a good comparison, since groundwater heads that increase during wet years could remain level or have a delayed response from tunnel inflows but would not achieve a threshold value for impact.
4525-10495			App. 3.8-C	App. 3.8-C, 3.1	3	Keep	The first paragraph refers to the analysis standard statistical approaches, but they may not be sufficient to identify statistically significant values or percent changes that will be used to indicate changes in conditions sufficient to warrant an adaptive response. The inherent seasonal and regional variability in precipitation will likely require statistical approaches that have been applied to other complex hydrogeological projects.

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4525-10496	App. 3.8-C	App. 3.8-C, 3.1.1	3			Keep	The National Hydrography Dataset (NHD) was relied upon for identifying springs, yet it has been found to be very incomplete. In some areas only 10-20 % of springs are shown in NHD, so field surveys are required to locate all springs. With local variability in precipitation, surveys may be needed over several years. Periodic monitoring (weekly, monthly) of surface water and groundwater sites has been found to be inadequate when trying to identify impacts from tunneling. Continuous monitoring along with telemetry are required for responsive and timely reaction to impacts.
4525-10497	App. 3.8-C	App. 3.8-C, 3.1.2	4			Keep	For #2 in the list of monitoring actions, specific sites need to be selected once the alignment is finalized. This information will form part of the baseline data needed for the Special Use Permit application process. For #4, identifying all surface water resources is a very high priority. For #6, both springs and seeps need to be monitored. Although water flow at seeps is by definition not measurable, seeps are critical ANF resources. One or more indicators of seep condition needs to be developed to assure that seeps, and their associated biota, remain healthy. Seeps need to be added to #8, to encompass all surface waters.
4525-10498	App. 3.8-C	App. 3.8-C, 3.1.2	4			Keep	Pre-construction monitoring is essential for providing the required information for the Special Use Permit application. The ANF can issue permits for the water resource monitoring, geotechnical investigations, and other studies to help establish baseline conditions. These would provide for continuous monitoring and telemetry, to collect data more sensitive to field conditions and to contribute to the hydrogeology modeling.

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4525-10499	App. 3.8-C	App. 3.8-C, 3.1.2	5			Keep	The Authority's focus for baseline determination is the seasonal scale, but that does not protect the resources of the ANF. Biota respond to changes ranging across a spectrum from annual to diurnal. For the Arrowhead tunnel construction on the nearby San Bernardino National Forest, none of the monthly pre-construction spring or stream flow data was useful to determine surface water impacts from tunnel mining because the monthly monitoring interval was too long. The "baseline" by default became the weekly surface flow measurements that were made during construction but before the TBMs got close enough to a surface site to have a significant chance of impact. The project would have progressed much more effectively if a true baseline had been developed in pre-construction. Some stream segments had no surface flow during some 24-hour periods, which is important biologically but not identified by weekly, manual flow measurements. Stream gaging quantified this diurnal flow pattern. To adequately characterize a biologically meaningful baseline both weekly flow measurements at multiple sites across a broad spatial scale and streamgauge measurements (approximately 3-5 minute frequency) at a few locations are needed. For riparian resource monitoring, consider adding photo points and infrared monitoring for photosynthetic data (satellite) to compare vegetation throughout pre-construction, construction and post-construction phases.
4525-10500	App. 3.8-C	App. 3.8-C, 3.1.2	5			Keep	For #11, a robust set of input parameters will be needed. A complex three-dimensional model of groundwater in fractured rock is needed for this project, to predict and set triggers, avoidance, minimization, and adaptive management of the tunneling. Many monitoring points and in-field well testing will be required, and the listed inputs and outputs will not be sufficient for a model that should predict tunnel drilling impacts. For #12, contacts should be made with owner to gain access. Wells would be outfitted with transducers and telemetry set to record and transmit data at least daily, in pre-construction. All of the monitoring information will be needed to inform the Special Use Permit application process, and help formulate the terms and conditions of the permit.
4525-10501	App. 3.8-C	App. 3.8-C, 3.2	7			Keep	All of these monitoring actions need to encompass all surface waters, including seeps. For #2, consider also in-tunnel piezometers at intervals along the constructed rings. This information can be valuable in determining how pressure in the country rock is rebounding or whether there is lateral flow along the annulus indicating poor grouting. One or more water flow inflow rates must be established that would trigger corrective action (e.g., expanded grouting). These trigger values must be determined in collaboration with ANF staff. For #6, "minimum flow range" may not be the appropriate metric. Why not median or mean to better represent "normal" conditions?

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4525-10502	App. 3.8-C	7				Keep	Dataloggers should have a minimum of daily data acquisition. Downloading can be at a specified interval, but telemetry allows data access by anyone (including FS) who is involved with resource monitoring on the project.
4525-10503	App. 3.8-C	7				Keep	For riparian resource monitoring, quarterly monitoring would be insufficient, especially in the summer months when surface water changes can change quickly. For USFS Fish and Wildlife Standard 11, quarterly monitoring and quantification of impacts may be too late to avoid, minimize, and mitigate adverse effects.
4525-10504	App. 3.8-C	8				Keep	The second sentence should reflect an agreement between the Authority and the ANF that the conditions have been met. For #2, the model should predict tunnel construction inflows in order to avoid, minimize and otherwise adapt the construction activities. If there are areas of high head where the lining continues to leak water, there could be perpetual impacts to groundwater and possibly the groundwater dependent resources.
4525-10505	App. 3.8-C	11				Keep	For #1.a.ii, Change to "Supplement spring and seep waters to sustain habitat supported by seeps and springs and to ...". Flexibility in response actions should be established, for the Authority and the ANF to collaboratively determine the source of supplemental water should the need arise peculiar to specific species.
4525-10506	App. 3.8-C	11				Keep	For #1-a.i, supplemental water may need to be added before flows trend below baseline minimums. Flows should mimic the baseline range and duration, and not be limited to documented minimums. This could be revised to provide for adding supplemental water in the amount and duration to be determined collaboratively by the Authority and the ANF. Suitable supplemental water generally needs to be free of contaminants such as chlorine. Some biota are also sensitive to local water chemistry.
4525-10507	App. 3.8-C	13				Keep	Reporting during construction should be at least monthly, but more frequently as needed if impacts are observed. USFS needs to be kept in the loop real time during construction in the ANF.
4525-10508	App. 3.8-D	1				Appendix 3.8-D: Supplemental Water Demand Analysis for Potential Impacts with the ANF and SGMNM	Appendix 3.8-D: Supplemental Water Demand Analysis for Potential Impacts with the ANF and SGMNM
4525-10508	App. 3.8-D	15				Keep	With the extensive water needs of the project itself, is there guarantee that there will be enough water allocated during a string of dry years? It sounds like this may be a question. Municipal water may or may not be appropriate for mitigation purposes. Water chemistry may play a role here. Additionally there may be locations that require mitigation that are not currently known. Additional detail will be required in the Special Use Permit application process, to inform the terms and conditions of the SUP.
4525-10509	App. 3.8-D	18				Keep	The estimates of recycled construction water available may be optimistic, even in non-drought years.

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4525-10510	App. 3.8-D	18				Keep	The estimates of groundwater from dedicated water wells may be optimistic. Water quality will definitely be an issue, as some riparian resources are very sensitive to chemistry. As water travels through bedrock into alluvial basins it flows through different mineral assemblages and therefore chemistry changes. More information is needed before the water availability can be confirmed.

Response to Submission 4525 (Roman Luis Torres, United States Department of Agriculture - Angeles National Forest, November 30, 2022)

4525-10289

The commenter, the U.S. Forest Service, refers to comments and recommendations that intend to reduce, minimize, and avoid impacts to Angeles National Forest resources including those related to potential impacts of the project to surface resources, hydrogeology and ground water monitoring, and final Right-of-Way acquisition. Specific comments are responded to subsequently.

4525-10290

The AMMP (HWR MM#4) will include establishing baseline groundwater and surface water hydrologic conditions within the tunnel construction RSA prior to project construction. This effort may result in the identification of additional seeps and spring that were not mapped previously. The Authority agrees with the commenter that continued coordination with the Vulcan Company and appropriate agencies is needed regarding the approach and details that would guide any deposition of tunnel spoils at the Vulcan mine site such that these actions would be consistent with reclamation efforts at the site.

4525-10291

The commenter points out that subsurface water movement in areas of heavily faulted and fractured rock is difficult to predict. The Authority acknowledges the project would involve tunneling through areas of faulting and fracture rock and recognizes the difficulties predicting water movement under such circumstances. To assess the relative risk of tunneling through these areas and its potential effect on groundwater movement, the analysis identified within the tunnel construction RSA areas of high, medium, and low/no risks. Table 3.8-12 of the EIR/EIS shows the number of streams, springs, and wells located within High and Medium Risk Areas. As set out in Table 3.8-11, the identification of these risk areas accounted for faults and fractured rock as well as groundwater pressures and other factors as noted. Of note is that the Refined SR14 and SR14A Build Alternatives would have the fewest of these features within areas identified as high risk. Both the E1 and E1A and the E2 and E2A Build Alternatives are associated with the greatest potential risk of impacts on hydrology compared to the SR14 and SR14A Build Alternative. In response to the potential for hydrological impacts, the Authority developed HYD-IAMF#5, HYD-IAMF#6, and HYD-IAMF#7, which require the Authority to utilize tunnel design features and construction methods to avoid and minimize groundwater inflows during ANF tunnel construction. These measures would address geotechnical as well as hydraulic issues to minimize or prevent groundwater from flowing into the tunnel during and after construction by matching the tunneling excavation method to the underground conditions. Mitigation Measure HWR-MM#4 requires the Authority to implement an AMMP, which includes monitoring protocols to establish baseline conditions of surface water resources, detect changes in groundwater conditions (triggers thresholds) related to tunnel construction to ensure timely implementation of remedial measures, such as augmenting surface water supplies and wells, and supplementing water within affected surface water resources as necessary.

Response to Submission 4525 (Roman Luis Torres, United States Department of Agriculture - Angeles National Forest, November 30, 2022) - Continued

4525-10292

Refer to Standard Response PB-Response-ALT-2: Unique Tunnel Elements – Windows, Adits, Tunnel Boring Machines, etc..

The commenter notes that the TBM associated with tunnel construction through the Angeles National Forest (ANF) has yet to be designed and that design criteria and baseline monitoring will guide specifications for the approaches used for tunneling. The Authority understands the potential for tunnel construction to affect hydrological conditions in the ANF and recognizes that assessments of baseline conditions and the development of design specifications will inform tunneling techniques and engineering specifications. The potential impacts to hydrological conditions within the ANF have been analyzed in detail in Section 3.8, Hydrology and Water Resources, specifically in Impact HWR#4 (Changes in Groundwater Recharge Associated with Temporary Construction Activities and Permanent Structures Required for the Build Alternatives) and HWR#5 (Changes in Hydrogeologic Conditions Associated with Tunnel Construction Beneath the ANF which May Affect Surface and Subsurface Water Resources). Please refer to standard responses PB-Response-ALT-2: Unique Tunnel Elements –Windows, Adits, Tunnel Boring Machines, etc., which discusses the Authority's analysis of this issue as well as the tunneling equipment, techniques and measures that would be implemented to avoid or reduce groundwater seepage into the tunnels during construction.

4525-10293

The commenter expressed concern that the hydrogeologic information utilized during the development of the Draft EIR/EIS is insufficient and will not provide enough information for the Authority to determine the range of reasonably foreseeable impacts associated with tunnel construction through the ANF and that, pursuant to 40 CFR 1502.22, the Authority must disclose that it has insufficient information to adequately determine the effects of the project.

In accordance with 40 CFR 1502.22, Section 3.8.8.6 of the EIR/EIS explains why the information that was developed by the Authority through a variety of existing sources, geotechnical investigations, and case studies of similar tunneling projects in similar geologic scenarios is sufficient for an analysis that allows for a comparison of the reasonably foreseeable impacts of the alternatives and for the Authority to make a reasoned choice among those Alternatives. As further discussed in Section 3.8.8.2, because the Authority has sufficient information to make a reasoned choice among the alternatives, the lack of more detailed and specific information about the precise tunneling impacts does not trigger the application of 49 C.F.R. 1502.22. Notwithstanding the foregoing, the Authority included in Section 3.8.8.3 additional supporting information and analysis as to why 49 C.F.R 1502.22 is not triggered for additional context.

40 CFR 1502.22 refers to an agency considering a cost-benefit analysis for the proposed action relevant to the choice among alternatives with different environmental effects. For more information about cost-benefit analysis, see Section S.8.1, Palmdale to Burbank Project Section Benefits, of the Summary. In 2016 the Authority conducted a preliminary geotechnical investigation of drilling six bore holes to collect data for evaluating tunnel feasibility and subsurface conditions within the ANF, including the SGMNM. The investigation was not conducted for any specific tunnel alignment, but rather to identify and evaluate field conditions (such as, groundwater, situ rock stresses, adverse geology including faults, gouge zones, and squeezing ground) within the ANF that could present feasibility constraints for tunnel design and construction. This preliminary investigation showed that the alignment alternatives are feasible. The Authority understands that there are risks associated with undergoing construction within the ANF. All the alignment alternatives would be constructed consistent with engineering design features to address and minimize these risks. These risks and impacts are analyzed in detail in Section 3.9, Geology, Soils, Seismicity and

Response to Submission 4525 (Roman Luis Torres, United States Department of Agriculture - Angeles National Forest, November 30, 2022) - Continued

4525-10293

Paleontological Resources, specifically in all the impacts listed in Draft EIR/EIS Section 3.9.6.1 (see Impacts GSSP#1 through GSSP#16). These risks and impacts are addressed by GEO-IAMF#1 and GEO-IAMF#10 that would require prior to construction that the Contractor prepare a Construction Management Plan (CMP) addressing how the Contractor will address geologic constraints and minimize or avoid impacts to geologic hazards during construction, as identified in Impacts GSSP#1 through GSSP#16. The CMP will be submitted to the Authority for review and approval. The USFS is a Cooperating Agency under NEPA, and the Authority has notified the USFS as to the need to conduct additional test drilling within the ANF. On page 3.8-48, the Draft EIR/EIS explains that the Authority will complete further geotechnical borings. HWR-MM#1 states that the Authority will conduct additional test borings. Draft EIR/EIS page 3.8-79 also references additional, future geotechnical borings. Once a preferred alignment is approved, the extent of additional borings and explorations will be determined by the Authority and will be coordinated with the USFS so that a Special Use Authorization can be issued prior to these investigations being conducted.

4525-10294

The commenter references an agreement at a meeting on February 4, 2021 with USFS, the Authority, and consultant staff, which committed to a collaborative approach to groundwater model development to minimize and mitigate the impacts of tunnel construction. The Authority acknowledges this meeting and that continued coordination with USFS regarding the approach to groundwater modeling will be necessary. Any specific agreements regarding future groundwater modeling will be implemented in advance of construction.

4525-10295

Refer to Standard Response PB-Response-HYD-2: Hydrogeologic Impacts in the Angeles National Forest/Tunneling Impacts in the Angeles National Forest.

The commenter is concerned about the effects of tunnel construction on groundwater-dependent plant communities in No/Low Risk areas. Impact BIO#1 in Section 3.7, Biological and Aquatic Resources of the Draft EIR/EIS addresses the project's construction effects on habitat for Special-Status plants and plant communities.

Tunnel construction impacts on modelled suitable habitat for special-status plant species are addressed under this impact topic, and notes that fifteen special-status plants with suitable habitat in the tunnel construction resources study area (RSA) have been identified as requiring wetland or aquatic habitats (including riparian habitats) and therefore could be adversely affected by changes in groundwater levels. These fifteen groundwater-dependent plant species have suitable habitat in the No/Low Risk Areas. Because these areas (No/Low Risk Areas) lack faults and high groundwater pressure, with the implementation of HYD-IAMF#5, HYD-IAMF#6, and HYD-IAMF#7, no impact is expected. The Authority cannot confirm the commenter's statement regarding an agreement to calculate impacted area based on the entirety of the Tunnel Resource Study Area. However, as noted above, because the No/Low Risk areas lack faults and high-water pressures, and with implementation of the IAMFs cited, no impact is expected. Including these areas in impact calculations would not be appropriate and would substantially overstate potential impacts. For this reason, the Authority's calculation of impacts to plant communities (see Table 3.7-13) focuses on impacts occurring where moderate and high-risk zones have been identified. The potential for indirect impacts to special-status wildlife species habitat resulting from changes in groundwater levels during construction are discussed in Impact BIO#2, Impact BIO#3, Impact BIO#4, Impact BIO#5, Impact BIO#6, and Impact BIO#7 of the Draft EIR/EIS.

Please also refer to Standard Response PB-Response-HYD-2: Hydrogeologic Impacts in the Angeles National Forest/Tunneling Impacts in the Angeles National Forest for additional information on how no/low, moderate, and high-risk zones were identified and defined.

Response to Submission 4525 (Roman Luis Torres, United States Department of Agriculture - Angeles National Forest, November 30, 2022) - Continued

4525-10296

The input from the commenter, as well as the proposed engagement, is welcome. Implementation of an Adaptive Management and Monitoring Plan (AMMP), in accordance with HWR-MM#4, will include establishing the baseline groundwater and surface water hydrologic and hydrogeologic conditions within the tunnel construction resource study area (RSA). The approach to this effort will be developed in consultation with the USFS.

4525-10297

The commenter, U.S. Forest Service, notes the standard procedures of applying for a Special Use Permit (SUP) and the intention to consider all available tools including investigative SUPs, construction SUPs, occupancy permits, and the potential to utilize a Title 23 Easement. The comment is acknowledged. The Authority will continue to coordinate with the U.S. Forest Service to comply with Forest Service permitting requirements.

4525-10298

The commenter requests further coordination between the Authority and ANF staff. The Authority will continue to coordinate with ANF staff and all Cooperating Agencies throughout the environmental process.

4525-10299

The commenter provided an attached letter that features comments on the Draft EIR/EIS. These comments have been considered and responses to these comments are included in Volume 4 of this Final EIR/EIS.

4525-10300

The commenter provided an attached letter that features comments on the Draft EIR/EIS. These comments have been considered and responses to these comments are included in Volume 4 of this Final EIR/EIS.

4525-10301

The commenter noted that the specific environmental effects relating to the Angeles National Forest will need to be assessed prior to the final decision on the Special Use Permit. Comment noted. The comment does not address technical analysis in the Draft EIR/EIS or suggest edits to the document. No change has been made to the document in response to this comment.

Response to Submission 4525 (Roman Luis Torres, United States Department of Agriculture - Angeles National Forest, November 30, 2022) - Continued

4525-10302

The commenter expresses concern regarding the evaluation of faults and seismic events for the Palmdale to Burbank Project Section Draft EIR/EIS. Section 3.9.5.6 (Primary Seismic Hazards) of the Draft EIR/EIS discusses the effects of surface fault rupture and ground shaking for each of the six Build Alternatives. The surface fault rupture discussion for each Build Alternative also included the anticipated subsurface displacement for the tunnel depth. Impacts GSSP#7 and GSSP#16 also include a discussion of seismic hazards during construction and operation of the Palmdale to Burbank Project Section. The geotechnical investigations to be conducted during the design phase of the project will provide for more accurate estimates of tunnel displacement along the hazardous faults. Nonetheless, the Draft EIR/EIS has adequately provided the analysis related to seismicity, as required under CEQA and NEPA.

As explained in Section 3.8.4.5 of the Draft EIR/EIS, in its discussion of hydrology and water resources methodology, the only spring/seeps chosen for monitoring are those that are denoted (labeled) on the U.S. Geological Survey (USGS) topographic maps of the area and the maps generated from the USGS National Hydrography Dataset within one mile of each alignment. Access to 7 of the original 20 springs was denied due to their location on private property and were therefore eliminated from the database. An analysis of aerial photography was conducted; however, due to the small scale, the springs were not visible on the photographs. The Authority acknowledges that the data set used may not show all seeps and springs present within the tunnel RSAs and that comprehensive surveys and monitoring efforts prior to construction will be necessary to identify all seeps, springs, and wells present within the RSA. Nevertheless, the data on known seeps and springs is sufficient to evaluate and compare impacts among the Build Alternatives.

As part of the process of developing additional information regarding aquatic resources within the RSA, the Authority implemented a springs/seeps monitoring program. As stated in the Final EIR/EIS, the first monitoring cycle was completed during the end of the summer season on September 16, 2016, with subsequent cycles continuing on a quarterly basis. During the traverses to the springs, the field team surveyed the canyons for additional springs to add to the monitoring database. Only one, on public Angeles National Forest (ANF) land, has been discovered during the past 7 years. That spring

4525-10302

was added to the database. Water samples are collected quarterly from these springs and are sent to an environmental laboratory for testing. The results of the laboratory testing, which includes the water chemistry concentrations of secondary constituents and Title 22 metals, are tabulated for future analyses. In the event that tunnel construction adversely affects surface aquatic resources, the Authority will implement an Adaptive Management and Monitoring Plan (AMMP) as required by mitigation measure HWR-MM#4. The AMMP requires the implementation of a comprehensive monitoring program to establish baseline conditions for groundwater resources and detect any changes in groundwater conditions caused by tunnel construction to ensure timely implementation of remedial measures. Additional site-specific investigations of subsurface conditions would be conducted in advance of final tunnel design, including geotechnical investigations along the tunnel alignment to characterize the differing rock types (strength, fracturing, in-situ stresses, etc.), groundwater pressures at tunnel depth, potential flow quantities, aquifer tests and groundwater modeling, and structural geology along the tunnel alignment, including faults and gouge zones. Additional geotechnical borings would need to be converted to monitoring wells and piezometers fitted with vibrating wire pressure transducers for measuring water pressure changes along the alignment to establish seasonal baseline conditions for deep groundwater and near surface water. Such instrumentation would also be used as the early warning system for pressure changes occurring in the subsurface along the alignment during tunnel construction. After construction, a baseline monitoring system would be put in place to evaluate the recovery of water resources, and results would be compared to construction and preconstruction data to identify hydrogeological changes. The monitoring program would continue for up to 10 years after the completion of construction. As a result, HWR-MM#4 would effectively mitigate impacts on affected water resources, including water supply wells. The U.S. Forest Service (USFS) comments are consistent with the second step in the Authority's multi-step iterative AMMP process. This second step is "Continue existing monitoring [as described in Authority (2020)] and conduct more extensive pre-construction monitoring to develop baseline data." As part of the Special Use Authorization application process, the Authority will continue consultation with the USFS on the scope and details of further data collection efforts and monitoring to be done to develop a comprehensive baseline for areas within the tunnel RSA. The deposition of tunnel spoils will occur in a manner consistent with federal laws governing such deposition within national forests and with

Response to Submission 4525 (Roman Luis Torres, United States Department of Agriculture - Angeles National Forest, November 30, 2022) - Continued

4525-10302

the concurrence of the USFS.

4525-10303

Comment noted. The commenter is correct that project design criteria and the results of baseline monitoring, including groundwater monitoring, will guide the specifications for lining, gaskets, grouting, and other tunneling components and features. Baseline monitoring in the ANF has included collecting groundwater samples from 16 springs quarterly for the past 6 years. The springs were identified from the USGS National Hydrography database. Each monitoring event includes measuring the hydrologic parameters of each spring and collecting samples for geochemical testing (field and laboratory). The field data and laboratory test results have provided important information on the hydrogeology of the ANF. With respect to the approved project, the Authority will gather additional data and information regarding surface and subsurface conditions within the ANF to further inform approaches to project design and engineering. Groundwater modeling will likely be an important part of the effort to develop a comprehensive understanding of the hydrogeological conditions along the project alignment. As part of the application process for a Special Use Authorization, the Authority will confer with the U.S. Forest Service regarding the further study, modeling, and analysis of baseline conditions in the vicinity of the approved alignment.

4525-10304

The commenter states that baseline monitoring needs to be expanded. The commenter expresses that monitoring plans need to account for the lags in detecting water flow changes that originate from any tunnel inflows that occur. Baseline monitoring in the ANF has included collecting groundwater samples from 16 springs quarterly for the past 6 years. The springs were identified from the USGS National Hydrography database. Each monitoring event includes measuring the hydrologic parameters of each spring and collecting samples for geochemical testing (field and laboratory). The field data and laboratory test results have provided important information on the hydrogeology of the ANF. As the commenter noted, once a project is approved, the Authority will confer with the U.S. Forest Service regarding additional steps to monitoring groundwater and other aquatic resources within the Angeles National Forest as part of the process for obtaining a Special Use Authorization for the construction and operation of the project.

4525-10305

The commenter, U.S. Forest Service, noted that one of the initial screening criteria for the Special Use Permit is financial feasibility and that the lack of confirmed funding could mean continued informal cooperation but delayed formal application. Comment noted. The comment does not address technical analysis in the Draft EIR/EIS or suggest edits to the document. No change has been made to the document in response to this comment.

Response to Submission 4525 (Roman Luis Torres, United States Department of Agriculture - Angeles National Forest, November 30, 2022) - Continued

4525-10306

The commenter notes various information that should be included in a Special Use Permit application with the U.S. Forest Service (USFS). As noted in the comment, much of this information is presented in the Draft EIR/EIS United States Forest Service Impact Analysis Section by topic including Transportation Section 3.2.10 starting on p. 3.2-129, Air Quality and Global Climate Change Section 3.3.10 starting on p. 3.3-141, Noise and Vibration Section 3.4.10 starting on p. 3.4-152, Electromagnetic Interference and Electromagnetic Fields Section 3.5 starting on p. 3.5-49, Public Utilities and Energy Section 3.6.10 starting on p. 3.6-98, Biological and Aquatic Resources Section 3.7.11 starting on p. 3.7-292, Hydrology and Water Resources Section 3.8.10 starting on p. 3.8-86, Geology, Soils, Seismicity, and Paleontological Resources Section 3.9.10 starting on p. 3.9-109, Hazardous Materials and Wastes Section 3.10.10 starting on p. 3.10-40, Safety and Security Section 3.11.10 starting on p. 3.11-79; Socioeconomics and Communities Section 3.12.10 starting on p. 3.12-111; Station Planning, Land Use, and Development Section 3.13.10 starting on p. 3.13-91, Agricultural Farmland and Forest Land Section 3.14.10 starting on p. 3.14-55, Parks, Recreation, and Open Space Section 3.15.10 starting on p. 3.15-141, Aesthetics and Visual Quality Section 3.16.10 starting on p. 3.16-99, Cultural Resources Section 3.17.11 starting on p. 3.17-131, and Regional Growth Section 3.18.10 starting on p. 3.18-33. Additionally, a USFS policy consistency analysis is provided in Appendix 3.1-B of the Draft EIR/EIS.

The Authority will prepare and submit to the USFS a Special Use Permit Application post-ROD that will meet USFWS requirements and will continue consultation and coordination with the USFS to provide all necessary information needed to issue a Special Use Authorization for the project.

4525-10307

The commenter suggests that additional analysis is required for construction activities on Forest Service roads. As discussed in Section 3.2.10.2, Consistency with Applicable States Forest Service Policies, of the Draft EIR/EIS, construction of the Build Alternatives would rely on existing roadways with the Angeles National Forest. The effect of construction activities on these roadways was addressed in this section, which included the identification of locations with substandard operating conditions during construction. IAMFs were established to reduce the effects of spoils hauling activities on USFS roadways. These include the implementation of TR-IAMF#2, TR-IAMF#6, TR-IAMF#7, and TR-IAMF#8, found in Section 3.2.4.2 Impact Avoidance and Minimization Features, of the Draft EIR/EIS. These IAMFs require the implementation of a CMP, limit spoils hauling hours, and establish spoils hauling routes to minimize effects during construction. The Authority would also implement TR-IAMF#1: Protection of Public Roadways during Construction (see Section 3.2, Transportation). This IAMF describes the Authority's commitment to returning public roadways to the equivalent of their original pre-HSR construction structural condition or better. Prior to construction, the Contractor shall provide a photographic survey documenting the condition of the public roadways along truck routes providing access to the proposed project site. The photographic survey shall be submitted for approval to the agency responsible for road maintenance and the Authority and the Contractor shall be responsible for the repair of structural damage to public roadways caused by HSR construction or construction access, returning damaged sections to the equivalent of their original pre-HSR construction structural condition or better. Implementation of these IAMFs would address the concerns raised by the commenter regarding sedimentation and tread impacts to USFS roads. Because of these IAMFs, which address the impacts the commenter identified, the Authority has concluded that neither CEQA nor NEPA requires a separate travel analysis for Forest Service roads.

Response to Submission 4525 (Roman Luis Torres, United States Department of Agriculture - Angeles National Forest, November 30, 2022) - Continued

4525-10308

The commenter suggests that road maintenance and emergency planning need to be covered, and that construction activities are subject to Stormwater Protection Permits (SWPP) and Erosion Control Plans (ECPs). As described in the Draft EIR/EIS, Section 3.2 Transportation (p. 3.2-130), the Authority will coordinate with the USFS and will follow the appropriate USFS regulations, handbook, and manual requirements, which include R5 Forest Service Handbook (FSH) 2509.22, the Soil and Water Conservation Handbook, section 12.21 and FSH 7709.59 Ch-60, and Forest Service Manual (FSM) section 7732.11. The Draft EIR/EIS Section 3.2.10 addresses SWPP and erosion control and includes the following two measures: First, HYD-IAMF#3 requires the preparation and implementation of a Construction Stormwater Pollution Prevention Plan. This IAMF describes the Authority's commitment to coordinate with the contractor to comply with the SWRCB Construction General Permit requiring preparation and implementation of a SWPPP, prior to construction (ground-disturbing activities). Second, GEO-IAMF#1: Geologic Hazards describes the Authority's commitment to coordinating with the contractor, who shall prepare a CMP addressing how it will address geologic constraints and minimize or avoid impacts on geologic hazards during construction. The CMP will address constraints and resources, including groundwater withdrawal, unstable soils, subsidence, water and wind erosion, shrink-swell potential, and corrosive potential. TR-MM#12 involves the preparation of the Transportation Construction Management Plan, wherein the Authority will require the construction contractor to develop a plan to manage circulation and connections for modes of travel during the construction duration. This measure would facilitate communication to ensure compliance with cited road management regulations. The Authority would commit to its IAMFs and mitigation measures through adoption of an MMRP (mitigation measure and reporting plan).

4525-10309

The commenter notes that the U.S. Forest Service's regulations and handbooks related to transportation will need to be followed.

Page 3.2-13 in Section 3.2, Transportation, of the Draft EIR/EIS details how the Authority will coordinate with the USFS and will follow the appropriate USFS regulations, handbook, and manual requirements. This is also noted in Section 3.2.10, United States Forest Service Impact Analysis, in the Draft EIR/EIS. The Authority understands that the special use authorization will require compliance with USFS regulations and handbooks. The Authority will follow the applicable USFS regulations and handbooks. If there are any changes to the requirements for a special use authorization, the Authority will follow those revised requirements.

4525-10310

The commenter requests additional location-specific information be included in the USFS Resource Analysis. The assessment provided within Section 3.2.10 provides a comprehensive evaluation of the potential effects to roadways and facilities within the USFS areas. This includes detailed assessments of the roadways and intersections that would be affected by spoils hauling activities and the resulting mitigation measures and commitments by the Authority. To address construction issues associated with spoils hauling, several elements have been included with the project, including IAMFs established to reduce the effects of spoils hauling activities on USFS roadways. These include the implementation of TR-IAMF#2, TR-IAMF#6, TR-IAMF#7, and TR-IAMF#8, which require the implementation of a CMP, limit spoils hauling hours, and establish spoils hauling routes to minimize effects during construction (refer to Section 3.2, Transportation). Plans to address emergency vehicle travel will be part of the CMP (TR-IAMF#2), which will outline transportation detours, plans to accommodate emergency service routes, and outreach activities. Additional assessment of emergency services during operation of the project is included in Section 3.11.6.2. In addition, Appendix 2-G: Emergency and Safety Plans, list emergency and safety plans associated with the project section. The Authority will prepare and submit to the USFS a Special Use Permit Application post-ROD that will meet USFWS requirements and will continue consultation and coordination with the USFS to provide all necessary information needed to issue a Special Use Authorization for the project. Please refer to Response to Comment #10308 regarding the SWPP and erosion.

Response to Submission 4525 (Roman Luis Torres, United States Department of Agriculture - Angeles National Forest, November 30, 2022) - Continued

4525-10311

The commenter requests clarification whether Appendix S to 40 CFR Part 51 requires a New Source Review. It does not. The Project will not qualify as a Stationary source under Appendix S, II.A.1. Although it qualifies as a building, structure, facility, or installation; it is an electric train that does not "emit[] . . . a regulated NSR pollutant." The Project also does not qualify as a major stationary source under Appendix S, II.A.4(i). Even assuming for the sake of argument that it qualified as a stationary source, it does not qualify as a "major" stationary source. As shown in Table 3.3-38 of the Draft EIR/EIS, the operation of the Project would result in a net reduction in regional pollutant emissions. Those emissions do not reach the Appendix S, II.A.4(i) thresholds that would qualify the Project as a "major" stationary source. Appendix S, II.B only requires a New Source Review for "major new source[s]." Therefore, no Federal NSR permits will be required. For the same reason, the Project would not require any Prevention of Significant Deterioration (PSD) permit. Appendix S, II.A.35 only requires that permit for major sources. The project is neither a source nor a major source. The commenter is correct that the Authority will be required to comply with either the SCAQMD's or AVAQMD's New Source Review regulations.

4525-10312

Total construction greenhouse gas (GHG) emissions were divided by annual operational GHG emissions reductions. Table 3.3-44 shows the Payback of Greenhouse Gas Emissions for the six Build Alternatives. Depending on the Build Alternative and Ridership Scenario, construction-related GHGs would be paid back in 4 to 6 months of project operation.

4525-10313

The comment states that the CO concentrations from construction are listed in (g/m3) instead of the ppm used in the monitoring data. The comment references Table 3.3-14; however, the correct table reference is 3.3-32. For consistency with the results of the other microscale modeling (Tables 3.3-33 through 3.3-36), CO was presented in terms of g/m3. The NAAQS/CAAQS and backgrounds are also presented in these units in this table so the reader can compare the modeled results to the applicable standards.

4525-10314

Refer to Standard Response PB-Response-BIO-2: Construction and Operations Impacts to Special-Status Plants and Wildlife, PB-Response-N&V-3: Noise Impacts on Domestic Animals/Wildlife.

The commenter expresses that the Draft EIR/EIS does not cite documented noise and vibration effects on mating and young, foraging behavior, predator-prey interactions, individual fitness and community structure or vibration effects on wildlife. The commenter also expresses agreement that noise and vibration in the tunnels will not be sensed on the surface. Please refer to Standard Responses PB-Response-N&V-3: Noise Impacts on Domestic Animals/Wildlife and PB-Response-BIO-2: Construction and Operations Impacts to Special-Status Plants and Wildlife, which address these issues.

Response to Submission 4525 (Roman Luis Torres, United States Department of Agriculture - Angeles National Forest, November 30, 2022) - Continued

4525-10315

The commenter states that there is a need for specific avoidance and minimization features for the operation of adits, including from ventilation equipment and truck-related noise, which will be considered in the U.S. Forest Service Special Use Permit application process required for work in the Angeles National Forest (ANF). The commenter also acknowledges that the HSR Palmdale to Burbank Section will tunnel underneath recreational areas, that tunnel entrances and adits are not within designated recreation areas, and that noise impacts to the Pacific Crest Trail are addressed in the Section 4(f) Chapter.

The Authority concurs with the statements made by the commenter. Regarding the Special Use Permit application process, the Authority acknowledges that specific avoidance and minimization features will need to be included in the Special Use Permit. Noise from truck haul routes for spoils is identified in Impact N&V#2: Spoils Haul Route Noise Impacts on Sensitive Receivers on page 3.4-70 through page 3.4-72 in Section 3.4, Noise and Vibration in the Draft EIR/EIS. This analysis includes the transportation of spoils from adit locations within the ANF. The results of the assessment indicate that there would be noise impacts for all Build Alternatives, and a summary of the impacts is provided in Table 3.4-27 on page 3.4-71 of the Draft EIR/EIS. NV-IAMF#1 would be implemented to minimize noise impacts from construction, including truck haul routes. In addition, noise impacts from the operation of adits are discussed on page 3.4-126 of the Draft EIR/EIS. The adit locations within the ANF would be located within in-holdings (private property) near existing roadways within the ANF but would not be located in forest property. There are no designated recreational areas, formal campgrounds, or other sensitive receivers located near the adits. Therefore, no long-term operational noise impacts associated with adits within the ANF would occur.

4525-10316

Refer to Standard Response PB-Response-HYD-2: Hydrogeologic Impacts in the Angeles National Forest/Tunneling Impacts in the Angeles National Forest.

The commenter expresses concerns about how the risk areas were defined in the hydrogeologic analysis of tunneling in the Angeles National Forest. The commenter asserts that the risk of hydrogeologic impacts were underestimated in the Draft EIR/EIS. The Authority disagrees with this assertion, as the risk area analysis included a conservative and robust analysis of the risk of changes in groundwater levels and the associated indirect impacts that have the potential to result from construction of tunnels in the ANF. This topic is discussed in Standard Response PB-Response-HYD-2: Hydrogeologic Impacts in the Angeles National Forest/Tunneling Impacts in the Angeles National Forest. This response explains the Authority's methodology for defining the High, Medium and Low Risk areas within the ANF. This analysis does take into consideration geologic fractures as well as seeps and springs. This response also refers to BIO-MM#93, which involves implementation of the biological resource portions of the AMMP prepared under HYD-MM#4, which will require monitoring of groundwater-dependent surface water resources and associated habitat within the tunnel construction RSA. This will also involve additional surveys to identify seeps and springs that may not be currently mapped. No change has been made to the document in response to this comment.

Response to Submission 4525 (Roman Luis Torres, United States Department of Agriculture - Angeles National Forest, November 30, 2022) - Continued

4525-10317

The commenter inquired about the modeling effort that was conducted to create the special-status species habitat modeling because the modeling approach was not described, and it did not specify if focused field surveys helped inform the model. The commenter stated that CNDDDB is more accurate for species predictions and was not referenced in report. The commenter stated that the modeling did not show where the staging areas, adits, roads, or electrical input trenching would overlap suitable habitat for SR14A Build Alternative. Additionally, the commenter stated that SR14A was not being considered when the models were built, so requested that analysis be completed along the whole route and along potential fractures for groundwater-to-surface connectivity analysis.

The Authority's use of predictive modeling and CNDDDB in the EIR/EIS resulted in an impact assessment that is conservative in its conclusions of both extent of suitable habitats and presence of species within the known range or distribution. Section 5.1.1.1 of the Palmdale to Burbank Project Section Biological Resources and Aquatic Resources Technical Report (Authority 2019) defines the Supplemental Habitat Study Area and Section 3.7.4.1 of the Draft EIR/EIS defines the Auxiliary Resource Study Area, both of which extend up to 10 miles from the Project footprint. These were the study areas used when creating the habitat suitability models, which utilized documented occurrences of species (CNDDDB records) and field observations of special-status species and their habitats to inform the models. The predictive models were developed through weekly, monthly, or quarterly coordination meetings with the USFWS, USFS, and CDFW technical staff over a period of several years. Table 3.7-2 in Section 3.7, Biological and Aquatic Resources of the Draft EIR/EIS, identifies the data sources utilized in pre-field investigation of resources. Table 3.7-3 summarizes the informal consultation with the USFWS and other stakeholders including the dates, agencies involved, purpose, and outcome of meetings and correspondence that have taken place. In addition, the preliminary and draft models were provided to these agencies to validate the methods and habitat predictability for each species. The models were updated based on agency input after each review cycle. For each species model, if the predictive model indicated the potential presence of habitat, the Authority assumed the species could be present, even if CNDDDB (and other online reporting databases, such as eBird) records were absent, and the conclusion was made that impacts could occur, and avoidance, minimization of impacts, and mitigation was needed. CNDDDB,

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and other online databases, were used as a supplement to provide additional information on species occurrences, not as a means of ruling out the presence of species. Predictive modeling became a necessary tool for the EIR/EIS analysis given the size of the study areas over multiple alternatives and the lack of permissions to enter private property outside the ANF, both of which made comprehensive field surveys throughout the alignment RSAs infeasible. The use of predictive modeling as part of an EIR/EIS analysis of multiple project alternatives provides sufficient information as to the magnitude of impacts to various biological resources as well as appropriate level of information to accurately compare and contrast the potential impacts between each Build Alternative. Because the analysis is predominantly based on predictive modeling, the Authority has included mitigation measures in the EIR/EIS that require surveys of the Preferred Alternative after ROD during the detail design period and prior to construction. Information obtained from these surveys will be incorporated into the project's updated GIS data. Ancillary facilities and temporary impact areas such as adits, staging areas, and utility lines were included in the analysis of permanent impacts to special-status species habitat and were not a component of the modeling because the modeling was focused on special-status species habitat within a study area, not Project footprint. The same methods for analyzing the Refined SR14, E1, and E2 Build Alternatives were used in analyzing the SR14A, E1A, and E2A Build Alternatives. Although the SR14A Build Alternative was considered after the model was developed, the model had such a large study area (10 miles from the Project footprint), that it easily incorporated the SR14A Build Alternative footprint potential impacts. The Authority appreciates the comment and is committed to continued consultation with the resource agencies to further refine our mutual understanding of species occurrences and the potential for impacts from project construction and operation.

Response to Submission 4525 (Roman Luis Torres, United States Department of Agriculture - Angeles National Forest, November 30, 2022) - Continued

4525-10318

The commenter requests a reference (map, table, or report) to the vegetation communities within the 1,000-foot Resource Study Area (RSA). The commenter also asks why the 100-foot Special-Status Plant RSA was used instead of the Core Habitat RSA in Table 3.7-4 in the Draft EIR/EIS. The commenter expresses concern over not being able to understand the regional context of an impact to a particular community without providing information beyond 100 feet. Table 3.7-4 in Section 3.7, Biological and Aquatic Resources of the Draft EIR/EIS discloses vegetation communities (which is essentially a landcover type identified by the California Wildlife Habitat Relationships [CWHR] System) within the special-status plant RSA, which includes the Build Alternative footprint plus a 100-foot buffer around the Build Alternative footprint to evaluate impacts on special-status plant resources (including special-status plant communities/special-status plants and protected trees). A 100-foot buffer is used for the special-status plant RSA, as this is the area where impacts to plants would occur. Table 3.7-5 was added to the Final EIR/EIS in Section 3.7.5.2 to disclose vegetation communities within the core habitat RSA, which includes the Build Alternative footprint plus a 1,000-foot buffer to evaluate direct and indirect impacts on wildlife habitats and the special-status species that use those habitats. Figures 3.7-5 through 3.7-14 (Vegetation Communities and Land Cover Types) provide the vegetation mapping within the Core Habitat RSA (1,000-foot buffer). The legend on the figures state "Habitat Study Area" which is equivalent to the Core Habitat RSA. Regarding the example of coastal oak woodland (COW), Table 3.7-4 indicates that between 1 to 47 acres (dependent on adit and intermediate window selection scenarios) of COW within the special-status plant RSA would be affected by the Refined SR14 and SR14A Build Alternatives. Comparatively, the Refined SR14 and SR14A Build Alternatives would affect between 5 to 371 acres of COW within the core habitat RSA (which is the basis of the analysis of impacts on special-status species habitat impacts for non-FESA listed species). The defined impact to COW is the basis for the analysis of impacts to several special-status species habitat impacts, such as Arroyo toad, for which COW is identified as suitable habitat. Section 3.7.5 identifies the associated Vegetation Community for special-status species habitat.

The Tunnel Construction RSA comprises a different study area from the special-status plant RSA and the core habitat RSA. Risk Areas were identified within one mile of the centerline of each Build Alternative and were used to analyze the potential for changes

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in groundwater levels to impact surface resources and special-status species habitat. Therefore, the RSA used to analyze impacts to special-status species habitat, such as the COW vegetation community, is dependent on the type of impact being analyzed.

4525-10319

The commenter requests clarification on Table 3.7-1 on the "RSA Acreage" column and on Tunnel Construction RSA. The commenter requests a definition of Supplemental Work Area, Project footprint, and Build Alternative footprint be provided. The commenter requests an explanation on acreages presented for the RSAs. The RSA Acreage column applies to the direct effects rows and wildlife movement effects row. Based on formatting of the table, it is implied that the acreages shown apply to the same row as shown in the Resource Study Area column. The Project footprint shown in Figure 3.7-1 and Build Alternative footprint in Table 3.7-1 are the same. The source of acreages in Table 3.7-1 are described in the Resource Study Area and Area of Effect columns. The Tunnel Construction RSA is not shown in the schematic in Figure 3.7-1 because it is shown in Figure 3.7-4. The acreages presented in Table 3.7-1 are for the direct effects of the Build Alternative footprint within the Core Habitat RSA (35,357 acres) or Special-Status Plant RSA (8,419 acres). The acreages discussed on page 3.7-26 apply to the entire Core Habitat RSA (76,178 acres) and Special Status Plant RSA (57,498 acres), which includes their direct effects (Build Alternative footprint) and indirect effects (buffer). For the Direct Effects rows under Core Habitat RSA, Aquatic Resources RSA, and Special-Status Plant RSA, the Area of Effect column will remove the "and Supplemental Work Area." That term was not defined and was not used in the analysis and should be deleted.

Response to Submission 4525 (Roman Luis Torres, United States Department of Agriculture - Angeles National Forest, November 30, 2022) - Continued

4525-10320

The commenter states that a definition of and evaluation criteria for groundwater-dependent species were not provided in the Draft EIR/EIS. Section 3.7.4.4 (starting on page 3.7-28), under the subheading "Changes to Hydrogeology Affecting Groundwater Levels Supporting Habitat" provides a definition of groundwater-dependent species and evaluation criteria for special-status plants, vegetation communities, special-status wildlife, and aquatic resources within the Tunnel Construction Resource Study Area (RSA). On page 3.7-29, groundwater-dependent species are defined as "Species requiring the surface expression of groundwater (e.g., springs, wetlands) or a species dependent upon sub-surface availability of groundwater within the rooting depth of vegetation (e.g., woodlands, riparian habitats)." Also refer to Eamus, D., Fu, B., Springer, A.E. and Stevens, L.E., 2016, Groundwater dependent ecosystems: classification, identification techniques and threats; and, Springer, Cham, Integrated groundwater management (pp. 313-346). The presence of groundwater-dependent species was determined through a review of the literature, coordination with U.S. Forest Service, and an assessment of species habitat requirements, especially those habitats that are riparian in nature and have greater sensitivity to changes in surface water availability (Draft EIR/EIS, Section 3.7.4.4). Species were considered to be groundwater-dependent if they require aquatic or riparian conditions to complete a significant part or portion of their life cycle. For all species determined to be groundwater dependent, the habitat suitability models developed for the project section were overlaid with the tunnel construction RSA and Risk Areas to review the amount of modeled suitable habitat that could be adversely affected for each species.

4525-10321

Refer to Standard Response PB-Response-HYD-2: Hydrogeologic Impacts in the Angeles National Forest/Tunneling Impacts in the Angeles National Forest.

The commenter questions the effectiveness of mitigation measures in risk areas and suggests impacts are underestimated given the methodology used. The preliminary hydrogeologic analysis has been conducted to determine the risk of tunneling on changes in the groundwater level for purposes of comparing the six HSR Palmdale to Burbank Project Section Build Alternatives. The hydrogeologic analysis took into account the presence of high mountains, faulting, hard rock formations, and potentially high water pressures that could be encountered along the tunnel construction alignments under the ANF. The analysis identified areas of risk where altered hydrogeological conditions could result in changes in groundwater levels. The changes in groundwater levels could affect surface conditions up to 1 mile from the center line of each of the six Build Alternatives in the ANF. Risk areas are based on the hydrogeologic analyses and moderate and high risk areas were identified where surface effects would be significant enough to result in impacts to sensitive biological resources. Despite project construction being entirely underground in these risk areas, and therefore having no direct surface construction affects, impact areas were calculated for surface affects in moderate and high risk areas due to the impact on sensitive biological resources from changes in groundwater levels. Impact acreage calculations in moderate and high risk areas are considered to be conservative at this stage in the design process. Additional preconstruction hydrogeological modeling will be performed prior to final design and will also be performed at the 60 percent and 90 percent phases to ensure mitigation is appropriate. HWR-MM#1, HWR-MM#2, and HWR-MM#4 are required and include measures regarding the monitoring of groundwater, minimizing impacts to surface water, and the implementation of a water resources adaptive management and monitoring plan. Please see standard response PB-Response-HYD-2: Hydrogeologic Impacts in the Angeles National Forest/Tunneling Impacts in the Angeles National Forest for additional detail.

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4525-10322

The commenter requests a figure showing the location of all Risk Areas and inquiries about the methodology associated with determining Risk Areas, specifically why all risk areas are "oval shaped". The Tunnel Construction RSA and associated figures are included in Section 3.8.4.1 - Definition of Resource Study Areas. The Tunnel Construction RSA is defined as the area within 1 mile of the centerline of each of the six Build Alternatives in the ANF. The tunnel construction RSA was sized to capture the totality of hydrological effects that may occur as a result of tunneling activities, informed by an assessment of case studies, particularly the Inland Feeder Arrowhead Tunnels case study (USFS 2012). This RSA was delineated to analyze potential indirect hydrologic effects in the ANF, including the SGMNM, associated with changes in hydrogeologic conditions caused by tunnel construction required by each of the Build Alternatives. Figure 3.8-A-1 through Figure 3.8-A-15 illustrate the alignments for the Build Alternatives and the tunnel construction RSA. As stated in Chapter 3.8, Section 3.8.4.5 - Hydrology and Water Resources Methodology, "Based on the general observations of groundwater occurrence and flow behavior described above (in Section 3.8.4.5), potential risk areas were identified and mapped in the tunnel construction RSA in the ANF, with relative rankings of High Risk, Moderate Risk, and Low/No Risk of impacts to subsurface, surface, and other water resources (Table 3.8-2). These risk rankings are generally based on occurrences where tunnel alignments intersect with faults, the expected groundwater pressures at the tunnel depth at those points of intersection, and the proximity of subsurface and surface water resources to these intersections. In a limited number of cases, the presence of springs in proximity to a tunnel Build Alternative, considered along with groundwater pressures above 25 bar but independent of the presence of mapped faulting, was used to define a Moderate Risk area. The risk areas have been delineated based on the general criteria presented in Table 3.8-2. The Risk Areas are depicted on maps in Appendix 3.8-A (Figures 3.8-A-21 through Figure 3.8-A-23). These maps illustrate the location and spatial relationships of known faults, known springs, topography, and indicate estimated groundwater pressures at the estimated tunnel depths along the alignments of each of the Build Alternatives. Base maps were created depicting the topography, fault traces, spring locations, active/inactive wells, and estimated areas with groundwater pressures above 25 bar in the tunnel construction RSA. As shown in Table 3.8-2, the length of High Risk areas, which were delineated in the tunnel construction RSA, extends 1 mile from the point of intersection with the tunnel Build Alternatives along the fault trend. The 1-mile distance

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from the tunnel alignment that makes up the tunnel construction RSA was selected based on the general limit of observed impacts on groundwater from past tunnel projects (Authority 2019b). The Moderate Risk areas extend 0.5 mile from the tunnel Build Alternative also parallel to the fault zone. The Moderate Risk areas extend less distance from the tunnel Build Alternatives fault interface than the High Risk areas because tunnel seepage would be more readily controlled and hydrological impacts in the absence of design features and construction methods would be more localized. Where Moderate Risk areas are identified based solely on the proximity of tunnel Build Alternatives to mapped springs where groundwater pressures would be above 25 bar, the Risk Areas are delineated within 0.5 mile of the alignment. The width of the Risk Areas shown on the maps were drawn to encompass mapped locations of individual faults or groups of faults intersecting the tunnel Build Alternatives, or to encircle the mapped occurrence of springs or streams within 0.5 mile of the tunnel Build Alternatives where pressures exceed 25 bar. Since water flows most freely through interconnected fracture systems surrounding and along faults (e.g., as planar conduits of groundwater flow radiating from the tunnel cavity), the area of hydrological effect is anticipated to cover the width of shearing and fractured rock extending outward from the fault and parallel to the trend of the fault as mapped. This width could be tens to hundreds of feet, depending on the individual fault zone effects on the rock mass. This is why many of the Risk Areas are oval in shape. These at-risk areas were demarcated on base maps that capture both the point of intersection and additional areas that may be affected by hydrogeological changes, the distance of which is based on professional judgement and informed by the relevant case studies (Authority 2019b). The calculation of potential impacts to habitat are based on the habitats within each of the Moderate/High Risk Areas defined.

4525-10323

The commenter requests adding a reference on page 3.7-29 of the EIR/EIS to Appendix 3.7-C and Table 3.7-6 to direct the reader to more detailed information on tunneling impacts on groundwater dependent species. The Final EIR/EIS has been revised to include the recommended reference.

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4525-10324

The commenter is concerned about a discrepancy in the number of groundwater dependent communities identified in Section 3.7.5.4 and Appendix 3.7. The text on page 3.7-109 is incorrect and will be modified as follows in the Final EIR/EIS: "Six special-status plant communities have been identified as occurring in the tunnel construction RSA (Table 3.7-6). Five of these communities, scalebroom scrub, California sycamore woodlands, Fremont cottonwood forest, coastal oak woodland, and black willow thickets, have been identified as groundwater dependent or partially groundwater dependent and therefore could be adversely affected by changes in groundwater levels (Table 3.7-12)."

4525-10325

The comment was deleted by the US Forest Service. No further response has been provided.

4525-10326

The comment was deleted by the US Forest Service. No further response has been provided.

4525-10327

The commenter recommends changing the name of Impact BIO#1 from "Project Construction Effects on Habitat for Special Status Individuals and Communities" to "Project Construction Effects on Special Status Plants and Plant Communities." The recommended change is not necessary. The analysis that follows the title clearly evaluates the project's effects on habitat for special status plants and plant communities. No change to the EIR/EIS is required.

4525-10328

The commenter indicates the discussion of the No Project Alternative in Section 3.7.2, No Project Alternative, is minimal and asks whether improvements and expansions to the intercity transportation system under the No Project Alternative would substantially relieve development pressure in LA County and therefore protect the environment. In response to this question, it should be noted that Section 3.7.2 does not state that intercity transportation system improvements would relieve development pressure; rather, the section states that improvements and expansions to the intercity transportation system that would occur as a result of increased development pressure under the No Project Alternative conditions would negatively affect biological and aquatic resources.

The commenter also inquires whether there is a discussion of the effect of the No Project Alternative on air quality and greenhouse gas emissions that could be referred to. Each of the environmental resource topics in Chapter 3, Affected Environment, Environmental Consequences, and Mitigation Measures, includes an evaluation of the effects of the No Project Alternative. Refer to Section 3.3.6.2, No Project Alternative, for a quantitative analysis of statewide air emissions under the No Project Alternative.

The commenter states that the document is not clear how the No Project Alternative would lead to more impacts (such as habitat loss, fragmentation, degradation, or mortality/injury of protected plants and animals) compared with doing the project. To clarify this point, the analysis in the EIR/EIS does not state that the No Project Alternative would result in greater impacts to biological and aquatic resources than the project alternatives; rather the EIR/EIS acknowledges the potential for impacts on biological and aquatic resources under both the project alternatives and the No Project Alternative. Any attempt to quantify the impacts on biological and aquatic resources under the No Project Alternative would be highly speculative.

Finally, the commenter notes that there is no mention of the potential disruption to groundwater (and resulting impacts to biota) that would be avoided in the No Project Alternative. Refer to Section 3.8.6.2, No Project Alternative, which addresses the potential effects of the No Project Alternative on hydrology and water resources; this section acknowledges that the No Project Alternative would avoid construction-related effects on groundwater hydrology which would occur under the No Project Alternative.

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4525-10329

The commenter expresses concern that the impact analysis is confusing and requests clearer headings. Impacts BIO#1 through BIO#11 already contain subsections within the Direct and Indirect Impacts sections to distinguish "Surface Construction" and "Tunnel Construction" impacts. The comment does not address technical analysis in the Draft EIR/EIS. No change has been made to the document in response to this comment.

4525-10330

Refer to Standard Response PB-Response-GEN-1: Frequently Asked Questions.

The commenter expresses concern that the title of Table 3.7-10 in the Draft EIR/EIS is unclear and should be changed. The commenter requests an explanation of acreage differences in this table compared to prior versions. Table 3.7-10 in the Draft EIR/EIS is now Table 3.7-11 in the Final EIR/EIS. Section 3.7.6.3 under Impact BIO-1 states "Table 3.7-11 summarizes the range of surface impacts on habitat for special-status plant species and sensitive natural communities that would result from construction of the Build Alternatives." The current table title is satisfactory and with the introduction to the table being provided, no change is warranted. No change has been made to the document in response to this comment. For an explanation to the acreage changes, please refer to Standard Response PB-Response-GEN-1: Frequently Asked Questions.

4525-10331

The commenter requests that Table 3.7-10 be referenced in the text on pg. 3.7-101 under subheading Surface Construction. Section 3.7.6.3 under Impact BIO#1 on pg. 3.7-95 states "Table 3.7-10 summarizes the range of surface impacts on habitat for special-status plant species and sensitive natural communities that would result from construction of the Build Alternatives." Surface construction is a part of Impact BIO#1, which already references the table on pg. 3.7-95. No change has been made to the document in response to this comment.

4525-10332

The commenter identifies that in Section 3.7.6.3, the Authority states there are 7 special status plant communities that have been identified as occurring, and refers to Table 3.7-6. Table 3.7-6 only lists 6 special-status plant communities, and on page 101 the document refers to 5 special status plant communities. The commenter asks why these numbers are different. There are 6 special-status plant communities within the special-status plant community RSA and the Tunnel RSA. The number 7 to begin the last paragraph on page 3.7-109 will be corrected to 6 in the Final EIR/EIS. The reference to 5 special-status plant communities on page 3.7-101 correctly identifies the number of special-status plant communities that would be affected by surface construction.

4525-10333

The comment was deleted by the US Forest Service. No further response has been provided.

4525-10334

Refer to Standard Response PB-Response-HYD-2: Hydrogeologic Impacts in the Angeles National Forest/Tunneling Impacts in the Angeles National Forest.

The comment expresses concerns about tunnel construction resulting in groundwater depletion which will affect special status plant habitats at the surface within the ANF. The commenter specifically asks how impacts associated with groundwater depletion can be considered less than significant given the length of time anticipated for these impacts and the complexity of the mitigation that would be required. Standard Response PB-Response-HYD-2 provides a comprehensive response on the potential impacts on biological and hydrologic resources. This response describes how design features would make it unlikely that surface effects occur and provides an explanation for how mitigation, such as HYD-MM#4, is anticipated to be effective in monitoring and protecting against groundwater-dependent habitat loss, such as for special-status plants, and ensuring that if supplemental water and restoration efforts are not successful, compensatory mitigation to offset the loss of habitat would be provided. With implementation of mitigation measures, the Build Alternatives would not result in a substantial adverse effect on special-status species and habitat as a result of indirect impacts from tunnel construction.

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4525-10335

The commenter requests an explanation as to why the text mentions 40 Non-FESA Listed Species, but Table 3.7-10 only lists 39 species. Forty species were considered; however, one of the species in Table 3.7-10 (Forest Camp Sandwort) has 0 acres of potential impacts. Thus only 39 species are presented in the table. No change to the EIR/EIS text is required.

4525-10336

The commenter requests that the subheading "Tunnel Construction Impacts on Special-Status Plant Habitat" be changed to " Tunnel Construction Impacts on Modelled Suitable Habitat for Special-Status Plant Species" This change is requested to clarify that the effects are based on modeled results; however, this is explained in the EIR/EIS and the modelled results are used in the analysis to equate to Special-Status Plant habitat. No change to the EIR/EIS text is required.

4525-10337

The commenter asks whether the species within Table 3.7-11, Potential Impacts on Special Status Plants Habitat from Changes in Hydrologic Conditions (page 3.7-104) are wetland, aquatic, or riparian habitats that could be impacted by groundwater changes. The Authority has called out the fifteen species within the Table 3.7-11 as special-status plants with suitable habitat in the tunnel construction RSA that have been identified as requiring wetland or aquatic habitats (including riparian habitats) and therefore could be adversely affected by changes in groundwater hydrologic conditions. The Authority believes the title of Table 3.7-11 is accurate and does not require updating.

4525-10338

Refer to Standard Response PB-Response-HYD-2: Hydrogeologic Impacts in the Angeles National Forest/Tunneling Impacts in the Angeles National Forest.

The commenter states Section 3.7.6.2 does not present the "worst case" evaluation of effects since the section only documents a limited area within a few moderate and high risk area polygons noted on Figures 3.7-37 and 3.7-38. The commenter notes the Draft EIR/EIS states that groundwater disruption effects may occur within the 2-mile-wide tunnel construction RSA and those effects may last for months and up to five years (as noted on page 3.7-103). The commenter states a more appropriate worst case scenario analysis would be more inclusive of all risk areas, including the no risk and low risk area. The commenter states 15 groundwater-dependent plant species have suitable habitat in the no risk or low risk areas as noted on page 3.7-103. The commenter also makes reference to a draft biological assessment and draft biological evaluation with polygons extended beyond those found in the Draft EIR/EIS and indicates the inclusion of the areas depicted in the draft biological assessment and draft biological evaluation would generate a more appropriate "worst case scenario". The commenter also refers to page 3.7-109 noting that besides groundwater dependent plants even upland trees could be impacted. Lastly, the commenter notes that Section 3.8, Hydrology and Water Resources, of the Draft EIR/EIS indicates groundwater study is complex.

Please refer to the Response to Comment #10322, which explains the methodology and approach to defining the risk areas. These risk areas consider many factors including presence of seeps or springs and faults, and are not just a function of high groundwater pressures. Please also refer to Standard Response PB-Response-HYD-2: Hydrogeologic Impacts in the Angeles National Forest/Tunneling Impacts in the Angeles National Forest, which also explains the approach in determining risk areas. Based on observations of groundwater occurrence and flow behavior described in Section 3.8.4.5, Hydrology and Water Resources Methodology, potential risk areas were identified and mapped in the tunnel construction RSA in the ANF, with relative rankings of High Risk, Moderate Risk, and Low/No Risk of impacts on subsurface, surface, and other water resources. Low Risk areas are defined as areas that do meet any of the risk criteria such as areas where the tunnel alignment intersects a fault where groundwater pressures are estimated to be above 25 bar at the tunnel depth, and areas where known springs occur within 0.5 mile of the tunnel alignment where groundwater pressures are

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4525-10338

estimated to be above 25 bar at the tunnel depth. The lack of these features/criteria represents a low risk for impacts to occur. To assume a worst case, and that impact would occur in these areas where no risk factors exist, would substantially overstate the project's potential impacts.

4525-10339

The commenter requests that the title of Table 3.7-11 be changed from "Potential Impacts on Special-Status Plant Habitat from Changes in Hydrologic Conditions" to "Potential Impacts on Suitable Habitat for Groundwater Dependent Special-Status Plant Species from Changes in Hydrologic Conditions" to better reflect the contents of the table. The title of the table will be modified to suggested title.

4525-10340

Refer to Standard Response PB-Response-HYD-2: Hydrogeologic Impacts in the Angeles National Forest/Tunneling Impacts in the Angeles National Forest.

The commenter expresses concern that ephemeral drainages identified in the discussion of effects of tunnel construction within the High and Moderate Risk Areas are not similarly identified in discussion of impacts from surface construction on page 97. The methodology used to identify aquatic resources is discussed in Section 3.7.1.1. The ephemeral features identified within the Risk Areas would not be affected by surface construction activities and therefore were not discussed on page 97.

4525-10341

The commenter questions how the identified mitigation measures in Section 3.7.9 and in Table 3.7-35 can lead to a less than significant conclusion relative to surface impacts from tunnel construction and asserts that the need for an AMMP indicates that the impact is significant. The commenter also expresses concern over compliance with USFS Fish and Wildlife Standard 11. Table 3.7-35 and Table 3.7-36 NEPA conclusions, post-mitigation is "No Adverse Effect" related to Impact BIO-3, Impact BIO-4, Impact BIO-7, Impact BIO-14, Impact BIO-18, and Impact BIO-19. Table 3.7-37 CEQA conclusion post-mitigation is "Less Than Significant" and this table lists each corresponding impact number. Each impact number also lists the specific mitigation measure that would avoid, reduce, or mitigate the impacts to a less-than-significant level. The USFS Fish and Wildlife Standard 11 requires consideration of species-specific guidance documents (Appendix H) to develop project-specific design criteria. BIO-MM#93 references compliance with BIO-MM#47 and BIO-MM#53, which are related to the development of Compensatory Mitigation Plans (CMPs). The CMPs would be developed in conjunction with species-specific guidance documents such as recovery plans and management plans. The Authority identified the AMMP under BIO-MM#93 to monitor and address surface impacts on groundwater dependent biological resources during tunnel construction including construction and post-construction monitoring for at least 5 years. The AMMP outlines several components for avoiding or minimizing impacts, including implementation of contingency plans in case the other mitigation measures are not completely identifying, avoiding, minimizing, or mitigating surface impacts from tunnel construction activities.

4525-10342

The comment was deleted by the US Forest Service. No further response has been provided.

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4525-10343

Refer to Standard Response PB-Response-BIO-1: Impacts in Bee Canyon, PB-Response-BIO-2: Construction and Operations Impacts to Special-Status Plants and Wildlife, PB-Response-HYD-2: Hydrogeologic Impacts in the Angeles National Forest/Tunneling Impacts in the Angeles National Forest.

The commenter expresses concern that the implementation of the IAMFs and MMs will not sufficiently address the impacts to habitat for federally endangered and special status plant species. The total acres row was removed on Table 3.7-31 because many of the species in the table share habitat types and the total acreages previously shown (which were referenced in comment) exaggerated the acreage of the potential impacts. For example, the comment states that there are 10,000-20,000 acres of impacts on non-FESA plants when the total footprint of the Build Alternatives range from 1,200 to 2,000 acres of surface impacts, depending on the adit/window combinations. The Authority has developed 12 Impact Avoidance and Minimization Features (IAMF) described in Appendix 2-E and over 100 mitigation measures described in Section 3.7.7, which are designed to avoid, minimize, and offset impacts to special-status species, sensitive habitats, wildlife movement, and habitat connectivity. Please refer to Standard Responses PB-Response-BIO-1: Impacts in Bee Canyon and PB-Response-BIO-2: Construction and Operations Impacts to Special-Status Plants and Wildlife for more information on impacts and mitigation for special-status plants. Contingency measures are in place should implementation of habitat restoration or mitigation not meet intended results. For example, BIO-MM#47 (Prepare and Implement a CMP for Impacts on Aquatic Resources) and BIO-MM#53 (Prepare a CMP for Species and Species Habitat) both include requirements to include an adaptive management plan to address changes in site conditions or other components of the compensatory mitigation project.

4525-10344

The comment was deleted by the US Forest Service. No further response has been provided.

4525-10345

The comment was deleted by the US Forest Service. No further response has been provided.

4525-10346

The comment was deleted by the US Forest Service. No further response has been provided.

4525-10347

The commenter states that level of survey completed for the project is insufficient and that there are discrepancies between the areas mapped as suitable habitat and actual ground conditions. The Authority disagrees. The use of predictive modeling in the Draft EIR/EIS was thoughtfully and carefully applied, and the impact assessment provided was conservative in its conclusions. If the predictive model indicated the potential presence of habitat, the Authority assumed the species could be present, even if CNDDDB (and other online reporting databases, such as eBird) records were absent, and the conclusion was made that impacts could occur, and mitigation was needed. Once a project is approved, the Authority is committed to continued consultation with the resource agencies to further refine our mutual understanding of species occurrences near the time of construction.

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4525-10348

The commenter states that the amphibian impacts analysis was focused on breeding habitat. The commenter requests that impacts to streams and riparian areas outside of amphibian breeding habitat be quantified and analyzed. The Draft EIR/EIS provides a detailed discussion of the methods used for assessing impacts to amphibians in Section 3.7.4. In that section, Table 3.7-7 (page 3.7-61) presents the amphibian species analyzed in the Draft EIR/EIS and presents the vegetation communities associated with the species' habitat found within the Wildlife Core Habitat RSA. Amphibian habitat impacts were quantified using predictive modeling (listed species) and the vegetation communities (non-listed species) known to support the species. Habitat impact assessments were not restricted to breeding habitat. Figures 3.7-18, 3.7-21, and 3.7-26 present the specific amphibian habitat designations that were assessed for federal- and State-listed species. For non-listed species, habitat impacts for amphibian species were assessed based on CWHR vegetation community associations (see Table 3.7-7). Impacts to stream and riparian areas outside of breeding habitat, if the vegetation type was known to support the species, were included in the impact quantification and analysis. A majority of the alternative alignments where potential habitat for these species is present is underground, and mitigation measures are in place that require the Authority to perform surveys to detect (BIO-MM#7) and implement avoidance or minimization (BIO-MM#8) where there are on-ground alignment features for the SR14A Preferred Alternative. BIO-MM#7 has been updated in the Final EIR/EIS to further clarify that preconstruction surveys will include identifying and documenting special-status reptile and amphibian species and their habitat within the project footprint, informing methods for the species' avoidance, protective fencing placement, and relocation activities, not just breeding habitats.

4525-10349

Refer to Standard Response PB-Response-HYD-2: Hydrogeologic Impacts in the Angeles National Forest/Tunneling Impacts in the Angeles National Forest.

The commenter states that compensatory mitigation does not adequately mitigate the loss of impacted species or their habitat. The commenter questions what will happen if compensatory mitigation cannot be successfully implemented. Contingency measures are in place should implementation of habitat restoration or mitigation not meet intended results. BIO-MM#47 (Prepare and Implement a CMP for Impacts on Aquatic Resources) and BIO-MM#53 (Prepare a CMP for Species and Species Habitat) both include requirements to include an adaptive management plan to address changes in site conditions or other components of the compensatory mitigation project. Specific to tunneling, BIO-MM#93 (Adaptive Management Plan for Groundwater Effects on Species and Habitat) would avoid, minimize and mitigate for impacts on seeps, springs, streams, riparian vegetation, and special-status plant and wildlife species, the Authority will prepare and implement an adaptive management and monitoring plan (AMMP) prior to, during, and after tunnel construction to implement the requirements described under HYD-MM#4. Refer to Standard Response PB-Response-HYD-2: Hydrogeologic Impacts in the Angeles National Forest/Tunneling Impacts in the Angeles National Forest.

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4525-10350

Refer to Standard Response PB-Response-BIO-1: Impacts in Bee Canyon, PB-Response-BIO-2: Construction and Operations Impacts to Special-Status Plants and Wildlife.

The commenter expresses concern about the ability to implement ESAs for all construction activities. Please refer to BIO-MM#58 which requires that the ESA, wildlife exclusion fencing, and construction exclusionary fencing be delineated by the Project Biologist based on the results of habitat mapping or modeling and any pre-construction surveys and be identified and depicted on a an exclusion fencing exhibit.

The purpose of the ESAs and fencing will be included in the WEAP training and discussed during worker tailgate sessions. In addition, BIO-IAMF#5 requires the preparation of a Biological Resources Management Plan that includes the identification of locations and quantities of habitats to be avoided or removed as well as a master schedule that addresses the establishment of buffers and exclusion zones. In addition, BIO-MM#14 and BIO-MM#15 require pre-construction surveys for nesting birds and active nests for non-raptor and raptor species as well as the establishment of buffers and associated monitoring. Additional guidance on the establishment of ESAs would be generated from the results of pre-construction surveys and monitoring for species as required in BIO-MM#3, BIO-MM#4, BIO-MM#5, BIO-MM#7, BIO-MM#8, BIO-MM#16, BIO-MM#17, BIO-MM#18, BIO-MM#20, BIO-MM#21, BIO-MM#25, BIO-MM#26, BIO-MM#28, BIO-MM#29, BIO-MM#34, BIO-MM#52, BIO-MM#56, BIO-MM#58, BIO-MM#65, BIO-MM#66, BIO-MM#68, BIO-MM#69, BIO-MM#70, BIO-MM#79, BIO-MM#80, BIO-MM#81, BIO-MM#82, BIO-MM#94, and BIO-MM#96.

In addition, please refer to Standard Responses PB-Response-BIO-1: Impacts in Bee Canyon and PB-Response-BIO-2: Construction and Operations Impacts to Special-Status Plants and Wildlife, which identify the measures that would be implemented to minimize and offset impacts on special status plants, plant communities, wildlife and habitat as well as how buffers would be implemented if appropriate in Bee Canyon.

4525-10351

Refer to Standard Response PB-Response-HYD-2: Hydrogeologic Impacts in the Angeles National Forest/Tunneling Impacts in the Angeles National Forest.

The commenter claims that the CEQA conclusions for each species are not supported and that adequate surveys have not been performed. The commenter suggests that tunnel construction will result in permanent adverse effect to habitats and individuals because mitigation may fail. Refer to Standard Response PB-Response-HYD-2: Hydrogeologic Impacts in the Angeles National Forest/Tunneling Impacts in the Angeles National Forest. The use of predictive modeling and CNDDDB in the EIR/EIS was thoughtfully and carefully applied, and the impact assessment provided was conservative in its conclusions. If the predictive model indicated the potential presence of habitat, the Authority assumed the species could be present, even if CNDDDB (and other online reporting databases, such as eBird) records were absent, and the conclusion was made that impacts could occur, and mitigation was needed. CNDDDB, and other online databases, were used as a supplement to provide additional information on species occurrences, not as a means of ruling out the presence of species. Predictive modeling became a necessary tool for the EIR/EIS analysis given the lack of right of entry permissions which restricted field surveys. The project alternatives cross private property for which the property owners must grant right of entry. Such rights of entry were sought by the Authority and most private property owners either denied permission or did not respond to the Authority's request. As such surveys were not possible in many areas where the project has a surface footprint. The Authority continues to pursue right of entry permission from private landowners and is actively working to purchase all necessary properties for project development. The Authority has included mitigation measures in the EIR/EIS to perform surveys prior to construction and as properties become accessible. Information obtained from the surveys will be incorporated into the EIR/EIS. The Authority appreciates the comment and is committed to continued consultation with the resource agencies to further refine our mutual understanding of species occurrences and the potential for impacts from project construction and operation. As additional resource occurrence information becomes available through surveys efforts, the Authority looks forward to continued consultation with the resource agencies to further refine measures to avoid impacts to sensitive natural resources in the following permits: Section 7, 404, 401, 1600, and 2081. Contingency measures are in place should implementation of habitat restoration or

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mitigation not meet intended results. Specific to tunneling, BIO-MM#93 (Adaptive Management Plan for Groundwater Effects on Species and Habitat) would avoid, minimize and mitigate for impacts on seeps, springs, streams, riparian vegetation, and special-status plant and wildlife species, the Authority will prepare and implement an adaptive management and monitoring plan (AMMP) prior to, during, and after tunnel construction to implement the requirements described under HYD-MM#4.

4525-10352

Refer to Standard Response PB-Response-HYD-2: Hydrogeologic Impacts in the Angeles National Forest/Tunneling Impacts in the Angeles National Forest.

The commenter asks what corrective measures will be implemented if unexpected impacts occur. The commenter also requests clarification regarding what action will be taken if it is determined that groundwater depletion will be permanent. Refer to Standard Response PB-Response-HYD-2: Hydrogeologic Impacts in the Angeles National Forest/Tunneling Impacts in the Angeles National Forest. Contingency measures are in place should implementation of habitat restoration or mitigation not meet intended results. BIO-MM#47 (Prepare and Implement a CMP for Impacts on Aquatic Resources) and BIO-MM#53 (Prepare a CMP for Species and Species Habitat) both include requirements to include an adaptive management plan to address changes in site conditions or other components of the compensatory mitigation project. Specific to tunneling, BIO-MM#93 (Adaptive Management Plan for Groundwater Effects on Species and Habitat) would avoid, minimize and mitigate for impacts on seeps, springs, streams, riparian vegetation, and special-status plant and wildlife species, the Authority will prepare and implement an adaptive management and monitoring plan (AMMP) prior to, during, and after tunnel construction to implement the requirements described under HYD-MM#4. This comment does not address the sufficiency of the Draft EIR/EIS nor does it suggest edits to the document. As a result, no change has been made to the document in response to this comment.

4525-10353

The commenter expresses concern that impacts associated with ancillary project features, such as access roads, communication towers, and distribution lines, are not described well; that they may occur outside the ROW; will require long-term maintenance; and that a range of impacts from the type or intensity of use of these features has not been identified.

Section 2.3.4.6 describes the ancillary features associated with the tunnel portals and Section 2.3.5 describes other High-Speed Rail ancillary features. Section 2.3.5 indicates that the footprint for each Build Alternative includes all project-related components, including ancillary features such as access roads, train signaling and communication facilities, and utility relocation, necessary for the construction, operation, and maintenance of all permanent HSR features. Section 2.5.2 also indicates that the temporary environmental footprint areas for the project would be used to support construction activities, including staging, laydown areas, utility relocations, traffic detours, and temporary access roads. Some impacts identified in the EIR/EIS may differ based on the adit and intermediate window selection for the Build Alternative. For instance, Section 3.7, Biological and Aquatic Resources, provides a range that represents the minimum/maximum of acreage impacts associated with the construction of each Build Alternative. For example, Impact BIO#1 indicates that trackway and ancillary facilities, including all three Refined SR14 adit options, for the Refined SR14 Build Alternative would affect Nevin's barberry habitat between Big Springs Road and Vulcan Mine. Table 3.1-11 shows that Refined SR14 would impact between 464 –513 acres of Nevin's barberry habitat, dependent on the adit/window selection. These impacts represent the range of impacts that could occur from these particular ancillary facilities. The footprint upon which these impacts are calculated includes additional buffer areas to allow for flexibility in design, would accommodate areas needed for future maintenance and ensure the analysis is conservative and does not underestimate the magnitude of the potential impact.

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4525-10354

The commenter expresses concern over the size of the Resource Study Areas (RSAs) and provides recommendations for RSA sizes per resource. The RSAs were established by the Authority in coordination with biological and aquatic resources specialists. The size of each RSA was established in order to determine resource characteristics and impacts of the California HSR System. The Authority set the RSA to be uniform across all project segments and believes indirect resource impacts are adequately identified and analyzed using the RSA stated in the EIS. No changes have been made to the document in response to this comment.

4525-10355

The commenter requests modifications to BIO-IAMFs #2, 5, 11 to include the USFS. The commenter requests modification to BIO-IAMF#7 to include action for entrapped wildlife, BIO-IAMF#9 for topsoil storage, and BIO-IAMF# 10 for equipment cleaning. BIO-IAMF# 2 will be modified to include access to USFS personnel. BIO-IAMF#5 and 11 will be modified to include USFS review and approval of Restoration and Revegetation Plan, Weed Control Plan, and BMP field manual when applicable to USFS lands. BIO-IAMF#7 will not be modified because the measures already addresses the concern or other mitigation measures address the commenter's concern about wildlife relocation, specifically BIO-MM#8, 27, 52, 62, and 63. BIO-IAMF#9 will be modified to add the sentence: "If a site is already identified as needing restoration post-disturbance, efforts should be made to remove and store the topsoil in a manner that would allow for it to be replaced as part of site restoration." BIO-IAMF#10 will not be modified, because the measure already addresses the concern about equipment cleaning.

4525-10356

The commenter expresses concern that the level of effort and timing of special-status plant and wildlife surveys is insufficient to provide meaningful information with regards to habitat and species occurrence. The commenter notes instances of unclear terminology (e.g., "investigated"), inconsistent use of terms to describe the same survey (e.g., "focused" vs. "protocol"), and lack of disclosure of the qualifications of the personnel that performed the surveys. The predictive models and the data from the CNDDDB, and other sources, in the Draft EIR/EIS were thoughtfully and carefully applied, and the impact assessment provided was conservative in its conclusions regarding the presence/absence of species and habitat. If the predictive model indicated the potential presence of habitat, then the Authority assumed the species was present, even if CNDDDB (and other online reporting databases, such as eBird) records were absent, and the conclusion was made that impacts would occur, and mitigation was needed. The CNDDDB, and other databases, were used as a supplement to provide additional information on species occurrences, and not as a means of establishing absence of a species. Predictive modeling was a necessary tool for the Draft EIR/EIS analysis because right of entry permissions were restricted during the time of field surveys. The six Build Alternatives cross private property for which the property owners must grant right of entry. Such rights of entry were sought by the Authority and most private property owners either denied permission or did not respond to the Authority's request. As such, surveys were not possible in many areas where the project has a surface footprint. The Authority continues to pursue the right of entry permission from private landowners and is actively working to purchase all necessary properties for project development. The Authority will perform additional surveys prior to the start of construction to provide detailed and current information on the presence, or potential for presence, of sensitive natural resources (e.g., BIO-MM-#3, BIO-MM#7, BIO-MM#14, BIO-MM#15, BIO-MM#25, BIO-MM#28, BIO-MM#29, BIO-MM#52, BIO-MM#65, BIO-MM#68, BIO-MM#96). The Authority appreciates the comment and is committed to continued consultation with the resource agencies to further refine our mutual understanding of species occurrences and the potential for impacts from project construction and operation. The Authority will continue to coordinate with the resource agencies to avoid impacts to sensitive natural resources when obtaining permits for aquatic resources and listed species. The Authority intends to pursue applications for Special Use Permits from USFS and BLM, as required. For the unarmored threespine stickleback (UTS), the commenter requests definition of "investigated" and the

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4525-10356

qualifications of surveyors. In the Draft EIR/EIS, Section 3.7.4.4 includes a description of the methodology and results of the UTS surveys. For the UTS, "investigated" means that a detailed habitat assessment was performed. The UTS surveyor qualifications were reviewed and approved by the USFWS prior to surveys being performed. The preliminary habitat assessment for UTS includes the season in which the surveys were conducted as well as the weather conditions, including air temperature, wind speed, and cloud cover, to disclose the site conditions during the survey. For the California red-legged frog (CRLF), the commenter asks if the survey was "protocol" or "focused" (previously described as a focused survey); the qualifications of surveyors; if CRLF were observed; and why there was no mention of specific locations (Aliso Canyon, Arrastre Canyon, or Gleason Canyon) where CRLF are known to occur. The commenter expresses concern about the areas surveyed and explains how detections could be missed due to incomplete surveys. In the Draft EIR/EIS, Section 3.7.4.4 includes a description of the methodology and results of the CRLF surveys. The CRLF surveyor qualifications were reviewed and approved by the USFWS. For CRLF, the text in Section 3.7.4.4 states that "Protocol field surveys were performed..." The text also states: "The surveys were conducted by qualified Regional Consultant biologists familiar with identification of California red-legged frog and other amphibian species that co-occur with the species. Resumes of surveyors were submitted to the USFWS." The last paragraph discusses Aliso Canyon and Arrastre Canyon and explains that protocol CRLF surveys were not performed at these locations because CRLF are known to occur there and are therefore presumed present. Therefore, the Authority and the USFWS are assuming their presence at those locations. In the Draft EIR/EIS, on page 3.7-26 it states that the Authority and USFWS acknowledge that CRLF are present within Aliso Canyon Creek where Build Alternatives E1, E1A, E2, and E2A cross. None of the drainages crossed by the Refined SR14 Build Alternative or the SR14A Preferred Alternatives are known to have CRLF populations, nor were CRLF observed during the protocol surveys at those locations.

4525-10357

The commenter expresses concern that many of the areas identified as suitable habitat for special-status species are not suitable, that suitable habitat is not accurately identified based on field conditions. The commenter also states that California red-legged frogs (CRLF) are known to occur and have suitable habitat in Aliso Canyon at the confluence with Gleason Canyon Creek.

The Authority appreciates the comment and acknowledges the constraint with using predictive modeling and CNDDDB as tools for estimating species presence and conducting an impact assessment for sensitive natural resources. The use of predictive modeling and CNDDDB in the EIR/EIS was thoughtfully and carefully applied, and the impact assessment provided was conservative in its conclusions. If the predictive model indicated the potential presence of habitat, the Authority assumed the species could be present, even if CNDDDB (and other online reporting databases, such as eBird) records were absent, and the conclusion was made that impacts could occur, and mitigation was needed. CNDDDB, and other online databases, were used as a supplement to provide additional information on species occurrences, not as a means of ruling out the presence of species.

Page 3.7-26 states that the Authority and USFWS acknowledge that CRLF are present within Aliso Canyon Creek where Build Alternatives E1, E1A, E2, and E2A cross. None of the drainages crossed by the Refined SR14 and SR14A Build Alternatives are known to have CRLF populations or were observed during the protocol surveys. No changes have been made to the document in response to this comment.

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4525-10358

The commenter expresses concern that the title of Table 3.7-7 is misleading. The commenter suggests that Table 3.7-7 ("Special-Status Wildlife within the Build Alternative Core Habitat Resource Study Areas") be modified. Footnote 3 does disclose that that habitats for species were based on species-specific modeling instead of only on CWHR vegetation communities. Also, the table does not state that the habitats are known or field-verified. Regardless, the title for Table 3.7-7 will be changed to "Special-Status Wildlife Suitable Habitats within the Core Habitat Resource Study Areas". The introductory text to Table 3.7-7 will be modified accordingly.

To be consistent with a similar table with special-status plants, the title for Table 3.7-5 will be change from "Special-Status Plants within the Special-Status Plant Resource Study Areas" to "Special-Status Plant Suitable Habitats within the Special-Status Plant Resource Study Areas". The introductory text to Table 3.7-5 will be modified accordingly.

4525-10359

The comment was deleted by the US Forest Service. No further response has been provided.

4525-10360

The comment was deleted by the US Forest Service. No further response has been provided.

4525-10361

The commenter provides specific information on locations where California red-legged frog (CRLF) are known to occur. The commenter states that dispersal, foraging, and upland refugia habitats must be assessed and identified in addition to the breeding habitats. The commenter questions how the suitable habitat for mountain yellow legged frog (MYLF) was determined because many of the locations identified are not suitable. As described on page 3.7-25 and 3.7-26 of the in Section 3.7, Biological and Aquatic Resources of the Draft EIR/EIS, protocol presence/absence surveys for CRLF were performed in 2017. The habitat assessments and breeding season surveys were conducted from March until July 2017. As stated on page 3.7-26 of the Draft EIR/EIS, Aliso Creek was not surveyed because CRLF are already known to occur within the creek upstream of the project alignment (shown on Figure 3.7-21). Therefore, the Authority and USFWS assumed the species to be present (Draft EIR/EIS, page 3.7-26). Although CRLF were not observed or detected in the Arrastre Canyon Creek during the focused surveys, CRLF are known to occur upstream of the Build Alternative footprint, which was acknowledged on page 3.7-26 of the Draft EIR/EIS. Arrastre Canyon Creek and Aliso Canyon Creek would be crossed by E1, E1A, E2, and E2A Build Alternative alignments downstream from known populations; therefore, those Build Alternatives assumed presence of CRLF. While Gleason Canyon Creek may be occupied by CRLF, it did not occur within the Resource Study Area, and thus, was not specifically analyzed or referenced in the analysis, although it does converge with Aliso Canyon Creek. All suitable modeled habitat (including dispersal, foraging, upland) was included in the impact analysis in the Draft EIR/EIS; page 3.7-116 and Table 3.7-13 disclosed the amount of CRLF habitat impacts from each Build Alternative footprint. Both the California Red-legged Frog Habitat Assessment and Protocol Survey (Authority 2017b) and the Biological Resources and Aquatic Resources Technical Report (Authority 2019) discussed the CRLF habitat requirements and quantified the impacts to CRLF habitat categories, including breeding season aquatic habitat, refugia/foraging habitat, non-breeding season aquatic habitat, dispersal/seasonal movement habitat, other potential movement habitat, and permeable movement areas, which are illustrated on Figure 3.7-21 of the Draft EIR/EIS. The Authority coordinated with the U.S. Forest Service in the development of a habitat suitability model for MYLF (illustrated on Figure 3.7-26 of the Draft EIR/EIS) and was aware of the potential for extirpation from areas with high levels of predation. Given the lack of known occurrences for the species, the Authority utilized an over predictive model that did not rule out species presence based on high levels of predation.

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4525-10362

Refer to Standard Response PB-Response-HYD-2: Hydrogeologic Impacts in the Angeles National Forest/Tunneling Impacts in the Angeles National Forest.

The commenter indicates that language such as, "to the extent feasible" offers no assurances regarding consistency in the implementation and success of mitigation. The commenter requests a description of conditions that would make mitigation measures considered infeasible. The commenter is requesting a level of assurance with the success of mitigation measures.

While as noted by the commentor some mitigation measures include the statement "to the extent feasible", the mitigation measures do provide performance standards that are ultimately enforceable by the Authority and by Project Biologists during construction. The measure also includes specific buffers and seasonal restrictions. For example, BIO-MM#5: Implement and Monitor Vernal Pool Avoidance and Minimization Measures within Temporary Impact Areas includes the language "To the extent feasible, impacts on vernal pools in work areas outside of the permanent right-of way will be avoided." However, if impact cannot be avoided, BIO-MM#39: Provide Compensatory Mitigation for Impacts on Vernal Pool Fairy Shrimp and Vernal Pool Tadpole Shrimp Habitat would be triggered, which requires the Authority to provide compensatory mitigation for direct and indirect impacts, including both temporary and permanent impacts, on vernal pool branchiopod habitat at a 1:1 ratio unless a higher ratio is required by the FESA. Furthermore, where construction activities may impact jurisdictional waters, such as a stream channel, the project will obtain the required permits (e.g., Clean Water Act Section 404 and 401, as well as California Fish and Game Code Section 1600 Lake and Streambed Alteration Agreements). These permits also require that impacts to species associated with these habitat areas be fully mitigated.

The commenter asks what assurances are there that the tunnel impacts would not be considered permanent. The potential for changes in groundwater level caused by tunneling and the associated impacts are discussed in the Tunnel Construction section of each Impact in Section 3.7, Biological and Aquatic Resources. Temporary Changes in groundwater levels during tunnel construction could result in indirect impacts on special-status species. The Authority has incorporated HYD-IAMF#5, Tunnel Boring Machine Design, HYD-IAMF#6, Tunnel Lining Systems, and HYD-IAMF#7, Grouting, into the

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design and construction methods for tunnels under the ANF to avoid or minimize groundwater inflows into and around tunnels during construction. Although HYD-IAMF#5, HYD-IAMF#6, and HYD-IAMF#7 will reduce the amount of potential changes in groundwater levels due to tunnel construction, based on the available information and based on prior tunnel construction experience elsewhere, some groundwater inflow into the tunnels could still occur during construction. This groundwater flow could result in localized changes of groundwater level that could have temporary indirect effects on the hydrology of groundwater-dependent surface water features, including springs, seeps, and perennial streams that provide habitat for special-status species. Implementation of the AMMP set forth in BIO-MM#93 would address impacts on groundwater-dependent habitat though the application of supplemental water to maintain and restore the habitat until groundwater levels returned to normal. If these efforts are not successful, the impact would be permanent and the AMMP would then require compensatory mitigation.

The commenter also expresses concern over tunnel construction potential adverse effects on coast range newt and western spadefoot, despite not being groundwater dependent, because of noise, vibration, and traffic. The commenter wants to know how the conclusion is supported. Contrary to the commenter's note, coast range newt and western spadefoot are groundwater dependent species. The text being referenced by the commenter states "Ephemeral streams and associated coast range newt and western spadefoot habitat would not be affected because they are not dependent on groundwater". This sentence indicates that ephemeral streams are not groundwater dependent, and therefore, coast range newt and western spadefoot habitat would not be affected. Table 3.7-15 in the Draft EIR/EIS discloses the potential impacts to coast range newt and western spadefoot habitat (habitat not dependent on ephemeral streams) from changes in hydrologic conditions. Regarding other effects such as noise, vibration, and traffic, Impact BIO#2, includes a discussion of how direct effects on special-status amphibian species resulting from construction activities, such as construction traffic, in suitable upland or aquatic habitat could kill, injure, or harass special-status amphibians. Implementation of mitigation measure BIO-MM#60, would ensure that construction traffic is limited within the construction footprint. Prior to any ground disturbing activities, the project biologist would ensure that appropriate measures have been instituted to restrict project vehicle traffic and speeds. Tunnel construction would produce vibration, noise, and dust. The noise and dust would likely

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4525-10362

be contained to the portal areas, whereas the vibration may be felt closer to the location of the boring equipment, depending on the geology and depth of the tunnel. These effects would be temporary in nature and are not anticipated to affect special-status amphibians.

Refer to Standard Response PB-Response-HYD-2: Hydrogeologic Impacts in the Angeles National Forest/Tunneling Impacts in the Angeles National Forest. The surface impacts associated with project construction (inclusive of alignment alternatives E1, E1A, E2, and E2A) are included in surface impact sections not necessarily in the tunnel impact section which focuses on groundwater changes to surface features and sensitive biological resource habitats.

The commenter mentions the Santa Clara River as designated critical habitat and is occupied by arroyo toads. In addition, the commenter mentions Aliso Canyon and Arrastre Canyon being occupied by CRLF. As described in Table 3.7-10 in the Draft EIR/EIS, designated critical habitat within the resource study area includes the following: the E2 and E2A Build Alternative alignments would traverse 0.26 mile of designated Santa Ana sucker critical habitat within Big Tujunga Wash; the Refined SR14 and SR14A Build Alternative alignments would traverse 0.26 mile of designated critical habitat along the Santa Clara River southeast of SR 14 in Soledad Canyon; the E2 and E2A Build Alternative alignments would traverse 0.24 mile of designated southwestern willow flycatcher critical habitat within Big Tujunga Wash. Impact BIO#10 analyzes the Build Alternatives impacts on designated critical habitat. Mitigation measures BIO-MM#6, BIO-MM#47, BIO-MM#50, and BIO-MM#53 would provide avoidance, minimization, and compensatory mitigation for the impact such that it would no longer be a substantial adverse effect on designated critical habitat. As described in Section 3.7.4.4 of the Draft EIR/EIS, California red-legged frog are known to occur within Aliso and Arrastre Canyon creek upstream of the project alignment, and therefore were assumed to be present. Impact BIO#2 analyzes the Build Alternatives impacts on California red-legged frog. Collectively, the mitigation measures described in the impact analysis would provide avoidance, minimization, and compensatory mitigation for direct and indirect construction impacts on special-status amphibians such that impacts would be less than significant for the Refined SR14, SR14A, E1, E1A, E2, and E2A Build Alternatives.

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4525-10363

The comment "Delete" indicates that Comments Submitted on the Administrative Draft EIR/EIS in February 2021 are no longer relevant. Comment noted.

4525-10364

The commenter raises questions about BIO-MM#67 as to its effectiveness and why it doesn't apply to four of the Build Alternatives. BIO-MM#67 requires the Authority to perform post construction monitoring to confirm the status of relocated or human-made artificial nests for a minimum of 3 years and would be implemented for all 6 Build Alternatives. BIO-MM#67 will be planned and implemented through coordination with USFWS and in accordance with the Bald and Golden Eagle Protection Act and permits issued by USFWS subject to requirements outlined in Title 50, Chapter 1, Subchapter B, Part 22 –Eagle Permits (50 CFR 22). This includes mechanisms to account for and address uncertainty and risk of failure of a compensatory mitigation measure, such as death or injury as a result of relocation [50 CFR 22.80(C)(1)(iii)(F)]. In the event that injury or death occurs as a result of relocation, compensatory mitigation approaches and adaptive management would be applied as approved by the USFWS. This may include conservation banking, in-lieu fees, and other third-party mitigation projects or arrangements in the event of unsuccessful nest relocation. Specific permitting requirements are identified in the Bald and Golden Eagle Protection Act (50 CFR 22). BIO-MM#67 has been revised in the Final EIR/EIS to further clarify measures to be implemented in the event relocation is not successful.

4525-10365

The commenter states that in Impact BIO#4, impacts described for fish would also apply to California red-legged frog, arroyo toad, and other stream-dependent amphibians where their occurrence in the project area overlaps the fish species. The impacts to special status amphibians are described in Impact BIO#2: Project Construction Effects on Special-Status Amphibian Habitat in the Draft EIR/EIS (Page 3.7-114), many of which overlap with impacts discussed in Impact BIO#4 for fish. For example, crossing streams and canyons, such as the Santa Clara River and Arrastre Canyon, would affect habitat for arroyo toad, and activities occurring at Una Lake or at Gold Creek, or in Big Tujunga Wash, could affect potentially suitable breeding habitat identified for California red-legged frog. Direct and indirect impacts could include construction activities that would temporarily destroy, degrade, fill, or pollute aquatic breeding habitats and permanently convert or fragment occupied aquatic habitat resulting from installation of project infrastructure. In addition, changes in breeding habitat water quality or hydroperiod of streams and changes in the hydrology of streams that provide aquatic habitat could occur. Given their inability to disperse over land, fish are subject to some impacts, such as loss of aquatic connectivity, that may not affect more mobile amphibian species. The commenter also requests an explanation regarding why the impact acreages are different for Santa Ana sucker compared to those of the arroyo chub and the Santa Ana speckled dace, stating that these species typically occupy the same areas in Big Tujunga Creek. The habitat models that the Authority used for the Santa Ana sucker included different habitat parameters than those for the arroyo chub and Santa Ana speckled dace, and therefore the suitable habitats acreages differ for these species. The vegetation communities associated with Santa Ana speckled dace habitat and arroyo chub habitat include DSW, MRI, VRI, whereas the vegetation communities associated with Santa Ana sucker habitat include DSW, RIV, LAC, DRI, VRI (refer to Table 3.7-4 in the Draft EIR/EIS for the full names of these communities). The habitat models also address habitat impacts to the Santa Ana sucker, the arroyo chub, and the Santa Ana speckled dace in the Big Tujunga Wash (refer to Draft EIR/EIS Figures 3.7-43 and 3.7-44). The Authority notes that incorrect Figures were referenced under Impact BIO#4 and has therefore made the revisions to the Final EIR/EIS that reflect the correct Figure numbers for Santa Ana sucker and unarmored three-spine stickleback.

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4525-10366

The commenter requests the threshold for the term "significantly degrade." BIO-MM#55 provides the purpose and content of a Weed Control Plan, which includes success criteria for invasive weed control. The comment is referencing text, "significantly degrade" that is not included in BIO-MM#55 measure. The concept of "significantly degrade" is not a threshold of the weed control plan as described in BIO-MM#55 which specifies the plan criteria will establish limits on the introduction and spread of invasive species, as defined by the California Invasive Plant Council, to less than or equal to the pre-disturbance conditions in the area temporarily affected by ground disturbing activities.

4525-10367

The commenter expressed concern that the 10-foot setback in BIO-MM#85 is too close to the channel, and that if the stream were dry, there would be no limitation on construction activities.

Under BIO-MM#85 (Establish Construction Zones and Environmentally Sensitive Areas), the Authority is required, prior to the commencement of bridge construction activities, to have a qualified biologist survey the proposed work locations to confirm that the construction zone and setback barrier are outside the wetted (low-flow) channel of the river; to confirm that the proposed vibratory pile installation locations are located outside of the 25-year flood zone, to the extent feasible, and away from the wetted channel; and, to confirm that no work takes place where UTS may be affected. A 10-foot setback buffer from the wetted channel would be sufficient and effective because it would preclude direct effects such as physical disturbance, temporary interruptions of fish passage, sedimentation, turbidity, altered water temperatures, oxygen depletion, and contamination. No construction activities or personnel will occur within 10 feet of the edge of the wetted channel, which the Authority believes is sufficient to avoid the potential to destabilize the low flow channel bank. Permanent structures associated with bridge construction will remain outside of the 25-year flood zone. The location of the setback barrier would not vary regardless of whether water is present. The 10-foot setback buffer will be located along the low-flow channel as determined by an aquatic resources delineation, just prior to the start of construction. The Project Biologist will be present during all construction and maintenance activities upstream or downstream of the bridge crossing to prevent personnel, equipment, and debris from contacting or disturbing the wetted channel of the Santa Clara River. As such, implementation of BIO-MM#85 will ensure no take of UTS will occur. Under BIO-MM#92 (Implement Avoidance Measures During Operations and Maintenance for the Santa Clara River), the Authority will restrict all maintenance of project facilities on or over the Santa Clara River to outside 10-feet from the wetted channel edge, no activities within the wetted channel, and that all repair or replacement of bridge structures requiring access to the 25-year flood zone of the riverbed will be restricted to the dry season (June 1 to September 30), except in the case of an emergency. Additionally, the Authority has developed BIO-MM#6 (Prepare and Implement a Restoration and Revegetation Plan) to restore and revegetate temporary impacts to UTS habitat.

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4525-10368

The commenter disagrees with the statement and subsequent explanation about why ringtails may be the only special-status mammal affected by groundwater depletion. The commenter requests an update to Table 3.7-21 to include other special-status mammals such as bats, which may be impacted by groundwater depletion. The Draft EIR/EIS explains why groundwater depletion would not significantly affect other species. As described on page 3.7-151, mammals other than the ringtail, "such as bat species, are not considered groundwater dependent, as they do not require aquatic or riparian conditions to complete a significant portion of their life cycle. Although bats do rely on aquatic conditions for foraging, their range is wide enough that they would not be hindered by changes in groundwater in the localized area of potential effects" as there could be ephemeral streams or surface waters they can rely upon that are not fed by groundwater. Ringtail however, are dependent on riparian trees and shrubs, which are groundwater dependent, for portions of its lifecycle. Depending on the time of year and/or the timing of drying, these changes could affect breeding success, foraging, and could alter the behavior of this species, if other nearby surface waters are not present. Bats and other species have the ability to seek water from other sources and are not specifically dependent on riparian trees and shrubs for significant portions of their lifecycles.

4525-10369

The commenter expresses concern that both BIO-MM#26 and BIO-MM#27 have the potential to adversely impact individuals and that could lead to the loss of entire roosting bat colonies because relocation is difficult and success rates are low. Both BIO-MM#26 and BIO-MM#27 reference preparation of a relocation plan that will detail relocation activities, schedule, and proposed sites for the alternative bat roost outside the project area. The Authority revised BIO-MM#26 to provide specificity regarding work periods, no-work buffers, and the bat roost relocation plan. The Authority revised BIO-MM#27 to include a discussion of the measures effectiveness in reducing impacts to bats.

4525-10370

Refer to Standard Response PB-Response-BIO-3: Wildlife Movement Corridors.

The commenter expresses concern regarding the analysis of arroyo toad critical habitat as it relates to the Refined SR14 and SR 14A Build Alternatives. The commenter states the Authority's effort to minimize the 6.2 acres of impact to this critical habitat fails to recognize the significance of the adjacent stream and immediate area. The commenter opines that the majority of arroyo toad designated critical habitat are upland habitats and impacts to upland areas within the critical habitat would represent a less significant impact than those occurring in the adjacent stream, riparian, and floodplain areas. The commenter suggests the last sentence within Impact BIO#10, which concludes that the impact to critical habitat for arroyo toad would be less than significant with the implementation of mitigation measures, should be removed from the analysis. Regarding concerns about arroyo toad, arroyo toad critical habitat occurring within the construction footprint consists of 6.5 acres within Subunit 6c of designated critical habitat. This subunit contains the following physical and biological features: a range of habitat types including rivers or streams with hydrologic regimes (that supply water to provide space, food, and cover needed to sustain eggs, tadpoles, metamorphosing juveniles, and adult breeding toads), riparian and adjacent upland habitats channels and adjacent upland habitats that allow for movement to breeding pools, foraging areas, overwintering sites, upstream and downstream dispersal, and connectivity to areas with suitable habitat (USFWS 2011b). The physical and biological features within the critical habitat is, therefore, more than just upland habitat as suggested by the comment. The impacts to critical habitat will include the stream and the immediate surrounding area associated with the Santa Clara River and riparian banks (see Figure 3.7-35 of the Draft EIR/EIS). The 6.2 acre area disclosed in the Draft EIR/EIS is an intentionally conservative number and represents the two-dimensional (bird's eye view) area of the project footprint. Actual physical ground disturbance represented by the bridge footings and construction platforms would be considerably less than 6.2 acres (approximately 2.4 acres). Measures (BIO-IAMF#3, BIO-IAMF#4, BIO-IAMF#5, BIO-IAMF#8, HYD-IAMF#1, BIO-MM#84, BIO-MM#86, BIO-MM#88, BIO-MM#92) provided in the Draft EIR/EIS ensure that no work will occur within the 25 year floodplain, no work will occur in the Santa Clara River wetted channel, and minimal modifications to the river channel will occur. Any modification of the river channel would be restored post-construction. The Santa Clara River is a dynamic system and subsequent to construction, storm events

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are expected to further modify the river channel such that no lasting effects of the project to the arroyo toad critical habitat are expected. When reviewing impacts to species' critical habitat, the U.S. Fish and Wildlife Service considers the impact in relation to the entire designated critical habitat to establish whether the project would destroy or adversely modify critical habitat. As disclosed in the Draft EIR/EIS, impacts to arroyo toad critical habitat from construction of the Preferred Alternative are less than 0.1 percent of arroyo toad critical habitat. Some adjacent upland areas will be impacted by construction staging and laydown areas, and general rail construction activities as disclosed in the Draft EIR/EIS (Section 3.7). However, staging and laydown areas are temporary and will be restored post-construction. Impacts to arroyo toad habitat and designated critical habitat have been fully disclosed and are in separate sections of the Draft EIR/EIS, and the mitigation measures will reduce impacts to less than significant as described in Section 3.7.7 of the Draft EIR/EIS.

The commenter also opines there is disagreement in the tunnel construction impacts analysis and the tunnel construction analysis described in the surface construction effects for the Refined SR14 and SR14A Build Alternatives, specifically the analysis of dewatering due to tunnel construction. There is no inconsistency in the analysis which accurately reflects the conditions - in shallower tunnel areas there is not the same concern as for the deeper tunnels under the ANF. Conditions are substantially different than those that would be encountered in the ANF in that areas outside of the ANF are primarily characterized by alluvial soils and low groundwater pressures. Construction outside the Angeles National Forest could result in the temporary inflow of water into tunnel if the tunnel encounters groundwater table or perched water. HYD-IAMF#5, HYD-IAMF#6, and HYD-IAMF#7 entail design features and construction methods that will address potential water intrusion including the installation of a tunnel liner, which because of the low-water pressures expected to be encountered in areas outside the Angeles National Forest, would be sufficient to effectively control inflows into the tunnels.

The commenter suggests the large and small crossing intervals noted in the permanent impacts may still create adverse impacts to wildlife movement, noting impeded movement for smaller species because of the distance between openings. Section 7.3.4 - Sizing and Design of Wildlife Crossing Structures in the WCA highlights recommended

4525-10370

design criteria described by the Wildlife Crossing Structure Handbook Design and Evaluation in North America (FHWA 2011 [identical to Clevenger and Huijser 2009]) and the Wildlife Crossing Guidance Manual (Meese et al. 2009). The Authority recognizes and commits to implementing the following design recommendations:

- Undercrossings intended to be used by large mammals (i.e., mule deer) within the mule deer species range would be a 10-foot-tall concrete arch to accommodate their larger stature.
- Any culvert intended to function as an undercrossing for carnivores and small animals should be no smaller than a 6-foot-wide arch culvert for lengths up to 200 feet, or an 8-foot-wide arch culvert for lengths up to 300 feet. The substrate should be natural soil of the surrounding area (not concrete or steel), and the grade should not exceed 2 percent. Culverts longer than 300 feet should not be considered wildlife crossing structures. If any portion of the bottom of the wildlife undercrossing is likely to be inundated longer than 24 hours at least once per year, the structure should have a dry ledge. The structure should be straight enough that a mammal entering the culvert can see the other end of the culvert.
- Slope within the crossing structure should be consistent with the natural (pre-construction) grade (optimally less than 2 percent). Slopes that follow natural grades greater than 2 percent are acceptable in bridged undercrossings (viaducts).
- Dual-use road crossings would have a physical separation or barrier, such as a wall, between the natural substrate crossing area and the road.
- The floor of large crossing structures (overpasses or underpasses) should be planted with native vegetation suited to the available daylight. Vegetation should be restored and monitored consistent with the Restoration and Revegetation Plan.
- Fencing or steep riprap should be used to guide or funnel wildlife toward the crossing entrance.
- If a stream passes through a bridged crossing structure, the passage should be wide enough (i.e., the bridge should be long enough) for the stream channel and stream banks to support the riparian vegetation similar to the riparian vegetation in relatively intact areas upstream and downstream from the structure. In particular, the passage must be wide enough that any riprap needed to protect the bridge piers does not confine the stream to a narrow, scoured channel lacking riparian vegetation.

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In all crossing structures that might be used by desert tortoise, funnel fencing should follow USFWS specifications (Meese et al. 2009, pages 90–92, or updated USFWS guidance).
 In small crossing structures that do not have enough ambient light to support native plants, artificial cover (e.g., rocks, pipes) should be provided for reptiles and other small animals.

The commenter suggests the majority of available wildlife crossings will be associated with the viaducts, tunnels, and additional wildlife crossings are part of the built design and align with the existing bridge structures on the SR 14 freeway and high use crossing areas documented by UC Davis roadkill data, illustrated in Figures 1 and 2. Lastly, the commenter notes the viaducts, tunnels and culverts constructed for the build alignment alternatives may be underutilized by wildlife. Regarding concerns about wildlife crossings, the length and spacing of the tunnels and viaducts dispersed throughout the project will provide opportunities for wildlife species to move across a diversity of habitat types including upland, drainage, and riparian. The proposed design features including tunnels and viaducts would provide opportunities for wildlife movement. Refer to Standard Response PB-Response-BIO-3: Wildlife Movement Corridors, for additional information.

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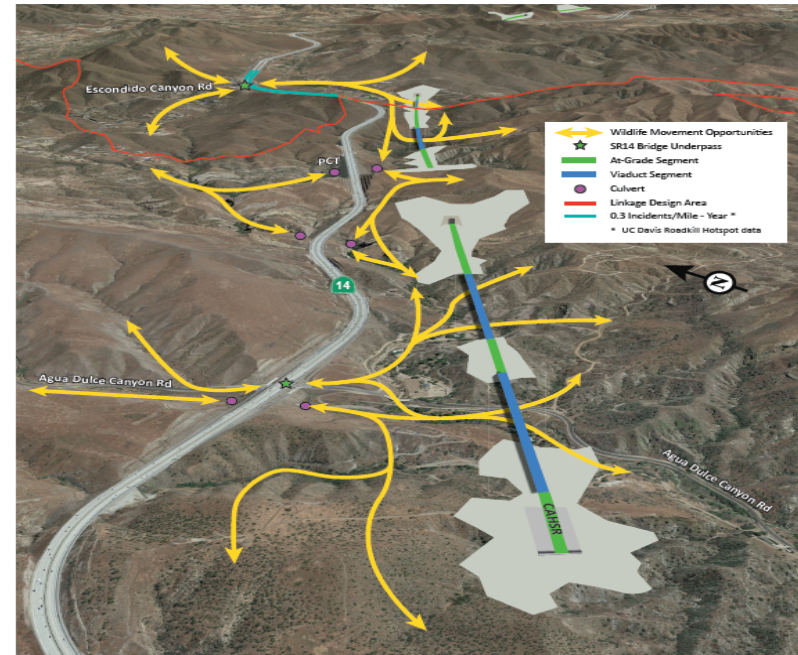


Figure 1 –Wildlife Movement Opportunities, Looking North from Agua Dulce Canyon Road, through the Linkage Design, Across the SR 14 Freeway Corridor and Roadkill Data

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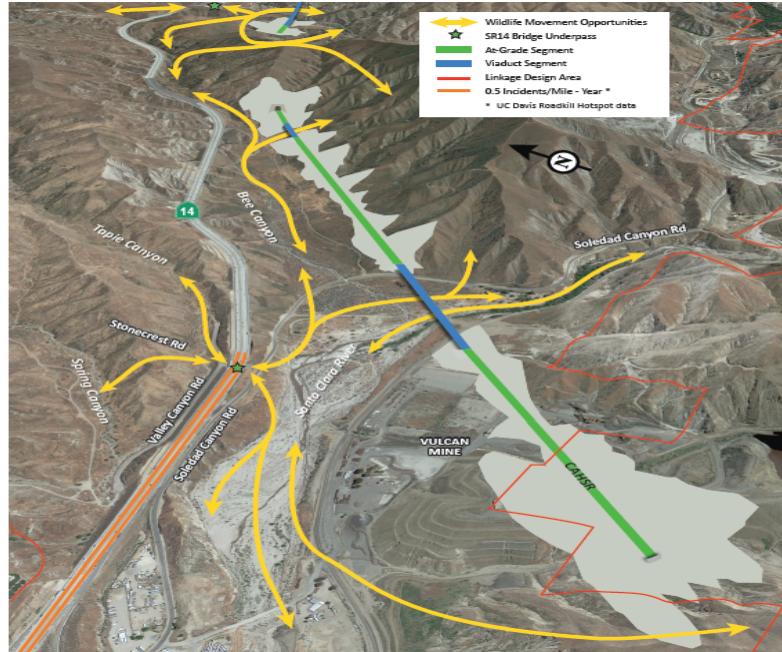


Figure 2 - Wildlife Movement Opportunities, Looking North from Stonecrest Road, through the Linkage Design, Across the SR 14 Freeway Corridor and Roadkill Data

4525-10371

Refer to Standard Response PB-Response-BIO-3: Wildlife Movement Corridors.

The commenter identifies the Angeles National Forest Land Management Plan Policy S22, which requires that linear structures such as fences, major highways, utility corridors, bridge upgrades or replacements, and canals be designed and built to allow for fish and wildlife movement.

Table 6-6 in the WCA and Table 2-13 of the supplemental WCA highlights the extensive network of rail segments that are permeable for wildlife movement across the project, including a 13.25-mile, 8.28-mile, and 1.04-mile tunnel segments and a 0.43-mile, 0.40-mile, and 0.19-mile elevated viaduct segment for the SR14A Build Alternative. Similarly, the Refined SR14 Build Alternative includes a 13.06-mile, 7.21-mile, 3.14-mile, 1.62-mile, 0.99-mile, and 0.51-mile tunnel segments; a 0.68-mile, 0.65-mile, 0.44-mile, 0.37-mile, 0.32-mile, 0.16-mile, 0.06-mile, and 0.03-mile elevated viaduct segment that remain permeable for wildlife movement.

The SR 14 freeway and the California Aqueduct are the primary barriers to wildlife movement in the area. Figure 5-7 and Section 5.3.1, Existing Crossing Structures, in the WCA identifies potential wildlife crossing opportunities across these barriers. Photographs of each of the crossing opportunities are provided in Appendix C of the WCA. Figure 4-5 in the WCA shows the spatial relationship between the existing bridges and these permeable large tunnel and viaduct segments associated with the Refined SR14 and SR14A Build Alternatives that would maintain wildlife movement consistent with Policy S22.

In addition to the extensive tunnels and viaduct sections that would maintain wildlife movement for these HSR alternatives, the SR14A and E2A Build Alternative would include one wildlife crossing near East Barrel Springs Road (east of Una Lake) and a second south of the Soledad Siphon (south of the California Aqueduct). The E1 and E2 Build Alternatives include one wildlife crossing location at milepost 5.5, south of the California Aqueduct, and the E1A Build Alternative would include one wildlife crossing location near East Barrel Springs Road (east of Una Lake).

As stated above and illustrated in Figure 4-5 in the WCA, the extensive tunnels and

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4525-10371

viaduct segments align with the existing crossing opportunities at the SR14 freeway that would maintain wildlife movement.

The commenter also states that the Authority has downplayed the impact from the project due to the existing barrier of wildlife movement by SR14 and states that the addition of another linear structure in the area represents another barrier to wildlife movement and cumulatively adds to the fragmentation of the area. Operation of the Build Alternatives, in combination with other past, present, and reasonably foreseeable projects such as linear transportation projects, including the Northwest SR 138 Corridor Improvement Project and the High Desert Corridor Project, would convert currently undeveloped habitat to residential, commercial, industrial, and transportation uses, thereby creating barriers to wildlife movement, reducing natural habitat, and impacting special-status plants, special-status wildlife, and aquatic resources in areas surrounding the ANF, including the SGMNM. This potentially significant cumulative impact was disclosed in Section 3.19, Cumulative Impacts of the Draft EIR/EIS (see pages 3.19-50 and 3.19-51). However, the SR14A Build Alternative maintains wildlife movement connectivity across the extensive series of tunnels and viaducts that correspond with existing crossing opportunities along the existing constrained SR 14 freeway, as discussed above. The lengths of those tunnels and viaducts are listed in Table 6-6 in the WCA and Table 2-13 of the supplemental WCA. The SR14A Build Alternative includes six permeable segments that include 13.25-mile, 8.28-mile, and 1.04-mile tunnel segments where wildlife can cross over the alignment. Furthermore, the SR14A Build Alternative includes 0.43-mile, 0.40-mile, and 0.19-mile elevated viaduct segments where wildlife can cross underneath the HSR alignment. Based on the extensive tunnel and viaduct sections, the SR14A Build Alternative is permeable for wildlife movement. Wildlife movement is further enhanced at two wildlife crossing locations; one located near East Barrel Springs Road (east of Una Lake) and a second crossing south of the Soledad Siphon (south of the California Aqueduct). Given the design of the HSR Palmdale to Burbank Project Section to be permeable and given the fact that the Project Section would add wildlife movement opportunities in the form of mitigation, the HSR Palmdale to Burbank Project Section's contribution to a cumulative impact would not be considerable. Please refer to Standard Response PB-Response-BIO-3: Wildlife Movement Corridors for more detail.

4525-10372

The comment "Delete" indicates that Comments Submitted on the Administrative Draft EIR/EIS in February 2021 are no longer relevant. Comment noted.

4525-10373

The commenter states that the Restoration and Revegetation Plan, for activities located on National Forest lands, must be approved by US Forest Service (USFS). The commenter also states that restoration is required for all impact areas and is not limited to habitats for special-status species or aquatic resources.

The comment is acknowledged. BIO-MM#6 states that "The RRP will be submitted to the Authority and regulatory agencies...for review and approval." While BIO-MM#6 applies to restoration of temporarily-impacted habitats supporting special-status species, wetlands, and/or other aquatic resources, LU-IAMF#3 (Restoration of Land Used Temporarily During Construction) applies to all lands temporarily impacted during construction.

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4525-10374

The commenter expresses concern that there was insufficient survey efforts for reptiles and amphibians. The commenter expresses concern over the potential timing of pre-construction surveys not being appropriate for detections.

The Authority appreciates the comment and acknowledges the constraints with using predictive modeling and CNDDDB as tools for estimating species presence and conducting an impact assessment for sensitive natural resources. The Authority's use of predictive modeling and CNDDDB in the EIR/EIS was thoughtfully and carefully applied, and the impact assessment provided was conservative in its conclusions. If the predictive model indicated the potential presence of habitat, the Authority assumed the species could be present, even if CNDDDB (and other online reporting databases, such as eBird) records were absent, and the conclusion was made that impacts could occur, and mitigation was needed. CNDDDB, and other online databases, were used as a supplement to provide additional information on species occurrences, not as a means of ruling out the presence of species.

Predictive modeling became a necessary tool for the EIR/EIS analysis given the lack of right of entry permissions which restricted field surveys. The project alternatives cross private property for which the property owners must grant right of entry. Such rights of entry were sought by the Authority and most private property owners either denied permission or did not respond to the Authority's request. As such, surveys were not possible in many areas where the project has a surface footprint. The Authority continues to pursue right of entry permission from private landowners and is actively working to purchase all necessary properties for project development. The Authority has included mitigation measures in the EIR/EIS to perform surveys prior to construction and as properties become accessible. Information obtained from the survey will be incorporated into the EIR/EIS.

Once a project is approved, the Authority is committed to continued consultation with the resource agencies to further refine our mutual understanding of species occurrences near the time of construction.

4525-10375

The commenter expresses concern that initial survey efforts were insufficient for special-status birds and therefore resulted in a flawed analysis, and suggests additional surveys be performed. The commenter expresses concern over the potential timing of pre-construction surveys not being appropriate for species detections. To reduce the need for buffer modifications by CDFW on a case-by-case basis, the commenter suggests a Nesting Bird Management Plan be developed. The commenter requests details on situations where a no-work buffer cannot be established.

The Authority disagrees that the analysis for determining where species impacts would potentially occur was flawed, performed using a well-established modeling software, known as MaxEnt (Phillips et al. 2006). In the absence of species survey data, which is not required for MaxEnt, abundant environmental (biological, geological, hydrographic) and climatic data were used to model where species habitat potentially occurs and therefore where the species are most likely to occur (see Section 3.7.4.4, Biological Resources Methodology of the Draft EIR/EIS). Based on the habitat suitability modeling, the Authority assessed the acreage of impacts to species habitat in the construction footprint, which provides a good indication of areas that should be surveyed prior to construction.

BIO-MM#14 (Conduct Pre-construction Surveys and Delineate Active Nest Exclusion Areas for Breeding Birds) does not specify the timing of pre-construction surveys other than "prior to ground disturbing activity...scheduled to occur during the bird breeding season (February 1 to September 1)..." The pre-construction surveys are intended to detect breeding and nesting birds prior to the start of construction so as to appropriately establish no-work buffers. Typically, the closer the pre-construction survey is to the start date, the more accurate the survey will be with regard to active nests requiring protection. The Authority will coordinate with USFS regarding plans to facilitate management of no-work buffers and monitoring during construction in the ANF.

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4525-10376

The commenter states that any reductions in [active nest] buffer sizes would require CDFW approval. BIO-MM#15 currently states that buffers may be modified by regulatory authorizations. The Authority acknowledges that coordination requirements will be established by the USFS as part of the permitting process for portions of the project within the ANF/SGMNM.

4525-10377

The commenter states that a mitigation measure needs to be added/modified regarding the need for any project infrastructure to be designed to prevent California condor perching or roosting. BIO-IAMF#12 (Design the Project to be Bird Safe) requires that the final construction design be bird and raptor safe and in compliance with applicable recommendations presented in Suggested Practices for Raptor Protection on Power Lines: State of the Art in 2006 (APLIC 2006), Reducing Avian Collisions with Power Lines: State of the Art in 2012 (APLIC 2012), and Recommended Best Practices for Communication Tower Design, Siting, Construction, Operation, Maintenance, and Decommissioning (USFWS 2018) in order to prevent perching and roosting. No change has been made to the document in response to this comment.

4525-10378

The commenter expresses concern that BIO-MM#21 does not include a no-work buffer during the non-nesting season. BIO-MM#21 does include a no-work buffer during the non-nesting season. The measure states: "...600-foot no-work buffers around occupied burrowing owl burrows in the work area both during the nesting season (February 1 through September 1) and outside breeding season." No change has been made to the document in response to this comment.

4525-10379

The commenter expresses concern that BIO-MM#25 states that pre-construction surveys for bat species would be conducted within 30 days of impacts and that may not be appropriate for detecting the occupation of sites by bat species. The commenter requests a more detailed description of the survey protocol. BIO-MM#25 sufficiently addresses the commenter's concern. It states: "No more than one year before the replacement or modification of any bridges or removal of other structures modeled as bat habitat" and "...for a minimum of two nights within the season that construction will be taking place..." No change has been made to the document in response to this comment.

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4525-10380

The commenter expresses concern that BIO-MM#26 only describes the relocation of bat hibernacula, not what will be done for maternity roosts when avoidance is not possible.

The commenter is concerned that movement of bat roosts such as hibernacula and maternity roosts may have a high potential to result in high rates of mortality and permanent displacement. The commenter asks if alternate maternity roosts will be constructed, and what guidance will be utilized to design and place the alternate roosts. The commenter asserts that monitoring will be required to determine if the alternate roost is being utilized or confirm the status of the displaced individuals.

The Authority has revised BIO-MM#25 (Conduct Surveys for Bat Species), BIO-MM#26 (Bat Pre-construction, Avoidance, and Removal/Relocation), and BIO-MM#27 (Implement Bat Exclusion and Deterrence Methods) in the Final EIR/EIS to provide further clarification on surveys, identification, and documentation of bat roosts as described in BIO-MM#25 and construction work buffers for hibernacula as described in BIO-MM#26 (refer to Section 3.7.7) and avoidance, eviction (i.e., exclusion/deterrence methods), preparation and implementation of a removal/relocation plan in BIO-MM#27. Should hibernacula or maternity roosts be detected within the expected project disturbance footprint or 500-foot buffer, and avoidance not be possible, the Authority will coordinate with CDFW regarding available options, as described in BIO-MM#26, with removal/relocation as a last and least preferred option. The removal/relocation plan (BIO-MM#27) for hibernacula and maternity roosts will include the requirement for identification of alternative bat roost locations and/or construction of artificial bat roosts. The plan will provide the responsibilities and oversight for implementing removal/relocation of roosts, success criteria, and monitoring of the alternative roosts to ensure effectiveness and adaptive management and contingency measures may be applied as needed should alternative methods be necessary to ensure effectiveness relevant to avoidance/minimization of impacts to bats.

Additionally, BIO-MM#53 (Prepare a CMP for Species and Species Habitat) includes requirements to implement an adaptive management plan to address changes in site conditions or other components of the compensatory mitigation project.

Based on the information provided above, including Mitigation Measures BIO-MM#25, BIO-MM#26, and BIO-MM#27 amended in the Final EIR/EIS to provide additional clarification and strengthen protection for bats, impacts to bats remain less than significant.

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4525-10381

The commenter requests clarification regarding what constitutes “other appropriate methods” for eviction of bats and for clarification regarding methods for relocation. The commenter further states that moving hibernacula and maternity roosts has a high potential to result in mortality and permanent displacement. In this context, the commenter requests clarification of the terms “other appropriate method” and “to the extent feasible,” as well as the agency-accepted methods to be utilized. The phrase “other appropriate methods” is intended to allow for the Authority to consult with the California Department of Fish and Wildlife (CDFW) to determine the best method for evicting bats in the event changing the lighting and airflow conditions or installing one-way doors prove to be unsuccessful. The Authority intends to use the commonly approved and standard methods for evicting bats according to guidelines provided by CDFW (note that there are no federally listed bat species in California; thus U.S. Fish and Wildlife Service would not be involved). Identification of alternative roosts that include natural suitable roosting habitat or artificially constructed habitat (e.g., bat houses) is only required for evicted special-status bat species. The text of BIO-MM#27 (Implement Bat Exclusion and Deterrence Methods) has been amended in the Final EIR/EIS to make these clarifying points. The phrase “to the extent feasible” does not exempt the Authority from mitigation or undermine the effectiveness of the measures. Rather, when certain actions are not feasible or are anticipated to be ineffective in avoiding/minimizing impacts to bats, the Authority would undertake alternative approaches to avoid or minimize the impact, in coordination with the appropriate resource agency(ies). Success criteria will be established in coordination with CDFW, including follow-up monitoring of the alternative bat roosts to ensure effectiveness, with contingency measures in place should implementation of mitigation not meet success criteria. Refer to BIO-MM#26 (Bat Pre-construction, Implement Bat Avoidance, and Removal/Relocation), revised in the Final EIR/EIS for clarification. Relocation of hibernacula or maternity roosts is a last and least preferred option, and would only be pursued if feasible and anticipated to provide equivalent or superior protection for bats. Should impacts to special-status bat species ultimately become unavoidable, compensatory mitigation to offset permanent impacts to special-status bats would be covered under the Compensatory Mitigation Plan (CMP) prepared and implemented per BIO-MM#53 (Prepare a CMP for Species and Species Habitat). Based on the information provided above, including Mitigation Measures BIO-MM#25, BIO-MM#26, and BIO-MM#27 amended in the Final EIR/EIS to provide additional clarification and

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strengthen protection for bats, impacts to bats remain less than significant.

4525-10382

The commenter suggests that BIO-MM#28 and BIO-MM#29 be modified so the survey areas include a 500-foot buffer from work areas and that buffer sizes be increased around occupied dens for ringtails and American badgers. The commenter questions what will happen if a buffer cannot be established, and the den is disturbed or destroyed.

American badger dens are larger than ringtail dens and are typically 4 feet to 10 feet in depth and 4 feet to 6 feet in width (iNaturalist accessed at https://www.inaturalist.org/guide_taxa/419043 on April 26, 2024). The review of scientific literature indicates that recommended buffers for mammals vary widely (The Nature Conservancy. 2015. Reducing Ecological Impacts of Shale Development: RECOMMENDED PRACTICES FOR THE APPALACHIANS –Ecological Buffers). For American badger, recommended buffers have been published for 16-23 feet for single burrows (See, e.g., B.C. Ministry of Environment and Climate Change Strategy Ecosystems Branch. 2019). Given the typical size of American badger and ringtail dens, the Authority’s selection of a 50-foot buffer exceeds these recommendations and is adequate to avoid impacts to the badger and ringtail dens and individuals in the dens that could occur from operating machinery, such as collapsing of the den. The current buffer distance in the Draft EIR/EIS is also consistent with the statewide programmatic mitigation measures implemented by the California High-Speed Rail program and consistent with measures required of large transportation and other infrastructure projects in California.

For ringtails, as a Fully Protected species, dens within the work areas will be avoided within established buffers until the den is no longer active, as described in BIO-MM#28. For American badger dens within the work areas, BIO-MM#29 states that passive den exclusion measures may be implemented for three to five days to discourage the use of these dens prior to initiation of project disturbance activities.

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4525-10383

The commenter suggests that the 90-day timeframe for restoration implementation may not be appropriate if not during the proper season. The commenter states that container plants and seeds used on the ANF must meet certain requirements and be in accordance with guidelines in the RRP (Restoration and Revegetation Plan), all of which must be approved by USFS when on NFS lands.

Both BIO-MM#32 and #33 reference compliance with the RRP (BIO-MM#6). BIO-MM#6 states that the RRP would be submitted to regulatory agencies for review and approval, which would include the USFS. The Authority would work closely with USFS during the application process for the Special Use Permit regarding any conditions required for implementation of restoration actions on the ANF. Refer to BIO-MM#6 for specifics on success criteria, sources of plant material, methods and requirements for monitoring, and schedules.

4525-10384

The commenter asks what distance is considered "adjacent" per the term is used in BIO-MM#34. The commenter also requests an explanation as to the action that will be taken in the event that non-compliance with avoidance and minimization measures is observed. Finally, the commenter asks for the mitigation ratio for Swainson's hawk nesting habitat.

The definition of adjacency varies based on the type of aquatic feature and construction activity, but is generally intended to include construction activities occurring along the perimeter of the jurisdictional feature for the monitor to verify compliance with regulatory permits. The Authority has revised BIO-MM#34 (Monitor Construction Activities within Jurisdictional Waters) to specify that the project biologist will monitor construction activities that occur within 15 feet of aquatic resources, unless the project biologist determines that monitoring outside of the 15-foot area is necessary given factors such as the type of aquatic resource, level of sensitivity of the resource, construction activity, landscape condition and topography, and/or other factors such as weather conditions.

If non-compliance is observed related to a regulatory agency permit condition, or a measure provided in the Final EIR/EIS Mitigation, Monitoring, and Enforcement Program (MMEP), it would be reported as part of the compliance reporting program described in BIO-MM#61 (Establish and Implement a Compliance Reporting Program). Daily Compliance Reports will be submitted to the Authority via its Environmental Mitigation Management and Assessment (EMMA) Program or similar submittal method within 24 hours of each monitoring day. Non-compliance events will be reported to the Authority the day of the occurrence. In the event that non-compliance could result in death or injury of special-status wildlife found within or adjacent to the work area, the Project Biologist would have the authority to stop work activities related to the non-compliance (BIO-MM#63). The monitor would report the incident to the Authority and would work with the Authority and non-compliant party to correct the compliance incident. BIO-MM#61 requires documentation for all non-compliance concerns on a daily, monthly, and annual basis. Failure to meet compliance requirements may result in additional mitigation and fees.

BIO-MM#43 (Provide Compensatory Mitigation for Loss of Swainson's Hawk Nesting Trees and Habitat) states that lands proposed as compensatory mitigation for

Response to Submission 4525 (Roman Luis Torres, United States Department of Agriculture - Angeles National Forest, November 30, 2022) - Continued

4525-10384

Swainson's hawk must result in at least three mature native riparian trees suitable for Swainson's hawk nesting, for every Swainson's hawk nest tree removed by construction. This results in a 3:1 ratio for replacement of nesting trees. As shown in the Draft EIR/EIS Section 3.7.7, impacts will be mitigated at a 1:1 ratio for primary foraging habitat, at a 0.75:1 ratio for impacts to secondary foraging habitat, and at a 0.5:1 ratio for tertiary foraging habitat. Primary habitat is defined as suitable foraging areas within 1 mile of a nest tree, secondary habitat is defined as suitable foraging areas within 1 to 3 miles of a nest tree, and tertiary habitat is defined as suitable foraging areas within 3 to 5 miles of a nest tree.

4525-10385

The commenter expresses concern that the mitigation ratios identified in BIO-MM#46 and #47 are too low and that the USFS will have final authority on what is required to mitigate impacts on NFS lands.

BIO-MM#46 and #47 both state that higher mitigation ratios are possible should the agency with regulatory jurisdiction over the resource require a higher ratio.

4525-10386

The commenter requests the conditions that would prompt a discontinuation of daily clearance surveys. The Project Biologist may decide to discontinue daily clearance surveys for these particular species in the event that suitable habitat is no longer available and that the possibility of these species occurring in the work area is extremely unlikely due to changes within the work area (grading, fencing, etc.).

4525-10387

The commenter states that the Annual Vegetation Control Plan (BIO-MM#54) will require USFS approval and questions if second-generation anticoagulant rodenticides will be used. The use of second-generation anticoagulant rodenticides was prohibited under California State Assembly Bill 1788 (Chapter 250, Statutes of 2020) and is not approved by the California Department of Pesticide Regulation and County Agricultural Commissioners. Herbicides and pesticides would be applied by certified pesticide applicators in accordance with all requirements of the California Department of Pesticide Regulation and County Agricultural Commissioners. The Authority appreciates the Angeles National Forest comment and is committed to continued consultation with the Forest Service with regards to the vegetation control plan and use of pesticides. The Authority has revised BIO-MM#54 to require Angeles National Forest approval of the annual vegetation control plan.

4525-10388

The commenter requests the threshold for the term "significantly degrade." As noted in BIO-MM#55 the purpose of the WCP is to establish approaches to minimize and avoid the spread of invasive weeds during ground disturbing activities during construction and operations and maintenance. "Significantly degrade" is not a threshold or criterion for the WCP, nor is it included in the actual text of BIO-MM#55. The success criteria for the WCP is stated as follows: The success criteria will be linked to the BRMP standards for on-site work during ground disturbing activities. In particular, the criteria will establish limits on the introduction and spread of invasive species, as defined by the California Invasive Plant Council, to less than or equal to the pre-disturbance conditions in the area temporarily affected by ground disturbing activities. If invasive species cover is found to exceed pre-disturbance conditions by greater than 10 percent or is 10 percent greater than levels at a similar, nearby reference site, a control effort will be implemented. If the target, or other success criteria identified in the WCP, has not been met by the end of the WCP monitoring and implementation period, the Authority will continue the monitoring and control efforts, and remedial actions will be identified and implemented until the success criteria are met.

Response to Submission 4525 (Roman Luis Torres, United States Department of Agriculture - Angeles National Forest, November 30, 2022) - Continued

4525-10389

The commenter states that a Project Biologist needs to be present through all phases of construction activities. The Authority has revised the Final EIR/EIS (BIO-MM#56) to indicate that the Project Biologist will visit the project construction site(s) once per week or once every two weeks, depending on the Project Biologist's assessment of the level of disturbance, to verify compliance with mitigation measures. The degree to which the Project Biologist is required to be present during all phases of construction activity will be further defined in the authorization issued by USFS.

4525-10390

The commenter requests that the qualifications of all biologists involved in surveys or monitoring be provided. The commenter expresses concern that the take of any state or federally-listed species must be reported immediately. BIO-MM#61 is meant to establish an outline of a Compliance Reporting Program, not necessarily be an exhaustive list of requirements. BIO-MM#61 states that "The Project Biologist will prepare monthly and annual reports documenting compliance with all IAMFs, mitigation measures, and requirements set forth in regulatory agency authorizations. BIO-IAMF#1 states that the "...Authority will submit the name(s) and qualifications of Project Biologists, Designated Biologists, Species-Specific Biological Monitors, and General Biological Monitors retained to conduct biological resource monitoring activities..." BIO-IAMF#5 (Prepare and Implement a Biological Resources Management Plan[BRMP]) includes a requirement to Identify agency-approved Project Biologist(s) and Biological Monitor(s), including those responsible for notification and report of injury or death of federally or state-listed species." Biologist qualifications and reporting requirements will be further defined in the regulatory agency permits issued to the Authority.

4525-10391

The commenter asks what action will be taken if monitoring confirms that there is no nesting activity at the relocated eagle nest, or if the nest relocation is not successful. BIO-MM#67 in the Draft EIR/EIS requires the Authority to perform post construction monitoring to confirm the status of relocated or human-made artificial nests for a minimum of 3 years. Implementation of BIO-MM#67 will occur in accordance with the Bald and Golden Eagle Protection Act, its implementing regulations, and permits issued pursuant to the Act for the project.

A permit issued to the Authority for the project would have specific measures required to address any event of an unsuccessful relocated nest. This includes mechanisms to account for and address uncertainty and risk should a compensatory mitigation measure be ineffective [50 CFR 22.80(C)(1)(iii)(F)]. Compensatory mitigation approaches and adaptive management will be approved, if any, by the permitting agencies for the project and may include conservation banking, in-lieu fees, and other third-party mitigation projects or arrangements to address an unsuccessful nest relocation [50 CFR 22.80(C)(1)(iv)]. Specific permitting requirements are identified in the Bald and Golden Eagle Protection Act (50 CFR 22). Please refer to BIO-MM#67 in Section 3.7, Biological Resources of the Final EIR/EIS for further information regarding the requirements of BIO-MM#67.

Response to Submission 4525 (Roman Luis Torres, United States Department of Agriculture - Angeles National Forest, November 30, 2022) - Continued

4525-10392

The commenter states that any reductions in nesting bird buffer sizes for white-tailed kite would require coordination with CDFW. In addition, the commenter expresses that avoidance of foraging habitat during the nesting season must be considered.

In the event that a kite nest buffer needs to be reduced, BIO-MM#68 has been revised in the Final EIR/EIS to include a requirement that the Authority coordinate with CDFW to ensure that take of the species would not occur.

The analysis of temporary and permanent impacts to white-tailed kite habitat included in the Draft EIR/EIS was inclusive of foraging habitat. Mitigation Measure BIO-MM#6 (Prepare and Implement a Restoration and Revegetation Plan) would include restoration that covers foraging habitat. BIO-MM#50 (Implement Measures to Minimize Impacts During Off-site Habitat Restoration, or Enhancement, or Creation on Mitigation Sites) also involves avoiding or minimizing impacts on species habitat and aquatic biological resources, including those used by special-status bird species as nesting and foraging habitat, during habitat restoration, enhancement, or creation activities.

Table 3.7-8 in the Draft EIR/EIS identifies the associated California Wildlife Habitat Relationships (CWHR) Vegetation Community for special-status wildlife suitable habitat with the Core Habitat Resource Study Area. The associated vegetation communities for white-tailed kite habitat include DOR/VIN, DSW, AGS, MRI, and VRI. Valley foothill riparian (VRI) is one of the landcovers used by white-tailed kite for foraging. Impacts to this vegetation community would be minimized or compensated for as part of a several mitigation strategies, including BIO-MM#38 (Compensate for Impacts on Listed Plant Species) and BIO-MM#53 (Prepare and Implement a CMP for Species and Species Habitat). While these measures do not directly reference impacts to white-tailed kite habitat, they would compensate for impacts to vegetation land cover, such as VRI, thereby benefiting white-tailed kite as well, in addition to special-status plant species.

4525-10393

The commenter states that any reductions in nesting bird buffer sizes would require coordination with CDFW.

The Authority anticipates coordination with CDFW on this species, including potentially through a Section 2081 permit application.

4525-10394

The commenter indicates that "The use of nighttime lighting within 0.5 miles of a night roost for condors will require coordination and approval from the USFWS" in reference to BIO-MM#72. Under BIO-MM#37, BIO-MM#72 and BIO-MM#99 the Authority, to the extent feasible, will avoid conducting ground disturbing activities in wildlife habitat, including movement corridors and aquatic resources, during nighttime hours. Under BIO-IAMF#12 permanent lighting will not be installed under viaduct and bridge structures in riparian habitat areas. BIO-MM#16 protects California condors from impacts associated with nighttime lighting. Under Bio-MM#16, if USFWS informs the Authority or if the Authority is otherwise made aware that California condors are roosting within 0.5 mile of a work area, no construction activity will occur during the period between one hour before sunset and one hour after sunrise.

The Authority appreciates the Angeles National Forest's recommendation and has revised Bio-MM#72 to provide additional details about the requirements that would make this mitigation measure effective in reducing impacts to California Condor. Please refer to Section 3.7.7, Mitigation Measures, of the Final EIR/EIS, for the full text of BIO-MM#14, which is consistent with the Final EIR/EIS for the Bakersfield to Palmdale Project Section.

Response to Submission 4525 (Roman Luis Torres, United States Department of Agriculture - Angeles National Forest, November 30, 2022) - Continued

4525-10395

The commenter requests the buffer sizes for listed or protected species, and they give examples of buffer sizes from other projects. The commenter suggests developing a Nesting Bird Management Plan (NBMP). The appropriate survey areas and nest avoidance buffers would ultimately be established through coordination with the resource agencies to avoid impacts to nesting birds under BIO-MM#14 (Conduct Pre-construction Surveys and Delineate Active Nest Exclusion Areas for Breeding Birds), as revised in the Final EIR/EIS, Section 3.7 Biological and Aquatic Resources. As described in BIO-MM#14, no-work buffers (i.e., exclusion zones) will be set at a minimum distance of 75 feet unless a larger buffer is necessary per monitoring Project Biologist oversight, the species' nests found, and/or requirements pursuant to applicable regulatory authorizations (note: this requirement was identified in the Draft EIR/EIS).

The Authority acknowledges that coordination requirements will also be established by the U.S. Forest Service as part of the permitting process for portions of the project within the ANF/SGMNM. Furthermore, BIO-MM#74 (Implement Bird Nest and Avian Special-Status Species Avoidance Measures for Helicopter-Based Construction Activities) of the Draft EIR/EIS, states, "For construction activities involving the use of a helicopter, the buffer for nesting birds will be 200 feet horizontal and 150 feet vertical. Buffers will be measured from the location of the nest. If a nest is located on a tower or a tree, the vertical buffer begins from the nest location. For raptors that are not state or federal special-status raptors the default buffer is a minimum of 300 feet."

For special-status raptors, buffers are typically greater in size to ensure that construction activities do not result in injury or disturbance to these species. For example, BIO-MM#18 (Implement Avoidance and Minimization Measures for Swainson's Hawk Nests) requires a vertical buffer of no less than 0.5 mile implemented during any aerial (helicopter or drone) activities. BIO-MM#66 (Implement Avoidance Measures for Active Eagle Nests) requires a 1-mile line-of-sight exclusion buffer and 0.5-mile no-line-of-sight exclusion buffer if an occupied nest is detected within 4 miles of the work areas, as well as a vertical exclusion zone of no less than 0.5 mile during the breeding season for eagles. Furthermore, according to BIO-MM#16 (Implement Avoidance Measures for California Condor), the Project Biologist will coordinate with USFWS prior to construction-related uses of helicopters to establish that no California condors are present in the area. If roosting California condors are observed in the area in which

4525-10395

helicopters will operate, including the helicopter's flight pattern from its origination during construction use and the return flight, helicopter use will not be permitted until the Project Biologist has determined that the California condors have left the area. Please refer to Section 3.7.7 in the Final EIR/EIS for the full text of Mitigation Measures.

4525-10396

The commenter provides standard minimum buffer sizes of 500 feet on the Angeles National Forest (ANF) for coastal California gnatcatcher, least Bell's vireo, southwestern willow flycatcher, and Western Yellow-billed cuckoo. Although the Authority recognizes the U.S. Forest Service's (USFS) request to increase the distance for the protocol surveys and the avoidance buffer distance, the current protocol surveys distance and buffer distance of 300 feet is consistent with the statewide programmatic mitigation measures implemented by the California High-Speed Rail program and consistent with measures required of large transportation and other infrastructure projects in California. The Authority has determined this buffer distance is sufficient to protect listed passerine bird species, together with the suite of mitigation measures included in the Final EIR/EIS. Further, the Build Alternatives within the Palmdale to Burbank Project Section are constructed underground for most of their respective alignments.

Please refer to the Final EIR/EIS, Section 3.7.7 for the full text of these measures. BIO-MM#80 (Conduct Surveys for Least Bell's Vireo) was specifically designed to detect and avoid least Bell's vireo breeding and nesting areas prior to and during construction. While the Authority strives for avoidance of impacts as a first method, it is possible that take of species and nesting habitat will occur, including impacts to habitat (e.g., riparian) suitable for least Bell's vireo outside of breeding season. The Authority is committed to in-kind compensatory mitigation for the loss of habitat; BIO-MM#53 (Prepare and Implement a CMP for Species and Species Habitat) would involve preparation of a compensatory mitigation plan to offset permanent and temporary impacts on special-status bird species habitat. The Authority also looks forward to continued consultation with USFS on a Special Use Permit for the ANF to avoid impacts to sensitive natural resources.

Response to Submission 4525 (Roman Luis Torres, United States Department of Agriculture - Angeles National Forest, November 30, 2022) - Continued

4525-10397

The commenter expresses concern that a 10-foot buffer is not sufficient to ensure the stream and streamside vegetation will not be impacted.

BIO-MM#85 is applicable to unarmored three-spined stickleback and its aquatic habitat only, and the buffer is for the wetted channel of the Santa Clara River. The title of BIO-MM#85 has been modified in the Final EIR/EIS to make this clear. In addition, IAMF#5, IAMF#8, and BIO-MM#58 require avoidance and minimization measures to ensure that construction activities do not affect the stream channel or riparian vegetation. Furthermore, where construction activities may impact a stream channel or riparian areas, the project will obtain the required permits (e.g., Clean Water Act Section 404 and 401, as well as California Fish and Game Code Section 1600). The Authority is committed to a minimum 10-foot exclusionary buffer. However, this buffer width may ultimately be increased based on coordination with the resource agencies through permitting. BIO-MM#85 would require a solid barrier to prevent channel access, for which 10 feet is adequate. The primary purpose of the buffer is to prevent personnel access to the channel to avoid impacts to sensitive habitat and because a 10-foot buffer would ensure that the wetted channel of the Santa Clara River is avoided, a 10-foot buffer is sufficient for this mitigation measure.

4525-10398

The commenter states that removal of native riparian vegetation outside of the wetted channel can be impactful to unarmored threespine stickleback (UTS), which is listed as endangered under the Federal Endangered Species Act (FESA) and California Endangered Species Act (CESA), as well as categorized as a California Fully Protected Species. Impacts to this species require USFWS and CDFW approval. Pursuant to Section 7 of the FESA, the Authority is currently engaging with USFWS in informal consultation regarding a finding of “not likely to adversely affect” for UTS and a letter of concurrence will be requested from the USFWS. Regarding state regulations, the Authority will be obtaining a Lake and Streambed Alteration Agreement from CDFW pursuant to Fish and Game Code Section 1600 et seq., which will address impacts on biological resources and mitigation for removal of riparian vegetation. UTS is a California Fully-Protect Species, and while Senate Bill 147 authorizes CDFW to issue take permits for California Fully-Protected Species for projects meeting certain conditions, the Authority first intends to avoid impact to the species, as feasible. Mitigation measures are presented in the Section 3.7.7 Draft EIR/EIS that include implementation of avoidance/minimization of impacts to UTS individuals, as well as provide mitigation for any potential unavoidable loss of habitat. These mitigation measures that avoid, minimize, or otherwise mitigate potential impacts to UTS and associated habitat include BIO-MM#6, BIO-MM#32, BIO-MM#33, BIO-MM#34, BIO-MM#46, BIO-MM#47, BIO-MM#50, BIO-MM#53, BIO-MM#55, BIO-MM#56, BIO-MM#61, BIO-MM#62, BIO-MM#63, BIO-MM#76, BIO-MM#84, BIO-MM#85, BIO-MM#86, BIO-MM#87, BIO-MM#88, BIO-MM#89, BIO-MM#90, BIO-MM#92, BIO-MM#93, and BIO-MM#104. If it becomes apparent that take of UTS cannot be avoided, the Authority will reinstate consultation with USFWS under Section 7 and will consult with CDFW to obtain necessary take permits and address associated compensatory mitigation.

Response to Submission 4525 (Roman Luis Torres, United States Department of Agriculture - Angeles National Forest, November 30, 2022) - Continued

4525-10399

Refer to Standard Response PB-Response-PUE-3: Water Demand and Usage.

The commenter requests the source for supplemental water and for assurance that the water would not contain harmful materials. The commenter asks how temporarily relocated aquatic individuals will be placed back to their original location and what would happen if the temporary relocation turned to a permanent position. The commenter states that on NFS lands there is no minimum size for restoration and that all impacted habitat not meeting restoration success criteria would require compensatory mitigation (measure states 0.5 acre or greater). Finally, the commenter requests to know why the acres for fringed myotis are less than pallid bat and Townsend's big-eared bat.

The source for supplemental water would be the same as the sources that the Authority would obtain for construction. Please refer to Standard Response PB-Response-PUE#3: Water Demand and Usage, which provides additional information about the sources of water for the Project. In addition, as noted further below in this response to comment, BIO-MM#93 has been revised in the Final EIR/EIS to require the Authority to source supplemental water locally, to the extent feasible.

Temporary relocation and returning of aquatic species to the original site once work is completed would only occur if holding areas are approved by the resource agencies, and only if relocation to the original site is deemed less harmful to the species than permanent relocation. An AMMP was prepared to address those conditions through coordination and collaboration with the resource agencies. Both BIO-MM#32 and BIO-MM#33 reference compliance with the Restoration and Revegetation Plan (RRP) (BIO-MM#6). Contingency measures are in place should implementation of habitat restoration or mitigation not meet intended results. BIO-MM#47 (Prepare and Implement a CMP for Impacts on Aquatic Resources) and BIO-MM#53 (Prepare a CMP for Species and Species Habitat) both include requirements to include an adaptive management plan to address changes in site conditions or other components of the compensatory mitigation project. BIO-MM#50 requires the Authority to implement mitigation measures to reduce impacts on restoration, enhancement, and mitigation sites. BIO-MM#6 states that the RRP would be submitted to regulatory agencies for review and approval, which would include the USFS. Refer to BIO-MM#6 for specifics on success criteria, sources of plant material, methods and requirements for monitoring, and schedules. Additional details of

4525-10399

the AMMP can be found in 3.8.7, HWR-MM#4. This will reduce impacts to less than significant but if species are extirpated from microsites, compensatory measures are in place.

Affected acreages for the fringed myotis were modeled and calculated only within the jurisdictional boundary of the land management agency that identifies this species as sensitive. These include species listed as sensitive on lands administered by the BLM and on Forest Service lands. The fringed myotis is a Forest Service Sensitive and BLM Sensitive species, whereas the pallid bat and Townsend's big-eared bat are Forest Service Sensitive, BLM Sensitive, and are listed as a Species of Special Concern by CDFW, so were evaluated for the entire Build Alternative.

To address the comment related to the water quality from supplemental water sources, BIO-MM#93 in Section 3.7.7 of the Final EIR/EIS has been revised to include the following requirement: "Any supplemental water used will be sourced locally, to the extent feasible, and will be free of toxins, harmful bacteria or harmful bacterial load, and invasive species."

Response to Submission 4525 (Roman Luis Torres, United States Department of Agriculture - Angeles National Forest, November 30, 2022) - Continued

4525-10400

The commenter asks when the Biological Evaluation will be submitted to Angeles National Forest for review and approval. The commenter states that the list of Forest Service sensitive (FSS) species in the Draft EIR/EIS is incorrect and that the list requires updating. Additionally, the commenter notes that for FSS species, the Draft EIR/EIS states that "relatively little" suitable habitat for FSS species will be impacted. The commenter makes the point that number of acres is only one measure of the significance of the impact, and if the impacted area includes breeding habitat, even a small area of impact may have a substantial impact on the species. The Authority has updated Table 3.7-6 of the Final EIR/EIS to note that the following six special-status plant species, that are listed in the table but not correctly marked as FSS, do indeed have the designation FSS. The six plant species noted are: Club-haired mariposa lily, Parry's spineflower, Mesa horkelia, California satintail, Fragrant pitcher sage, Robbins' nemacladus, and are consistent with the Biological Evaluation for the ANF. The Authority anticipates submitting a Biological Evaluation to the USFS after ROD and prior to project construction. The impacts on FSS plants and wildlife are quantified in Section 3.7.11 (USFS Impact Analysis). The Authority agrees that the phrase "relatively little" is not a useful description and has thereby removed the phrase from the Final EIR/EIS in Section 3.7. The Authority will continue to work with the USFS to ensure that all FSS species are addressed in the Biological Evaluation.

4525-10401

Refer to Standard Response PB-Response-HYD-2: Hydrogeologic Impacts in the Angeles National Forest/Tunneling Impacts in the Angeles National Forest.

The commenter suggests that there could be direct impacts due to tunneling. Section 3.8.4.1 of the EIR/EIS describes the definition of resource study areas (RSA) for hydrology and water resources, one of which is the Tunnel Construction RSA. The EIR/EIS has been revised to clarify the RSA would capture both indirect and direct hydrologic effects. While the Tunnel Construction RSA text originally did not specify direct effects, the Draft EIR/EIS did address the impacts raised by the commenter. The potential for groundwater seepage into tunnels is addressed under Impact HWR#4 (Changes in Groundwater Recharge Associated with Temporary Construction Activities and Permanent Structures Required for the Build Alternatives) under Groundwater Recharge Impacts from Tunnel Construction as well as Impact HWR#5 (Changes in Hydrogeologic Conditions Associated with Tunnel Construction Beneath the ANF which May Affect Surface and Subsurface Water Resources).

4525-10402

As explained in Section 3.8.4.1 of the Draft EIR/EIS, the Groundwater RSA includes all underlying groundwater, including aquifers, perched groundwater, seeps, and springs that would be impacted by the Project (both construction and operation).

4525-10403

The comment indicates that comments submitted on the Administrative Draft EIR/EIS in February 2021 have been addressed and are no longer relevant. Comment noted.

4525-10404

The comment "Delete" indicates that comments submitted on the Administrative Draft EIR/EIS in February 2021 are no longer relevant. Comment noted.

4525-10405

The comment "Delete" indicates that comments submitted on the Administrative Draft EIR/EIS in February 2021 are no longer relevant. Comment noted.

Response to Submission 4525 (Roman Luis Torres, United States Department of Agriculture - Angeles National Forest, November 30, 2022) - Continued

4525-10406

Interbasin flow will be evaluated as a possible contributor to groundwater recharge during the hydrological and hydrogeologic investigation that would occur during the pre-construction design phase. This topic would be assessed under the AMMP (HWR MM#4) which includes establishing baseline groundwater and surface water hydrologic and hydrogeologic conditions within the tunnel construction RSA.

4525-10407

The commenter expressed concern that an additional geological investigation is needed for final design and construction. In 2016 the Authority conducted a preliminary geotechnical investigation to collect data for evaluating tunnel feasibility and subsurface conditions within the Angeles National Forest (ANF). The investigation was not conducted for any specific tunnel alignment, but rather to identify and evaluate field conditions (such as, groundwater, situ rock stresses, adverse geology including faults, gouge zones, and squeezing ground) within the ANF that could present feasibility constraints for tunnel design and construction. This preliminary investigation showed that the alignment alternatives are feasible. However, further geotechnical investigations would be conducted, and additional information developed to support design and construction once a specific alternative has been selected. The information garnered from this effort would help guide tunnel design and construction methods to further avoid and reduce impacts to hydrological resources.

4525-10408

The commenter questions the threshold to identify high risk areas and suggests 17 bar should be used instead of 25 bar. The 17 bar pressure threshold limit is used in relation to the capacity of a specific type of TBMs (closed face, slurry type) to withstand water pressures without pre-excavation grouting methods for protection. TBMs fitted with pre-excavation grouting equipment can safely operate in areas with groundwater pressures over 17 bar. As such, the 17 bar threshold is not applicable to the identification of risk areas. During construction, grouting will be applied to those areas that exceed 17 bar, so as to avoid and minimize groundwater seepage. This construction technique is not related to the 25 bar pressure threshold discussed in the Draft EIR/EIS, which is a threshold only used in relation to the tunnel lining system to be employed. That is, the threshold determines whether a one-pass lining or a two-pass lining is required (a two-pass lining would be required for over 25 bar). Under all circumstances, the tunnels will be designed to withstand high groundwater pressures conditions over the long-term and to prevent significant seepage.

4525-10409

The commenter states that groundwater impacts should be validated through in-field hydrogeologic testing. Although preliminary assessments of subsurface conditions in the ANF have been conducted to date, many aspects of the hydrogeologic and hydrologic conditions that would be encountered during tunnel construction have been defined only partially, and data gaps remain regarding the surrounding bedrock, groundwater, soil, and surface hydrology conditions present in the vicinity of the proposed tunnels. Additional site-specific investigations of the subsurface would be conducted in advance of final tunnel design, including geotechnical investigations along the tunnel alignment to characterize the differing rock types (strength, fracturing, in-situ stresses, etc.), groundwater pressures at tunnel depth, potential flow quantities, and structural geology along the tunnel alignment, including faults and gouge zones. Additional geotechnical borings would need to be converted to monitoring wells and piezometers fitted with vibrating wire pressure transducers for measuring water pressure changes along the alignment to establish seasonal baseline conditions for deep groundwater and near surface water. Such instrumentation would also be used as the early warning system for pressure changes occurring in the subsurface along the alignment during tunnel construction. Placement of groundwater monitoring wells will be based on the hydrogeologic investigation conducted during the design phase.

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4525-10410

The commenter indicates that further investigation near seeps and springs is recommended and also indicated a lack of detail in the aerial imagery provided in the Draft EIR/EIS. Additional springs, seeps, monitoring wells, and water wells will be identified during the design phase hydrologic and hydrogeologic investigation and will be monitored. The AMMP (HWR MM#4) will include establishing baseline groundwater and surface water hydrologic conditions within the tunnel construction RSA. Additional detail about the aerial imagery is provided in the following response. As explained in Section 3.8.4.5 of the Draft EIR/EIS in its discussion of hydrology and water resources methodology, the only spring/seeps chosen for monitoring are those that are denoted (labeled) on the U.S. Geological Survey (USGS) topographic maps of the area and the maps generated from the USGS National Hydrography Dataset. An analysis of aerial photography was conducted; however, due to the small-scale the springs were not visible on the photographs. Even the springs denoted on the topographic maps and field visited, were not visible on the aerial photographs. In 2015, the Authority initially identified all the identified springs/seeps within one mile of the alignments on the ANF. After the spring/seep monitoring program had started, the Authority refined some of the alternative alignments. The refined/revised alignments resulted in some spring/seep locations to be beyond the one-mile centerline location. However, the Authority decided to keep all the original springs/seeps in the monitoring program, even though they exceeded the one-mile distance from the revised alignment centerline.

4525-10411

The commenter indicates that further study is needed to substantiate that springs are not fed by deep groundwater and requests changes to references to figures in the Draft EIR/EIS. Although preliminary assessments of subsurface conditions in the ANF have been conducted to date, many aspects of the hydrogeologic and hydrologic conditions that would be encountered during tunnel construction have been defined only partially, and data gaps remain regarding the surrounding bedrock, groundwater, soil, and surface hydrology conditions present in the vicinity of the proposed tunnels. Additional site-specific investigations of the subsurface would be conducted in advance of final tunnel design, including geotechnical investigations along the tunnel alignment to characterize the differing rock types (strength, fracturing, in-situ stresses, etc.), groundwater pressures at tunnel depth, potential flow quantities, aquifer tests, and structural geology along the tunnel alignment, including faults and gouge zones. Additional geotechnical borings would need to be converted to monitoring wells and piezometers fitted with vibrating wire pressure transducers for measuring water pressure changes along the alignment to establish seasonal baseline conditions for deep groundwater and near surface water. Such instrumentation would also be used as the early warning system for pressure changes occurring in the subsurface along the alignment during tunnel construction. The reference to changing Figure 3.8-A-19 to Figures 3.8-A-20 to -23 were referring to the figures in the February Administrative copy. The figure reference were corrected for the current Draft EIR/EIS. No additional revisions are necessary.

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4525-10412

The commenter is requesting further studies be conducted that examine the claims that springs are not fed by deep groundwater. Additional geologic and hydrogeologic investigations will be conducted for the preferred alignment during the design phase of the project. The hydrogeologic investigation will also include aquifer testing, and analysis of groundwater movement. On page 3.8-28 of the Draft EIR/EIS, the analysis states "monitoring of the ANF springs, it was observed that protracted droughts cause these springs to dry up by late summer, indicating that the springs may not be fed by deep sustained water resources and are dependent on seasonal wet cycles to maintain flow" and on page 3.8-82, "...groundwater chemistry from the geotechnical investigations suggest that the near surface groundwater that feeds the springs has a different source area than the deep water sampled at tunnel depths in the geotechnical investigations."

4525-10413

The commenter referred to the presence of some localized zones of isolated groundwater within fractures in the bedrock, and in some cases those fractures may not be interconnected. Additional site-specific investigations of the subsurface would be conducted in advance of final tunnel design, including geotechnical investigations along the tunnel alignment to characterize the differing rock types (strength, fracturing, in-situ stresses, etc.), groundwater pressures at tunnel depth, potential flow quantities, aquifer tests, and structural geology along the tunnel alignment, including faults and gouge zones. Additional geotechnical borings would need to be converted to monitoring wells and piezometers fitted with vibrating wire pressure transducers for measuring water pressure changes along the alignment to establish seasonal baseline conditions for deep groundwater and near surface water. Such instrumentation would also be used as the early warning system for pressure changes occurring in the subsurface along the alignment during tunnel construction.

4525-10414

The commenter requested review of an errant reference to data displayed in Table 3.8-8 of this Final EIR/EIS. This issue has since been corrected, and the text revised to state "Table 3.8-8 summarizes the anticipated lengths of groundwater pressure conditions for the ANF tunnel alignments".

4525-10415

The commenter expresses that to assess environmental consequences, baseline conditions will need to be monitored for a long enough period of time prior to construction to be statistically significant, in order to capture dry and wet years. In 2016 the Authority conducted a preliminary geotechnical investigation of drilling six bore holes to collect data for evaluating tunnel feasibility and subsurface conditions within the ANF including the SGMNM. The investigation was not conducted for any specific tunnel alignment, but rather to identify and evaluate field conditions (such as, groundwater, situ rock stresses, adverse geology including faults, gouge zones, and squeezing ground) within the ANF that could present feasibility constraints for tunnel design and construction. This preliminary investigation showed that the alignment alternatives are feasible. The monitoring of springs/seeps was part of the preliminary geotechnical investigation. As explained in Section 3.8.4.5 of the Draft EIR/EIS, in its discussion of hydrology and water resources methodology, the only spring/seeps chosen for monitoring are those that are denoted (labeled) on the U.S. Geological Survey (USGS) topographic maps of the area and the maps generated from the USGS National Hydrography Dataset within one mile of each alignment in 2016. Also, access to 7 of the original 20 springs was denied due to their location on private property and were therefore eliminated from the database. An analysis of aerial photography was conducted, however, due to the small-scale the springs were not visible on the photographs. After the spring/seep monitoring program had started, the Authority refined some of the alternative alignments. The refined/revised alignments resulted in some spring/seep locations to be beyond the one-mile centerline location. However, the Authority decided to keep all the original springs/seeps in the monitoring program, even though they exceeded the one-mile distance from the revised alignment centerline. The frequency of monitoring the springs was established to be quarterly. During the traverses to the springs, the field Team would investigate the canyons for additional springs to add to the monitoring database. Only one, on public ANF land, was discovered during the past 6 years and added to the database. Water samples are collected quarterly from these springs and are sent to an environmental laboratory for testing. The results of the laboratory testing, which includes the water chemistry concentrations of secondary constituents and Title 22 metals, are tabulated for future analyses. Additional site-specific investigations of the subsurface would be conducted in advance of final tunnel design and during the pre-construction stage of the project, including geotechnical investigations along the tunnel alignment to characterize the

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differing rock types (strength, fracturing, in-situ stresses, etc.), groundwater pressures at tunnel depth, potential flow quantities, aquifer tests to develop a groundwater model, and structural geology along the tunnel alignment, including faults and gouge zones. Additional geotechnical borings would need to be converted to monitoring wells and piezometers fitted with vibrating wire pressure transducers for measuring water pressure changes along the alignment to establish seasonal baseline conditions for deep groundwater and near surface water. Such instrumentation would also be used as the early warning system for pressure changes occurring in the subsurface along the alignment during tunnel construction. In the event that groundwater and/or surface water resources are adversely impacted, the Authority will implement an Adaptive Management and Monitoring Plan (AMMP) as required by mitigation measure HWR-MM#4. The purpose of the AMMP is to ensure that adverse effects on subsurface and surface water resources and associated habitat caused by tunnel construction activities are identified and that appropriate responses to address those effects are expeditiously implemented. The Authority anticipates that the actions described in this AMMP would provide for timely detection of hydrological changes and implementation of appropriate remediation, if necessary. This AMMP involves a multi-step iterative process to comply with U.S. Forest Service (USFS) standards. The AMMP will be implemented prior to and during construction, and for a period of 10 years after completion of the portion of the Palmdale to Burbank Project Section within the ANF. The AMMP advances a flexible strategy to respond to monitoring information that indicates tunnel construction is causing changes to existing hydrologic conditions. The AMMP includes metrics related to hydrologic resources that will be monitored within the ANF to measure compliance with USFS standards. If monitoring of such resources indicates adverse hydrologic effects resulting from tunnel construction activities, response actions will be taken to remedy those effects. Ongoing monitoring would be conducted to measure the effectiveness of the response actions and determine if additional actions are necessary. In addition, if monitoring demonstrates that responsive actions taken to address such changes are not achieving the intended outcomes, the response actions would be modified, or other strategies implemented, to meet the objectives. Implementation of the AMMP will involve a multi-step iterative process, as follows: (1) evaluate and adopt monitoring and response metrics that are informed by the USFS Standards; (2) continue existing monitoring and conduct more extensive pre-construction monitoring to develop baseline data; (3) conduct construction monitoring using adopted metrics to assess

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whether tunnel construction is causing hydrologic changes that are inconsistent with USFS standards; (4) implement response action(s) to remediate effects and reestablish approximate baseline conditions; (5) monitor effectiveness of response actions; and (6) evaluate monitoring data to determine if response actions need to be adjusted or if additional response actions are required.

4525-10416

When comparing the February 2022 Administrative Draft EIR/EIS to the current Draft EIR/EIS, the commenter inquired as to why the discussion of temporal effects of groundwater levels and the citing of Neil Berg document were removed from the current Draft EIR/EIS. Neither were removed, but rather moved. The temporal effects of groundwater levels and the citing of Neil Berg were moved to Section 3.8.6.3 (page 3.8-64) and Section 3.8.7 (3.8-68) of the current Draft EIR/EIS, from page 50 of the former February version. The Authority will establish baseline hydrologic and hydrogeologic conditions within the tunnel construction RSA through data collection and monitoring. The baseline inventory would include surveys and maps that identify the surface water resources within the RSA. Baseline surveys would generate information sufficient to characterize potential surface water and groundwater resources within the RSA. The Authority is committed to work with USFS on monitoring approaches during the pre-construction planning/design phase.

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4525-10417

Refer to Standard Response PB-Response-HYD-2: Hydrogeologic Impacts in the Angeles National Forest/Tunneling Impacts in the Angeles National Forest.

The commenter questions the deletion of text indicating that groundwater seepage into the tunnels constructed within the Angeles National Forest (ANF) would continue after the completion of construction and the deletion of the word "substantial". The commenter also notes that additional data and analysis, including groundwater modeling, will need to be developed prior to tunnel construction to further understand and quantify the extent to which such seepage may occur.

The Authority recognizes that some groundwater seepage is likely to occur during construction. However, such seepage is not expected to occur post-construction. The potential impacts to groundwater and surface aquatic resources are described in detail in Section 3.8, Hydrology and Water Resources, specifically in Impact HWR#5 (Changes in Hydrogeologic Conditions Associated with Tunnel Construction Beneath the ANF which May Affect Surface and Subsurface Water Resources). These impacts will be avoided and minimized through the use of state-of-the-art design features and construction methods, including through the use of tunnel boring machines (TBMs) with features to reduce or prevent inflows and grouting and tunnel-lining approaches that have proven effective at controlling water seepage. These measures are identified in HYD-IAMF#5 (TBM Design Features), HYD-IAMF#6 (Tunnel Lining Systems), and HYD-IAMF#7 (Grouting). HYD-IAMF#5 would use closed-mode operations to effectively prevent water seepage from occurring at the TBM cutterhead area, with ports for drilling horizontal probe holes through the TBM cutterhead, and angled probe holes through the TBM shields. These holes will allow for water pressures and flow rates to be measured ahead of the TBM, and further allow for pre-excavation grouting ahead of the TBM to cut-off groundwater inflows into the tunnel. HYD-IAMF#6 requires the installation of segmental, precast, concrete lining with bolted and gasketed joints, creating a tunnel lining capable of resisting the groundwater pressure with minimal leakage in circumstances where groundwater pressures are 25 bar or less. In sections where groundwater pressures are above 25 bar, a second lining will be put in place to ensure that the tunnels are watertight over time. However, seepage may occur temporarily under high pressure conditions between the time of boring and the installation of the first pass lining. Several grouting methods will be used during the construction of the tunnels

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to avoid and minimize groundwater flows into the tunnels, including pre-excavation grouting, backfill grouting with two-component grout, and check grouting. In the event that the groundwater or surface aquatic resources are adversely impacted, the Authority will implement an Adaptive Management and Monitoring Plan (AMMP) as required by mitigation measure HWR-MM#4.

The purpose of the AMMP is to ensure that adverse effects on subsurface and surface water resources and associated habitat within the ANF caused by tunnel construction activities are identified and that appropriate responses to address those effects are expeditiously implemented. This AMMP involves a multi-step iterative process to comply with U.S. Forest Service standards, which includes remedial measures. The remedial measures include actions such as establishing adaptive management triggers for each water resource being monitored, implementation of compensatory mitigation for each affected water resource, and the minimization of effects on water resources associated species as a result of tunnel construction. The AMMP will require the implementation of a comprehensive monitoring program to establish baseline conditions for surface water resources and to allow for the detection of changes in groundwater conditions related to tunnel construction to ensure timely implementation of remedial measures. The Authority will continue existing monitoring after the selection of the preferred alternative and conduct more extensive pre-construction monitoring to develop baseline data, as described in Appendix 3.8-C, Adaptive Management and Monitoring Plan for Potential Hydrologic Effects within the Angeles National Forest (Authority 2023). The monitoring program would continue for up to 10 years after the completion of construction. Additionally, ongoing monitoring would be conducted to measure the effectiveness of the response actions and determine if additional actions are necessary.

The AMMP also will include provisions for augmenting water supplies for surface water resources and wells and will establish performance standards that the remedial actions must achieve to approximately match baseline conditions. For additional details regarding specific actions that will occur under the AMMP, please refer to Appendix 3.8-C. As a result, HWR-MM#4 would effectively mitigate impacts on affected water resources, including wells from tunneling. Please refer to Standard Response PB-Response-HYD-2: Hydrogeologic Impacts in the Angeles National Forest/Tunneling Impacts in the Angeles National Forest for a more detailed discussion.

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4525-10418

Refer to Standard Response PB-Response-HYD-2: Hydrogeologic Impacts in the Angeles National Forest/Tunneling Impacts in the Angeles National Forest.

The commenter expressed concern regarding the characterization of the potential effects on groundwater conditions that may be caused by tunnel seepage. The Authority understands that there are risks affecting groundwater with undergoing tunnel construction. The project tunnel alignments would be constructed consistent with engineering design features to address and minimize these risks. Potential impacts of tunneling in the ANF are analyzed in detail in Section 3.8, Hydrology and Water Resources, specifically in Impact HWR#5 (Changes in Hydrogeologic Conditions Associated with Tunnel Construction Beneath the ANF which May Affect Surface and Subsurface Water Resources). Regarding additional information gathering, additional site-specific investigations of surface and subsurface conditions would be conducted in advance of final tunnel design, including geotechnical investigations along the tunnel alignment to characterize the differing rock types (strength, fracturing, in-situ stresses, etc.), groundwater pressures at tunnel depth, potential flow quantities, aquifer tests to develop a groundwater model, and structural geology along the tunnel alignment, including faults and gouge zones, and aquatic features, including seeps, springs, and streams (see Draft EIR/EIS, p. 3.8-79). Regarding potential impacts, where groundwater is present, during the period between the boring and the installation of the first pass lining, seepage from the rock mass into the tunnels may occur. In such cases, groundwater inflows may temporarily affect the hydrology of streams, springs, water supply wells, and other aquatic features (see Draft EIR/EIS, pp. 3.8-49 to 3.8-50). The amount and duration of groundwater loss would depend on the geotechnical and hydrogeological conditions along the tunnel alignment, the tunnel construction methods used, and design features adopted to avoid and minimize inflows. The Authority will use state-of-the-art design features and construction methods to avoid and minimize impacts on hydrologic resources, including through the use of tunnel boring machines (TBMs) with features to reduce or prevent inflows and grouting and tunnel lining approaches that have proven effective at controlling water seepage. These measures are identified in HYD-IAMF#5 (TBM Design Features), HYD-IAMF#6 (Tunnel Lining Systems), and HYD-IAMF#7 (Grouting). HYD-IAMF#6 (Tunnel Lining Systems) will consist of segmental, precast, concrete lining with bolted and gasketed joints, creating a tunnel lining capable of resisting the groundwater pressures that would be encountered with minimal leakage.

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In sections where groundwater pressures are above 25 bar, a second tunnel lining will be installed to ensure water tight tunnels over the long-term. Pre-excavation grouting creates a permanent strengthened very low permeability circular crown around the TBM, that in conjunction with the first-pass tunnel lining takes on the water pressure until the second lining is installed. HYD-IAMF#7 (Grouting) involves pouring coarse mortar into various narrow cavities along the tunnel lining. Several grouting methods will be used during the construction of the tunnels to avoid and minimize groundwater flows into the tunnels, including pre-excavation grouting, backfill grouting with two-component grout, and check grouting (refer to Appendix 2.0-E of the Palmdale to Burbank Project Section EIR/EIS for further descriptions of IAMFs that will be implemented as part of the project, including HYD-IAMF#5, HYD-IAMF#6, and HYD-IAMF#7). If any water seepage is detected during the construction period after the installation of the first lining and before the second lining deployment, additional check grouting will be implemented as needed. Mitigation to control these effects would also be implemented in response to monitoring information indicating that groundwater levels are declining. In the event that groundwater and/or water wells are adversely impacted, the Authority will implement an Adaptive Management and Monitoring Plan (AMMP) as required by mitigation measure HWR-MM#4. The purpose of the AMMP is to ensure that adverse effects on subsurface and surface water resources and associated habitat within the ANF caused by tunnel construction activities are identified and that appropriate responses to address those effects are expeditiously implemented. This AMMP involves a multi-step iterative process to comply with U.S. Forest Service standards, which includes remedial measures. The remedial measures include actions such as establishing adaptive management triggers for each water resource being monitored, implementation of compensatory mitigation for each affected surface water resource, and the minimization of effects on water resources-associated species as a result of tunnel construction. The AMMP will require the implementation of a comprehensive monitoring program to establish baseline conditions for surface water resources and to allow for the detection of changes in groundwater conditions related to tunnel construction to ensure timely implementation of remedial measures. The monitoring program would continue for up to 10 years after the completion of construction. The AMMP also will include provisions for augmenting water supplies for surface water resources and wells and will establish performance standards that the remedial actions must achieve to approximately match baseline conditions. As a result, HWR-MM#4 would effectively mitigate impacts on

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affected water resources, including wells from tunneling. Because of all of these aforementioned features and measures, the level of flow between first and second pass linings would not be considered substantial. Refer also to Standard Response PB-Response-HYD-2: Hydrogeologic Impacts in the Angeles National Forest/Tunneling Impacts in the Angeles National Forest.

4525-10419

The commenter suggests that further studies into the presence of springs and active wells in the resource study area (RSA) need to be conducted and the EIR/EIS needs to be updated accordingly.

The columns "springs present" and "known active wells present" in Tables 3.8-9, 3.8-10, and 3.8-11 of the Final EIR/EIS are accurate using the current data available. The number of known active wells refer to public wells only. A full survey of private wells has not been completed, as a full-scale survey at this time is not feasible because the geographic extent of the alignments of the six Build Alternatives was not known. As a result, the Authority relied on public information to identify environmental impacts.

Section 3.8, Hydrology and Water Resources, of Final EIR/EIS has been revised to expressly clarify concerns related to private water supply wells. As stated in the Final EIR/EIS, because only limited information is available regarding the location of private wells, there is the potential that tunnel construction could result in the destruction of private water supply wells, including wells that have not been identified, if any wells are located directly in the path of the tunnels. HYD-IAMF#8 explains how the Authority would address impacts to wells outside of the Angeles National Forest.

A survey of all wells, including private wells, will be conducted during the planning and design phase for the approved project. As discussed in Appendix 3.8-C, Adaptive Management and Monitoring Plan for Potential Hydrologic Effects within the Angeles National Forest of the Draft EIR/EIS, the Authority will collect baseline data on selected riparian resource features, including a modified stream condition inventory of the extent of riparian vegetation (including structural diversity and seral stages) and aquatic or riparian faunal diversity. Anticipated baseline data collection will use the California Stream Condition Index scoring system to obtain data that can be compared to each study site.

The Authority will also conduct a detailed inventory of springs and other aquatic features, such as seeps, within the vicinity of the alignment of the approved project during the pre-construction planning and design phase, which will include continual monitoring of the existing network of springs and core hold data loggers and stream, and including the testing of water quality of water inflows into tunnels for comparison to

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4525-10419

baseline water quality of springs and stream flows (i.e., through incorporation of water chemistry analysis comparison into 3-D modeling of tunnel water versus surface water resources).

As part of this effort, the Authority will confer with the U.S. Forest Service on its approach to surveying private wells, springs, and other aquatic resources as part of the Special Use Authorization process. Implementation of the Water Resources Adaptive Management and Monitoring Plan (AMMP) set forth in HYD-MM#4 would minimize impacts that occur and, if necessary, provide compensatory mitigation for unavoidable impacts to surface aquatic resources, including water supply wells. The AMMP also includes provisions for augmenting water supplies for surface water resources and wells and establishes performance standards that the remedial actions must achieve to approximately match baseline conditions. The sources and means of conveyance of such water supplies are discussed in Appendix 3.8-D, Supplemental Water Demand Analysis for Potential Impacts within the Angeles National Forest / San Gabriel Mountains National Monument. The AMMP also includes actions to restore affected resources and, if necessary, to provide compensatory mitigation for affected water resource if effects cannot be arrested or substantially reduced through other response actions. As a result, HWR-MM#4 would effectively mitigate or offset impacts to affected water resources.

4525-10420

Refer to Standard Response PB-Response-HYD-2: Hydrogeologic Impacts in the Angeles National Forest/Tunneling Impacts in the Angeles National Forest.

The commenter expressed concern regarding long-term impacts to groundwater due to inflow into the tunnels. The commenter also asserted that the statement that the SR14 and SR14A alignments have the lowest potential risk to surface resources is premature due to lack of investigation into wells and springs actually present.

To clarify, the commenter's reference to "several years", the more-comprehensive quote regarding groundwater effects from the Draft EIR/EIS is: "Conditions would be expected to return to normal once construction is complete and the final tunnel lining installed. However, effects on groundwater could persist and could vary from several days to months or even up to several years after construction." Therefore, the statement regarding "several years" represents the most conservative scenario regarding the persistence of groundwater effects. Refer to response to comment 10418 regarding efforts to prevent impacts in the first place.

Regarding the statement about comparative risk, the EIR/EIS states, "The Refined SR14 and SR14A Build Alternatives, as compared to the other Build Alternatives, would have the lowest potential risk and lowest potential impacts on surface resources (see Table 3.8-12), because the alignments traverse areas with lower groundwater pressures and no known groundwater dependent resources within the identified Risk Areas." Table 3.8-12 includes for each build alternative the number of moderate risk areas, number of high risk areas, miles of tunnel in groundwater pressure above 25 bar, miles of tunnel in groundwater pressure at or below 25 bar, miles of tunnel traversing moderate and high risk areas, number of perennial streams in moderate and high risk areas, number of ephemeral streams in moderate and high risk areas, number of intermittent streams in moderate and high risk areas, number of mapped faults intersected, known springs present in risk areas, streams present in risk areas, and known active wells present in risk areas. The EIR/EIS recognizes that this comparative analysis of impacts is based on known resources and a wide variety of resources. This analysis provides for a meaningful comparison of impacts to aquatic resources among the alternatives.

PB-Response-HYD-2: Hydrogeologic Impacts in the Angeles National Forest/Tunneling

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4525-10420

Impacts in the Angeles National Forest also includes a discussion of the data, assumptions and methodology used by the Authority in evaluating potential effects on subsurface and surface groundwater resources. As explained in the standard response, analysis was based on an assessment of known hydrogeologic and hydrologic conditions, derived in part from preliminary geotechnical investigations conducted by the Authority, but also from currently prevailing databases and datasets. This data and methodology are appropriate and sufficient for this second-tier CEQA and NEPA analysis and provides the ability to meaningfully compare alternatives and select a preferred alternative. Notwithstanding this, the Authority and its contractor would conduct several pre-construction activities to determine how construction of the Palmdale to Burbank Project Section should be staged and managed. A geotechnical investigation would be conducted in-situ within boreholes, drilled to the approximate depth below ground surface of the Preferred Alternative alignment tunnels, and would be located at approximately 50 to 100 sites along the selected Build Alternative. Detailed access plans for each site would be determined by locations of the selected candidate sites and means and methods that best protect the surrounding environment and facilitate the geotechnical investigations and borehole drilling. The amount of boreholes will vary per the geotechnical investigation during the final design. Therefore, with implementation of additional boring holes during the final design, the data collection would be sufficient.

4525-10421

The commenter indicated that the Draft EIR/EIS included the information sought in their initial review of the document as a Cooperating Agency. The comment is acknowledged. The commenter also requested the addition of language about triggers to HWR-MM#4. Mitigation measure HWR-MM#4 will implement an Adaptive Management and Monitoring Plan to mitigate for impacts to aquatic resources. Any other specific triggers and buffers will be developed during the advanced design phase and prior to start of any construction.

4525-10422

The commenter states the importance of initiating a monitoring program prior to project construction. The commenter also inquires about the timeline of pre-construction monitoring and states that monitoring of groundwater levels in monitoring wells should occur throughout the construction period and include areas beyond those determined to be moderate and high risk.

Prior to construction, the Authority will conduct extensive surveys, data-gathering, and monitoring to supplement existing hydrologic and hydrogeologic information within the tunnel construction RSA for the approved project. The baseline inventory will include surveying and mapping surface water resources within the RSA, including seeps, springs, streams and wells. Baseline surveys would generate information sufficient to characterize potential surface water and groundwater resources within the RSA. The Authority will consult with USFS regarding the scope of such efforts. The Authority will also implement an Adaptive Management and Monitoring Plan (AMMP) as required by mitigation measure HWR-MM#4. The purpose of the AMMP is to ensure that adverse effects on subsurface and surface water resources and associated habitat within the ANF caused by tunnel construction activities are identified and that appropriate responses to address those effects are expeditiously implemented. This AMMP involves a multi-step iterative process to comply with U.S. Forest Service standards, which includes remedial measures. The remedial measures include actions such as establishing adaptive management triggers for each water resource being monitored, implementation of compensatory mitigation for each affected water resource, and the minimization of effects on water resources associated species as a result of tunnel construction. The AMMP will require the implementation of a comprehensive monitoring program to establish post-construction baseline conditions for surface water resources and to allow for the detection of changes in groundwater conditions related to tunnel construction to ensure timely implementation of remedial measures. The monitoring program would continue for up to 10 years after the completion of construction.

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4525-10423

The commenter expresses concern about the issue of data gaps to identify risk to hydrologic resources. In 2016 the Authority conducted a preliminary geotechnical investigation of evaluating the area's geology and geologic hazards, and drilling six bore holes to collect subsurface data for evaluating tunnel feasibility and subsurface conditions within the Angeles National Forest (ANF). The investigation was not conducted for any specific tunnel alignment, but rather to identify and evaluate field conditions (such as, groundwater, situ rock stresses, adverse geology including faults, gouge zones, and squeezing ground) within the ANF that could present feasibility constraints for tunnel design and construction. This preliminary investigation demonstrated that all of the Build Alternative alignments are feasible. Additional and extensive hydrologic and hydrogeologic investigations and explorations are to be performed during the design phase of the project and prior to start of any construction. Several hundred borings, CPTs, fault trenches and geophysical surveys are planned for the Preferred Alternative. In addition, comprehensive surveys of surface aquatic resources will be conducted prior to construction. This resource inventory will further inform potential risks associated with the construction of tunnels along the Preferred Alternative alignment. With respect to the EIR/EIS, the analysis of hydrogeologic effects is not limited to solely the geotechnical cores that were drilled. The analysis relies on extensive existing data that is available on the faults, geology and groundwater within the San Gabriel Mountain range and throughout the project area. This existing data, along with data from the core samples and ongoing monitoring within the ANF, informed the analysis. As explained in the analysis, risk areas were defined based on this data and professional judgement considering multiple factors (i.e. geology, faulting, known seeps/springs, groundwater pressures). Please refer to section 3.8.4.5 which describes the methodology and approach to defining the Risk Areas associated with hydrogeologic effect from tunneling. As noted in responses to comments 10420 -10423, the Authority will conduct extensive surveys, data-gathering, and monitoring to supplement existing hydrologic and hydrogeologic information within the tunnel construction RSA for the approved project, as well as implementation of a comprehensive monitoring program to establish baseline conditions for surface water resources and to allow for the detection of changes in groundwater conditions related to tunnel construction to ensure timely implementation of remedial measures. The monitoring program would continue for up to 10 years after the completion of construction. Regarding the risk discussion, refer to response to Response to Comment 1#0420. This risk assessment and the evaluation in

4525-10423

the EIR/EIS considers prior extensive research, as discussed above.

4525-10424

Prior to construction, the Authority will conduct extensive surveys, data-gathering, and monitoring to supplement existing hydrologic and hydrogeologic information within the tunnel construction RSA for the approved project. The baseline inventory will include surveying and mapping surface water resources within the RSA, including seeps, springs, streams and wells. Baseline surveys would generate information sufficient to characterize potential surface water and groundwater resources within the RSA.

4525-10425

During the pre-construction design phase, additional studies of the selected project alignment will be conducted to further evaluate hydrogeological and hydrological conditions along the alignment, in accordance with Section 3.8.8.6, page 3.8-79 of the EIR/EIS. Information regarding existing seeps, springs, streams and wells within the alignment will be gathered as part of these field studies.

4525-10426

The commenter expressed concern regarding the high groundwater pressures on some of the tunnel sections and the age of the groundwater beneath the Angeles National Forest (ANF). In 2016, the groundwater from deep core-holes beneath the ANF were analyzed for general chemistry, for radio-carbon age dating, and for radionuclides to compare results to published water chemistry results from the USGS Groundwater Ambient Monitoring and Assessment (GAMA) studies. Chemical differences in the water demonstrate that the water sources for the GAMA program, which are from shallow wells, are different from the deep groundwater sampled and tested for the HSR tunnel alignments. The results of the carbon-14 age dating also indicate that the water collected from the deep core-holes are at least 4,500 years old and has not been replenished or recharged by younger shallow rainwater. However, the groundwater in each of the core-holes was only sampled and analyzed once before the holes had to be grouted. A greater sample size (collection from more core-holes) and collection over several seasons of the year will be developed to determine the groundwater age and possible interaction with surface water.

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4525-10427

The commenter noted that text that was included in the Administrative Draft EIR/EIS for Cooperating Agency review was omitted in the Draft EIR/EIS. This language was removed because the Authority felt this text was redundant. Theoretical Approaches Available to Evaluate the Effects of Tunnel Construction is within Section 3.8, Hydrology and Water Resources (Section 3.8.8.6, Hydrology and Hydrogeology in the ANF). In the prefatory text in this section, the Draft EIR/EIS states, "While the information needed to fully identify the detailed and specific impacts of each alignment on hydrology would be obtained for the design and construction phases, the information that was developed by the Authority through the geotechnical investigations conducted thus far, along with information derived from similar tunneling projects in similar geologic scenarios, is sufficient for an analysis that allows for a comparison of the reasonably foreseeable impacts of the alternatives and for the Authority to make a reasoned choice among those alternatives. As further discussed below, because the Authority has sufficient information to make a reasoned choice among the alternatives, the lack of more detailed and specific information about the precise tunneling impacts does not trigger the application of 49 C.F.R. 1502.22 - Incomplete or Missing Information. Notwithstanding the foregoing, the following analysis is provided for context." Additionally, the EIR/EIS presents that the analysis is based on assessment of known geologic and hydrogeologic conditions, including information and data regarding the hydrogeologic and hydrologic conditions of the western San Gabriel Mountains developed during geotechnical investigations (see General Hydrologic Conditions within the Western San Gabriel Mountains within Section 3.8.5.7, Hydrogeological Conditions). The approach to the analysis was also informed by case studies of tunnel construction and associated effects on water resources, including tunnels constructed in southern California, the professional judgment of experts in the field of hydrogeology and hydrology (see Hydrologic Impacts Related to Hydrogeologic Changes within Section 3.8.4.4, Methods of Evaluating Impacts under NEPA). The EIR/EIS also acknowledges that additional information will be collected as part of future geotechnical investigations and baseline monitoring as specified in the AMMP (see HWR-MM#4). As an example where the data is sufficient for the analysis in the EIR/EIS, the data and analysis clearly show that the SR14A alternative would pass through areas where few seeps and springs are known to be present and water pressures at depth are generally lower than areas through which the E1/E1A and E2/E2A pass through (see Table 3.8-8).

4525-10428

The Refined SR14/SR14A Build Alternative alignments are not located within a mile of any spring/seep mapped on the USGS Hydrography Maps. However, additional studies will be conducted during the design and construction phases that will include identification of any seeps, springs, or wells that are present within the approved project alignment.

4525-10429

Table 3.8-14 notes these impacts would be significant before mitigation and less-than-significant post mitigation.

4525-10430

The commenter identifies USFS guidance on addressing groundwater issues within the Special Use Authorization application process. The Authority appreciates the provision of this guidance and will review this working guide in advance of the SUA application process.

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4525-10431

The commenter questions why the flood zones are not mapped in an early version of the Administrative Draft EIR/EIS and if the grading and culvert improvements listed for E1 and E2 are consistent with the Critical Biological Land Use Zone identified for Aliso Canyon in the San Gabriel Mountains National Monument plan. To be clear, the flood zones are mapped in the current Draft EIR/EIS, Appendix 3.8-A (see Figures 3.8-A-33, -36, -58, -61, -68, -77, and -90). As discussed in Section 3.13, Land Use and Station Area Planning, the E1, E1A, E2, and E2A Build Alternatives would traverse 6 acres designated as Critical Biological Land Use Zones. The affected Critical Biological area is primarily set aside to protect the California red-legged frog, a special-status amphibian species. HSR facilities within the Critical Biological area include a permanent electrical utility line along an existing electrical utility corridor and a temporary construction staging area along Aliso Canyon Road. Construction staging areas would be restored to pre-project conditions to the maximum extent practicable after construction is complete. Additionally, as discussed further in Section 3.7, Biological Resources and Wetlands, a range of IAMFs and mitigation measures would be implemented to avoid and minimize biological impacts to amphibians and amphibian habitat. The Build Alternatives would be consistent with the San Gabriel Mountains National Monument plan because the IAMFs and mitigation measures listed in Section 3.7 would avoid, minimize, and provide compensatory mitigation for direct and indirect surface construction impacts on special-status amphibian species, consistent with the purpose of Critical Biological Land Use Zones.

4525-10432

The commenter expressed concern that the groundwater model discussed in the Draft EIR/EIS is incomplete with respect to the tunnel alignments in the Angeles National Forest (ANF) associated with the Build Alternatives. The commenter also correctly indicates that the groundwater model will need to include data that is representative of a fracture flow system, including the properties of the faults in the area and their effects on the flow system. The Authority agrees with the commenter that additional information should be gathered. Although preliminary assessments of subsurface conditions in the ANF have been conducted to evaluate feasibility of the proposed tunnels within ANF and to address potential impacts for EIR/EIS purposes, as indicated in the supporting PEPD technical documents, additional site-specific investigations of both surface and subsurface conditions are required and will be conducted in advance of final design. These investigations will be planned in coordination with the USFS as stated in the Authority's response to previous Comments #10294 and #10296. The future geotechnical investigations will include various types of explorations that will characterize the differing rock types (strength, fracturing, in-situ stresses, etc.), groundwater pressures at tunnel depth, potential flow quantities, aquifer tests to develop a groundwater model, and structural geology along the tunnel alignment, including faults and gouge zones. Some of the geotechnical borings will be converted to monitoring wells and piezometers fitted with vibrating wire pressure transducers for measuring water pressure changes along the alignment to establish seasonal baseline conditions for deep groundwater and near surface water. Such instrumentation could also be used as the early warning system for pressure changes occurring in the subsurface along the alignment during tunnel construction. The site characterization studies would be similar in methods to the preliminary geotechnical studies completed for evaluating the feasibility of tunneling and reported in the Authority reports used to develop the current understanding of the rock, hydrogeology, and hydrology (Authority 2019a and 2019b). The comprehensive site-specific geotechnical and hydrogeological/hydrology field investigations would define the field conditions and provide the groundwater flow data necessary for development of a 3-D predictive model. Based on the geologic and groundwater conditions, the model can predict potential impacts to groundwater and near surface water resources in the vicinity of project alignment due to various tunnel construction methods. With regard to the commenter's note as to why there was a change in the document from addressing all six alternatives to simply refer to the two SR 14 alternatives as least impactful, Section 3.8.10.2 does say "As set out in Table 3.8-12,

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4525-10432

the Refined SR14 and SR14A Build Alternatives would have the lowest potential impacts within the ANF." Table 3.8-12 provides the specificity relating to each of the six Build Alternatives that the commenter is referring to.

4525-10433

The commenter notes that text in Section 3.9 Geology, Soils, Seismicity, and Paleontological Resources of the EIR/EIS, related to corrosive soils, should be revised for consistency with figures in the EIR/EIS. The text on pages 3.9-27 and 3.9-37 has been revised in the Final EIR/EIS.

4525-10434

The commenter notes that in Figure 3.9-21 in Section 3.9, Geology, Soils, Seismicity, and Paleontological Resources of the Draft EIR/EIS, the Magic Mountain Fault is not highlighted as hazardous, potentially hazardous, or non-hazardous. Figure 3.9-21 shows the liquefaction zones and is not a figure that depicts faults. Figures 3.9-15 to 3.9-17 show the regional fault system. The Magic Mountain fault was not highlighted in these figures because it is considered "nonhazardous." Section 3.9.5.6 of the Draft EIR/EIS identifies it as such. The Authority has concluded that an additional map to identify nonhazardous faults would not aid its analysis or the public understanding of the project.

4525-10435

The commenter expresses concern with construction and operational impacts associated with earthquakes and seismicity affecting all of the tunnel alignments. Specifically, they are concerned that below-grade earthquakes could affect the tunnel structure and that those need to be acknowledged.

When discussing seismic hazards, note that the analysis in the EIR/EIS already encapsulates seismic hazards of all sizes, including smaller-magnitude earthquakes. This is demonstrated by the EIR/EIS's reference to "seismic event" and "ground shaking" without a qualifier related to earthquake magnitude. The analysis in Impact GSSP#7 also states, "Depending on the severity of the seismic event, jolting could cause construction workers on elevated structures to fall, resulting in injuries or loss of life," which indicates the analysis covers the range of earthquakes. The EIR/EIS contains requirements to respond to earthquakes of any magnitude, including smaller magnitudes. In particular, GEO-IAMF#8 requires a control system to shut down HSR operations temporarily during or after a potentially damaging earthquake, and it requires crews to inspect for damage due to ground motion and/or ground deformation before returning trains to service. Separately, under Impact GSSP#16, the Draft EIR/EIS explains that the final design will incorporate fault chambers. Those additional excavated spaces around the operating tunnel would reduce the amount of earthwork needed for maintenance if there were a displacement event. Fault chambers would also reduce costs and the need for closures to perform repairs while mitigating any impacts from smaller-magnitude earthquakes.

Because the Draft EIR/EIS already responds to concerns over smaller-magnitude earthquakes affecting the tunnel structure, no revision is needed to the EIR/EIS. Please refer to Response to Comment #4494-9567, which addresses both tunnel design, as well as passenger evacuation from tunnels as it relates to seismic hazards regardless of depth and distance of seismic event. That is, design concepts apply throughout the alignment based on geologic conditions. Please also refer to Response to Comment #4356-10531, which provides additional information as to how the Authority has applied a probabilistic approach to designing earthquake hazards, based on more devastating earthquakes having a lower possibility of occurring.

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4525-10436

The comment "Delete" indicates that Comments Submitted on the Administrative Draft EIR/EIS in February 2021 are no longer relevant.

4525-10437

The comment "Delete" indicates that Comments Submitted on the Administrative Draft EIR/EIS in February 2021 are no longer relevant.

4525-10438

The commenter states that Impact GSSP#5 lists the area of the E2 Build Alternative, E2-A1 and E2-A2 adits as having a high corrosion potential for concrete, and that this could be significant in construction of the adit portals. The discussion in Impact GSSP#5 (see Draft EIR/EIS Section 3.9.6.3, pages 3.9-80 and 3.9-81) does not contain text describing the soil corrosion potential to concrete for any of the alignments. However, Impact GSSP#5 does contain a complete section of soil corrosivity to steel. Impact GSSP#5 has been revised to include an additional analysis on soil corrosivity potential for concrete, based on the corrosive soils discussion and Figures 3.9-6 to 3.9-8 in Section 3.9.5.4 of the Draft EIR/EIS. As depicted in Figure 3.9-7, the soil corrosion potential for concrete for the areas of the E2 Build Alternative- E2-A1 and E2-A2 adits is low to moderate.

4525-10439

The commenter expresses concern that the discussion under Impacts GSSP#6 and GSSP#7 in Section 3.9 of the Draft EIR/EIS do not adequately evaluate safety and risks for tunnel construction and adits within the ANF. The commenter also states that GEO-IAMF#10 discusses codes and standards that are for highway and rail structures, not for underground tunnels, and therefore believes that GEO-IAMF#10 would not assure that construction of the Build Alternatives would not cause significant impacts. All HSR components including tunnels will be designed for the impacts of earthquakes, including bending moments, shear forces, and displacements resulting from surface fault rupture (GEO-IAMF#7), as discussed in Section 3.9, Geology, Soils, Seismicity, and Paleontological Resources. Prior to construction, the design-build contractor will prepare a CMP that will include design measures and actions to minimize or avoid exposure of people or structures to impacts from surface fault rupture, including worker safety protocols for seismic events that could occur during construction (GEO-IAMF#1). The design measures and actions will conform to established engineering and safety protocols specified by transportation and building agencies and codes (GEO-IAMF#10) requiring contractors to account for seismic hazards during design and construction. Implementation of these design measures and actions during project construction will avoid significantly increasing exposure of people or structures to potential loss of life, injuries, or destruction beyond current exposure to surface fault rupture in the area. The Draft EIR/EIS Volume 2, Appendix 2-E (page 2-E-16) and the Geology, Soils, and Seismicity Technical Report, Section 2.7.10 (page 2-45) contain detailed discussion of GEO-IAMF#10, which will require the contractor to issue a technical memorandum describing how the established engineering and safety protocols have been incorporated into the facility design and construction. These protocols are provided by American Association of State Highway and Transportation Officials, Federal Highway Administration, American Railway Engineering and Maintenance-of-Way Association, California Building Code (CBC), International Building Code, American Society of Civil Engineers, Caltrans Design Standards, and the American Society for Testing and Materials. For example, the CBC is based on the International Building Code, with the addition of necessary California amendments based on the American Society of Civil Engineers Minimum Design Standards. The CBC must be followed for building structures, other than guideways and bridges, and underground structures that are subject to railroad or highway loading. The CBC's earthquake design requirements are based on the occupancy category of a structure, site class, soil classifications, and

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4525-10439

various seismic coefficients, which are used to determine the appropriate Seismic Design Category for a project. The Seismic Design Category is a classification system that combines occupancy categories with the level of expected ground motions at the site and ranges from Seismic Design Category A (very small seismic vulnerability) to Seismic Design Category E/F (very high seismic vulnerability and near a major fault). Design specifications for the structures are then determined according to the applicable Seismic Design Category. Compliance with the established engineering and safety protocols for design of underground structures would minimize impacts resulting from fault rupture and ground shaking hazards. Please refer to Impact GSSP#16 in Section 3.9 of this Final EIR/EIS for more details regarding fault rupture during operation of the project.

4525-10440

The comment "Delete" indicates that Comments Submitted on the Administrative Draft EIR/EIS in February 2021 are no longer relevant.

4525-10441

The commenter requested a reclamation plan for the Vulcan Mine, if the site is used for spoils retention, to minimize impacts on soils. GEO-MM#1, described in Section 3.9.7, specifically requires a restoration plan for the Vulcan Mine will be drafted if Vulcan Mine is to be used for spoils retention.

4525-10442

The commenter states that maps of soil hazards in Section 3.9, Geology, Soils, Seismicity, and Paleontological Resources of the EIR/EIS, identify areas in Aliso Canyon and Arrastre Canyon for E1 and adit options for E2 as being located in areas with high corrosion potential but that this hazard is not included on page 3.9-108 of the Draft EIR/EIS. The identification of Aliso and Arrastre Canyons have been included in the text of the Draft EIR/EIS, in Section 3.9.5.4 (page 3.9-28) when discussing the high corrosion potential along build alternative E1 and E2.

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4525-10443

The commenter expresses concern regarding the quantities of spoils and states that the spoils are not adequately characterized to allow for an assessment of CEQA significance. The commenter also states that the spoils and other construction-related hazardous materials will be evaluated in the Special Use Permit Application process. Evaluation of spoils for each HSR Build Alternative is based on desktop review of historical information and records, regulatory database review, screening criteria, ranking criteria, and historical aerial photographs.

As noted in Impact HMW#1: Hazards Due to the Routine Transport, Use, or Disposal of Hazardous Materials during Construction in Section 3.10, Hazardous Materials and Wastes of the Draft EIR/EIS, construction of any of the six Build Alternatives would generate different quantities of potentially hazardous spoil materials associated with PEC sites and previous industrial uses that would require extraction, transport, and safe disposal. A conservative analysis was conducted regarding the amount of potential hazardous spoils for each of the Build Alternatives; it is likely that each of the Build Alternatives would produce a smaller quantity of hazardous spoils than estimated. Hazardous materials would be handled in accordance with the CUPA regulations and disposed of off-site at a properly licensed/maintained facility located within the state of California. Many of the sites containing hazardous spoils and/or hazardous materials are associated with the PEC sites listed in Section 3.10.5.3.

Contaminated materials would be removed from the tunnel construction areas and could be temporarily stockpiled onsite before being hauled to a suitable hazardous waste treatment site. IAMFs will require the contractor to implement a series of plans and procedures to minimize hazards associated with use, storage, transportation, and disposal of hazardous material and waste. With HMW-IAMF#3 through HMW-IAMF#8, the impact would be less than significant under CEQA. The Authority has characterized the spoils using a conservative estimate and based on currently available information, including desktop review of historical information and records included in the Environmental Data Resources (EDR) report utilized as the basis for findings of the HMW Technical Report. The EDR report queries and provides information on a list of applicable regulatory database files with varying purpose and information on record for sites within specific radius distances of the Project centerline. A generalized list of the databases referenced in the EDR report are provided in the HMW Technical Report and

4525-10443

a discussion of those databases have been incorporated into Section 3.10.4.3, Methods for NEPA and CEQA Impact Analysis, of this Final EIR/EIS to include additional information about references consulted in the EDR research.

This approach to the identification of PEC sites is consistent with Authority Environmental Guidelines and procedures and appropriate for the evaluation of impacts and comparison between Alternatives for both CEQA and NEPA. For additional information about PEC sites, refer to Appendix 3.10-B, Sites of Potential Environmental Concern.

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4525-10444

The commenter requests that the designation of the ANF as within the Federal Responsibility Area be indicated on Figure 3.11-2 in Section 3.11, Safety and Security of the Draft EIR/EIS and that the list of consulted agencies include the California Department of Forestry and Fire Protection (CalFire).

As noted in Draft EIR/EIS Sections 3.11.4.1, 3.11.5.1, 3.11.5.2, and 3.11.5.4, Figure 3.11-1 through Figure 3.11-3 (including Figure 3.11-2) depict key facilities within the Resource Study Areas, such as government buildings, airports, police stations, and public facilities. Refer to Figure 3.11-4 for a map of fire hazard severity zones and federal responsibility areas. As shown on that map, the Angeles National Forest is a Federal Responsibility Area.

Regarding the request to list CalFire as a consulted agency, as part of SS-IAMF#2, the Authority must "Implement fire/life safety and security programs that promote fire and life safety and security in system design, construction, and implementation. The fire and life safety program is coordinated with local emergency response organizations to provide them with an understanding of the rail system, facilities, and operations, and to obtain their input for modifications to emergency response operations and facilities, such as evacuation routes. The Authority will establish fire/life safety and security committees throughout the HSR section." As appropriate, the Authority would coordinate with CalFire as a local emergency response operation and establish fire safety programs for system design. No changes to figures or text of the Draft EIR/EIS have been made in response to this comment.

4525-10445

The commenter notes concerns about ignition of vegetation in the Angeles National Forest (ANF) from buildings and equipment during construction and operation, as addressed in Impact S&S#16. The comment states that specific design elements to avoid and minimize impacts need to be included in the special use permit application process with the ANF. The comment notes that Impact S&S#17 is also relevant, especially to roads in the ANF, and Impact S&S#18 would apply to buildings and equipment in adit facilities.

Impact S&S#16 addresses temporary and permanent exposure to wildfire hazards. For that impact, fire risks would be minimized or avoided through the application of SS-IAMF#1 and SS-IAMF#2, which will require the development and incorporation of a fire and life safety program into the design and construction of the Palmdale to Burbank Project Section, including within the ANF. These plans will be developed in coordination with the U.S. Forest Service (USFS), to ensure compliance with Special Use Permit requirements issued by USFS for the project, including all ancillary project features such as adit facilities. Impact S&S#17 addresses post-wildfire flooding and landslide risks. HYD-IAMF#1, HYD-IAMF#2, GEO-IAMF#1, and GEO-IAMF#2 will also require that California HSR System design consider landslide and flood hazards, including post-wildfire conditions, which includes areas within the ANF. Impact S&S#18 addresses exposure of passengers to pollutant concentrations due to wildfire. The Build Alternatives could expose passengers to wildfire hazards. However, stationary project elements that support occupation, including the Burbank Airport Station, would not be located within areas that exhibit high wildfire danger, and HSR passengers would temporarily pass through FHSZs without occupying these areas.

Section 2.3.5, High-Speed Rail Ancillary Features, and Section 2.5.3, High-Speed Rail Build Alternatives –Detailed Description, in Chapter 2, Alternatives of the Draft EIR/EIS provide detailed descriptions and locations of project components including ancillary features and adit facilities in the ANF. This comment is acknowledged by the Authority; the Authority will work with the USFS and ANF to ensure the factors and design elements outlined in the comment will be considered when preparing the USFS Special Use Permit application. The USFS would make a determination of consistency with USFS laws, regulations, and policies before issuing the Special Use Authorization.

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4525-10446

The commenter requested that specifications for project ancillary facilities including those for adits, utility lines, roadway modifications, and spoils deposits at Vulcan Mine be considered in the U.S. Forest Service Special Use Permit application process. This comment is acknowledged by the Authority; the Authority will work with the USFS to ensure the specifications for the adit buildings, utility lines, roadway modifications, and Vulcan Mine spoils site will be evaluated and included as part of the USFS Special Use Permit application. Please refer to Section 2.3.5, High-Speed Rail Ancillary Features, and Section 2.5.3, High-Speed Rail Build Alternatives –Detailed Description, in Chapter 2, Alternatives of the Final EIR/EIS for detailed descriptions and locations of project components including ancillary features. Volume 3 of the Final EIR/EIS also includes detailed project plans, including these types of facilities, for the Palmdale to Burbank Project Section. Should the USFS Special Use Permit application process require a more advanced level of design than that available in the Final EIR/EIS, the Authority will work with the USFS to ensure those specifications will be included.

4525-10447

The commenter correctly notes that the USFS will consider the project's impacts on aesthetics and visual resources during its Special Uses Permit application process. The Draft EIR/EIS listed the Authority's need for this permit in Table 2-39 under "Potential Major Environmental Regulatory Review, Authorizations, Approvals, and Processes."

4525-10448

The commenter requests that regulations, including the Archaeological Resources Protection Act of 1979, the regulations for protection of historic properties (36 CFR Part 800), and the Native American Graves Protection and Repatriation Act of 1990, be added to the EIR/EIS. Please refer to Section 3.17.2.1 of the Draft EIR/EIS, which already includes these federal laws and regulations. The Implementing Regulations for Section 106 of the National Historic Preservation Act (36 C.F.R. Part 800) is presented on page 3.17-4 of the Draft EIR/EIS, and the Archaeological Resources Protection Act of 1979 (16 U.S.C. 470) and Native American Graves Protection and Repatriation Act of 1990 (25 U.S.C. 3001–3013) are presented on page 3.17-6 of the Draft EIR/EIS.

4525-10449

The commenter indicates that the USFS provided the Authority with a list of their Native American Tribes, groups, and individuals to consult. Please refer to Section 3.17.4.2 of the Draft EIR/EIS. As stated on page 3.17-19 of the Draft EIR/EIS, the USFS was consulted regarding tribal consultation and USFS provided their list of tribes, groups, and individuals. This occurred during consultation efforts conducted by the Authority. The Authority used the information from this list with the list of Native American tribes and representatives provided by the Native American Heritage Commission (NAHC) to determine the Native American tribes to consult with.

4525-10450

The commenter states that Table 3.17-3 within the Draft EIR/EIS should not be made public. Based on the comment, the Authority believes that the commenter is actually referring to Table 3.17-4: Tribal Contacts and Consultation. Information regarding Native American consultation is commonly provided in environmental documents. The information in Tables 3.17-3 and 3.17-4 alone is not sufficient to locate archaeological resources in question and does not present information on tribal concerns. No revisions have been made to the EIR/EIS.

4525-10451

The commenter noted a perceived inconsistency within the Draft EIR/EIS. Section 3.17.7.3, Overview of Effects of the No Project and Build Alternatives, states the following: "As described above, 65 previously recorded archaeological resources are mapped within the APE. Eight additional archaeological resources were identified in the APE as a result of field surveys conducted for this Draft EIR/EIS. Of the 73 known archaeological resources present within the APE, one site, the Prehistoric Vasquez Rocks Archaeological District, is listed on the NRHP." The Draft EIR/EIS correctly identifies that there were 65 previously recorded, but the 8 additional, newly discovered resources make 73 total, now-known archaeological resources present in the APE. No change has been made to the document in response to this comment.

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4525-10452

The commenter inquires if the Authority has the available funds to construct, maintain, operate, complete and remove and restore if the California HSR System fails. Additionally, the commenter inquires if there are insurance/unallocated contingencies for such costs and if there was a business plan developed.

The financial analysis of the California HSR System, described in the 2016 Business Plan (Authority 2016, pages 96 through 98) and the 2020 Business Plan (Authority 2020, page 143), shows that the projected ridership and revenues for the Phase 1 HSR system will be able to cover the costs of operating the system, meaning that no operational subsidy for Phase 1 would be required. Construction of the HSR System in the Central Valley between Madera and the Kern County line started in 2014 and is ongoing.

It is anticipated that construction of the HSR project will continue to be funded through a combination of federal, state, and private sources. To date, the Authority has secured funding through FRA's High-Speed Intercity Passenger Rail Program, California Proposition 1A's Safe, Reliable High-Speed Passenger Train Bond Act adopted by state voters in November 2008, and proceeds from California's Cap and Trade program. Through these funding sources, California has identified:

- \$9 billion to invest in the development of its HSR project through Proposition 1A,
- Approximately \$3.5 billion in federal grant funds obligated through Cooperative Agreements with FRA, and
- Between \$8.7 and \$11.4 billion in cap and trade funds (Authority 2020, page 2).

In 2014, the Legislature also established a continuous funding source for the HSR System from the state's Cap and Trade Program. In 2017, the Legislature extended the Cap and Trade Program through 2030. For further discussion on the operation and maintenance costs estimates include, see Section 6.3.3, Development of Operations and Maintenance Costs.

4525-10453

The commenter states that "TBM selection will need to be done after the alignment is selected and more investigation is done." The commenter is correct that the TBM selection will need to occur after the alignment is selected and more investigation is done. In a prior comment on the Administrative Draft EIR/IS, the commenter referred to HYD-IAMF#5 Tunnel Boring Machine Design and Features in Appendix 2-E Impact Avoidance and Minimization Features and provides information about Tunnel Boring Machine (TBM) selection. HYD-IAMF#5 expresses the Authority's commitment to employ types and specifications of TBMs to minimize seepage into tunnel cavities. The TBMs will be procured and built following tailored specifications according to encountered ground conditions, with the capability of working in both open and closed mode. As noted by the commenter the TBMs should incorporate probing and grouting features (horizontal and angled).

Response to Submission 4525 (Roman Luis Torres, United States Department of Agriculture - Angeles National Forest, November 30, 2022) - Continued

4525-10454

The commenter refers to HYD-IAMF#6: Tunnel Lining Systems in Appendix 2-E Impact Avoidance and Minimization Features, and summarizes the Authority's approach to addressing potential tunnel leakage during excavation and anticipated use of one-pass and two-pass lining systems. In coordination with USFS, geotechnical investigations were completed within the ANF, including the SGMNM, to obtain subsurface field data to help evaluate potential environmental impacts (i.e., groundwater, hydrogeology, and surface water resources), design constraints, and preliminary construction considerations for the tunnel portions of alignments. These investigations served as an initial assessment of potential issues such as location of separate aquifers, groundwater pressures and temperature profiles. They also served to initiate data collection at specific locations intended to continue over sufficient years to permit accurate pre-construction assessments. The currently available data is significant but location specific, and thus inappropriate to extrapolate conclusions to the whole tunnel alignment. The expected leakage and timeframes provided in HYD-IAMF#6 are, therefore, not intentionally vague as suggested by the commenter, but non-specific due to emerging data. Although more precise definition of the expected amount of leakage and timeframes is not possible based upon currently available data, groundwater monitoring is ongoing, which will provide necessary information upon which to base a design that sufficiently addresses leakage during tunnel excavation. HYD-IAMF#6 defines "no significant leakage" as an amount of water inflow rate that will generate a limited impact to the ground water resources, allowing the recovery of the aquifer levels in a short amount of time after the leakage has stopped. A more precise definition requires reliance on a hydrogeological model. The Authority will conduct an extensive ground investigation to support development of a calibrated hydrogeological model to define the magnitude of leakages that may occur if preventative or remedial actions are not taken. The model will inform the design to assign preventative or remedial actions in a more precise way. The Authority will continue to coordinate with the U.S. Forest Service (USFS) and will comply with its Special Use Authorization (SUA) requirements. Although the Final EIR/EIS is intended to include a sufficient level of analysis to support the issuance by the USFS of a SUA for construction and operation of the selected Preferred Alternative, the Authority will provide any additional information that may be required during the SUA application process.

4525-10455

Refer to Standard Response PB-Response-ALT-2: Unique Tunnel Elements – Windows, Adits, Tunnel Boring Machines, etc., PB-Response-HYD-2: Hydrogeologic Impacts in the Angeles National Forest/Tunneling Impacts in the Angeles National Forest, PB-Response-HYD-3: Impacts of Tunnels on Wells Outside the ANF.

The commenter refers to HYD-IAMF#7: Grouting, in Appendix 2-E Impact Avoidance and Minimization Features of the Draft EIR/EIS, and provides recommendations for grouting in areas of high water pressure and high flows referred to as backfill grouting. Specifically, the commenter recommends segment collars as additional features to the segmental lining to reduce flow around the annulus and facilitate annular grouting. HYD-IAMF#7 defines backfill grouting in terms of the more up-to-date technique, specifically the use of quick-setting bi-component grout, which provides resistance to water flow immediately upon hardening. The accelerated two-component grout is superior to conventional cement grouts because it provides a more reliable backfilling of the annular gap. Regarding the installation of piezometers suggested by the commenter, the Authority will evaluate during construction the usefulness of installing these devices to monitor water pressures.

Response to Submission 4525 (Roman Luis Torres, United States Department of Agriculture - Angeles National Forest, November 30, 2022) - Continued

4525-10456

The commenter refers to HYD-IAMF#7: Grouting in Appendix 2-E Impact Avoidance and Minimization Features of the Draft EIR/EIS and notes that more investigation and data is required to inform selection of grouting techniques and other pre-excavation ground technologies.

Although HYD-IAMF#7 discusses current state-of-the-art grouting systems, the selection of grouting, grout components, and other pre-excavation ground treatments will occur during subsequent design and project construction. Environmental requirements for applying and relying on grouts, particularly with reference to groundwater, will be taken into consideration in the selection of grouting materials. In coordination with the U.S. Forest Service, geotechnical investigations were completed within the Angeles National Forest, including the San Gabriel Mountains National Monument, to obtain subsurface field data to help evaluate potential environmental impacts (i.e., groundwater, hydrogeology, and surface water resources), design constraints, and preliminary construction considerations for the tunnel portions of alignments. These investigations served as an initial assessment of potential issues such as location of separate aquifers, groundwater pressures and temperature profiles. They also served to initiate data collection at specific locations intended to continue over sufficient years to permit accurate pre-construction assessments. The currently available data is significant but location specific, and thus inappropriate to extrapolate conclusions to the whole tunnel alignment. Therefore, the Authority expects to conduct an extensive ground investigation to support development of a calibrated hydrogeological model for a better understanding and assessment of the impact the tunnel may have on the environment and to define the magnitude of leakages that may occur if preventative or remedial actions are not taken. The model will inform the design to assign preventative or remedial actions in a more precise way. As discussed in HYD-IAMF#7, pre-excavation grouting will be implemented to reduce groundwater flow from the rock/soil mass prior to excavation, and to improve rock/soil conditions from tunneling.

Additional geotechnical investigations will be conducted during subsequent design stages. HYD-IAMF#7 of the Final EIR/EIS has been revised to denote the overall range of criteria for length and direction of drill holes, number of holes, grout composition and injection pressures will be determined based on a more extensive Geotechnical Baseline Report and the range of conditions anticipated from that report. The field

4525-10456

conditions will then be used to select the appropriate application of the pre-excavation grouting technology at each specific location. The intent of pre-excavation grouting is to create, to the extent practicable, a zone of treated rock/soil (or fault gouge) in front of the tunnel boring machine. This treatment helps to stabilize the section while mining through and potentially helps to reduce inflows. Please refer to Appendix 2-E, Impact Avoidance and Minimization Features, and Chapter 3.8, Hydrology and Water Resources, of the Final EIR/EIS for the revised HYD-IAMF#7.

4525-10457

The commenter requests that the Archeological Resources Protection Act of 1979 be added to Appendix 3.1-B USFS Policy Consistency Analysis of the Final EIR/EIS. The Archeological Resources Protection Act, which is described in Section 3.17, Cultural Resources of the Draft EIR/EIS is a "statute that was enacted to secure, for the present and future benefit of the American people, the protection of archaeological resources and sites that are on federally owned lands and Indian lands. It was also enacted to foster increased cooperation and exchange of information between governmental authorities, the professional archaeological community, and private individuals." This Act has been added to Appendix 3.1-B of the Final EIR/EIS.

Response to Submission 4525 (Roman Luis Torres, United States Department of Agriculture - Angeles National Forest, November 30, 2022) - Continued

4525-10458

The commentor clarifies that the USFS promulgated a revised Forest Planning Rule in 2012, but the 2005 ANF LMP follows the 1982 planning rule.

The Draft EIR/EIS in Appendix 3.1-B, USFS Policy Consistency Analysis, included an analysis of the proposed Build Alternatives with specific policies of applicable adopted plans, including the ANF Land Management Plan and the SGMNM Management Plan. Table 3.1-B-1 through Table 3.1-B-3 contains the consistency analysis. This analysis covers three areas.

First, the Angeles National Forest Management Plan - Part 2: Strategy, is one of the three-part forest plans for the Southern California National Forests (United States Forest Service 2005). Part 2 includes the specific policies and regulations pertaining to ANF and its management strategy of the ANF Land Management Plan.

Second, the Angeles National Forest Management Plan - Part 3: Design Criteria for the Southern California National Forests, is one of the three-part forest plan for the Southern California National Forests. Part 3 specifies the design criteria or "the rules" that the USFS utilizes to achieve the desired conditions identified in Part 1 of the ANF Land Management Plan.

Third, the San Gabriel Mountains National Monument, which in 2016, the US Forest Service proposed to amend the 2005 ANF Land Management Plan with a specific management plan to provide for the proper care and management of the objects protected by the proclamation establishing the SGMNM.

4525-10459

The commentor acknowledges the summary of the regulations establishing the USFS Special Use Authorization requirements in Draft EIR/EIS Appendix 3.1-B, USFS Policy Consistency Analysis. The commentor notes that focused analyses are required to meet these Special Use Authorization requirements, some of which have been included in other chapters of the Draft EIR/EIS, and that additional information will need to be provided in the SUA application process.

The Authority acknowledges this comment. While the Final EIR/EIS is intended to include a sufficient level of analysis to support the issuance by the USFS of a Special Use Authorization for construction and operation of the selected Preferred Alternative, the Authority will work with the USFS to provide any additional information that may be required during the SUA application process.

4525-10460

The commentor suggests that Section 3.2 in Appendix 3.1-B is not relevant. The Authority agrees with the commentor that the 2012 Forest Planning Rule is no longer relevant; the 2012 Forest Planning Rule was included for background purposes only. As the commentor notes, the 2012 Forest Planning Rule describes the process for developing a land management plan, and after that process is over the land management plan, through the National Forest Management Act, directs further decision-making on the National Forest. The special use permit the Authority seeks would have to comply with the provisions outlined in the land management plan.

Response to Submission 4525 (Roman Luis Torres, United States Department of Agriculture - Angeles National Forest, November 30, 2022) - Continued

4525-10461

The commenter requested that the project's monitoring efforts in the ANF be added to the discussion of the project's consistency with AM2, Forest wide inventory in Appendix 3.1-B, USFS Policy Consistency Analysis. The USFS' Forest Inventory and Analysis Program collects, analyzes, and reports information on the status and trends of America's forests: how much forest exists, where it exists, who owns it, and how it is changing, as well as how the trees and other forest vegetation are growing and how much has died or has been removed in recent years. This information can be used in many ways, such as in evaluating wildlife habitat conditions, assessing the sustainability of ecosystem management practices, and supporting planning and decision-making activities undertaken by public and private enterprises. The data that will be collected within the ANF as part of implementing various mitigation requirements (protocol surveys, pre-construction surveys, data collection, etc) as well as data collected through the Adaptive Management and Monitoring Plan (AMMP) (see HWR-MM#4) will be provided to the USFS. For example, the data collected as part of the AMMP will include monitoring data to establish baseline conditions of surface water resources and to detect changes in groundwater conditions related to tunnel construction to ensure timely implementation of remedial measures, as well as monitoring of groundwater-dependent surface water resources and associated habitat within the tunnel construction RSA. Appendix 3.1-B of the Final EIR/EIS is revised to clarify that this monitoring data will be provided to the USFS to supplement other data collected as part of the Forest Inventory and Analysis Program, and that this would support USFS' abilities to maintain the capacity to analyze scientific and technical information within the ANF. Additionally, Section 3.7, Biological and Aquatic Resources, includes IAMFs and Mitigation Measures that require surveys and monitoring within the ANF both prior to and during construction (i.e. BIO-IAMF#1, BIO-MM#34: Monitor Construction Activities within Jurisdictional Waters, BIO-MM#56: Conduct Monitoring of Construction Activities, BIO-MM#65: Conduct Pre-construction Surveys and Monitoring for Bald and Golden Eagles, BIO-MM#15: Conduct Pre-construction Surveys and Monitoring for Non-Special Status Raptors, etc.). BIO-MM#61: Establish and Implement a Compliance Reporting Program, requires that monthly and annual reports documenting compliance with all IAMFs, mitigation measures, and requirements set forth in regulatory agency authorizations be prepared which can be shared with the USFS. These reports will include pre-activity survey reports, daily compliance reports, and updated GIS data and would contribute to maintaining capacity/process and systems of the ANF as described

4525-10462

The commenter states that none of the project alignments intersect the Pacific Crest Scenic Trail, but that the effects of the project on the trail still need to be assessed. Project effects on the Pacific Crest Trail (PCT) are fully analyzed in Chapter 4, Draft Section 4(f), and Section 6(f) Evaluations, of the Draft EIR/EIS (see Sections 4.5.1, 4.5.1.1, 4.6.1.1, and 4.11.2.1). The Refined SR14 Build Alternative does not intersect the PCT within the ANF. The SR14A, E1, E1A, E2, and E2A Build Alternative alignments would be located beneath the PCT in a tunnel several hundred feet below ground, thereby avoiding impacts to the trail. For more information on the PCT, please refer to Sections 4.5.1 and 4.6.1 in Chapter 4 of the Draft EIR/EIS.

4525-10463

The commenter states that references to the Land Management Plan should be made using the term Land Management Plan and not Forest Management Plan in Appendix 3.1-B. The comment is acknowledged; however, the consistency statements refer to LMP not FMP.

4525-10464

The commenter states that several of the consistency statements made in Appendix 3.1-B, USFS Policy Consistency Analysis, make assertions that are not supported by sufficient evidence or analysis. The consistency assessment contained in Appendix 3.1-B is based on the information and analysis presented in the EIR/EIS and conclusions regarding consistency are based on the current level of project design. As noted throughout the analysis and by the commenter, the assessment of consistency also takes into consideration IAMFs and Mitigation Measures cited in the EIR/EIS when making these determinations. Some of these mitigation measures do require additional data collection and analysis such as BIO-MM#93 and HYD-MM#4 which require an Adaptive Management and Monitoring Plan (AMMP), which includes extensive pre-construction monitoring and data collection. With all of this data it has gathered and with all of these measures and analyses, the Authority has concluded that it has sufficient information to reach this conclusion.

Response to Submission 4525 (Roman Luis Torres, United States Department of Agriculture - Angeles National Forest, November 30, 2022) - Continued

4525-10465

The commenter noted that since the Project could result in direct and permanent impacts from groundwater depletion, the analysis in the Final EIR/EIS should include discussion of permanent and direct effects from groundwater depletion, in addition to discussion of temporary and indirect effects. The commenter suggested if the impacts were permanent and direct, the project would not be consistent with the standard of no adverse effect necessitating an LMP Amendment in addition to AMMs, design features, and mitigation measures. Without the incorporation of mitigation measures, only groundwater depletion within the ANF and the adverse impacts associated with untreated groundwater depletion have the potential to result in direct and permanent impacts. Based on the analysis contained in Section 3.8, Hydrology and Water Resources, of the Draft EIR/EIS, impacts from tunneling on hydrogeology would be temporary or indirect and would be reduced to less than significant with implementation of the specified mitigation measures and impact avoidance and minimization features. As such, it is not anticipated that the project would result in any direct or permanent impacts from groundwater depletion. Refer to Section 3.8 for more information pertaining to water resources impacts. The comment did not result in any revisions to the Draft EIR/EIS.

4525-10466

The commenter indicates that several of the IAMFs regarding tunnel lining and inflows cited are general in nature and that the effectiveness of these IAMFs will be further evaluated in the groundwater model and through additional field study as part of the SUP application process. Construction methods such as grouting and tunnel-lining are standard tunnel construction practices because they have been proven effective at controlling water seepage. Draft EIR/EIS Section 3.8, Hydrology and Water Resources, acknowledges that the Authority's commitments to the use of specific tunnel boring machines, specific types of tunnel lining, and grouting to reduce or prevent inflows and control water seepage will be guided by detailed site-specific geotechnical and hydrogeological characterizations that would be conducted during the final design of the Selected Alternative. Further, the analysis discloses that even with the implementation of these measures, groundwater inflow would be likely during tunnel construction in High Risk Areas. For this reason, the Authority has proposed mitigation measure HWR-MM#4, which consists of an adaptive management and monitoring plan. Monitoring protocols would be conducted to establish baseline conditions of surface water resources and to detect changes in groundwater conditions related to tunnel construction to ensure timely implementation of remedial measures. The AMMP also includes actions to restore affected resources and, if necessary, to provide compensatory mitigation for affected water resources if effects cannot be arrested or substantially reduced through other response actions. Accordingly, it is the commitment to implementation of HWR-MM#4 (rather than the specific construction project features) that will ensure the mitigation or compensation for impacts to water resources.

Response to Submission 4525 (Roman Luis Torres, United States Department of Agriculture - Angeles National Forest, November 30, 2022) - Continued

4525-10467

The commenter stated that further understanding of the hydrology of the ANF as well as additional quantitative and qualitative impacts to the ANF during and after construction of tunneling activities are required. As evaluated in Section 3.8, Hydrology and Water Resources, of the Draft EIR/EIS, Impact HWR#5 evaluates changes in hydrogeologic conditions associated with tunnel construction beneath the ANF. The E2 and E2A Build Alternatives would have the highest risk and highest potential impacts on hydrologic resources when compared to the other Build Alternatives because of the comparatively higher groundwater pressures and greater prevalence of springs and streams within the identified Risk Areas, while the Refined SR14 and SR14A Build Alternatives would have the lowest risk and potential impacts. The evaluation of hydrologic conditions in the ANF are based on two technical reports prepared for the Palmdale to Burbank Project Section, the Preliminary Geotechnical Data Report for Tunnel Feasibility, Angeles National Forest and the Geotechnical Tunnel Feasibility Evaluation for High-Speed Rail Tunnels Beneath the Angeles National Forest. The investigations in these reports yielded information concerning environmental impacts expected to be encountered in building the proposed tunnel. The investigations, however, were not focused on a specific Build Alternative. If the Authority approved the Preferred Alternative, further geotechnical investigations would be conducted, and additional information developed to support design and construction. The information garnered from these additional evaluations would help guide tunnel design and construction methods to further avoid and reduce impacts on hydrological resources.

The commenter references more detailed comments that they provided on Draft EIR/EIS Section 3.8. For responses to each of these comments, please refer to the responses to comments 4525-10401 through 4525-10438.

4525-10468

The commenter expresses concerns about the Appendix 3.1-B policy consistency analysis reference to the supplemental water analysis in Appendix 3.8-D of the Draft EIR/EIS, particularly related to watersheds along the E1 alignment alternative. The effectiveness of augmenting water supplies would be monitored, and if not effective, the AMMP includes further measures to reduce and offset impacts as discussed below. The commenter is also correct that water chemistry will be an important component associated with the success of supplemental water in restoring and maintaining any effects to surface habitat. Water chemistry would be tested before any supplemental water is applied to a surface habitat for restoration. The commenter is also correct that during periods of sustained drought, obtaining water for restoration and maintenance of habitat with the correct water chemistry may be challenging. As discussed in Section 3.8, Hydrology and Water Resources, to address impacts to surface water resources and wells, the Authority will implement an AMMP, described in Appendix 3.8-C. As described in Section 3.8.7, Mitigation Measures, the AMMP includes monitoring protocols to establish baseline conditions for surface water resources and to allow for the detection of changes in groundwater conditions related to tunnel construction to ensure timely implementation of remedial measures. The monitoring program would continue for up to 10 years after the completion of construction. The AMMP also establishes performance standards that the remedial actions must achieve to approximately match baseline conditions. In addition to the monitoring program and the establishment of performance standards, the AMMP also includes actions to restore affected resources and, if necessary, to provide compensatory mitigation for affected water resources if effects cannot be arrested or substantially reduced through other response actions. Because of the above reason, the EIR/EIS concluded that HWR-MM#4 would effectively mitigate or offset impacts to affected water resources. Finally, the commenter expresses concerns about the watershed along the E-1 alignment alternative which is not the Authority's preferred route. The Authority's preferred route, SR14A, is located in an area with fewer risk factors and risk areas for hydrogeologic effects than the E1 alignment cited by the commenter.

Response to Submission 4525 (Roman Luis Torres, United States Department of Agriculture - Angeles National Forest, November 30, 2022) - Continued

4525-10469

The commenter expressed concerns over the sufficiency of the methodology used to evaluate hydrogeologic impacts described in Section 3.8.4.5, as it relates to the Appendix 3.1-B Policy Consistency Analysis. The commenter requested targeted data collection and notes that a functioning groundwater model will be required to identify and quantify groundwater impacts and determine consistency with the LMP. The commenter also notes that monitoring protocols will need to be specified as part of the USFS Special Use Permit application. As discussed in Section 3.8, Hydrology and Water Resources of the Draft EIR/EIS, the general approach to evaluating impacts on subsurface and surface water resources in the San Gabriel Mountains due to tunneling is based on an assessment of known hydrogeologic and hydrologic conditions of the western San Gabriel Mountains; the professional judgment of experts in the field of hydrogeology, hydrology, and tunnel construction; as well as case studies of similar types of tunnel construction projects. Please refer to Geotechnical Tunnel Feasibility Evaluation for High-Speed Rail Tunnels Beneath the Angeles National Forest included as Appendix A.9 in the Preliminary Geotechnical Data Report for these case studies. The information and data are derived in part from preliminary geotechnical investigations conducted by the Authority, and case studies of tunnel construction occurring under similar types of conditions. The Authority will conduct additional geotechnical investigations and hydrogeological characterizations, after project approvals, to inform the final design of the Selected Alternative.

4525-10470

The commenter requested that Appendix 3.1-B include hazardous materials-related preconstruction activities that will be performed to inform design documents for the future USFS Special Use Permit application for the project. The Final EIR/EIS, Appendix 3.1-B, has been revised to include discussion of preconstruction activities for hazardous materials.

4525-10471

Refer to Standard Response PB-Response-PUE-3: Water Demand and Usage.

The commenter states that the effectiveness of augmenting water supplies for reducing or offsetting impacts has not yet been determined for the project. The second comment made by the commenter is an incomplete sentence but appears to state that the scenario presented in Appendix 3.8-D of the Draft EIR/EIS does not necessarily meet project water demand. Please refer to Standard Response PB-Response-PUE-3: Water Demand and Usage under the heading of "Supplemental Water," which addresses concerns related to water supply for the project, including supplemental water discussed in Appendix 3.8-D.

4525-10472

The commenter requested that survey and posting of NFS/non-NFS land boundaries in the project area be added to Appendix 3.1-B, USFS Policy Consistency Analysis. Appendix 3.1-B of the Final EIR/EIS has been revised to include the survey and posting of Forest Service and non-Forest Service lands in the project area.

4525-10473

The commenter notes that Mitigation Measure GEO-MM#3 cannot be located in the Draft EIR/EIS. Mitigation Measure GEO-MM#3 was not included in the EIR/EIS and as such Appendix 3.1-B has been revised to remove reference to this mitigation measure. SOCIO-IAMF#2: Compliance with Uniform Relocation Assistance and Real Property Acquisition Policies Act analyzes compensation for damage to property owners' property.

Response to Submission 4525 (Roman Luis Torres, United States Department of Agriculture - Angeles National Forest, November 30, 2022) - Continued

4525-10474

The commenter requests that Appendix 3.1-B in the Draft EIR/EIS add discussion of how the Authority expects to maintain the character and preserve the intact nature and valued attributes of the three locations (Soledad Front Country, Angeles Uplands West, and The Front Country Places) mentioned by the commenter. In response to this comment, an analysis of the project features and impacts at these three locations has been added to Appendix 3.1-B of the Final EIR/EIS. Because the majority of the Build Alternatives alignment would occur underground within the ANF and surface impacts within the ANF would occur on inholdings and along existing roadways and utility corridors, the project would be consistent with the program emphasis.

4525-10475

The commenter expresses that Appendix 3.1-B should be revised to identify the project's effect on commodity and commercial uses in the ANF. The tunnels below the surface would not encumber or limit uses at the surface and therefore would not impact commodity and commercial uses within the forest.

4525-10476

The commenter notes that Standards S7 and S8 in the Angeles National Forest Land Management Plan would not be applicable for the HSR Palmdale to Burbank Project Section. Standards S7 and S8 pertain to the Wildland/Urban Interface (WUI). The Authority agrees that these policies would not apply to the HSR Palmdale to Burbank Project Section and did not include them in the Authority's analysis in Appendix 3.1-B, Table 3.1-B-2.

4525-10477

The commenter expresses that Standard S9 in the Angeles National Forest Land Management Plan applies only within the ANF and states that the construction activities and maintenance facilities associated with the HSR Palmdale to Burbank Project Section would not be visible from the Pacific Crest Trail. The Authority agrees with the comment that facilities would not be visible from portions of the PCT within the ANF. Appendix 3.1-B of the Final EIR/EIS has been revised to remove discussion of areas seen from Forest Service land under Standard S9.

4525-10478

Refer to Standard Response PB-Response-HYD-2: Hydrogeologic Impacts in the Angeles National Forest/Tunneling Impacts in the Angeles National Forest, PB-Response-HYD-3: Impacts of Tunnels on Wells Outside the ANF.

The comment requests additional information on groundwater conditions to support the claim that, after completion of tunnel construction, these conditions would return to normal over time. Please refer to Standard Responses PB-Response-HYD-2: Hydrogeologic Impacts in the Angeles National Forest/Tunneling Impacts in the Angeles National Forest, and PB-Response-HYD-3: Impacts of Tunnels on Wells Outside the ANF, which discuss this topic and the extensive evaluation that has been conducted. As discussed in Section 3.8.7, Mitigation Measures, the Authority has proposed a water resources adaptive management monitoring plan, as part of HWR-MM#4, that includes monitoring for 10 years after completion project construction to detect adverse changes in surface or subsurface condition and implementation of compensatory mitigation as necessary. With the data gathered and the mitigation measures proposed, the Authority has concluded that it has sufficient information to reach this conclusion.

4525-10479

The commenter notes the value of scenic resources and confirms what is stated in Appendix 3.1-B, USFS Policy Consistency Analysis, which is that the E1, E1A, E2, and E2A Build Alternatives would be inconsistent with the S9 standard. As the commenter also noted, S9 does not apply to areas outside the ANF. The Authority has updated the Policy S9 in Table 3.1-B-2: Angeles National Forest Land Management Plan - Part 3 Policy Consistency Analysis of the Final EIR/EIS.

Response to Submission 4525 (Roman Luis Torres, United States Department of Agriculture - Angeles National Forest, November 30, 2022) - Continued

4525-10480

Refer to Standard Response PB-Response-HYD-2: Hydrogeologic Impacts in the Angeles National Forest/Tunneling Impacts in the Angeles National Forest.

The commenter indicates that further work on understanding the hydrogeology of the ANF and associated qualitative and quantitative impacts from tunnel construction is required to understand the effects on biological and vegetation resources. Section 3.8, Hydrology and Water Resources, Section 3.7, Biological and Aquatic Resources, and supporting appendices include a robust analysis of the hydrogeologic impacts in the ANF that have the potential to alter hydrogeological conditions, resulting in inflows of groundwater into the tunnel and the subsequent change in groundwater levels. As described in Standard Response PB-Response-HYD-2: Hydrogeologic Impacts in the Angeles National Forest/Tunneling Impacts in the Angeles National Forest, to further ensure no significant effect would occur, the Authority will implement an Adaptive Management and Monitoring Plan (AMMP) (See HWR-MM#4). The AMMP would be implemented throughout the tunnel construction RSA. HWR-MM#4 requires that the AMMP include monitoring protocols to establish baseline conditions of surface water resources and to detect changes in groundwater conditions related to tunnel construction to ensure the timely implementation of remedial measures. The purpose of the AMMP is to ensure that adverse effects on subsurface and surface water resources and associated habitats within the ANF caused by tunnel construction activities are identified and that appropriate responses to address those effects are expeditiously implemented. This AMMP involves a multi-step iterative process to comply with U.S. Forest Service (USFS) standards, which includes remedial measures. The remedial measures include actions such as establishing adaptive management triggers for each water resource being monitored, implementation of compensatory mitigation for each affected water resource, and the minimization of effects on water resources-associated species as a result of tunnel construction. For a full list of USFS standards for remedial measures, see Appendix 3.8-C, Adaptive Management and Monitoring Plan for Potential Hydrologic Effects within the Angeles National Forest. Additional and extensive geotechnical investigations and explorations are to be performed during the design phase of the project and prior to the start of any construction. Several hundred borings, CPTs, fault trenches, and geophysical surveys are planned for the Preferred Alternative. With all of this data it has gathered and with all of these measures and analyses, the Authority has concluded that it has sufficient information to reach its

4525-10481

Refer to Standard Response PB-Response-HYD-2: Hydrogeologic Impacts in the Angeles National Forest/Tunneling Impacts in the Angeles National Forest.

The commenter references Standard S46 and requests that it be added to the consistency analysis in Appendix 3.1-B. Standard S46 states the following "S46: Surface water diversions and groundwater extractions, including wells and spring developments will only be authorized when it is demonstrated by the user, and/or agreed to by the Forest Service, that the water extracted is excess to the current and reasonably foreseeable future needs of forest resources." The Palmdale to Burbank Project Section is not being proposed with the intent to divert or extract water from the Forest; however, the potential for changes in groundwater levels due to tunneling were analyzed in Section 3.8.6 of the Draft EIR/EIS. Appendix 3.1-B of the Final EIR/EIS has been updated to discuss consistency with Standard S46.

Response to Submission 4525 (Roman Luis Torres, United States Department of Agriculture - Angeles National Forest, November 30, 2022) - Continued

4525-10482

The comment indicates that San Gabriel Mountains National Monument Management Plan applies to the project and that the EIR/EIS needs to address consistency in Appendix 3.1-B, Table 3.1-B-3 under "Biological Resources."

The commenter is correct that the SGMNM Management Plan applies to the Project. The Authority has updated Appendix 3.1-B, Table 3.1-B-3 in the Final EIR/EIS to replace the words "Not Applicable" with "Consistent." As the text explains, the "Build Alternatives would not impede the USFS's ability to monitor and respond to changes in habitat conditions," and the analysis goes on to discuss the potential effects of tunnel construction on groundwater resources. The intent of the HSR project design in this area is to avoid disrupting or degrading the SGMNM biological resources and that is why the project is proposed to be in a tunnel below the surface, which avoids any direct surface disturbance. The Authority did assess the goal related to biological resources and found, based on the nature of the HSR Palmdale to Burbank Project Section, that the project would be consistent with the Biological Resources goals.

4525-10483

The commenter identifies that the ANF LMP prohibits development in Critical Biological Land Use Zones, and that it could not approve a special use permit without amending the ANF LMP. Draft EIR/EIS Appendix 3.1-B, Table 3.1-B-3, includes a consistency assessment for all the Build Alternatives considered in the EIR/EIS. If the Authority adopts the E1, E1A, E2, or E2A Build Alternatives, and cannot identify any mechanism for avoiding a Critical Biological Land Use Zone, the National Forest Management Act would prohibit the Forest Service from approving the special use permit without amending the LMP. The Refined SR14 and SR14A Build Alternatives, however, would not affect areas designated as a Critical Biological Land Use Zone, so if the Authority chooses one of those alternatives, the Forest Service could approve the special use permit without amending the ANF LMP.

4525-10484

Refer to Standard Response PB-Response-HYD-2: Hydrogeologic Impacts in the Angeles National Forest/Tunneling Impacts in the Angeles National Forest.

The commenter states that indirect effects on the wilderness conditions in the Magic Mountain Wilderness Area needs to be assessed in the EIR/EIS. The comment is correct that the Build Alternatives do not cross under the Magic Mountain Wilderness Area. The Magic Mountain Wilderness occurs within the San Gabriel Mountains National Monument (SGMNM) and is located within the 1-mile buffer for the tunnel construction RSA, which was analyzed for potential changes to groundwater conditions. As discussed in Section 3.8, Hydrology and Water Resources of the Draft EIR/EIS, potential risk areas were identified and mapped in the tunnel construction RSA in the ANF, with relative rankings of High Risk, Moderate Risk, and Low/No Risk of impacts to subsurface, surface, and other water resources (Table 3.8-2). These risk rankings are generally based on occurrences where tunnel alignments intersect with faults, the expected groundwater pressures at the tunnel depth at those points of intersection, and the proximity of subsurface and surface water resources to these intersections. While the inflow of groundwater into tunnels beneath the ANF is not considered a significant impact under CEQA in and of itself, this inflow could result in lower groundwater pressures, which could potentially impact surface water features (e.g., seeps, springs, intermittent and perennial streams) and water levels in wells that are connected to groundwater resources. Impacts to these surface features (including wells) could be significant and could occur with any of the six Build Alternatives. However, the level of risk and impact potential varies. To address impacts to surface water resources and wells, the Authority will implement an AMMP, described in Appendix 3.8-C of the Draft EIR/EIS. As described in Section 3.8.7, Mitigation Measures, HWR-MM#4, the AMMP includes monitoring protocols to establish baseline conditions for surface water resources and to allow for the detection of changes in groundwater conditions related to tunnel construction to ensure timely implementation of remedial measures. The monitoring program would continue for up to 10 years after the completion of construction. For further information about potential hydrogeologic impacts, please refer to Standard Response PB-Response-HYD-2: Hydrogeologic Impacts in the Angeles National Forest/Tunneling Impacts in the Angeles National Forest. The Authority identified no other indirect effects on the Magic Mountain Wilderness Area.

Response to Submission 4525 (Roman Luis Torres, United States Department of Agriculture - Angeles National Forest, November 30, 2022) - Continued

4525-10485

The commenter states that during a phone conference on November 18, 2021, the ANF and the Authority agreed to revise Table B-1 in Appendix B of the Biological Evaluation (BE) to include six groundwater dependent plant communities. The commenter is concerned that the two shrub-dominant communities (Desert Wash and Coastal Scrub) were discounted as groundwater dependent, which could make a significant difference and result in underestimation of impacts to groundwater dependent plant communities. The Authority has performed a careful comparison between the BE and Draft EIR/EIS. The same species are classified as being groundwater dependent between both documents. The Authority has not included the Desert Wash community in the BE as this vegetation community occurs in Soledad Canyon to the northwest of the main tunnel portion of Vulcan Mine site and is therefore located outside of the boundary of the Angeles National Forest in the 1,000-foot Wildlife RSA. Coastal scrub is widespread in the Action Area surrounding the Vulcan Mine and also occurs outside the Action Area in three of the four Risk Areas. However, the Authority did not classify the Coastal Scrub within the Action Area as groundwater dependent because the dominant and codominant species of this community are not identified as phreatophytes (Groundwater Resource Hub database). The Authority appreciates the comment and is committed to continued consultation with the Forest Service with regards to groundwater dependent vegetation communities. The Authority will submit the Biological Evaluation to the USFS after ROD and prior to project construction.

With respect to No/Low Risk Areas, No/Low Risk Areas cover all areas within 1 mile of each side of the tunnel alignments where primary factors used to designate Moderate and High Risk Areas are not present. In the absence of faults and high groundwater pressure, the risk for changes in groundwater levels is low to none. Implementation of HYD-IAMF#5, HYD-IAMF#6, and HYD-IAMF#7 would further ensure that impacts would be avoided.

4525-10486

The commenter requests the text of Appendix 3.7-C be modified to clarify that none of the species themselves are known to be phreatophytes since they are not included in the Groundwater Resource Hub. The commenter also suggests that it be made clear that some plants are considered to be groundwater dependent (GWD) because their suitable habitat includes GWD plant communities. The approach taken from Section 2.3.2 in Appendix 3.7-C includes that the primary source of information used to assess whether a particular plant was groundwater dependent was the California Native Plant Society's Inventory of Rare Plants (CNPS 2021), unless otherwise noted in Table B-2. Any species identified in the inventory as occurring in wetland, aquatic, or riparian habitat was assumed to be groundwater dependent. Any communities not included in that list were not evaluated as groundwater dependent communities. No change has been made to the document in response to this comment. The Authority will coordinate with the USFS during the preparation of the BE after the Authority's ROD is issued.

Response to Submission 4525 (Roman Luis Torres, United States Department of Agriculture - Angeles National Forest, November 30, 2022) - Continued

4525-10487

The commenter appears to state that because bigcone Douglas fir (as a species) is dominant in Montane Hardwood Conifer (MHC, a GWD community), and/or co-dominated by *Q. agrifolia* and *Q. chrysolepis* (both phreatophytes), that bigcone Douglas fir forest (as a community) should be considered GWD. The Authority does not believe the comment warrants a revision to the Draft EIR/EIS. Bigcone Douglas fir forest is associated with the CWHR Vegetation Community Montane Hardwood Conifer (MHC). Table B-1 states that MHC is groundwater dependent because although bigcone Douglas fir is not a phreatophyte, several of the codominant trees and associated shrub species are listed as phreatophytes. Table B-3 states that bigcone Douglas fir forest is not groundwater dependent because its dominant species is bigcone Douglas fir, which is not a phreatophyte, therefore, not a groundwater dependent community. The approach taken from Section 2.3.3 in Appendix 3.7-C is that special-status plant communities were considered to be groundwater dependent if the dominant species are known to occur in wetlands and/or they are known to be phreatophytes. The primary source of information used to assess whether a particular dominant species was a phreatophyte was the plant rooting depth database (Groundwater ResourceHub 2021). Any species identified in the database as a documented phreatophyte was assumed to be groundwater dependent. The footnote from Table B-3 in Appendix 3.7-C states: A “groundwater dependent community” is defined as a community requiring the surface expression of groundwater (e.g., springs, wetlands) or a community dependent upon sub-surface availability of groundwater within the rooting depth of vegetation (e.g., woodlands, riparian habitats) (Eamus et. al. 2016). For plant communities, any community identified as occurring in mesic, wetland, riparian, or similar conditions, known to have deep roots which can intercept groundwater (i.e., oaks) and/or listed as a California phreatophyte (Groundwater Resource Hub 2021) was assumed to be groundwater dependent.

4525-10488

The commenter requests clarification on the methods used to classify groundwater dependent (GWD) species and communities. The commenter requests the FSS status to be double-checked because the table in the BE differs. The commenter requests clarity on the determination of plants not classified as GWD occurring in vegetation communities that are GWD. Plant species were considered to be groundwater dependent if they require aquatic or riparian conditions to exist and complete a significant part or portion of their life cycle. Vegetation communities were considered to be groundwater dependent if the dominant or codominant species of the community require aquatic or riparian conditions to exist and complete a significant part or portion of their life cycle. This information was primarily sourced from the California Native Plant Society’s Inventory of Rare Plants (CNPS 2021). Both GWD and non-GWD species of plants can occur in GWD vegetation communities. For example, bigcone Douglas fir is not GWD but is found in the montane hardwood-conifer vegetation community, which is a GWD vegetation community. The respective tables in the Draft EIR/EIS and Biological Evaluation (BE) present slightly different information in that the BE is specific to the portion of the SR14A Preferred Alternative occurring within the ANF, while the Draft EIR/EIS considers all six Build Alternatives across the entirety of the alignments from Palmdale to Burbank. Table 3.7-5 in the Final EIR/EIS has been updated to include the FSS designation for the following species:

Club-haired mariposa lily
Parry’s spineflower
Mesa horkelia
California satintail
Fragrant pitcher sage
Robbins’ nemacladus

Response to Submission 4525 (Roman Luis Torres, United States Department of Agriculture - Angeles National Forest, November 30, 2022) - Continued

4525-10489

The commenter asks why the impact analysis in Appendix C of the Draft EIR/EIS is only for Angeles National Forest lands. The commenter also requests that additional references to Figures and text be added to illustrate and describe the Risk Areas.

As described in Section 3.7, Biological and Aquatic Resources, tunnel construction in the ANF presents conditions such as high mountains, faulting, hard rock formations and potentially high-water pressures. These conditions are substantially different than those that would be encountered in areas outside the ANF, which are primarily characterized by alluvial soils and low groundwater pressures. Tunnel construction under the ANF has the potential to alter hydrogeological conditions, resulting in inflows of groundwater into the tunnel and the subsequent change in groundwater levels. Changes in groundwater levels for aquifers could affect the hydrology of groundwater-dependent ecosystems, resulting in effects on species. For these reasons, the risk/impact analysis in Section 3.7 was largely focused on the ANF, where the potential for effects was determined that to be higher and the biological and aquatic resources more prevalent. However, Impact HWR#4 in Section 3.8, Hydrology and Water Resources, analyzes the hydrogeological changes from tunneling that may cause groundwater depletion in areas outside the ANF.

Graphics depicting risk areas are addressed in Section 3.7 and Appendix C of the Final EIR/EIS. Please refer to the Final EIR/EIS Section 3.7, Figures 37 through 46 for illustrations of the Moderate and High Risk Areas.

4525-10490

The commenter suggests that Tables B and C be reorganized to be more similar (parallel). The B and C tables present different information and are not meant to be compared side-by-side to each other. The B tables present all of the species or communities within the Tunnel Construction RSA and provides a determination if those species or communities are groundwater dependent (GWD). The C tables only present acreages of potential impacts on suitable habitat for the species or communities determined to be GWD within the identified Risk Areas. The C tables correspond to Figures 1 through 6 shown in Appendix A of Appendix 3.7-C and were separated by taxa groups to enhance readability. No change has been made to the document in response to this comment.

4525-10491

The commenter suggests Tables C-1 and C-3 be combined or modified to match Table 3.7-6 and the title of Table C-2 be modified for clarity. The Authority agrees that Tables C-1 and C-3 are very similar in content and has therefore been combined. Table C-1 will be replaced by Table C-3 and the title of the new Table C-1 will be "Potential Impacts on Vegetation Communities and Special-Status Plant Communities from Groundwater Depletion" and the left column will be titled "CWHR Vegetation Types (Special-Status Plant Community)." Table C-4 will now be Table C-3, Table C-5 will now be Table C-4, etc. The Authority believes the current title of Table C-2 is adequate because the table presents the acres of habitat for special-status plants that would be potentially affected by groundwater depletion. No change has been made to the document in response to this portion of this comment.

Response to Submission 4525 (Roman Luis Torres, United States Department of Agriculture - Angeles National Forest, November 30, 2022) - Continued

4525-10492

The commenter requests the reasoning why Montane Riparian (MRI), which supports two special-status plant communities, was not discussed previously in the Draft EIR/EIS. Montane Riparian includes Fremont Cottonwood Forest and California Sycamore Woodland. MRI is included in Appendix 3.7-C because it occurs within the Tunnel Construction RSA (1 mile buffer from Build Alternatives) and does not occur within the Core Habitat RSA (1,000-foot buffer from Build Alternatives). MRI is a California Wildlife Habitat Relationships vegetation community that was utilized in the habitat suitability modeling for each special-status species. Section 3.7.6.3 Tunnel Construction Impacts on Special-Status Plant Communities and Table 3.7-12 go into further detail about how MRI habitats are not expected to have groundwater impacts from tunnel construction.

4525-10493

The commenter expresses that monitoring should apply to both Moderate and High Risk Areas. Please refer to page 3.8-68 of the Draft EIR/EIS, which clarifies that monitoring would occur in Moderate Risk Areas. For context, the text from the Draft EIR/EIS, which is from Mitigation Measure HWR-MM#4 is provided here verbatim: "The monitoring plan would include a schedule for monitoring activities that reflects periods when effects are most likely to occur at specific locations (e.g., when tunneling is nearing Moderate and High Risk Areas)." The Authority will also conduct extensive surveys, data-gathering, and monitoring to supplement existing hydrologic and hydrogeologic information within the tunnel construction RSA for the approved project, as well as implementation of a comprehensive monitoring program to establish baseline conditions for surface water resources. This will allow a thorough identification of wells, seeps and springs within the Tunnel RSA including in areas currently noted as low risk.

4525-10494

The commenter expresses that a different metric should be used in Table 1 of the AMMP for water levels in spring, seeps, wells, and in-channel flow streams. These include using a dataset of at least 5 years and different depth levels for measured pressure. As noted in the AMMP (Appendix 3.8-C), ongoing water resources monitoring activities will be expanded beyond the existing quarterly monitoring program after the approval by the Authority of a Preferred Alternative. These supplemental monitoring activities will be necessary to establish baseline conditions within the RSA and particularly in Medium and High-Risk areas identified within the RSA, with seasonal changes to aquatic resources documented at each monitoring site prior to construction. The documentation of baseline conditions for each monitoring site will provide the basis for determinations of changes to aquatic resource conditions that may occur during the construction phase of the project. The Authority expects this monitoring to be conducted for multiple years (possibly five or even more years) during the detailed design phase in advance of construction beginning. The Authority will work with USFS to develop a comprehensive monitoring program as part of the Special Use Authorization process.

4525-10495

The commenter's guidance is appreciated. The Authority will continue to confer with the USFS during the detail design phase and as part of the Special Use Authorization process to develop appropriate analysis tools and establish numeric triggers, such as groundwater flow rate into the tunnel and groundwater levels, which would indicate that certain adaptive management measures are required to avoid or reduce impacts on groundwater and surface water resources during construction.

Response to Submission 4525 (Roman Luis Torres, United States Department of Agriculture - Angeles National Forest, November 30, 2022) - Continued

4525-10496

The commenter expressed concern that the data source used to identify springs is inadequate. As explained in Section 3.8.4.5 of the Draft EIR/EIS, in its discussion of hydrology and water resources methodology, the spring/seeps chosen for monitoring are those that are denoted (labeled) on the U.S. Geological Survey (USGS) topographic maps of the area and the maps generated from the USGS National Hydrography Dataset within one mile of each alignment. Access to 7 of the original 20 springs was denied due to their location on private property and were therefore eliminated from the database. An analysis of aerial photography was conducted; however, due to the small-scale the springs were not visible on photographs. The Authority acknowledges that the data set used may not show all seeps and springs present within the tunnel RSAs and that more detailed surveys will be needed to identify all seeps, springs, and other aquatic resources present. However, the data on known seeps and springs is useful and adequate for evaluating and comparing the effects of the Build Alternatives. Nonetheless, the Authority has been implementing a springs/seeps monitoring program. The frequency of monitoring the springs was established to be quarterly. During the traverses to the springs, the field Team investigates the canyons for additional springs to add to the monitoring database. Only one, within the ANF, was discovered during the past 6 years and added to the database. Water samples are collected quarterly from these springs and are sent to an environmental laboratory for testing. The results of the laboratory testing, which includes the water chemistry concentrations of secondary constituents and Title 22 metals, are tabulated for future analyses. The Authority will conduct additional surveys and monitoring prior to construction that will include detailed investigations of the RSA for the approved project to identify seeps, springs and wells. In addition, the Authority will implement an Adaptive Management and Monitoring Plan (AMMP) as required by mitigation measure HWR-MM#4. The AMMP will require the implementation of a comprehensive monitoring program to establish baseline conditions for groundwater resources and to allow for the detection of changes in groundwater conditions related to tunnel construction to ensure timely implementation of remedial measures. Additional site-specific investigations of the subsurface would be conducted in advance of final tunnel design, including geotechnical investigations along the tunnel alignment to characterize the differing rock types (strength, fracturing, in-situ stresses, etc.), groundwater pressures at tunnel depth, potential flow quantities, aquifer tests and groundwater modeling, and structural geology along the tunnel alignment, including faults and gouge zones. Additional geotechnical borings would need to be converted to

4525-10496

monitoring wells and piezometers fitted with vibrating wire pressure transducers for measuring water pressure changes along the alignment to establish seasonal baseline conditions for deep groundwater and near surface water. Such instrumentation would also be used as the early warning system for pressure changes occurring in the subsurface along the alignment during tunnel construction. After construction, a comprehensive baseline monitoring system would be implemented to evaluate the recovery of water resources, and results would be compared to construction and preconstruction data to identify hydrogeological changes. The monitoring program would continue for up to 10 years after the completion of construction. As a result, HWR-MM#4 would effectively mitigate impacts on affected water resources, including wells from tunneling. The USFS comments are consistent with the second step in the Authority's multi-step iterative AMMP process. This second step is "[c]ontinue existing monitoring as described in Authority (2020) and conduct more extensive pre-construction monitoring to develop baseline data." As part of the Special Use Authorization application process, the Authority will continue to consult with the USFS regarding the scope, approaches, and methodologies associated with additional data collection and monitoring to be done to develop a comprehensive baseline for areas within the tunnel RSA.

Response to Submission 4525 (Roman Luis Torres, United States Department of Agriculture - Angeles National Forest, November 30, 2022) - Continued

4525-10497

The commenter raises issues about the approach to pre-construction monitoring Actions #2, #4, #6, #8 listed in Section 3.1.2 of Appendix 3.8-C (Adaptive Management and Monitoring Plan for Potential Hydrologic Effects within the Angeles National Forest) regarding the approved project.

Regarding Action #2: the Authority has developed a Geotechnical Plan (GI Plan) for all the alignment alternatives from Palmdale to Burbank. The GI Plan includes drilling over 300 borings/cores for the Preferred alignment in which almost all will be completed with VWPT instrumentation.

Regarding Action #4: the Authority will identify surface water resources (e.g., watersheds, streams, recharge areas, springs/seeps) within the tunnel construction RSA for the approved project baseline data development.

Regarding Action #6: the Authority will expand the spring and seeps monitoring beyond the existing quarterly monitoring program for the approved project alignment.

Regarding Action #8: the Authority will add seeps to the measures. The revised #8 will read "Establish baseline conditions for ranges of flow rates of springs, seeps and streams including supplemental monitoring."

4525-10498

Comment noted. The Authority would seek a Special Use Authorization from the USDA Forest Service/Angeles National Forest (ANF) to conduct geotechnical investigations and water resources monitoring required to establish the baseline hydrologic and hydrogeologic conditions within the tunnel RSA.

4525-10499

The commenter requests that a baseline for aquatic resources be established based on weekly flow measurements at multiple sites across a broad spatial scale and stream-gage measurements (approximately 3-5 minute frequency) at a few locations of streams, and through photo points and infrared monitoring for photosynthetic data (satellite) for riparian areas. The U.S. Forest Service (USFS) comments are consistent with the second step in the Authority's multi-step iterative Adaptive Management and Monitoring Plan (AMMP) process. This second step is "Continue existing monitoring (as described in Authority (2020) and conduct more extensive pre-construction monitoring to develop baseline data." As part of the Special Use Authorization process, the Authority will work with the Angeles National Forest (ANF) to develop methodologies and approaches to be used to ensure that sufficient data and information is gathered to establish accurate baseline conditions, including protocols that set appropriate frequencies and intervals for the collection of data.

4525-10500

A 3-D groundwater model will be developed as part of the design phase investigation. The Authority will consult with USDA Forest Service/Angeles National Forest (ANF) on suggested input/output for a successful model. The Authority will contact property owners and seek access to monitor existing wells within inholdings in the ANF to the extent allowed by the property owner. Each monitored well would be outfitted with transducers and telemetry set to record and transmit data, and this data will be shared with the USFS.

Response to Submission 4525 (Roman Luis Torres, United States Department of Agriculture - Angeles National Forest, November 30, 2022) - Continued

4525-10501

The commenter is requesting that the scope of monitoring actions be sufficient to cover all surface waters, including seeps, and that monitoring approaches include in-tunnel piezometers within the constructed tunnels. Surface water monitoring is included in Section 3.2 Construction and Post-Construction Monitoring of Appendix 3.8-C Adaptive Management and Monitoring Plan for Potential Hydrologic Effects within the Angeles National Forest (see page 3.8-C-7). The monitoring actions would include establishing a monitoring program to measure water inflow rates within the tunnels, and the installation of pressure transducers and piezometers to track groundwater loss, recovery and changes in groundwater pressures. Details regarding the monitoring plan within the Angeles National Forest will be further developed, in conjunction with the U.S. Forest Service, during the application process for a Special Use Authorization.

4525-10502

The commenter makes suggestions about access and reporting frequency under the water monitoring program within the Angeles National Forest.

Data loggers installed at the boring locations record data every four hours. The data is manually downloaded on a quarterly basis. Currently there is no telemetry for these dataloggers which are buried in the ground for protection from the elements. Telemetry was not selected by the Authority due to poor or unavailable cell coverage at some of these locations, and the potential for damage and vandalism from aboveground devices. As part of the Special Use Authorization process for the construction and operation of the HSR, the Authority will confer the U.S. Forest Service to determine appropriate and feasible approaches to water resource monitoring, including the potential adoption of a telemetry system to allow for remote downloading of the data.

4525-10503

The commenter expresses that quarterly monitoring for riparian resources and USFS Fish and Wildlife Standard 11 is not sufficient. The Authority will continue to confer with the USFS during the pre-construction design phase to refine the monitoring frequency of various resources within the ANF. Please also refer to Section 3.3 in Appendix 3.8-C, Adaptive Management and Monitoring Plan for Potential Hydrologic Effects within the Angeles National Forest for a discussion of the effectiveness of monitoring. Please also refer to Section 4 of that Appendix, which identifies the response actions that would occur if adaptive management triggers are reached. For additional information about the data used in the Draft EIR/EIS, please refer to Response to Comment #10496.

Response to Submission 4525 (Roman Luis Torres, United States Department of Agriculture - Angeles National Forest, November 30, 2022) - Continued

4525-10504

The commenter expresses that Appendix 3.8-C should be revised to reflect an agreement between the Authority and the ANF that the conditions have been met and that the model should predict tunnel construction inflows in order to avoid, minimize and otherwise adapt the construction activities.

It is not clear what conditions are being referenced in the comment; however, as part of the Special Use Authorization application process, the Authority will work with the U.S. Forest Service in the development of a monitoring program, including groundwater models. If feasible, the Authority would develop and utilize models to predict potential inflows into the tunnels. Regarding tunnel inflow, the Authority recognizes that tunnel construction may adversely affect groundwater conditions. The project tunnel alignments would be constructed consistent with specific engineering design features to address and minimize potential impacts. These potential impacts are analyzed in detail in Section 3.8, Hydrology and Water Resources of the Draft EIR/EIS, specifically in Impact HWR#5 (Changes in Hydrogeologic Conditions Associated with Tunnel Construction Beneath the ANF which May Affect Surface and Subsurface Water Resources). These potential impacts to hydrologic resources would be avoided and minimized through the use of state-of-the-art design features and construction methods, including through the use of tunnel boring machines (TBMs) with features to reduce or prevent inflows and grouting and tunnel-lining approaches that have proven effective at controlling water seepage. These measures are identified in HYD-IAMF#5 (TBM Design Features), HYD-IAMF#6 (Tunnel Lining Systems), and HYD-IAMF#7 (Grouting). HYD-IAMF#5 would use closed-mode operations to effectively prevent water seepage from occurring at the TBM cutterhead area, with ports for drilling horizontal probe holes through the TBM cutterhead, and angled probe holes through the TBM shields. These holes will allow for water pressures and flow rates to be measured ahead of the TBM, and further allow for pre-excavation grouting ahead of the TBM to cut-off groundwater inflows into the tunnel. Pre-excavation grouting creates a permanent strengthened very low permeability circular crown around the TBM, that in conjunction with the first-pass tunnel lining takes on the water pressure until the second lining is installed.

HYD-IAMF#6 will consist of segmental, precast, concrete lining with bolted and gasketed joints, creating a tunnel lining capable of resisting the groundwater pressure with minimal leakage. A single tunnel lining will be used where groundwater pressures

4525-10504

are 25 bar or less. In sections where groundwater pressures are above 25 bar, after the first lining has been installed a second lining will be put in place. A single pass would be sufficient to stop inflow once installed and a second pass system would be installed to ensure the tunnel can withstand pressures above 25 bar over the long-term. For the waiting time until the second lining is built, some water seepage may occur, but significant water breakthroughs are not expected. If any water flow is detected during the construction period after the installation of the first lining and before the second lining deployment, additional check grouting will be implemented as needed. Several grouting methods will be used during the construction of the tunnels to avoid and minimize groundwater flows into the tunnels, including pre-excavation grouting, backfill grouting with two-component grout, and check grouting.

In the event that the groundwater and/or water wells are adversely impacted, the Authority will implement an Adaptive Management and Monitoring Plan (AMMP) as required by mitigation measure HWR-MM#4. The purpose of the AMMP is to ensure that adverse effects on subsurface and surface water resources and associated habitat within the ANF caused by tunnel construction activities are identified and that appropriate responses to address those effects are expeditiously implemented. This AMMP involves a multi-step iterative process to comply with U.S. Forest Service standards, which includes remedial measures. The remedial measures include actions such as establishing adaptive management triggers for each water resource being monitored, implementation of compensatory mitigation for each affected water resource, and the minimization of effects on water resources associated species as a result of tunnel construction. The AMMP will require the implementation of a comprehensive monitoring program to establish baseline conditions for surface water resources and to allow for the detection of changes in groundwater conditions related to tunnel construction to ensure timely implementation of remedial measures. The monitoring program would continue for up to 10 years after the completion of construction. The AMMP also will include provisions for augmenting water supplies for surface water resources and wells and will establish performance standards that the remedial actions must achieve to approximately match baseline conditions. As a result, HWR-MM#4 would effectively mitigate impacts on affected water resources, including wells from tunneling.

Response to Submission 4525 (Roman Luis Torres, United States Department of Agriculture - Angeles National Forest, November 30, 2022) - Continued

4525-10505

The Authority agrees with commenter's recommended text revision to Section 4.1, #1.a.ii of Appendix 3.8-C, Adaptive Management and Monitoring Plan for Potential Hydrologic Effects within the Angeles National Forest. The corresponding text in the Final EIR/EIS Appendix 3.8-C will be revised to "Supplement spring and seep water to sustain habitat supported by the seeps and springs and to restore baseline conditions."

4525-10506

The Authority agrees with the commenter's recommended text revision to Section 4.1, #1.a.i of Appendix 3.8-C. The corresponding text in the Final EIR/EIS Appendix 3.8-C will be revised as follows: "Add supplemental water to the stream to restore stream flows that trend below baseline minimums. The amount, duration, and water quality requirements for this supplemental water will be determined collaboratively by the Authority and the ANF."

4525-10507

Comment noted. The Authority agrees and will work with the USFS to determine the appropriate timing and frequency of reporting during construction as part of the process of obtaining a Special Use Authorization.

4525-10508

The commenter wants to know about water allocation during a string of dry years, and the role water chemistry may play in mitigation and restoration efforts. This topic is discussed in BIO-MM#93: Adaptive Management Plan for Groundwater Effects on Species and Habitat (p. 3.7-235). This measure requires the Authority to prepare contingency plans to provide supplemental water as necessary to support riparian/aquatic vegetation, wildlife breeding cycles, aquatic wildlife, or protected tree health within the area of predicted effects determined through modeling or monitoring to be potentially affected by groundwater lowering. Seasonal variation as documented during the preconstruction baseline monitoring will be considered in establishing the amount of supplemental water. For all features, supplemental water will provide minimum flows and periods of inundation to match baseline conditions. The periods of supplemental water, in general, will likely be in periods of baseflow, which occurs in late spring, summer, and early fall outside of rain periods. For breeding habitats, the Authority will, at a minimum, supplement breeding habitat where necessary to maintain adequate depths for completion of the reproduction cycle (defined as the time by which juveniles are viable and mobile such that they can feasibly leave the breeding location). In addition the Authority evaluated different potential sources and quantities of supplemental water that may be needed. This information is contained in Appendix 3.8-D Supplemental Water Demand Analysis for Potential Impacts within the Angeles National Forest / San Gabriel Mountains National Monument, in Volume 2 of the EIR/EIS. This Supplemental Water Demand Analysis discusses the options, logistics, and feasibility of implementing the response actions that may be implemented in accordance with the AMMP. Specifically, this analysis describes the methodology used to estimate potential remedial water needs and discusses various scenarios that would necessitate that supplemental water, the potential sources of that supplemental water, and the logistical considerations regarding the conveyance and delivery of that supplemental water.

Response to Submission 4525 (Roman Luis Torres, United States Department of Agriculture - Angeles National Forest, November 30, 2022) - Continued

4525-10509

Refer to Standard Response PB-Response-PUE-3: Water Demand and Usage.

The commenter questions the estimates of recycled water that may be available for construction. Construction of the Build Alternatives would require water use for the following activities: increasing the water content of soil to optimize tunneling and compaction for dust control; preparing concrete; and re-seeding disturbed areas. The Authority has estimated that each TBM operating from each twin tunnel portal would require a total of 1,829 acre-feet (366 acre-feet per year) for between 55,000 to 105,000 gallons/day for maintenance and cleaning of the excavated sections of the tunnel; operation of conveyor belts and hoppers; dust control and vehicles/engine wash down; operation of tunnel excavation-area workshops; and potable water for construction workers. This water would mix with the soil as it is extracted from the tunnel construction areas and would be treated as wastewater.

The construction contractor would recycle and reuse water on-site to reduce water consumption for construction of the tunnels. Some of this wastewater would also be collected in water retention ponds or treated in the same capacity, and like the tunnel spoils, would be hauled off-site. The management and discharge of construction wastewater is governed by federal and state law, and is implemented through regulations such as the National Pollutant Discharge Elimination System General Construction Permit and Statewide General WDRs (refer to Section 3.8, Hydrology and Water Resources, for more details regarding federal and state wastewater laws and regulations). Adherence to federal and state regulations would prevent dewatering discharges from contributing to exceedance of water quality standards.

For additional information regarding the water supply for the HSR Palmdale to Burbank Section, including the availability of recycled water, please refer to Standard Response PB-Response-PUE-3: Water Demand and Usage.

4525-10510

The comment appears to be questioning one of the sources of supplemental water discussed in Appendix 3.8-D Supplemental Water Demand Analysis for Potential Impacts within the Angeles National Forest / San Gabriel Mountains National Monument. In this analysis one additional potential source of supplemental water could be groundwater derived from dedicated water well(s). As noted in the Authority's analysis, to be suitable for supplementing surface water, the quantity of water would need to be sufficient to meet the calculated supplement water demand without interruption. The quality of the water would also need to be consistent with the natural water chemistry of the application area.

Submission 4526 (Spencer MacNeil, US Army Corps of Engineers, December 1, 2022)

Palmdale - Burbank - RECORD #4526 DETAIL

Status : Unread
Record Date : 12/8/2022
Interest As : Federal Elected
First Name : Spencer
Last Name : MacNeil
Attachments : Cover Transmittal Ltr_Serge Stanich_DEIS CHSR P-B_30-NOV-2022.pdf (757 kb)
 USACE Comments - CHSR PB_DEIS_30Nov2022.pdf (167 kb)

Los Angeles District, U.S. Army Corps of Engineers

Spencer.d.macneil@usace.army.mil

Office: 805-585-2152 (-2154/FAX)

Government Mobile: 805-218-9187

Stakeholder Comments/Issues :

From: MacNeil, Spencer D CIV USARMY CESPL (USA) <Spencer.D.Macneil@usace.army.mil>
 Sent: Thursday, December 1, 2022 7:05 PM
 To: Stanich, Serge@HSR <Serge.Stanich@hsr.ca.gov>
 Cc: Huerta, Crystal L CIV USARMY CESPL (USA) <Crystal.L.Huerta@usace.army.mil>; Gayagas, Susan A CIV (USA) <Susan.A.Meyer@usace.army.mil>; Li, Veronica C CIV USARMY CESPL (USA) <Veronica.C.Li@usace.army.mil>; Jackson, Timothy W (Tim) CIV USARMY CESPL (USA) <Timothy.W.Jackson@usace.army.mil>; Castanon, David J CIV USARMY CESPL (USA) <David.J.Castanon@usace.army.mil>; Lay, Clayton J (Clay) CIV USARMY CESPL (USA) <Clayton.J.Lay@usace.army.mil>
 Subject: USACE Letter and Comments - Palmdale to Burbank Section Draft EIS/EIR
 Importance: High

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Serge,

Please see our attached transmittal/cover letter and matrix of comments (the latter in pdf, MS Excel formats) on the draft EIS/EIR for the proposed Palmdale to Burbank Section of the California High-Speed Rail program. You might have seen an e-mail from me on this just after noon today – I tried to recall it, because the comment matrix had a comment numbering issue and a few of the Engineering comments were still being edited and not yet final in that version. If you did receive that earlier e-mail from me, please set that aside/delete it and use the comment matrix attached to this e-mail instead – and sorry for any confusion. Our team stands ready to meet with you to discuss the input we have provided.

Thanks,

Spencer

Spencer D. MacNeil, D.Env.
 Deputy Chief, Regulatory Division
 Ventura Field Office
 Ventura, CA
 Los Angeles District, U.S. Army Corps of Engineers

Submission 4526 (Spencer MacNeil, US Army Corps of Engineers, December 1, 2022) - Continued



DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS
LOS ANGELES DISTRICT
60 SOUTH CALIFORNIA STREET, SUITE 201
VENTURA, CA 93001-2598

-2-

November 30, 2022

California High-Speed Rail Authority
Serge Stanich, Director of Environmental Services
770 L Street, Suite 620
Sacramento, CA 95814

Dear Mr. Stanich:

Thank you for the opportunity to review the Draft Environmental Impact Report/Environmental Impact Statement (EIR/EIS) for the California High Speed Rail Authority's (Authority) proposed Palmdale to Burbank (P-B) Project Section for the statewide California High-Speed Rail (CHSR) program. The U.S. Army Corps of Engineers, Los Angeles District (Corps) received the Draft EIR/EIS on September 15, 2022, for an approximate 60-day review period that was subsequently extended 30 days to December 1, 2022.

4526-10582

Additionally, and apart from the EIR/EIS, to assist in compliance with Section 14 of the RHA (referred to as Section 408) the Authority will need to provide the Corps with sufficient engineering analysis to ensure the proposed tunneling near the Lopez Dam, Hansen Dam and Tujunga Wash Channel crossing identified in the "Checkpoint B" Summary Report would not be injurious to the public interest or impair the usefulness of these Corps projects. Furthermore, the Authority will need to identify any protective measures to be integrated into the P-B Project Section for the proposed tunneling near the dams due to potential seepage; otherwise, surface options/alternatives should also be evaluated in the EIR/EIS. Other items that we anticipate the Authority needing to submit to the Corps to assist in a productive review include, but are not limited to, a Hydraulics and Hydrology model, seismic analysis, and structural calculations.

4526-10583

Similarly, to assist in compliance with Section 404 of the CWA, the Authority will need to provide the Corps with a functional or condition assessment of the aquatic resources occurring within the resource study area and a draft compensatory mitigation plan consistent with 33 C.F.R. Part 332 that addresses how the lost functions and services will be replaced for jurisdictional aquatic resources that cannot be avoided by the proposed project. Additional information related to identifying the least environmentally damaging practicable alternative and evaluating the public interest review factors may also be necessary. These additional information requirements under Sections 404 and 408 are expected to be addressed through the forthcoming "Checkpoint C" milestone process prescribed in the *CHSR Project NEPA/404/408 Integration Process Memorandum of Understanding* (2010) between the Corps, EPA, Federal Railroad Administration and the Authority, and should be incorporated into the Final EIR/EIS either directly or by reference, as appropriate.

We look forward to continued coordination with the Authority on the P-B Project Section. If you have any questions, please contact Crystal L.M. Huerta at (805) 585-2143 or via email at crystal.huerta@usace.army.mil. Please refer to this letter and Corps File Number SPL-2009-00933-CLH in your reply. Please also help me evaluate and improve the regulatory experience for others by completing the customer survey form at <https://regulatory.ops.usace.army.mil/customer-service-survey/>.

4526-10580

As a cooperating agency under the National Environmental Policy Act (NEPA), the Corps intends to adopt the Authority's Final EIS for purposes of complying with NEPA in carrying out our federal actions (i.e., permit/permission decisions) pursuant to Section 404 of the Clean Water Act (CWA; 33 U.S.C. § 1344) and Section 14 of the Rivers and Harbors Act of 1899 (RHA; 33 U.S.C. § 408). Accordingly, we offer the enclosed comments to aid the Authority in preparing the Final EIR/EIS and ensuring the final NEPA document is consistent with Corps NEPA implementing regulations at 33 C.F.R. Part 325, Appendix B and 33 C.F.R. Part 230 to avoid the need for a supplemental NEPA document. We also share our feedback to assist the Authority in providing the Corps with adequate information and analysis for fulfilling the substantive requirements of the U.S. Environmental Protection Agency's (EPA) Section 404(b)(1) Guidelines and the Corps public interest review process, both needed to support Section 404 permit decision-making.

4526-10581

The enclosed comment matrix contains a compilation of review comments from multiple Corps business lines, including, Engineering, Planning, Regulatory and Operations. Our more substantive comments are centered on 1) a lack of sufficient engineering analysis to understand the magnitude and intensity of effects of the proposed tunnelling on Corps Civil Works projects; 2) adequate protective measures to be integrated into the P-B Project Section for dam infrastructure; 3) changes to the purpose statement to which the Corps provided concurrence in a December 18, 2014, letter; and 4) adherence to procedural accuracy and compliance with environmental statutes.

Sincerely,

Spencer D. MacNeil, D. Env.
Deputy Chief, Regulatory Division

Enclosure

Submission 4526 (Spencer MacNeil, US Army Corps of Engineers, December 1, 2022) - Continued

CALIFORNIA HIGH-SPEED RAIL PROJECT

Palmdale to Burbank Project Section

USACE Comments on the Draft EIR/EIS for the CHSR Palmdale to Burbank Project Section (11/30/2022)

		Comments					
Comment Number	Page/Sect Number	Comments	Reviewers Name	Authority Response	Respond Initials	Date	Verification (QC name/date)
4526-10584	1	General The Corps requires rigorous review of alterations and modifications to previously Corps-built facilities, to ensure that alterations do not impact the purpose or usefulness of the facilities. The channels that are subject to section 408 review should be identified and mapped. The potential impacts of most concern to these facilities due to the proposed alterations that are not addressed in other sections of the EIR/EIS would be engineering integrity, capacity, and safety (geotechnical, structural, hydraulics, and hydrology), and maintenance and operations of these facilities. Include the 30% level design and cross section similar to the Figure 8.1-5 Hansen Dam Spillway Viaduct Design (Tujung Channel Crossing) in the Checkpoint B package. Please provide a separate chapter or section for the Section 408 analysis. Please add a chapter or section to the Draft EIR/EIS that addresses Section 408 actions. In this chapter or section please address the comments below.	Civil				
4526-10585	2	General Please provide a response to the following comment and if providing any supporting documentation, indicate in the response where the information is and in which documents, "Regarding our Section 408 jurisdiction, our December 17, 2020 Checkpoint B agreement letter identified the need for sufficient engineering analysis to ensure that proposed tunneling near the dams identified in the Checkpoint B Summary Report would have no adverse impacts to these Section 408 facilities nor be injurious to the public. The administrative Draft EIR/EIS does not include this information. Please provide this information to us if it is available, or let us know when you anticipate sending this information to us. As well, the December 17, 2020 letter stated the need for the Authority to identify any protective measures to be integrated into the P-B project for the dam infrastructure; otherwise, surface options/alternatives should also be evaluated in the EIR/EIS in addition to the tunneling near the dams that the Authority has proposed. The administrative Draft EIR/EIS does not include this information either. Please provide this information to us if it is available, or let us know when you anticipate sending this information to us."	Civil				
4526-10586	3	General The proximity of the tunneled alignments to Lopez Dam is a potential risk to public safety and security. Per Dam and Safety Security Act of 2002, ER-1110-2-1165, and Section 408 of the Rivers and Harbors Act, please provide an analysis of any risks to Corps built facilities including Lopez and Hansen Dams and related infrastructure. If necessary, an Antiterrorism (AT) Plan in accordance with Department of Defense (DoD) Instruction 2000.16, "DoD Antiterrorism Standards," (reference A.20) and Army Regulation 525-13, Antiterrorism (reference A.28), may be required.	Civil				

Submission 4526 (Spencer MacNeil, US Army Corps of Engineers, December 1, 2022) - Continued

CALIFORNIA HIGH-SPEED RAIL PROJECT

Palmdale to Burbank Project Section

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4526-10587	4	Lopez Dam	The proximity of the tunneled alignments to Lopez Dam is a potential risk to public safety and security. Per Dam and Safety Security Act of 2002, ER-1110-2-1165, and Section 408 of the Rivers and Harbors Act, please provide an analysis of any risks to Corps built facilities including Lopez and Hansen Dams and related infrastructure. If necessary, an Antiterrorism (AT) Plan in accordance with Department of Defense (DoD) Instruction 2000.16, "DoD. Antiterrorism Standards," (reference A.20) and Army Regulation 525-13, Antiterrorism (reference A.28), may be required.	Civil			
4526-10588	5	Lopez Dam	It appears that Lopez Dam may be near the Hospital Fault and where hydraulic conductivity is moderate to high with moderate to high In-Situ Stress. Please confirm the geotechnical conditions within the vicinity of Lopez and Hansen Dams and indicate whether the tunnel would have stability risks to the dams.	Civil			
4526-10589	6	Hansen Dam & Tujunga Channel Crossing & Lopez Dam	Please provide a hydraulic analysis model for any modification in the channel to show that the water surface elevation isn't encroaching the freeboard.	H&H			
4526-10590	7	Hansen Dam & Tujunga Channel Crossing & Lopez Dam	Please abide by the So. Calif Area - Channel Improvement Construction Limitations - 29 Apr 2008 policy.	H&H			
4526-10591	8	Hansen Dam	General concern: rail track going through seismic fault zones is a design challenge. Dynamic interactions between the bridge abutments, outlet channel structure and seismic forces should be examined.	Geotechnical Review			
4526-10592	9	Hansen Dam	Confirm HSR viaduct pillars will not constrain the flow of Tujunga Wash, or cause sediment deposition around the pillars that requires future maintenance or flood concerns.	Geotechnical Review			
4526-10593	10	Lopez Dam	There is some risk associated with the Lopez Dam reservoir area, where a tributary canyon encroaches on the projected tunnel settlement zone (within the 45-degree projection) for the "SR14 Refined" alignment. The risk at that location is for leakage of the reservoir pool into the tunnel zone through fresh ground fractures that may be induced or opened by tunneling-induced settlement. Although intuitively unlikely, this particular area may represent a greater risk than simple seepage mitigation if there was an unfiltered seepage path between the flooded reservoir and the tunnel that occurred as a result of concurrent or latent ground loss during construction. Seepage mitigation measures should be implemented in the section where adjacent to the Lopez ROW.	Geology			

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CALIFORNIA HIGH-SPEED RAIL PROJECT

Palmdale to Burbank Project Section

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4526-10594	11	Lopez Dam	The Sierra Madre Fault is active, and portions of Lopez Dam had experienced damage resulting from fault displacement during the 1971 M 6.6 earthquake on the Sierra Madre fault. It is likely that, had the SR14 alignment tunnel been in place at the time of that earthquake it would have experienced damage and possible offset across the fault plane. Local differential uplift in the area of Lopez Dam due to the 1971 earthquake was on the order of 7 feet. It is not known whether or not changes in groundwater or a locally-impounded pool at Lopez Dam would have exacerbated or resulted in a concentrated leak (CLE) along a fresh break in a fault plane to reach the tunnel zone. It is more likely that mobilization of groundwater through a potential fault break across the tunnel would result in leakage into the transit envelope. Estimation of the quantity, velocity or impact of potential groundwater seepage through a fault rupture are unknown at this time.	Geology			
4526-10595	12	Hansen Dam	The E2 alignment crosses the Hansen Dam (basin) ROW north of Tunnel Portal P5 where the track alignment exits the northwesterly end of the Verdugo Mountains near Wentworth Street. That alignment then crosses the Big Tujunga River on an elevated (viaduct) section supported on piers, and enters another tunnel portal (P4) on the southerly side of the San Gabriel Mountains. Viaduct support piers within the Big Tujunga River channel should be designed to accommodate scour and debris during the expected flood events. The E2 alignment crosses the Sierra Madre fault after entering portal P4 on its way toward the north-northeast.	Geology			
4526-10596	13	Hansen Dam	The risk at Portal P5 is for reservoir leakage into the open tunnel portal during flood events of slightly less than the PMF and up to the top-of-dam. Such an extraordinary flood event would be at risk of flooding the transit tunnel from Portal P5 and the associated downstream consequences (stations, portals, neighborhoods, etc.). Consideration for the E2 alignment should consider appropriate risk analyses and mitigation measures for flooding of the tunnel.	Geology			
4526-10597	14	Hansen Dam	California High-Speed Rail-Palmdale to Burbank: The proposed high-speed rail, high-speed rail tunnel and high-speed rail bridge within the vicinity of the Hansen Dam as indicated in the concept detail do not have the structural details and structural design calculations. Please provide the structural details and the structural design calculations for the proposed high-speed rail, high-speed rail tunnel, and high-speed rail bridge within the vicinity of the Hansen Dam to ensure no impact and no additional load will be imposed to the Hansen Dam.	Structural Review			
4526-10598	15	Tujunga Channel crossing	California High-Speed Rail-Palmdale to Burbank-Sheet 24 of 27: The proposed bridge as indicated in the concept detail does not show the station in relative to the channel. Please provide the station in relative to the channel for the proposed bridge.	Structural Review			

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CALIFORNIA HIGH-SPEED RAIL PROJECT

Palmdale to Burbank Project Section

USACE Comments on the Draft EIR/EIS for the CHSR Palmdale to Burbank Project Section (11/30/2022)

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4526-10599	16	Tujunga Channel crossing	California High-Speed Rail-Palmdale to Burbank-Sheet 24 of 27: The proposed bridge as indicated in the concept detail does not show the clearance dimension between the channel wall to the bridge abutment. Please provide the clearance dimension between the channel to the proposed bridge abutment.	Structural Review			
4526-10600	17	Tujunga Channel crossing	California High-Speed Rail-Palmdale to Burbank-Sheet 24 of 27: The concept detail does not show the proposed bridge in relative to the existing access road. Please provide a cross section detail, an elevation section detail and a plan section detail to show the proposed bridge in relative to the existing access road.	Structural Review			
4526-10601	18	Tujunga Channel crossing	California High-Speed Rail-Palmdale to Burbank-Sheet 23 of 27: The southwest portion of the Hansen Dam spreading grounds will be interfere by the proposed railroad as indicated in the concept detail which is not acceptable. Please check with the Dam and Levee Safety as well as O&M Branch for the proposed railroad as indicated in the concept detail.	Structural Review			
4526-10602	19	Tujunga Channel crossing	California High-Speed Rail-Palmdale to Burbank: The proposed high-speed rail and the high-speed bridge within the vicinity of the Tujunga Channel as indicated in the concept detail do not have the structural details and the structural design calculations. Please provide the structural details and the structural design calculations for the proposed high-speed rail and high-speed bridge within the vicinity of the Tujunga Channel as indicated in the concept detail to ensure no impact and no additional load will be imposed to the Tujunga Channel.	Structural Review			
4526-10603	20	Hansen Dam	The E2 alternate alignment proposes to cross the eastern boundary of Hansen Reservoir. The area serves as both a flowing channel and, under flood conditions, a reservoir impoundment area. The ground surface at the crossing alignment is approximately at the dam's spillway crest elevation. This is something greater than a 200-yr event impoundment elevation, based on a previous frequency impoundment analysis. H&H will have to provide more detailed design parameters such as water surface elevation, lateral flow design velocity, etc. should this alternative proceed to a more detailed design stage.	Res Reg			
4526-10604	21	Tujunga Channel	Any construction that may impact the carrying capacity of an intersecting channel will require modeling to assure that there is no loss of capacity.	Res Reg			
4526-10605	22	Hansen Dam	Rail must not cross embankment	O&M			
4526-10606	23	Hansen Dam	Per SPD Regulation 1110-2-1, Land Development Proposals at Corps Reservoir Projects, the applicant is utilizing area inside the Hanson Dam pool footprint. This guidance prohibits the loss of flood control pool. As such the applicant should be required to offset any fill in the flood pool. These calculations and plan to offset fill material should be included in the package for consideration.	D&L Safety			

Submission 4526 (Spencer MacNeil, US Army Corps of Engineers, December 1, 2022) - Continued

CALIFORNIA HIGH-SPEED RAIL PROJECT

Palmdale to Burbank Project Section

USACE Comments on the Draft EIR/EIS for the CHSR Palmdale to Burbank Project Section (11/30/2022)

Comment Number		Page/Sect Number	Comments	Reviewers Name	Authority Response	Respond Initials	Date	Verification (QC name/date)
4526-10607	24	Tujunga Channel Crossing	The DEIR/EIS contemplates mitigating for decreased capacity impacts at the Hansen Spreading Grounds by altering the releases at Hansen Dam. This would be an operational impact to the Hansen Dam and would have potential environmental impacts which would potentially require a Section 408 permission. Please analyze the potential direct, indirect, and secondary and cumulative impacts of altering the releases at Hansen Dam as a result of the CA High Speed Train Project's proposal to decrease capacity at the Hansen Spreading Grounds. Altering releases at Hansen Dam would be a potentially adverse alteration. Early coordination with USACE would be necessary.	Planning - ERB				
4526-10608	25	General_404	The purpose statement included in the P & N section of the Draft EIR/EIS differs slightly from what was agreed upon in our December 18, 2014 letter. The EIR/EIS states: The purpose of the project is to implement the Palmdale to Burbank High Speed Rail Project Section of the California High Speed Rail system; to provide the public with (typo) electric-powered high-speed rail service that provides predictable and consistent travel times between major urban centers, and connectivity to airports, mass transit systems, and the highway network in the Antelope Valley and the San Fernando Valley; and to connect the Northern and Southern portions of the statewide HSR system, also allowing direct connectivity with existing regional rail networks in the Los Angeles area", whereas our December 18, 2014 Checkpoint A agreement letter indicates: "The purpose of the Palmdale to Burbank Section of the California HSR system is to provide the public with electric-powered HSR service that provides predictable and consistent travel times between the Antelope Valley and the San Fernando Valley, provide connectivity to airports, mass transit systems, and the highway network in the Antelope Valley and the San Fernando Valley; and to connect the Northern and Southern portions of the Statewide HSR system." Please revise to what we jointly agreed to in 2014.	Regulatory Division				
4526-10609	26	General	There is mention of a mitigation measure to accommodate the reduced capacity of the Hansen Spreading Grounds-the Authority would coordinate with the USACE and LADWP to modify operations at Hansen Dam that regulate discharges to the spreading grounds such that no loss in flood protection would occur. Explain how coordination with the USACE has occurred on this issue. would make sure the SPL Reservoir Regulation is aware.	Planning - ERB				
4526-10610	27	Page 3.8-49	Text states "s discussed in Section 3.8.7, Mitigation Measures, HWR-MM#3 requires the Authority to (1) provide replacement groundwater recharge areas, (2) coordinate with the USACE and LADWP to modify operations at Hansen Dam, which regulates discharges to the spreading grounds, or (3) implement other measures in coordination with the LADWP to ensure there is no net loss in recharge area capacity.	Planning - ERB				
	28	Page 3.8-49	Explain with a bit more detail what type of consultation with USACE is needed here. Approvals from USACE is required.	Planning - ERB				

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CALIFORNIA HIGH-SPEED RAIL PROJECT

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4526-10611	29 Page 3.7-4	Text states: In exchange for permanently protecting the land and managing it for natural resources, the natural resource and regulatory agencies (e.g., United States Fish and Wildlife Service [USFWS], United States Army Corps of Engineers [USACE], CDFW) approve a specified number of natural resource (habitat, species, or resource) credits that bank owners may sell. USACE is technically not a natural resource agency like USFWS ad CDFW. Please clarify our role in another way. Is there any sense at this time of the mitigation credits will be determined. How does the Authority see the USACE involved here? Please add a bit more detail.	Planning - ERB				
4526-10612	30 Page 3.7-27	<p>The discussion regarding "Delineation of Aquatic Resources" indicates that for the purpose of the evaluation in the Draft EIR/EIS aquatic resources considered as WOTUS were delineated according to the definition included in the 2015 Clean Water Rule. The actual delineation of WOTUS should follow the USACE 1987 Wetlands Delineation Manual and 2008 Arid West Regional Supplement for wetlands and the USACE ordinary high water mark (OHWM) technical publications, field guides and other guidance documents for non-wetland waters (tributaries).</p> <p>The USACE determinations regarding whether the delineated wetlands and tributaries are subject to USACE regulation under Section 404 of the Clean Water Act were documented in an approved jurisdictional determination (AJD) for certain features and a preliminary jurisdictional determination (PJD) for the remaining features – all of which were based on current federal regulation and policy. Specifically, the USACE issued an AJD on March 1, 2022 for 36 isolated aquatic features applying the pre-2015 Clean Water Rule (CWR) definition of WOTUS (i.e., Rapanos/1986 preamble guidance) and a PJD for 438 other aquatic features. While the USACE understands the approach used by the Authority provides a conservative estimate of impacts to WOTUS, the affected environment (i.e., baseline condition of aquatic resources) presented in the EIR/EIS does not reflect nor incorporate current federal regulation defining the jurisdictional status of the mapped aquatic features. The USACE will apply the pre-2015 CWR definition of WOTUS in calculating aquatic resource impacts for purposes of Department of the Army permitting and compensatory mitigation unless a superseding final rule for defining WOTUS is published by the U.S. EPA and USACE. We recommend the EIR/EIS distinguish between the methodologies used to identify and delineate aquatic features occurring within the RSA and the federal regulation applied to defining WOTUS that establishes the geographic scope of the USACE's jurisdiction. The Rapanos/1986 preamble guidance should be applied and referenced to, not the 2015 CWR.</p>	Regulatory Division				

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CALIFORNIA HIGH-SPEED RAIL PROJECT

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4526-10613	Page 3.7-165	Regarding impacts of project construction on State and Federal Jurisdictional aquatic resources, the EIR/EIS should include maps and figures depicting the location of the delineated WOTUS with the build alternatives superimposed, like what is done for all other biological resources in this section.	Regulatory Division				
4526-10614	Page 3.7-169	In the context of WOTUS and USACE regulatory jurisdiction, we recommend using the term federally "jurisdictional" aquatic resources rather than federally "protected" aquatic resources when used in the context of Section 404 of the CWA. Jurisdictional aquatic resources are protected only to the extent that they meet the definition of WOTUS and are subject to activities regulated under Section 404 of the CWA. Exempt activities, such as certain maintenance work, would not "protect" such aquatic resources. Impacts to WOTUS that do not involve a discharge of dredged or fill material into WOTUS are not regulated by the USACE under Section 404 of the CWA and therefore, are usually not federally "protected" per se. For example, jurisdictional waterbodies or tributaries may be adversely affected by long-term shading effects resulting from the construction of a new major bridge span that does not require the discharge of fill material into the WOTUS.	Regulatory Division				
4526-10615	Page 3.7-172	Because compensatory mitigation may be required for the loss of non-wetland WOTUS as well as wetlands, please include "...and other WOTUS" in the BIO-MM#47. Currently, the measure only specifies constructions impacts on wetlands. Recommend revising the measure as follows: "Prepare and Implement a Compensatory Mitigation Plan for Impacts on States and Federally Protected Aquatic Resources. This compensatory mitigation measure will ensure that construction impacts on wetlands and other WOTUS would be offset through mitigation."	Regulatory Division				
4526-10616	Page 3.8-3	Chapter 3, Section 3.8 indicates Section 9 of the RHA of 1899 is relevant to the Palmdale to Burbank Project Section. The USACE is not aware of any navigable waters of the U.S. within the P-B Project Section study area for which new bridges or causeways would be constructed over and require U.S. Coast Guard approval. We recommend revising the text accordingly or remove the reference to Section 9 of the RHA altogether.	Regulatory Division				

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4526-10617	35 General, 3.3.2.1 (Page 3.3-3)	The following Corps comment was submitted during our review of the administrative draft EIS/EIR and was not addressed consistently in the public draft EIS/EIR: "The de minimis numbers specified in the General Conformity regulations are rates or levels - they are not referred to as "thresholds" in the regulations. With respect to the General Conformity analyses, please find and replace "threshold(s)" throughout this Section (text and tables, including footnotes) and replace with rate(s) or level(s)." HOWEVER, the Corps understands it is convenient to think of and use these rates or levels as thresholds (as a practical matter/in applying them), so we request the following additions to the EIS, in Section 3.3, to clarify that "threshold" is used in some instances to assist the public in understanding how these particular numbers are applied (instead of only using the specific terminology from the General Conformity regulations). In Section 3.3.2.1. (page 3.3-3), please revise the following sentence as indicated: "Conformity regulatory criteria are listed in 40 C.F.R. Part 93.158. An action will be determined to conform to the applicable SIP if, for each pollutant that meets or exceeds the de minimis emissions level in 40 C.F.R. Part 93.153(b) or otherwise requires a conformity determination due to the total of direct and indirect emissions from the action, the action meets the requirements of 40 C.F.R. Part 93.158(c). Please note the term "threshold" is used instead of level (or rate) in some of the presentations and discussions about specified de minimis emission numbers, as such numbers are used in evaluating whether a General Conformity Determination is required (in application, a specified de minimis level or rate serves as a threshold in that evaluation).	Regulatory Division				
4526-10618	36 3.3.4.3 (Page 3.3-26)	In Section 3.3.4.3, under the Asbestos discussion (page 3.3-26), in the second sentence, please define the acronym ACM. Most people can figure it out, but it should be clearly defined for the public at large.	Regulatory Division				
4526-10619	37 3.3.5.1 (page 3.3-43)	In Section 3.3.5.1, under the South Coast Air Basin discussion, we suggest adding "temperature inversion" when discussing the period of greatest air pollution impacts, as that is a term much of the public is familiar with (but might not understand fully) - that is what limits vertical mixing and can keep pollutant concentrations higher near the Earth's surface during particular periods.	Regulatory Division				

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		Comments					
Comment Number	Page/Sect Number	Comments	Reviewers Name	Authority Response	Respond Initials	Date	Verification (QC name/date)
4526-10620	38 3.3.6.2 (Page 3.3-65)	In Section 3.3.6.2. No Project Alternative, in the last paragraph (page 3.3-65), we certainly appreciate the text additions intended to clarify the two ridership scenarios for the No Project Alternative. However, it is still not entirely clear why there would be different background conditions surrounding the CHST corridor, based on ridership, of a project (CHST) that would not be built under a No Project scenario. Perhaps this is really about OVERALL ridership (of other trains, automobiles, air, etc.) in the No Project Alternative scenario. The second-to-last sentence seems to indicate that - citing an example that if gas prices increased, that would tend to increase CHST ridership IF CHST were built, but it is not built under No Project, so other means of travel (that would tend to increase emissions, particularly as ridership (overall) increases)) would need to be used to meet the travel demand. What confuses this point a bit, though, is this sentence also notes there would be less automobile travel if gas prices were higher (which certainly could be true by itself, but might not be if CHST were not built and that specific travel option were not available/people still need and want to travel regionally). Anyway, we request this sentence or paragraph be revised further to be very clear about this, as this could continue to confuse the public as written.	Regulatory Division				
4526-10621	39 3.3.6	In our comments on the admin draft EIS/EIR, we requested that consistent with section § 93.154 (Federal agency conformity responsibility), that the tables disclosing estimated annual construction emissions relative to the applicable General Conformity rates (or levels) provide estimates of the portions of the construction emissions that the Corps has continuing program responsibility over (recognizing that the Corps usually does not have any continuing program responsibility over operational emissions); and we included a simplistic means of estimating the construction emissions subject to the Corps' continuing program responsibility. However, we also noted an alternative approach was for the Authority to provide these construction emissions estimates to the Corps separately, to include in our administrative record (while including this information in the EIS can assist the public in understanding differences in program responsibility, this information may be provided separately/before the Corps renders a permit decision). As the information was not provided in the draft EIS/EIR, we assume the Authority intends to provide the information separately (the alternative approach), which is acceptable; but that information will be needed to support the completion of our permitting process.	Regulatory Division				
4526-10622	40 Page S-6	In the 3rd paragraph, bullet related to FAA, suggest adding "agreed to by letter dated March 4, 2021" for consistency with section 1.1.5 and to document when the Authority agreed to FAA's request to be a cooperating agency.	Regulatory Division				
4526-10623	41 Page S-6	In the 4th paragraph, is the California State Historic Preservation Officer a CEQA responsible agency? Chapters 1 and 2 do not include them as one.	Regulatory Division				

Submission 4526 (Spencer MacNeil, US Army Corps of Engineers, December 1, 2022) - Continued

CALIFORNIA HIGH-SPEED RAIL PROJECT

Palmdale to Burbank Project Section

USACE Comments on the Draft EIR/EIS for the CHSR Palmdale to Burbank Project Section (11/30/2022)

		Comments			Respond	Verification (QC	
Comment Number	Page/Sect Number	Comments	Reviewers Name	Authority Response	Initials	Date	name/date)
4526-10624	42	Page S-7	Top of the page, list of CEQA responsible agencies. Chapter 1, 1.1.5 and Chapter 2 both identify Lahonton Regional Water Quality Control Board and Los Angeles Regional Water Quality Control Board as CEQA responsible agencies for this project section. Why are they not listed here as well?	Regulatory Division			
4526-10625	43	Page S-8	S.4.1, the quote differs from that stated in 1.1.2 at the beginning of the second sentence. Which quote is correct? Please correct as needed.	Regulatory Division			
4526-10626	44	Page S-8	S.4.2, The stated purpose differs from that cited in 1.2.2. Which is correct? Please correct as needed.	Regulatory Division			
4526-10627	45	Page S-10	S.4.4 list of issues. Why are the issues states here not 100% identical to those stated in 1.2.4 (wording as all as the full list cited in 1.2.4)? Why the inconsistency?	Regulatory Division			
4526-10628	46	Page S-37	S.8.2, third paragraph, end of third line. The reference to regulations does not appear to be correct. Should this refer to IAMFs instead?	Regulatory Division			
4526-10629	47	Page S-37	S.8.2, third paragraph, fifth line, refers to the Authority complying with "these regulatory requirements." What regulatory requirements? This is unclear. Please specify what regulations the Authority will be complying with.	Regulatory Division			
4526-10630	48	Page S-83	S.8.2.1, air quality. Are there any NO2 emissions? Section 3.3 states the SCAB is in attainment for NO2 but it appears to be in maintenance, and therefore, the general conformity applicability threshold would need to be considered.	Regulatory Division			
4526-10631	49	Page S-83	S.8.2.1, air quality, second line, states "SCAQMD general conformity de minimis thresholds". Shouldn't the reference to SCAQMD be corrected to read EPA as EPA sets the general conformity applicability rates by regulation at 40 CFR 93.153?	Regulatory Division			
4526-10632	50	Page S-88	S.8.2.2, air quality paragraph. Are there any NO2 emissions? Section 3.3 states the SCAB is in attainment for NO2 but it appears to be in maintenance, and therefore, the general conformity applicability threshold would need to be considered. In addition, this paragraph states "SCAQMD general conformity de minimis thresholds." Should this reference to SCAQMD be corrected to read EPA as EPA sets the general conformity applicability rates by regulation at 40 CFR 93.153? Also suggest the applicable air basin.	Regulatory Division			
4526-10633	51	Page S-92	S.8.2.3, air quality, paragraph. Are there any NO2 emissions? Section 3.3 states the SCAB is in attainment for NO2 but it appears to be in maintenance, and therefore, the general conformity applicability threshold would need to be considered. In addition, this paragraph states "AVAQMD general conformity de minimis thresholds" and SCAQMD general conformity de minimis thresholds." Shouldn't references to AVAQMD and SCAQMD references be corrected to read EPA as EPA sets the general conformity applicability rates by regulation at 40 CFR 93.153? Also suggest the applicable air basin(s).	Regulatory Division			

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CALIFORNIA HIGH-SPEED RAIL PROJECT

Palmdale to Burbank Project Section

USACE Comments on the Draft EIR/EIS for the CHSR Palmdale to Burbank Project Section (11/30/2022)

		Comments					
Comment Number	Page/Sect Number	Comments	Reviewers Name	Authority Response	Respond Initials	Date	Verification (QC name/date)
4526-10634	Page S-103	S.12.2.4, first paragraph, last sentence. Please revise to read, "Additionally, permission under Section 14 of the Rivers and Harbors Act (33 U.S.C. 408) would be required for any action that builds upon, alters, improves, moves, obstructs, or occupies an existing Corps project." A Corps project refers to a Corps federally authorized Civil Works project, including those operated and maintained by the Corps and those operated and maintained by a non-federal sponsor.	Regulatory Division				
4526-10635	Page S-103	S.12.2.4, second paragraph, states the Corps intends to use the Final EIR/EIS to "integrate procedural requirements of NEPA and its permitting responsibilities... to provide a single document." What single document and process is contemplated? The EIR/EIS should be revised to clarify the goal of the MOU integration process is to ensure the Final EIS provides sufficient information for the evaluation of alternatives under the Guidelines and can be adopted by the Corps without supplementation for the Corps' independent need to comply with NEPA.	Regulatory Division				
4526-10636	Page S-103	S.12.2.4, second paragraph, last sentence needs to be revised to be more reflective of alteration of Corps projects described in the comment above related to the first paragraph of this same section.	Regulatory Division				
4526-10637	Page 1-6	1.1.3.5 regarding Tier 2 EIR/EISs. Should the Burbank to Los Angeles be noted as the Tier 2 EIS/EIR having been completed rather than in progress? In the Summary, S.5.7, states the Burbank to Los Angeles Project Section Final EIS/EIR was released on November 5, 2021, and the Authority's Board approved the Burbank to Los Angeles Project Section Preferred Alternative, including the Burbank Airport Station, on January 20, 2022.	Regulatory Division				
4526-10638	Page 1-8	1.1.4, second paragraph, line 6, in referencing the Burbank to Los Angeles project section. Shouldn't this say "approved Burbank to Los Angeles Project Section," similar to how the Bakersfield to Palmdale Project Section is described three lines above?	Regulatory Division				
4526-10639	Page 1-11	1.1.5, fourth paragraph. S.2 lists SHPO as a CEQA responsible agency, but they are not listed here. Why the inconsistency? In addition, S. 2 lists the "Los Angeles County Flood Control District" as a CEQA responsible agency. Why are they not listed here?	Regulatory Division				
4526-10640	Page 1-12	1.2.1. This citation is different than that cited in S.4.1. The second line starts with "A further objective is to provide" yet the quote in S.4.1 states "Two objectives of the California HSR System include a provision of". This quote or that in the Summary needs to be corrected.	Regulatory Division				
4526-10641	Page 1-13	1.2.2, first paragraph. This stated purpose differs from the cited in S.4.2. Which version is correct?	Regulatory Division				
4526-10642	Page 1-13	1.2.2, third paragraph. Please include a brief discussion that the Authority's NEPA purpose statement was agreed to by the Corps to serve as the overall project purpose statement for purposes of the Section 404(b)(1) Guidelines (reference to Corps Checkpoint A letter, dated December 2014).	Regulatory Division				

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CALIFORNIA HIGH-SPEED RAIL PROJECT

Palmdale to Burbank Project Section

USACE Comments on the Draft EIR/EIS for the CHSR Palmdale to Burbank Project Section (11/30/2022)

		Comments					
Comment Number	Page/Sect Number	Comments	Reviewers Name	Authority Response	Respond Initials	Date	Verification (QC name/date)
4526-10643	Page 1-14	1.2.4, third paragraph. These bullets are slightly different than those stated in S.4 and the last bullet is not included in the list in S.4. Why the inconsistency?	Regulatory Division				
4526-10644	Page 1-34	1.2.4.4, third paragraph, last sentence. This is inconsistent with Section 3.3. Section 3.3, at the bottom of page 3.3-20, states the Build Alternatives traverse the MDAB and SCAB, which also explains the involvement of AVAQMD.	Regulatory Division				
4526-10645	Page 1-36	Table 1-15. Any monitored air quality for NO2, which is in maintenance in the SCAB?	Regulatory Division				
4526-10646	Page 2-3	2.1.1.3, last paragraph, last sentence. Is this accurate? S.5.7 states: The Burbank Airport Station, which is located at the southern end of the Palmdale to Burbank Project Section, was also evaluated as part of the Burbank to Los Angeles Project Section. See Section 2.5.2.2 in Chapter 2, Alternatives, for a depiction of the Burbank Airport Station area that is an overlap (common element) between the two HSR project sections. The Burbank to Los Angeles Project Section Final EIR/EIS was released on November 5, 2021, and the Authority's Board approved the Burbank to Los Angeles Project Section Preferred Alternative, including the Burbank Airport Station, on January 20, 2022. The information regarding the Burbank Airport Station included in this document is informational and for reference only. Given the above isn't this station already approved versus proposed?	Regulatory Division				
4526-10647	Page 2-35	2.4.1.1, end of first paragraph. For consistency, should this say "NEPA-404-408 MOU integration process"?	Regulatory Division				
4526-10648	Page 2-36	2.4.1.1, second paragraph. For consistency for chapter 1, should this instead say "NEPA-404-408 MOU integration process?"	Regulatory Division				
4526-10649	Page 2-36	2.4.1.2, first paragraph. The citation needs to be corrected to read "40 Code of Federal Regulations Section 1502.14(a)."	Regulatory Division				
4526-10650	Page 2-37	2.4.1.2, last paragraph. The three references to the MOU in this paragraph should be revised to say "NEPA-404-408 MOU" for consistency with Chapter 1. In addition, the reference to the "purpose statement" near the end of the paragraph be revised to say "purpose and need statement" per Checkpoint A and consistency with Chapter 1 which provides the same discussion?	Regulatory Division				

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CALIFORNIA HIGH-SPEED RAIL PROJECT

Palmdale to Burbank Project Section

USACE Comments on the Draft EIR/EIS for the CHSR Palmdale to Burbank Project Section (11/30/2022)

		Comments					
Comment Number	Page/Sect Number	Comments	Reviewers Name	Authority Response	Respond Initials	Date	Verification (QC name/date)
4526-10651	69 Page 2-61	Burbank Airport Station paragraph. Similar to the Palmdale Station, shouldn't there be additional discussion noting the Burbank Airport Station was evaluated as part of the Burbank to Los Angeles Project Section and that information regarding this station is included for informational and reference only. Here's what the Summary 5.5.7, first paragraph states: The Burbank Airport Station, which is located at the southern end of the Palmdale to Burbank Project Section, was also evaluated as part of the Burbank to Los Angeles Project Section. See Section 2.5.2.2 in Chapter 2, Alternatives, for a depiction of the Burbank Airport Station area that is an overlap (common element) between the two HSR project sections. The Burbank to Los Angeles Project Section Final EIR/EIS was released on November 5, 2021, and the Authority's Board approved the Burbank to Los Angeles Project Section Preferred Alternative, including the Burbank Airport Station, on January 20, 2022. The information regarding the Burbank Airport Station included in this document is informational and for reference only. Should this same text be added here for consistency?	Regulatory Division				
4526-10652	70 Page 2-104	second paragraph on page. Should this discussion be moved or added to page 2-61 per comment above?	Regulatory Division				
4526-10653	71 Page 2-216	Table 2-39, state agencies. What about DWR? They are listed in 5.2 and 1.1.5 as a CEQA responsible agency. Why are they missing from this list? SHPO is listed in 5.2 as a CEQA responsible agency, yet they are not listed as such here. Why the inconsistency?	Regulatory Division				
4526-10654	72 Page 2-217	Table 2-39, state agencies. 5.2 does not cite Lahontan and LA regional boards as CEQA responsible agencies. Why the inconsistency?	Regulatory Division				
4526-10655	73 Page 2-17	Table 2-39, regional agencies. 5.2 and Chapter 1 both include the Antelope Valley AQMD as a CEQA responsible agency. Why are they not added here?	Regulatory Division				
4526-10656	74 Chapter 3 preface, page i	Fourth paragraph, third sentence. This sentence does not read correctly. Should "is" be deleted?	Regulatory Division				
4526-10657	75 Page 3.1-5	Insert at bottom of page regarding the statement "a proposed HSR station at the Hollywood Burbank Airport." Is it really proposed if it is included for information only?	Regulatory Division				
4526-10658	76 Page 3.1-14	3.1.4.8, first paragraph, fourth line. The word "note" should be revised to read "not".	Regulatory Division				
4526-10659	77 Page 3.3-3	Top of the page, last sentence. Is this accurate? We are not aware that we have been implementing 40 CFR Part 51 subpart W.	Regulatory Division				
4526-10660	78 Page 3.3-3	fourth paragraph. All references related to 40 CFR need to change the reference to "Part" to "Section".	Regulatory Division				
4526-10661	79 Page 3.3-43	Table 3.3-6, PM2.5 federal status. This should say serious nonattainment.	Regulatory Division				
4526-10662	80 Page 3.3-44	Table 3.3-6, Nitrogen dioxide. The SCAB is in maintenance in LA county. Is the RSA within the portion of LA county that is in maintenance?	Regulatory Division				

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4526-10580

The commenter, U.S. Army Corps of Engineers, is a Cooperating Agency, and refers to their enclosed comments that will aid the Authority in preparing the Final EIR/EIS and ensure the final NEPA document is consistent with Corps NEPA implementing regulations at 33 C.F.R. Part 325, Appendix B and 33 C.F.R. Part 230 to avoid the need for a supplemental NEPA document. Comment noted. The Authority will continue to coordinate with the U.S. Army Corps of Engineers and respond to the enclosed comments.

4526-10581

The commenter noted four major themes in their comments on the HSR project, including 1) a lack of sufficient engineering analysis to understand the magnitude and intensity of effects of the proposed tunneling on Corps Civil Works projects; 2) adequate protective measures to be integrated into the P-B Project Section for dam infrastructure; 3) changes to the purpose statement to which the Corps provided concurrence in a December 18, 2014, letter; and 4) adherence to procedural accuracy and compliance with environmental statutes. Specific comments will be responded to subsequently. The Authority will continue to coordinate with the U.S. Army Corps of Engineers to resolve these issues.

4526-10582

The commenter expresses that, pursuant to Section 14 of the RHA, the Authority will need to provide the U.S. Army Corps of Engineers (USACE) with sufficient engineering analysis to ensure the proposed tunneling near the Lopez Dam, Hansen Dam, and Tujunga Wash Channel crossing identified in the "Checkpoint B" would not be injurious to the public interest or impair the usefulness of these Corps projects. The commenter also states the Authority may need to submit Hydraulics and Hydrology model, seismic analysis, and structural calculations. The project would require review from USACE under Section 408 where the Build Alternative would occupy, alter, or use any federal flood control facility to ensure that its usefulness is not impaired. Lopez Dam, Hansen Dam, and Tujunga Channel are the USACE facilities regulated under Section 14 of the Rivers and Harbors Act of 1899, as amended and codified in 33 U.S. Code 408 (Section 408), which are located within the project study area. Section 408 provides that USACE may grant permission for another party to alter a USACE flood control facility upon a determination that the proposed alteration would not be injurious to the public interest and would not impair the usefulness of the facility. The NEPA/404/408 Memorandum of Understanding (MOU) signed by the FRA, the Authority, USACE, and USEPA in November 2010, provides for early consultation with USACE to establish the appropriate level of review and to provide a preliminary determination on whether the proposed modifications or alterations to the subject federal flood control facilities are likely to be granted permission. The Authority and the USACE have been coordinating under the November 2010 MOU with respect to the three USACE facilities listed above. Lopez Dam is located 650 feet west of the closest Build Alternative, which would be in tunnel 355 feet underground. Hansen Dam is located over 2,000 feet east of the closest Build Alternative, which would be in tunnel 288 feet underground. The Authority evaluated the potential for the project construction and operation to result in effects to these facilities, including the potential for ground settlement and vibration effects and determined these facilities are sufficiently outside the potential zone of influence. The Build Alternatives would not directly or indirectly alter, occupy, or use either Lopez or Hansen Dams. The construction of the Build Alternatives would not result in surface settlement, vibration or any other indirect effect that would impact either Hansen Dam or Lopez Dam. Furthermore, operation of the HSR trains is not expected to result in vibration with the potential to affect Lopez Dam or Hansen Dam.

The Refined SR14, SR14A, E1 and E1A Build Alternatives would cross over Tujunga

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4526-10582

Channel on viaduct that would clear span the channel. Abutments supporting the viaduct would be located outside of the existing concrete U-box structure that makes up the Tujunga Channel, on property owned by the Los Angeles County Flood Control District. The design also allows continued maintenance access along the channel. A meeting was held with the USACE and the Authority on April 6, 2023 and technical work has been prepared to support the coordination under the 2010 MOU. The Authority will continue to consult with the USACE and USEPA regarding whether any 408 permission is necessary for the project.

4526-10583

The commenter notes that the Authority will need to provide the U.S. Army Corps of Engineers with information on the functions and conditions assessment of aquatic resources and information related to the identification of the Least Environmentally Damaging Practicable Alternative (LEDPA) as part of the Clean Water Act (CWA) Section 404 permitting process. The Corps further notes that much of this information is expected to be contained in the Checkpoint C Report. Since publication of the Draft EIR/EIS, the Authority has prepared and submitted to the U.S. Army Corps of Engineers its Checkpoint C document, which included the additional detail and information requested by the commenter including its preliminary LEDPA determination and factual determinations. The process by which the Authority submits certain "checkpoint" documents is described in the Final EIR/EIS (see Section S.14.3) - IS THIS A CORRECT CITATION?

4526-10584

The commenter notes concern regarding the proposed alterations to U.S. Army Corps of Engineers (USACE) built facilities and states that potential impacts were not addressed in regard to engineering integrity, capacity, and safety. The commenter requested the inclusion of 30 percent level design. Additionally, the commenter requested that a Section 408 discussion be included in the Final EIR/EIS.

The Authority is consulting with the USACE regarding Section 408 facilities located within the project area and has provided engineering detail, as well as analysis for each Section 408 facility within the project area. This additional engineering detail and analysis has been submitted to the USACE, as part of the Authority's Checkpoint C submittal in the Palmdale to Burbank Checkpoint C Section 408 Request for Preliminary Recommendation –Tujunga Wash Report (Authority 2023). The analysis provided to the USACE shows that the Section 408 facilities located within the project area include the Lopez and Hansen Dams, and the Tujunga Channel.

Regarding the Lopez Dam, the Authority's preferred alternative (SR14A Build Alternative) alignment does not cross this facility. The SR14A Build Alternative alignment would be in tunnel 405 feet underground and 650 feet east of Lopez Dam at its closest point and would not cross under the dam right-of-way.

Regarding the Hansen Dam, the SR14A Build Alternative alignment does not cross this facility. The SR14A Build Alternative alignment would be in tunnel 290 feet underground and over 2,000 feet west of the dam and would not cross under the dam right-of-way.

The SR14A Build Alternative alignment crosses over Tujunga Channel on viaduct that would clear span the channel. Abutments supporting the viaduct would be located outside of the existing concrete U-box structure that makes up the Tujunga Channel, on property owned by the Los Angeles County Flood Control District. The proposed design of the viaduct crossing includes lowering of the vertical profile (2 feet) of the maintenance access road along the channel under the viaduct structures, which will provide 9 feet of clearance between the proposed structures soffit and the maintenance road. This vertical clearance is adequate for vehicle circulation and maintenance purposes. Channel walls will keep current elevation, and lowering the maintenance road will not diminish the channel structural integrity nor its hydraulic capacity.

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4526-10584

Section 3.8, Hydrology and Water Resources has been revised in the Final EIR/EIS to include a discussion of the NEPA, Section 404, and Section 408 Memorandum of Understanding (MOU) signed by the FRA, the Authority, USACE, and USEPA in November 2010, which provides for early consultation with USACE to establish the appropriate level of review, as well as provide a preliminary determination on whether the proposed modifications or alterations to the subject federal flood control facilities are likely to be granted permission, as well as the Section 408 facilities and the coordination that has been done by the Authority under the November 2010 MOU with respect to these three facilities (Lopez Dam, Hansen Dam and Tujunga Channel).

4526-10585

The commenter is requesting an engineering analysis that evaluates whether tunneling associated with the alternatives would adversely affect dams considered U.S. Army Corps of Engineers (USACE) civil works facilities or be injurious to the public. The project would require review from USACE under Section 408 where the Build Alternative would occupy, alter, or use any federal flood control facility to ensure that its usefulness is not impaired. Lopez Dam, Hansen Dam, and Tujunga Channel are the USACE facilities regulated under Section 14 of the Rivers and Harbors Act of 1899, as amended and codified in 33 U.S. Code 408 (Section 408), which are located within the project study area. Section 408 provides that USACE may grant permission for another party to alter a USACE flood control facility upon a determination that the proposed alteration would not be injurious to the public interest and would not impair the usefulness of the facility. The NEPA/404/408 Memorandum of Understanding (MOU) signed by the FRA, the Authority, USACE, and USEPA in November 2010 provides for early consultation with USACE to establish the appropriate level of review and to provide a preliminary determination on whether the proposed modifications or alterations to the subject federal flood control facilities are likely to be granted permission. The Authority and the USACE have been coordinating under the November 2010 MOU with respect to the three USACE facilities listed above. Lopez Dam is located 650 feet west of the closest Build Alternative, which would be in tunnel 355 feet underground. Hansen Dam is located over 2,000 feet east of the closest Build Alternative, which would be in tunnel 288 feet underground. The Authority evaluated the potential for the project construction and operation to result in effects to these facilities, including the potential for ground settlement and vibration effects, and determined these facilities are sufficiently outside the potential zone of influence. The Build Alternatives would not directly or indirectly alter, occupy, or use either Lopez or Hansen Dams. The construction of the Build Alternatives would not result in surface settlement, vibration or any other indirect effect that would impact either Hansen Dam or Lopez Dam. Furthermore, operation of the HSR trains is not expected to result in vibration with the potential to affect Lopez Dam or Hansen Dam. The Build Alternatives (Refined SR14, SR14A, E1 and E1A) would cross over Tujunga Channel on viaduct that would clear span the channel. Abutments supporting the viaduct would be located outside of the existing concrete U-box structure that makes up the Tujunga Channel, on property owned by the Los Angeles County Flood Control District. The design also allows continued maintenance access along the channel. Clarifying text on these USACE facilities has been added to Chapter 3.8,

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Impact HWR#3: Changes in Flood Risks Associated with Temporary Construction Activities and Permanent Structures Required for the Build Alternatives and Impact HWR#6: Project Operation Effects on Water. A meeting was held with the USACE and the Authority on April 6, 2023 and technical work has been prepared to support the coordination under the 2010 MOU. The Section 408 Preliminary Recommendations Report was submitted to USACE on November 15, 2023 as part of the Checkpoint C Summary Report Package and the Authority will continue coordination efforts with USACE.

4526-10586

Refer to Standard Response PB-Response-ALT-1: Alternatives Selection and Evaluation Process, PB-Response-GSSP-1: Risk and Impacts Associated with Seismic Events, PB-Response-HYD-1: Impacts on the Hansen Dam and Hansen Spreading Grounds.

The commenter expresses concern about the proximity of the project's proposed tunnels to U.S. Army Corps of Engineers (USACE) built facilities (Lopez and Hansen dams).

Pursuant to a 2010 Memorandum of Understanding, National Environmental Policy Act (42 U.S.C. 4321 et seq) and Clean Water Act Section 404 (33 U.S.C. 1344) and Rivers and Harbors Act Section 14 (33 U.S.C. 408) Integration Process for the California High-Speed Rail Program (U.S. Department of Transportation Federal Railroad Administration et al. 2010), the Authority has consulted with the USACE regarding the proposed high-speed rail tunnels and their effect on USACE built facilities, including Lopez and Hansen Dams.

The Authority has provided the USACE with engineering analysis, plans, and maps in its Checkpoint C Section 408 Request for Preliminary Recommendations report. This report documents that both Lopez and Hansen Dams are located outside the tunnel influence zones for the project, and as such, would not be subject to ground settlement or potential damage from either construction or operation of the project. Measures are in place to address potential groundwater leakage during construction. For example, implementation of HYD-IAMF#6 will include the use of a segmental, precast, concrete lining with bolted and gasketed joints, creating a tunnel lining capable of resisting the groundwater pressure with minimal leakage in circumstances where groundwater pressures are 25 bar or less. In sections where groundwater pressures are above 25 bar, and after the first lining has been installed, no significant water leakage is expected once a second lining has been put in place. Furthermore, a second lining will be put in place and no significant water leakage is expected.

Implementation of HYD-IAMF#7 will require pouring coarse mortar into various narrow cavities along the tunnel lining. Several grouting methods will be used during the construction of the tunnels to avoid and minimize groundwater flows into the tunnels, including pre-excavation grouting, backfill grouting with two-component grout, and check

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grouting.

Both Lopez Dam and Hansen Dam are located well outside the areas of potential vibration effects from both project construction and operation. The SR14A Build Alternative would be in a tunnel 405 feet underground and 650 feet east of Lopez Dam and would not cross under the dam or the pool/reservoir right-of-way. Based on the geology of the area around Lopez Dam, the tunnel influence zone (area that could experience ground settlement) is calculated to extend a maximum of 338 feet from the tunnels. Lopez Dam is over 300 feet outside of this influence zone and therefore would not be affected by tunnel construction. Vibration effects from tunnel construction (using TBMs) attenuate sharply with distance; at a distance of 100 meters (328 feet) from the vibration source, ground-borne vibration caused by the TBM would be close to zero and harmless to structures. In addition, Lopez Dam is located over 300 feet beyond the potential vibration zone for tunnel construction and therefore would not be affected.

Regarding Hansen Dam, the SR14A Build Alternative would be in a tunnel 290 feet underground and 2,000 feet west of Hansen Dam and would not cross under the dam or pool/reservoir right-of-way. Based on the geology of the area around Hansen Dam, the tunnel influence zone is calculated to extend to a maximum of 332 feet. Hansen Dam is located over 1,600 feet outside this zone and therefore would not be affected by tunnel construction. As noted above, vibration effects from tunnel construction (using TBMs) attenuate sharply with distance; at a distance of 100 meters (328 feet) from the vibration source, ground-borne vibration caused by the tunnel boring machine (TBM) would be close to zero and harmless to structures. Hansen Dam is located over 1,600 feet beyond the potential vibration zone for tunnel construction and therefore would not be affected.

The commenter noted that an Antiterrorism Plan may need to be prepared in accordance with DoD standards with the project's proximity to the Hansen and Lopez Dams. This comment is noted. The Draft EIR/EIS addresses potential safety and security issues associated with construction, operation and maintenance of the project. As discussed under Impact S&S#14, in Section 3.11, Safety and Security of the Draft EIR/EIS, the California HSR System will include access control and security monitoring systems, including sensors on perimeter fencing, closed-circuit television, and security lighting where appropriate. As described under SS-IAMF#2, the Authority will implement

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system security plans (SSPs) that address design features intended to maintain security at the stations within the track right-of-way, at stations, and onboard trains. A dedicated police force will ensure that the security needs of the HSR system are met.

The Authority has also established a liaison with the Transportation Security Administration's (TSA) Mass Transit and Rail Department who reports directly to the project operations manager. This liaison has been established to meet Department of Homeland Security and TSA requirements once project construction is complete, and to provide coordinated transfer of information concerning security concerns, threats, best practices, and security regulations that may pertain to rail security during development and implementation of the California HSR System and during operations of the project. These system features would reduce the vulnerability to a successful criminal or terrorist act.

Please refer to Appendix 2-E, Impact Avoidance and Minimization Features, in Volume 2 of this Final EIR/EIS for full descriptions of the IAMFs that will be incorporated into the project. As described above, the Authority's analysis shows that the project's construction and operation would have no potential effect on either Lopez or Hansen Dams. As a result, the project would pose no risk to these facilities and an Antiterrorism Plan is not required.

Also, please refer also to Standard Response PB-Response-HYD-1: Impacts on the Hansen Dam and Hansen Spreading Grounds, PB-Response-GSSP-1: Risk and Impacts Associated with Seismic Events, and PB-Response-ALT-1: Alternatives Selection and Evaluation Process which further address these issues.

4526-10587

This is a duplicate comment. Please refer to Response to Comment #10586.

Response to Submission 4526 (Spencer MacNeil, US Army Corps of Engineers, December 1, 2022) - Continued

4526-10588

The commenter is concerned with stability risk to Lopez and Hansen Dams due to the construction of the HSR tunnels. The commenter specifically states that Lopez Dam may be near the Hospital Fault, where hydraulic conductivity is moderate to high and in-situ stress (stress developed due to the weight of the overlying materials as well as confinement) is also moderate to high. Fault rupture and seismic shaking and how they could endanger structures are discussed in Impact GSSP#7, and dam failure is discussed in Impact GSSP#16 in Section 3.9, Geology, Soils, Seismicity and Paleontological Resources of the Final EIR/EIS. As stated on page 3.9-10 of the Draft EIR/EIS, during final design, the Authority would conduct geotechnical investigations that focus on defining precise geology, groundwater, seismic, and environmental conditions along the Preferred Alternative. Those investigations would provide a detailed assessment of soil and geologic hazards within the Preferred Alternative footprint to inform the final design and construction methods for trackway, structures, and ancillary facilities. Impact Avoidance and Minimization Features (IAMFs) will also be implemented to minimize stability risks to the dams. The Authority would adopt engineering and design approaches described in HYD-IAMF#5 through HYD-IAMF#7 requiring the use of state-of-the-art tunneling techniques to avoid and minimize tunneling impacts on groundwater, utilizing a tunnel liner system appropriate to the groundwater conditions/pressures, and using grout injected into the subsurface material to minimize seepage and groundwater flows into the tunnel. The project's design will also implement GEO-IAMF#1, the preparation of a Construction Management Plan (CMP) that requires a topographic survey and an assessment of geotechnical conditions prior to construction. This will include the characterization of groundwater conditions, subsidence, and unstable soils. GEO-IAMF#10 requires implementation of engineering and safety standards from the American Association of State Highway and Transportation Officials, Federal Highway Administration, American Railway Engineering and Maintenance-of-Way Association, California Building Code, International Building Code and American Society of Civil Engineers, Caltrans Design Standards, and American Society for Testing and Materials. The Authority has analyzed the potential risks to Lopez and Hansen Dams. Both the Lopez Dam and Hansen Dam are located outside the Tunnel Influence Zones for ground settlement as defined by the International Tunneling Association. Additionally, both the Lopez Dam and Hansen Dam are located well outside their respective areas for potential vibration effects. Construction of the tunnels would include a monitoring and instrumentation plan in sensitive areas such as

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urban areas or zones identified as potentially affected by tunnel induced settlements in the PEPD Tunnel Design Report Table E-1. As mentioned above, under GEO-IAMF#1, the contractor shall prepare a CMP that will address geological and geotechnical constraints and will include settlement monitoring and instrumentation. Through this plan any surface movements induced by tunnel construction would be measured and monitored. The preferred alternative SR14A would be in tunnel 405 feet underground and 650 feet east of Lopez Dam and would not cross under the dam or the pool right-of-way. Based on the surrounding rock type, the maximum extent of the disturbance due to excavation of HSR tunnels could be up to 100 ft around the tunnel (i.e., three times the tunnel diameter as measured from the tunnel axis –FHWA-NHI-10-034 Technical Design Manual for Design and Construction of Road Tunnels). Beyond this zone, the rock mass is undisturbed. Therefore, Lopez Dam is not anticipated to be affected due to the construction of the HSR tunnels. The preferred alternative SR14A would be in tunnel 290 feet underground and 2,000 feet west of Hansen Dam and would not cross under the dam or the pool right-of-way. Based on the surrounding rock type, the maximum extent of the disturbance due to excavation of HSR tunnels could also be up to 100 feet around the tunnel (i.e., three times the tunnel diameter as measured from the tunnel axis). Beyond this zone, the rock mass is undisturbed. Therefore, Hansen Dam is not anticipated to be affected due to the construction of the HSR tunnels.

4526-10589

The commenter is requesting hydraulic analysis model for any modification in the channel to show that the water surface elevation isn't encroaching the freeboard. The soffit, or elevation of the bridge carrying the rail alignment over the channel is more than 5 feet above the top of the channel walls. As a result the bridge will not encroach on the freeboard (minimum of 3 feet freeboard below the top of channel wall). Construction of the bridge across the channel will not alter the channel structure in anyway as the bridge will be more than 5 feet over the existing channel and bridge supports will also be located outside the channel.

Response to Submission 4526 (Spencer MacNeil, US Army Corps of Engineers, December 1, 2022) - Continued

4526-10590

The commenter indicates that the Southern California Area - Channel Improvements Construction Limitations policy applies to the project. The referred to limitations are related to projects that include modification to local flood control channels. These limitations have to do with maintaining a specific amount of capacity in the flood control channel during certain times of the year (e.g., from April 15 to May 31 and September 1 to October 15, 33.3 percent of the original channel design capacity must be preserved). The flood control facility in question is the Tujunga Channel crossing. The SR14, SR14A, E1, and E1A Build Alternatives would cross this channel below Hansen Dam. Each of these Build Alternatives would cross over the channel (clear span), thereby avoiding the need to alter the capacity of the channel either during construction or operation. As such the project construction would comply with this policy. The E2 and E2A Build Alternatives would not cross a U.S. Army Corps of Engineers flood control channel.

4526-10591

Refer to Standard Response PB-Response-GSSP-1: Risk and Impacts Associated with Seismic Events.

The commenter expressed concern regarding the alignment going through seismic fault zones.

Please refer to Standard Response PB-Response-GSSP-1: Risk and Impacts Associated with Seismic Events, for discussion of seismic events during construction and operation of the HSR Palmdale to Burbank Project Section. In addition, as noted in Section 3.9, Geology, Soils, Seismicity and Paleontological Resources, GEO-IAMF#10 would be implemented, which describes the Authority's commitment to coordinating with the contractor to prepare a technical memorandum documenting steps to be taken that incorporate safety designs into facility design and construction. This includes adherence to the 2015 American Association of State Highway and Transportation Officials (AASHTO) Load and Resistance Factor Bridge Design Specifications and the 2015 AASHTO Guide Specifications for Load and Resistance Factor Seismic Bridge Design, or their most recent versions, prior to construction.

4526-10592

The commenter is requesting the Authority confirm viaduct pillars will not constrain the flow of Tujunga Wash, or cause sediment deposition around the pillars that requires future maintenance or raises flood concerns. The project would be designed both to minimize increases in 100-year or 200-year flood elevations. Design standards will include the following: design crossings to be as nearly perpendicular to the channel as feasible to minimize bridge length; orient piers to be parallel to the expected high-water flow direction to minimize flow disturbance; elevate bridge crossings at least 3 feet above the high-water surface elevation to provide adequate clearance for floating debris, or as required by local agencies' conduct engineering analyses of channel scour depths at each crossing to evaluate the depth for burying the bridge piers and abutments; implement scour-control measures to reduce erosion potential; use quarry stone, cobblestone, or their equivalent for erosion control along rivers and streams, complimented with native riparian plantings or other natural stabilization alternatives that would restore and maintain a natural riparian corridor. Additional investigations will be conducted during the project's design phase to further inform design refinements and to guide the implementation of IAMFs and required mitigation. The Authority evaluated the permanent alteration of surface drainage patterns from aboveground temporary construction activities and permanent structures required for the build alternatives including the E2 and E2A alternatives and the crossing of Tujunga Wash in Impact HWR#1 and found the impact would be reduced to less than significant with implementation of HYD-IAMF#2, which requires water crossings to maintain preconstruction hydraulic capacity. In addition, GEO-IAMF#1 requires additional investigations and detailed analyses be conducted of the project's geologic and hydrogeologic conditions, including the characterization of project's hydrology and hydraulic analysis in Tujunga Wash. A scour analysis for the structure will be performed in the design phase. However, the Tujunga Wash viaduct is located in the E2 and E2A build alternatives. The Authority's preferred alternative is the SR14A Build Alternative, which would avoid the potential impacts of concern raised by the commenter.

Response to Submission 4526 (Spencer MacNeil, US Army Corps of Engineers, December 1, 2022) - Continued

4526-10593

The commenter is concerned about leakage from the Lopez Dam reservoir area into the tunnel zones as a result of fresh ground fractures caused by tunnel construction and is requesting mitigation measures to address potential seepage be identified. Section 3.8, Hydrology and Water Resources, of this Final EIR/EIS evaluates the potential seepage caused by tunnel construction. The Authority will use state-of-the-art design features and construction methods to avoid and minimize impacts on hydrologic resources, including the use of tunnel boring machines (TBMs) with features to reduce or prevent inflows and grouting and tunnel-lining approaches that have proven effective at controlling water seepage. These measures are identified in HYD-IAMF#5 (TBM Design Features), HYD-IAMF#6 (Tunnel Lining Systems), and HYD-IAMF#7 (Grouting). HYD-IAMF#5 (TBM Design Features) would use closed-mode operations to effectively prevent water seepage from occurring at the TBM cutterhead area, with ports for drilling horizontal probe holes through the TBM cutterhead, and angled probe holes through the TBM shields. These holes will allow for water pressures and flow rates to be measured ahead of the TBM, and further allow for pre-excitation grouting ahead of the TBM to cut-off groundwater inflows into the tunnel. HYD-IAMF#6 (Tunnel Lining Systems) will consist of segmental, precast, concrete lining with bolted and gasketed joints, creating a tunnel lining capable of resisting the groundwater pressure with minimal leakage. HYD-IAMF#7 (Grouting) involves pouring coarse mortar into various narrow cavities along the tunnel lining. Several grouting methods will be used during the construction of the tunnels to avoid and minimize groundwater flows into the tunnels, including pre-excitation grouting, backfill grouting with two-component grout, and check grouting (refer to Appendix 2.0-E of the Palmdale to Burbank Project Section EIR/EIS for further descriptions of IAMFs that will be implemented as part of the project, including HYD-IAMF#5, HYD-IAMF#6, and HYD-IAMF#7).

The SR14A Build Alternative alignment would be constructed in tunnel 405 feet underground and 650 feet east of Lopez Dam at its closest point, and would not cross under the dam right-of-way. Due to the distance from the tunnel to the dam, impacts to the hydrology and hydraulics of the dam system are not expected. A tributary canyon to Lopez Dam pool crosses over the SR14A and Refined SR14 alignment, approximately at Sta. 1,805+00. At this location, the tunnels are over 200 feet deep through ground characterized as very old alluvium. Groundwater head is expected to be low, under 5 bar. No water leakage into the tunnel is expected since the tunnel is designed with a

4526-10593

watertight one-pass lining capable of withstanding a minimum of 25 bar pressure. Other measures to prevent seepage during construction such as probe drilling for ground exploration, pre-excitation grouting, and post-excitation grouting are included in the EIR/EIS, as described above. Geology at this location, where the HSR tunnels are in proximity of Lopez Dam, is Saugus (Quaternary) formation, which forms the bedrock of this area and is primarily medium to coarse-grained sandstone and pebble conglomerate. For the SRA14A and Refined SR14 alignment, there is a superficial layer of old fan deposits comprised of silt, sand, and gravel (Palmdale to Burbank PEPD Record Set Rev01 Geotechnical Tunnel Feasibility Evaluation. Tunnels Beneath Angeles National Forest –Appendix A, 2019. Reference Figure B.1.3-1 North of Sta. 1805+00.00). In this type of rock, the maximum extent of the disturbance due to excavation of HSR tunnels could be up to 100 feet around the tunnel (i.e., three times the tunnel diameter as measured from the tunnel axis). Beyond this zone, the rock mass is undisturbed and ground fractures that may be induced or opened by tunneling-induced settlement are not expected to extend to the dam pool area.

Response to Submission 4526 (Spencer MacNeil, US Army Corps of Engineers, December 1, 2022) - Continued

4526-10594

The commenter is concerned with construction and operational impacts associated with an earthquake causing water from a Lopez Dam leak or groundwater to enter the tunnel. Lopez Reservoir is primarily a dry-land basin with no permanent impoundment. The Refined SR14, SR14A, E1, and E1A Build Alternatives would be, at their closest point to Lopez Dam, located in a tunnel approximately 405 feet below the surface and a minimum of 650 feet to the east of the Lopez Dam right-of-way. The closest point of the alignment for the E2 and E2A Build Alternatives to Lopez Dam is over three miles away. As such, all Build Alternatives would be well outside the zone of influence for any adverse effects to Lopez Dam. However, the Authority understands that there are risks associated with undergoing construction in a seismically active area such as Sylmar and in the proximity of the Sierra Madre Fault.

All Build Alternatives would cross the Sierra Madre Fault at two locations (see Figure 3.9-17: Regional Fault Systems in Section 3.9, Geology, Soils, and Seismicity, and Paleontological Resources of the Draft EIR/EIS). The design considered that both Sierra Madre North and Sierra Madre South displacement would occur during the lifetime of the tunnel at a single earthquake event. Preliminary Engineering for Project Definition (PEPD) Tunnel Design Report Table 5-5 includes maximum expected fault displacement for determining required size of fault chambers. As shown on the table, the horizontal displacement and approximate vertical displacement at the Sierra Madre (Northern Location)/Sunland, Lopez & Hospital Fault Splays are 3.6 feet and 5.4 feet respectively. According to the values shown in Table 5-5 and the methodology presented in section 5.6.5 of the PEPD Tunnel Design Report, the maximum fault displacement considered for Sierra Madre North is 6.5 feet, which is in the order of magnitude of the value mentioned by the commenter.

The USGS reports there is a 46% probability of a magnitude 7 earthquake occurring in the next 30 years on the San Andreas fault in the Los Angeles area. Additionally, it is conceivable that at some point in the future (open-ended and unspecified time frame) there will be an earthquake along the Sierra Madre fault zone that will produce ground rupture. The Authority has developed a methodology to screen the geologic and seismic hazards during the 15% design stage that is defined by the Authority's Technical Memoranda (TM) 2.9.3 R1 Geologic and Seismic Hazard Analysis Guidelines, 2.9.6 Interim Ground Motion, 2.10.5 15% Seismic Design Benchmark, and 2.10.6 Fault

4526-10594

Hazard Analysis and Mitigation Guidelines. These guidelines include methodology and criteria for seismic analysis considering relevant earthquake magnitudes, ground motions and potential for fault displacement for various structure types including tunnels. This methodology has been applied to the preliminary design included in the Draft EIR/EIS. TM 2.10.5 R0, 15% Seismic Design Benchmark provides benchmark guidance to assist in establishing the scope, confirming design feasibility, establishing the structure foundation footprint, ensuring reasonable constructability, and developing preliminary cost estimates for EIR/EIS documents. The seismic structural design and analysis standards appropriate for the 30% Design and Final Design levels are defined in TM 2.10.4 R1 Interim Seismic Design Criteria and TM 200.01 R0 Seismic Design and Ground Motion. TM 2.10.6, Fault Hazard Analysis and Mitigation Guidelines indicates that where the tunnels cross a Hazardous Fault Zone, strategies, such as fault chambers, shall be pursued. As for the engineering aspects of fault rupture mitigation, the engineering design that supports the Draft EIR/EIS has been developed to the extent sufficient for adequately evaluating environmental impacts pursuant to NEPA and CEQA, in accordance with TM 0.1 and the following Technical Memoranda related to tunnels and seismic hazard: TM 1.1.10, TM 3.2.3, TM 2.4.2, TM 1.1.2, TM 2.4.5, TM 2.10.6, TM 2.9.3 and TM 2.9.6.

All Build Alternatives include a fault chamber for crossing the Sierra Madre Fault. The fault chamber will be designed to accommodate the fault displacement by the failure of the initial lining and the controlled deformation of the cellular concrete (see Draft EIR/EIS Volume 3 PEPD Record Set REV02 Tunnel Plans Drawings TN-C0300, TN-C0301 and TN-C0302). The fault chamber will ensure water tightness of the inner tunnel lining before and after the event of fault displacement.

Construction of fault chambers at hazardous fault locations where a highly compressible material is installed between the interior tunnel lining and the primary support of the fault chamber would allow for large deformation redistribution and avoiding shear failure. According to the Authority's TM 2.10.6 R1 Fault Rupture Analysis and Mitigation, where the tunnels cross a Hazardous Fault zone, a larger cross-section has been considered to allow clear passage and realignment of the tracks after a seismic event. Also, the length of the track realignment zone has been extended beyond the fault zone. The fault chamber is designed to accommodate fault displacement by the failure of the initial

Response to Submission 4526 (Spencer MacNeil, US Army Corps of Engineers, December 1, 2022) - Continued

4526-10594

lining while preserving the integrity of the interior lining. Please refer to Draft EIR/EIS Volume 3 Tunnel Plans Drawings TN-C0300 through TN-C0302 for a description of the fault chamber design. Before and after the fault chamber, the tunnel will have a widened cross section to allow the alignment recovery as described in TM 2.10.6 R1 Section 3.4.3.6.

Seismic hazards are discussed in Section 3.9.5.5 Seismicity, Section 3.9.5.6 Primary Seismic Hazards, and Section 3.9.5.7 Secondary Seismic Hazards of the Draft EIR/EIS. The tunnel alignment for all six Build Alternatives would be constructed in compliance with applicable engineering standards and include the Authority's use of state-of-the-art design features and construction methods to avoid and minimize these risks. These risks and impacts are analyzed in detail in Section 3.9, Geology, Soils, Seismicity and Paleontological Resources, specifically in Impact GSSP#7 (Fault Rupture and Seismic Ground Shaking Could Endanger People or Structures During Construction) and Impact GSSP#16 (Effects of Geologic Hazards During Operations). These risks and impacts are addressed by GEO-IAMF#7 that requires an evaluation of fault rupture potential at the surface and at tunnel depth and GEO-IAMF#10 that will implement engineering and safety protocols to limit fault rupture and seismic shaking hazards, from all potentially damaging earthquakes during construction and operation. The Authority would also adopt engineering and design approaches described in HYD-IAMF#5 through HYD-IAMF#7 requiring the use of state-of-the-art tunneling techniques to avoid and minimize tunneling impacts on groundwater, utilizing a tunnel liner system appropriate to the groundwater conditions/pressures expected along the fault plane, and using grout injected into the subsurface material to minimize seepage and groundwater flows into the tunnel. The project's design will incorporate GEO-IAMF#1 which requires the preparation of a Construction Management Plan that includes a topographic survey and an assessment of geotechnical (including seismic) conditions prior to construction. Other features set specific standards that the project must comply with to promote safety during construction and operations. Because of the effectiveness of design features and IAMFs, there would be less than significant impacts under CEQA related to fault rupture and seismic ground shaking that could endanger people or structures during construction (Impact GSSP#7) and effects of geologic hazards during operations (Impact GSSP#16) for all of the Build alternatives. Please also see Response to Comment #10526.

4526-10595

Refer to Standard Response PB-Response-GSSP-1: Risk and Impacts Associated with Seismic Events.

The commenter states that viaduct support piers within the Big Tujunga River channel should be designed to accommodate scour and debris during flood events. As discussed in the Draft EIR/EIS, when the HSR system structures are located in a floodplain, they will be identified and mitigated in accordance with HYD-IAMF#2. The Draft EIR/EIS Technical Appendix 2.0-E, Impact Avoidance and Minimization Features (page 2-E-22) contains detailed discussion of HYD-IAMF#2, which includes the following: "Prior to Construction, the Contractor shall prepare a flood protection plan for Authority review and approval. The following design standards will minimize the effects of pier placement on floodplains and floodways:

- Design site crossings to be as nearly perpendicular to the channel as feasible to minimize bridge length.
- Orient piers to be parallel to the expected high-water flow direction to minimize flow disturbance.
- Elevate bridge crossings at least 3 feet above the high-water surface elevation to provide adequate clearance for floating debris, or as required by local agencies.
- Conduct engineering analyses of channel scour depths at each crossing to evaluate the depth for burying the bridge piers and abutments. Implement scour-control measures to reduce erosion potential.

Response to Submission 4526 (Spencer MacNeil, US Army Corps of Engineers, December 1, 2022) - Continued

4526-10596

The commenter is concerned about tunnel flooding and recommends that the Authority conduct an appropriate risk analysis for the E2 alignments regarding potential tunnel flooding and develop appropriate mitigation measures to address any such event. The historic maximum water surface elevation measured in Hansen Dam was 1,039.70 feet (March 2, 1983) (Hansen Dam Basin Master Plan and Environmental Assessment, USACE September 2011) and according to FEMA, the flood hazard zone in that area reaches its maximum at 1,050 feet. The elevation of the top of rail of the HSR tracks at the entrance of the tunnel south of the Tujunga Wash is 1,080 feet. The elevation of the Hansen Dam spillway crest is 1,060 feet (Hansen Dam Basin Master Plan and Environmental Assessment, USACE September 2011). The tunnel entrance is 20 feet above the dam spillway, therefore even during an extraordinary flood event, the water level would not reach the tunnel entrance elevation, since the dam spillway elevation would limit the water levels in the Hansen reservoir. Additional risks analyses will be conducted prior to construction to further inform project design and to guide implementation of IAMFs and any required mitigation if necessary. In accordance with HYD-IAMF#2, the Contractor shall prepare a flood protection plan for Authority review and approval. The project would be designed both to remain operational during flood events and to minimize increases in 100-year or 200-year flood elevations, as applicable to the location.

4526-10597

The commenter notes the absence of and requests structural details and structural design calculations related to HSR rail, tunnel, and bridge designs in the Hansen Dam vicinity of the Palmdale to Burbank Project Section. Hansen Dam is located over 2,000 feet east of the closest Build Alternative, which would be in a tunnel 290 feet underground. The Authority evaluated the potential for the project construction and operation to result in affects to Hansen Dam including the potential for ground settlement and vibration effects and determined this facility is sufficiently outside the potential zone of influence. As such, the Build Alternatives would not directly alter, occupy, or use Hansen dam. Clarifying text on USACE facilities has been added to Chapter 3.8, Impact HWR#3: Changes in Flood Risks Associated with Temporary Construction Activities and Permanent Structures Required for the Build Alternatives and Impact HWR#6: Project Operation Effects on Water. This technical information was included in the Section 408 Preliminary Recommendations Report that was submitted to USACE on November 15, 2023 as part of the Checkpoint C Summary Report Package.

Response to Submission 4526 (Spencer MacNeil, US Army Corps of Engineers, December 1, 2022) - Continued

4526-10598

The commenter appears to refer to the Tujunga Wash Channel/Hansen Dam Spillway structure in the Draft EIR/EIS Preliminary Engineering for Project Definition (PEPD) Record Set Rev02 Bridges and Elevated Structures Plans Drawing Nos. ST-J1025-S14 and ST-J1013-E1 (Volume 3 of the Draft EIR/EIS). Regarding the proposed bridge depicted in the concept detail drawing, the commenter requests that the concept detail show the station relative to the channel for the viaduct crossing over the Tujunga Wash Channel/Hansen Dam Spillway Crossing.

In order to be responsive to this comment, the Authority requested the station location information from United States Army Corps of Engineers (USACE) on March 2, 2023. A follow up by the Authority on this request was made again in April 2023. However, to address this comment and finalize the 408 Preliminary Recommendations Report which has also been provided to the USACE, the station of the channel crossing (along the channel) was included based on the information available from the USACE LA County Drainage Area Upper Los Angeles River and Tujunga Wash HEC-RAS Hydraulic Models Final Report published in July 2005. The station related to the channel has been included in the 408 Preliminary Recommendations Report, which was submitted to USACE on November 15, 2023, as part of the Checkpoint C Summary Report Package. The Authority will continue coordination efforts with the USACE to conclude the Checkpoint C process and eventually obtain a Section 404 permit. In addition, the station related to the channel has also been added in Drawings ST-J1025-S14 and ST-J1013-E1 in Volume 3 of the Final EIR/EIS.

4526-10599

Referring to engineering design sheet 24 of 27, the commenter requests the clearance dimension between the channel and the proposed bridge abutment.

In response, PEPD Volume 3 Bridges and Elevated Structures Plan Drawing ST-J1025-S14 has been revised to include minimum clearance between proposed structure abutment and the channel. The minimum clearance between the channel and the southeast bridge abutment is 25 feet. The minimum clearance between the channel and the northwest bridge abutment is 16 feet.

4526-10600

The commenter requests more detail in the drawings showing the proposed bridge across the Tujunga Channel relative to the existing access road. The SR14A Build Alternative crosses over the Tujunga Wash Channel. The proposed structure will also span over the maintenance access road that runs parallel to the channel. Additional detail of the existing access road under the bridge has been added to drawing ST-J1025-S14 in Volume 3 PEPD Record Set Bridges and Elevated Structures Plans of the Final EIR/EIS, as requested, including a cross section detail, an elevation section detail, and a plan view section detail of the proposed bridge relative to the existing access road.

Response to Submission 4526 (Spencer MacNeil, US Army Corps of Engineers, December 1, 2022) - Continued

4526-10601

Refer to Standard Response PB-Response-HYD-1: Impacts on the Hansen Dam and Hansen Spreading Grounds.

The commenter suggests the Hansen Dam Spreading Grounds would be interfered with by the Palmdale to Burbank Project Section, and requested that the Authority check with the Dam and Levee Safety and the Operation and Maintenance (O&M) Branch of the U.S. Army Corps of Engineers (USACE) regarding the proposed project. The Palmdale to Burbank Project Section would require review from USACE under Section 408 where the six Build Alternatives would occupy, alter, or use any federal flood control facility to ensure that its usefulness is not impaired. Hansen Dam and Tujunga Channel are the USACE facilities regulated under Section 14 of the Rivers and Harbors Act of 1899, as amended and codified in 33 U.S. Code 408 (Section 408) which are located within the Palmdale to Burbank Project Section. Section 408 provides that USACE may grant permission for another party to alter a USACE flood control facility upon a determination that the alteration proposed would not be injurious to the public interest and would not impair the usefulness of the facility. The NEPA/404/408 Memorandum of Understanding (MOU) signed by the FRA, the Authority, USACE, and U.S. Environmental Protection Agency in November 2010, provides for early consultation with USACE to establish the appropriate level of review and to provide a preliminary determination on whether the proposed modifications or alterations to the subject federal flood control facilities are likely to be granted permission. The Authority and the USACE have been coordinating under the November 2010 MOU with respect to these USACE facilities.

Hansen Dam is located over 2,000 feet east of the closest Build Alternative which would be in tunnel 290 feet underground. The Authority evaluated the potential for the project construction and operation to result in effects to the dam including the potential for ground settlement and vibration effects and determined the dam is sufficiently outside the potential zone of influence. As such, the Build Alternatives would not directly alter, occupy, or use Hansen Dam. The Build Alternatives (Refined SR14, SR14A, E1 and E1A) would cross over Tujunga Channel on viaduct that would clear span the channel. Abutments supporting the viaduct would be located outside of the existing concrete U-box structure that makes up the Tujunga Channel, on property owned by the Los Angeles County Flood Control District. The design also allows continued maintenance access along the channel. A meeting was held with the USACE and the Authority on

4526-10601

April 6, 2023 and technical work has been prepared to support the coordination under the 2010 MOU. The Authority will continue to consult with the USACE and USEPA regarding the preliminary determinations or if a 408 permission needs to be granted.

The spreading grounds are not a 408 facility. However, the Draft EIR/EIS includes the following mitigation measure from Section 3.8, Hydrology and Water Resources, HWR-MM#3: Compensation for Impacts on Hansen Spreading Grounds, which requires that the Authority provide replacement groundwater recharge areas to compensate for the HSR footprint within the Hansen Spreading Grounds and allow for no net loss in recharge area or capacity. New recharge areas would be placed in the vicinity of existing recharge ponds. Please also refer to Standard Response PB-Response-HYD-1: Impacts on the Hansen Dam and Hansen Spreading Grounds.

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4526-10602

The commenter notes that the concept detail plans provided in the Draft EIR/EIS did not include structural details and design calculations. The commenter requested they be provided with the structural details and the structural design calculations for the project within the vicinity of the Tujunga Channel to ensure no impacts would occur, and no additional loads will be imposed to the Tujunga Channel. The Authority has consulted with the U.S. Army Corps of Engineers (USACE) regarding impacts to Section 408 facilities, including the Tujunga Channel. The Refined SR14, SR14A, E1 and E1A Build Alternatives would cross over this facility on viaduct and would clear span the channel. Abutments supporting the viaduct would be located outside of the existing concrete U-box structure that makes up the Tujunga Channel. No piers, columns, or other structures would be constructed within Tujunga Channel, nor would the concrete U-box need to be altered in any way. Additional details of the viaduct over the Tujunga Wash channel, including elevation, plan view, and typical section, are presented in drawing ST-J1025-S14 in Volume 3 PEPD Record Set Bridges and Elevated Structures Plans of the Draft EIR/EIS. This drawing provides structural information at an engineering level (15% design) sufficient for the environmental analysis and to determine the project would not alter the capacity or operation and maintenance of Tujunga Wash channel. Structural calculations have not been included in the Final EIR/EIS because these are not required for the environmental analysis or to determine the capacity, and because operation and maintenance of the channel would not be affected. Nevertheless, the Palmdale to Burbank Project Section would require review from USACE under Section 408 where the six Build Alternative would occupy, alter, or use any federal flood control facility to ensure that its usefulness is not impaired. Tujunga Channel is a USACE facility regulated under Section 14 of the Rivers and Harbors Act of 1899, as amended and codified in 33 U.S. Code 408 (Section 408), and is located within the Palmdale to Burbank Project Section. Section 408 provides that USACE may grant permission for another party to alter a USACE flood control facility upon a determination that the alteration proposed would not be injurious to the public interest and would not impair the usefulness of the facility. The NEPA/404/408 Memorandum of Understanding (MOU) signed by the FRA, the Authority, USACE, and U.S. Environmental Protection Agency in November 2010, provides for early consultation with USACE to establish the appropriate level of review and to provide a preliminary determination on whether the proposed modifications or alterations to the subject federal flood control facilities are likely to be granted permission. The Authority and the USACE have been coordinating under the

4526-10602

November 2010 MOU with respect to these USACE facilities. A meeting was held with the USACE and the Authority on April 6, 2023, and technical work has been prepared to support the coordination under the 2010 MOU. The Authority will continue to consult with the USACE and USEPA regarding the preliminary determinations or if a 408 permission needs to be granted.

Response to Submission 4526 (Spencer MacNeil, US Army Corps of Engineers, December 1, 2022) - Continued

4526-10603

The commenter states that the ground surface at the crossing of the E2 alignments is approximately at the dam's spillway crest elevation. The commenter states that because of the location of the E2 Alternative, the Hydrology and Hydraulics team of USACE will have to provide more detailed design parameters such as water surface elevation, lateral flow design velocity, etc. if the E2 alignment proceeds as the selected alternative. Additional analyses will be conducted prior to construction to further inform project design and the implementation of IAMFs and required mitigation. In accordance with HYD-IAMF#2, the Contractor will prepare a flood protection plan for Authority review and approval. The project would be designed both to remain operational during flood events and to minimize increases in 100-year or 200-year flood elevations, as applicable to locale. Design considerations will include the following: establish track elevation to prevent saturation and infiltration of stormwater into the sub-ballast; minimize development within the floodplain, to such an extent that water surface elevation in the floodplain would not increase by more than 1 foot, or as required by state or local agencies, during the 100-year or 200-year flood flow, or as applicable to locale; avoid placement of facilities in the floodplain or raise the ground with fill above the base-flood elevation; design the floodplain crossings to maintain a 100-year floodwater surface elevation of no greater than 1 foot above current levels, or as required by state or local agencies, and ensure that project features within the floodway itself would not increase existing 100-year floodwater surface elevations in Federal Emergency Management Agency-designated floodways, or as otherwise agreed upon with the county floodplains manager. The following design standards would minimize the effects of pier placement on floodplains and floodways: design site crossings to be as nearly perpendicular to the channel as feasible to minimize bridge length; orient piers to be parallel to the expected high-water flow direction to minimize flow disturbance; elevate bridge crossings at least 3 feet above the high-water surface elevation to provide adequate clearance for floating debris, or as required by local agencies; conduct engineering analyses of channel scour depths at each crossing to evaluate the depth for burying the bridge piers and abutments; implement scour-control measures to reduce erosion potential; use quarry stone, cobblestone, or their equivalent for erosion control along rivers and streams, complimented with native riparian plantings or other natural stabilization alternatives that would restore and maintain a natural riparian corridor; place bedding materials under the stone protection at locations where the underlying soils require stabilization as a result of stream-flow velocity. The Authority's preferred alternative is the SR14A Build

4526-10603

Alternative, which would avoid the potential impacts of concern raised by the commenter.

4526-10604

The commenter notes that any construction that may impact the carrying capacity of an intersecting channel associated with Tujunga Channel would require (hydrological) modeling. Please refer to Section 3.8 of the Draft EIR/EIS, Impact HWR#1: Permanent Alteration of Surface Drainage Patterns from Aboveground Temporary Construction Activities and Permanent Structures Required for the Build Alternatives. As shown in the Draft EIR/EIS Appendix 3.8-B, Major Waterbodies Crossed Table, the Build Alternatives would not impact the carrying capacity of Tujunga Channel, as the Build Alternatives would cross the channel on viaduct and no piers are proposed for placement in the channel.

4526-10605

The commenter indicated the project rail alignment must not cross the embankment of the Hansen Dam. As discussed in Chapter 3, Section 3.8.5, Affected Environment, of the Draft EIR/EIS, the Refined SR14, SR14A, E1, and E1A Build Alternatives would cross Tujunga Wash below Hansen Dam where it is a concrete channel. Tunnels associated with these Build Alternatives would, at their closest point, occur 290 feet below ground and 2,000 feet west of the Hansen Dam right-of-way, including the Dam embankment. The E2 Build Alternative would cross Tujunga Wash above Hansen Dam on an elevated viaduct. Thus, no Build Alternative would cross the Hansen Dam embankment.

Response to Submission 4526 (Spencer MacNeil, US Army Corps of Engineers, December 1, 2022) - Continued

4526-10606

Refer to Standard Response PB-Response-HYD-1: Impacts on the Hansen Dam and Hansen Spreading Grounds.

The commenter cites Engineering Regulation 1110-2-1 from the U.S. Army Corps of Engineers and states that the applicant is required to offset any fill in the Hansen Dam flood pool. Build Alternatives Refined SR14, SR14A, E1, and E1A are located to the west of Hansen Dam and would not affect in anyway the Hansen Dam flood control pool which is located behind the dam and upstream (east) of these Build Alternatives. Build Alternatives E2 and E2A would traverse Big Tujunga Wash upstream, east of Hansen Dam, approximately 2 miles to the east. The location of this crossing appears to be well outside the primary area for the flood control pool of Hansen Dam. It should be noted that the E2 or E2A Build Alternatives are not the Authority's Preferred Alternative. The Authority's Preferred Alternative is SR14A which, as noted above, would be located to the west of Hansen Dam (downstream from the dam) and as such would avoid any impacts to the flood control pool associated with Hansen Dam. Please refer to Standard Response PB-Response-HYD-1: Impacts on the Hansen Dam and Hansen Spreading Grounds, for discussion of potential impacts to Hansen Dam and Hansen Spreading Grounds.

4526-10607

The commenter identifies that the Draft EIR/EIS includes a mitigation measure that would involve potentially altering releases at Hansen Dam, indicates that this would be an operational impact on the facility that would potentially require a Section 408 permission, and requests that the impacts from this alteration be analyzed in the Final EIR/EIS.

The commenter is referring to HWR-MM#3, which is included in Section 3.8.7 in Section 3.8, Hydrology and Water Resources of the Draft EIR/EIS and included a measure that would involve Authority coordination with the USACE and LADWP regarding the operations at Hansen Dam, which controls discharges to the spreading grounds. HWR-MM#3 in Section 3.8.7 of the Final EIR/EIS has been revised to remove this option of modifying the operations of Hansen Dam.

As discussed in Section 3.8.7, Mitigation Measures in Section 3.8, Hydrology and Water Resources of this Final EIR/EIS, HWR-MM#3 requires the Authority to provide replacement groundwater recharge areas to ensure there is no net loss in recharge area capacity. In addition, the preliminary engineering project design drawings include culverts that would be placed under the HSR berms located within the Hansen Spreading Grounds which would convey water under the berm and between ponds and allow water to reach to the existing outfall structure; these culverts would be sized to ensure that the flood control functions of the facilities would not be compromised. With implementation of HWR-MM#3, the groundwater recharge function, operation and capacity of the Spreading Grounds would not substantially change.

Response to Submission 4526 (Spencer MacNeil, US Army Corps of Engineers, December 1, 2022) - Continued

4526-10608

The commenter requested edits to Section 1.2.2 of the Draft EIR/EIS, Purpose of the Palmdale to Burbank Project Section, to match the jointly agreed to language contained in the U.S. Army Corps of Engineers (USACE) letter dated December 18, 2014. Section 1.2.2, Purpose of the Palmdale to Burbank Project Section, of the Final EIR/EIS has been revised to reflect the agreed upon language for the purpose statement in the USACE letter dated December 18, 2014 as follows: The purpose of the Palmdale to Burbank Section of the California HSR system is to provide the public with electric-powered HSR service that provides predictable and consistent travel times between the Antelope Valley and the San Fernando Valley, provide connectivity to airports, mass transit systems, and the highway network in the Antelope Valley and the San Fernando Valley; and to connect the Northern and Southern portions of the Statewide HSR system.

4526-10609

Refer to Standard Response PB-Response-HYD-1: Impacts on the Hansen Dam and Hansen Spreading Grounds.

The commenter inquired as to how coordination between the Authority and the U.S. Army Corps of Engineers has occurred in the past and would occur regarding the referenced mitigation measure HWR-MM#3, which would accommodate the reduced flood control capacity of the Hansen Spreading Grounds by modifying operations at the Hansen Dam so that no net loss in flood protection would occur.

Note first that the Authority has revised mitigation measure HWR-MM#3 in Section 3.8.7 in Section 3.8, Hydrology and Water Resources in the Final EIR/EIS to remove the reference to changing operations of Hansen Dam to facilitate the loss in capacity in Response to Comment #10607. The revised HWR-MM#3 now focuses on providing replacement groundwater recharge areas to compensate for the HSR footprint within the Hansen Spreading Grounds so that no net loss of recharge area or recharge capacity would occur. The HSR Palmdale to Burbank Project Section would result in the loss of approximately 8.9 acres of land in the Hansen Spreading Grounds; however, there is sufficient land directly adjacent to the Hansen Spreading Grounds and the HSR Palmdale to Burbank Project Section that could be used as replacement groundwater recharge areas. There is an area of approximately 18.6 acres south of Branford Street and east of San Fernando Road, which is located adjacent to the Hansen Spreading Grounds and the HSR Palmdale to Burbank Project Section that could serve that purpose. By replacing the groundwater recharge areas affected by the project, changes to the operation of Hansen Dam would no longer be required. The replacement recharge areas would compensate for new impervious areas of the HSR footprint within the Hansen Spreading Grounds for the Refined SR14, SR14A, E1, E1A Build Alternatives, and would provide for no net loss of recharge area or recharge capacity. For additional information, please refer to Standard Response PB-Response-HYD-1: Impacts on the Hansen Dam and Hansen Spreading Grounds. In addition, the berm crossing Hansen Spreading Grounds will include culverts to ensure that flows across the spreading grounds are not interrupted and that the outflow structure continues to function as necessary.

Prior coordination has been conducted with the U.S. Army Corps more generally on

Response to Submission 4526 (Spencer MacNeil, US Army Corps of Engineers, December 1, 2022) - Continued

4526-10609

other issues. However, regarding future coordination between the Authority and U.S. Army Corps of Engineers, implementation of HWR-MM#3 as revised would not require any changes to the operation of Hansen Dam and thus would not require coordination on that topic. However, coordination with LADWP would continue relative to replacement of the groundwater recharge areas affected by the project. The Authority will also continue to coordinate on other items with U.S. Army Corps of Engineers, such as Checkpoint C.

4526-10610

The commenter notes the requirements of HWR-MM#3 and asks what type of consultation would be needed with the U.S. Army Corps of Engineers. The text related to coordination with the U.S. Army Corps of Engineers and LACFCD regarding operational modifications at Hansen Dam, as referenced by the commenter, has since been removed from HWR-MM#3 in the Final EIR/EIS. HWR-MM#3, as revised in the Final EIR/EIS requires the Authority to provide replacement groundwater recharge areas to ensure there is no net loss in recharge area capacity. In addition, the preliminary engineering project design drawings include culverts that would be placed under the HSR berms located within the Hansen Spreading Grounds which would convey water under the berm and between ponds and allow water to reach to the existing outfall structure. With implementation of HWR-MM#3, the groundwater recharge function, operation and capacity of the Spreading Grounds would not substantially change.

4526-10611

In the definition of Conservation Banks on page 3-7.4 of the Draft EIR/EIS, the commenter would like the description of the role of the USACE changed to reflect that they are not a natural resource agency. The commenter would also like additional information on the timing of mitigation credit purchases and how the Authority expects the USACE to be involved. Additional information on how the Authority will mitigate for unavoidable impacts to aquatic resources, and the role of USACE, is included in detail in BIO-MM#47 and is not required to be included with the definition of conservation banks. The text in the definition of conservation banks has been updated by replacing "Conservation Banks" with "Conservation and Mitigation Banks" to recognize that mitigation banks are the bank type most relevant to the USACE for impacts to aquatic resources. In addition, text in the fifth sentence will be updated to "natural resource and regulatory agencies" to clarify that not all of the referenced agencies are strictly natural resource agencies. The Authority is or will be coordinating resource impact amounts and avoidance, minimization and mitigation measures with the USACE and EPA under Checkpoint C. Checkpoint C includes a preliminary compensatory mitigation plan, which will demonstrate that compensatory mitigation sufficient to mitigate for the proposed project impacts is available; it is subject to USACE/EPA approval pursuant to the NEPA/404/408 Integration MOU. As described in BIO-MM#47, the amount and type of mitigation to be provided under the mitigation measure for impacts to aquatic resources is subject to final approval by USACE.

4526-10612

The commenter is concerned about how the methods for delineating waters of the United States are described and recommends referencing the manuals followed for the delineation methodology and including a reference to the USACE-issued approved and preliminary jurisdictional determinations. The Final EIR/EIS text has been revised to clarify the Authority's approach to defining WOTUS for purposes of the EIR/EIS analysis.

Response to Submission 4526 (Spencer MacNeil, US Army Corps of Engineers, December 1, 2022) - Continued

4526-10613

The commenter requests that maps showing the location of delineated aquatic resources with the Build Alternatives superimposed be included in the EIR/EIS to be consistent with how impacts to other resources are presented. Maps depicting the delineated WOTUS and Build Alternatives have been added as Appendix 3.7-D Waters of the U.S. Map Set in the Final EIR/EIS.

4526-10614

The commenter requests that the language describing aquatic resources be changed from 'protected' to 'jurisdictional'. Text has been revised to indicate that resources are potentially jurisdictional state and federal resources.

4526-10615

The commenter states that BIO-MM#47 currently only addresses compensatory mitigation for the loss of wetlands and requests that non-wetland WOTUS be included. Please reference the full text for BIO-MM#47 (page 3.7-220) which specifies that a Compensatory Mitigation Plan will address compensatory mitigation for all state and federal jurisdictional aquatic resources under either the Clean Water Act or the Porter-Cologne Water Quality Control Act.

4526-10616

The commenter noted they were unaware of any navigable waters of the U.S. within the P-B Project Section study area for which new bridges or causeways would be constructed over and require U.S. Coast Guard approval. Additionally the commenter requested edits to the text accordingly, and to remove reference to Section 9 of the RHA altogether. Section 3.8.2.1 Federal Rivers and Harbors Act of 1899 (33 U.S.C. Section 401 et seq.) will be revised to include statement requested.

4526-10617

The comment requests changes to the EIR/EIS to clarify that the de minimis values are levels and not thresholds. The requested revisions are incorporated into the Final EIR/EIS. The revisions do not affect the results or significance determinations.

4526-10618

The commenter requests that ACM be defined in the EIR/EIS Section 3.3.4.3, under the Asbestos discussion. ACM is defined as "asbestos-containing materials" on page 3.3-1 of the Draft EIR/EIS.

4526-10619

The commenter suggests adding temperature inversion to Section 3.3.5.1. Section 3.3.5.1 will be updated in the Final EIR/EIS to include the requested changes. The revisions would not affect the results or significance determinations.

4526-10620

The commenter asks about the two-ridership scenarios described under the No Project Alternative in Section 3.3.6.2 of the Draft EIR/EIS and requests that the text be revised to not confuse the public.

Although there would be no HSR ridership under the No Project Alternative, the Authority still uses these terms "high ridership scenario" and "medium ridership scenario" for the No Project Alternative in order to appropriately compare the No Project Alternative with the Build Alternatives. The "high ridership" scenario differs from the "medium ridership" scenario in the No Project Alternative because the scenarios assume different background conditions. These differences in the conditions include demographic forecasts, estimates of automobile operating costs and travel times, and air travel times and airfares. These differences in conditions, between the "high ridership" and "medium ridership" scenarios, would affect the emissions associated with on-road vehicles, aircrafts, and power plants. As an example, the price of gas, which is one of the different conditions between the "high ridership" scenario and the "medium ridership" scenario would result in different emissions in the No Project Alternative due to a decrease in automobile travel. Section 3.3.6.2 in the Final EIR/EIS has been revised to clarify the two ridership scenarios and avoid potential reader confusion for the No Project Alternative.

Response to Submission 4526 (Spencer MacNeil, US Army Corps of Engineers, December 1, 2022) - Continued

4526-10621

The commenter, the Army Corps of Engineers (ACOE), notes that, to assist the ACOE with complying with general conformity regulations, the ACOE will need estimates of the project's construction emissions that are subject to the ACOE's continuing program responsibility before the ACOE can issue any permits for the project. During the cooperating agency review of the Draft EIR/EIS, the ACOE provided to the Authority a methodology for calculating the portion of construction period emissions over which the ACOE has continuing program responsibility. The Authority has elected to take the alternative approach suggested in the comment: The Authority will use the ACOE's methodology to calculate the emissions specific to construction activities within the ACOE's continuing program responsibility, and the Authority will provide this information to the ACOE separately as part of the ACOE's future permitting process for the project.

4526-10622

The commenter requested the addition of the agreement date for FAA becoming a cooperating agency, and for the language to be consistent with that stated in Section 1.1.5 of the Draft EIR/EIS. The Summary of the Final EIR/EIS has been revised to be consistent with Section 1.1.5 as suggested by the commenter.

4526-10623

The commenter asks whether the California State Historic Preservation Officer (SHPO) is a responsible agency under CEQA and noted discrepancies between Chapter 1, Chapter 2, and the Summary in the Draft EIR/EIS. Responsible agencies under CEQA are defined in Public Resources Code Section 21069 as "any public agency, other than the lead agency, which has responsibility for carrying out or approving a project." The SHPO is not a responsible agency as it is not carrying out the project nor approving it. As such, the SHPO has been removed from being acknowledged as a Responsible Agency under CEQA in the Summary of the Final EIR/EIS to be consistent with Chapters 1 and 2 of the Final EIR/EIS.

4526-10624

The commenter asks why the Lahonton Regional Water Quality Control Board and Los Angeles Regional Water Quality Control Board are not listed as CEQA Responsible Agencies on page S-7 in the Summary in the Draft EIR/EIS. Lahonton Regional Water Quality Control Board and Los Angeles Regional Water Quality Control Board are not CEQA Responsible Agencies. Chapters 1 and 2 of the Final EIR/EIS have been revised to be consistent with the Summary in the Final EIR/EIS. The State Water Resources Control Board is the primary Responsible Agency for water quality issues, which coordinates on behalf of the regional boards.

4526-10625

The commenter noted a discrepancy between the quote stated in Section 1.2.1 and the one stated in Section S.4.1 of the Draft EIR/EIS. The text in Section S.4.1 of the Final EIR/EIS has been revised to match the correct quotation as stated in Section 1.2.1.

4526-10626

The commenter noted a discrepancy between the stated purpose in Section S.4.2 and the one stated in Section 1.2.2 of the Draft EIR/EIS and requested clarification. The text in both Section S.4.2, Purpose of the Palmdale to Burbank Project Section, and Section 1.2.2, Purpose of the Palmdale to Burbank Project Section, of the Final EIR/EIS have been revised to reflect the purpose statement agreed by U.S. Army Corps of Engineers on December 18, 2014 as follows: The purpose of the Palmdale to Burbank Section of the California HSR system is to provide the public with electric-powered HSR service that provides predictable and consistent travel times between the Antelope Valley and the San Fernando Valley, provide connectivity to airports, mass transit systems, and the highway network in the Antelope Valley and the San Fernando Valley; and to connect the Northern and Southern portions of the Statewide HSR system.

4526-10627

The commenter noted discrepancies between the list of issues in Section S.4.4 and those stated in Section 1.2.4 of the Draft EIR/EIS. The text in Section S.4.4 of the Final EIR/EIS has been revised to match the correct text as stated in Section 1.2.4.

Response to Submission 4526 (Spencer MacNeil, US Army Corps of Engineers, December 1, 2022) - Continued

4526-10628

The commenter asks whether the reference to regulations in the third paragraph of Section S.8.2 of the Draft EIR/EIS should be revised to IAMFs. As described in the introduction to Appendix 2-E: Impact Avoidance and Minimization Features (IAMFs), the Authority has prepared a set of IAMFs that will be implemented during project design and construction to avoid and minimize impacts, often through compliance with applicable agency regulations. The paragraph within Section S.8.2 to which the commenter refers has been revised in the Final EIR/EIS for clarity.

4526-10629

The commenter requested elaboration on the regulatory requirements referred to in the third paragraph of Section S.8.2 in the Draft EIR/EIS Summary.

The regulatory requirements to avoid and minimize impacts are specific to implementing the Impact Avoidance and Minimization Features (IAMFs) discussed in Chapter 3 under each relevant resource topic. In addition, Appendix 2-E, Impact Avoidance, and Minimization Features includes further detail on these IAMFs. For example, BIO-IAMF#2: Facilitate Agency Access, commits the Authority to allow access by the U.S. Army Corps of Engineers, among other resource agencies, to the project site during project construction. The IAMF also commits that the Project Biologist will report any issues regarding regulatory compliance raised by agency personnel to the Authority (see page 2-E-5).

4526-10630

The commenter asks if the project will generate any NO₂ emissions and stated that the NO₂ attainment status is maintenance instead of attainment and requested clarification.

The commenter is correct, the Southern California Air Basin (SCAB) is in maintenance at the federal level for NO₂. Table 3.3-6 has been corrected in the Final EIR/EIS to clarify that the SCAB region is in maintenance for the federal NO₂ standards. The NO_x emissions listed in the Draft EIR/EIS include all oxides of nitrogen, including NO₂. As discussed in Section 3.3.8, of the Draft EIR/EIS, all six Build Alternatives would result in construction-period emissions that exceed the annual applicable de minimis General Conformity level(s) and applicable SCAQMD threshold(s) during construction. While the specific construction year and pollutant-type exceedances vary between the Build Alternatives, the magnitude of effects would be similar. The Authority would reduce construction-period emissions of NO_x through offsets, if such offsets are available until the General Conformity level(s) or CEQA threshold(s) are met. As stated previously, the South Coast Air Basin (Basin) is a maintenance area for the federal NO₂ standards. However, as oxides of nitrogen are precursors to ozone, the General Conformity de minimis levels for NO_x are based on the Basin's extreme nonattainment designation for the federal ozone standards. Therefore, the de minimis levels for NO_x used in the Draft EIR/EIS are correct. All references to de minimis threshold(s) have been changed to de minimis level(s) in the Final EIR/EIS for clarity.

Response to Submission 4526 (Spencer MacNeil, US Army Corps of Engineers, December 1, 2022) - Continued

4526-10631

The commenter asks whether the reference to SCAQMD in Section S.8.2.1 should be corrected to EPA.

As described in Section 3.3.2., Laws, Regulations, and Orders, federal clean air laws require areas with unhealthy levels of O₃, inhalable particulate matter, CO, NO₂, and SO₂ to develop State Implementation Plans (SIPs)—comprehensive plans that describe how an area will attain NAAQS. State law makes California Air Resources Board (CARB) the lead agency for all purposes related to the SIP. Local air districts and other agencies prepare elements of the SIP and submit them to CARB for review and approval. CARB forwards SIP revisions to the USEPA for approval and publication in the Federal Register. The Build Alternative alignments would traverse two air quality management districts: Antelope Valley Air Quality Management District (AVAQMD) (responsible for a portion of the Mojave Desert Air Basin [MDAB]) and South Coast Air Quality Management District (SCAQMD). Although they are set by EPA, the de minimis levels referenced in Section S.8.2.1 are applicable to the AVAQMD and SCAQMD regions. As they vary by attainment status for each region, the de minimis levels are referenced by the air quality management district for ease of reading. All references to de minimis threshold(s) have been changed to de minimis level(s) in the Final EIR/EIS for clarity.

4526-10632

The commenter asks whether there are any NO₂ emissions and noted that since the South Coast Air Basin (SCAB) is in maintenance instead of in attainment, the general conformity applicability threshold would need to be considered. The commenter also asks whether the reference to South Coast Air Quality Management District (SCAQMD) in Section S.8.2.2 should be corrected to EPA.

The comment is correct, the SCAB is in maintenance at the federal level for NO₂. Table 3.3-6 has been corrected in the Final EIR/EIS to clarify that the SCAB region is in maintenance for the federal NO₂ standards. The NO_x emissions listed in the Draft EIR/EIS include all oxides of nitrogen, including NO₂. As oxides of nitrogen are precursors to ozone, the General Conformity de minimis levels for NO_x are based on the SCAB's extreme nonattainment designation for the federal ozone standards. Therefore, the de minimis levels for NO_x used in the Draft EIR/EIS are correct.

As stated in Section 3.3.8, of the Draft EIR/EIS, all six Build Alternatives would result in construction-period emissions that exceed the annual applicable de minimis General Conformity level(s) and applicable SCAQMD threshold(s) during construction. Thus, a General Conformity Determination would be required. The Authority would reduce construction-period emissions of NO_x and CO through offsets, if such offsets are available, until the General Conformity de minimis levels or CEQA threshold(s) are met. As stated in the second paragraph of Section S.8.2, the comparison of the six Build Alternatives in the paragraphs in this section generally focuses on impacts where each Build Alternative would result in different impacts for the specified resource topics and serves to differentiate the impacts among each of the Build Alternatives. Since all six Build Alternatives would result in exceedance for NO_x, it is not the focal point for the discussion in this section but is analyzed in Section 3.3 of the EIR/EIS. The term "SCAQMD general conformity de minimis threshold" was used for readability. Although they are set by EPA, the de minimis levels referenced in Section S.8.2.2 are applicable to the AVAQMD and SCAQMD regions. As they vary by attainment status for each region, the de minimis levels are referenced by the air quality management district for ease of reading. All references to de minimis threshold(s) have been changed to de minimis level(s) in the Final EIR/EIS for clarity.

Response to Submission 4526 (Spencer MacNeil, US Army Corps of Engineers, December 1, 2022) - Continued

4526-10633

The commenter asks whether there are any NO₂ emissions and noted that since the South Coast Air Basin (SCAB) is in maintenance status instead of in attainment, the general conformity applicability threshold would need to be considered. The commenter also inquired whether the reference to South Coast Air Quality Management District (SCAQMD) in Section S.8.2.3 should be corrected to EPA.

The comment is correct, the SCAB is in maintenance at the federal level for NO₂. Table 3.3-6 has been corrected in the Final EIR/EIS to clarify that the SCAB region is in maintenance for the federal NO₂ standards. The NO_x emissions listed in the Draft EIR/EIS include all oxides of nitrogen, including NO₂. As oxides of nitrogen are precursors to ozone, the General Conformity de minimis levels for NO_x are based on the SCAB's extreme nonattainment designation for the federal ozone standards. Therefore, the de minimis levels for NO_x used in the Draft EIR/EIS are correct. As stated in Section 3.3.8, of the Draft EIR/EIS, all six Build Alternatives would result in construction-period emissions that exceed the annual applicable de minimis General Conformity level(s) and applicable SCAQMD threshold(s) during construction. Thus, a General Conformity Determination would be required. The Authority would reduce construction-period emissions of NO_x and CO through offsets, if such offsets are available, until the General Conformity de minimis levels or CEQA threshold(s) are met. As stated in the second paragraph of Section S.8.2, the comparison of the six Build Alternatives in the paragraphs in this section generally focuses on impacts where each Build Alternative would result in different impacts for the specified resource topics and serves to differentiate the impacts among each of the Build Alternatives. Since all six Build Alternatives would result in exceedance for NO_x, it is not the focal point for the discussion in this section but is analyzed in Section 3.3 of the EIR/EIS. The terms "SCAQMD general conformity de minimis threshold" and "AVAQMD general conformity de minimis threshold" were used for readability. Although they are set by EPA, the de minimis levels referenced in Section S.8.2.3 are applicable to the AVAQMD and SCAQMD regions. As they vary by attainment status for each region, the de minimis levels are referenced by the air quality management district for ease of reading. All references to de minimis threshold(s) have been changed to de minimis level(s) in the Final EIR/EIS for clarity.

4526-10634

The commenter requested the Authority to revise Section S.12.2.4 in the Summary of the Draft EIR/EIS to reflect that permissions will be needed for any actions that build upon, alter, improve, move, obstruct, or occupy an existing Corps project.

The Authority has consulted with USACE regarding project impacts to flood control facilities and floodplains in the project area and has reached concurrence through Checkpoint C that the project would not require a permit under Section 14 of the Rivers and Harbors Act (33 U.S.C. 408). This is reflected in Section S.14.3 in the Final EIR/EIS.

Response to Submission 4526 (Spencer MacNeil, US Army Corps of Engineers, December 1, 2022) - Continued

4526-10635

The commenter requested clarification on the document and process mentioned in the second paragraph of Section S.12.2.4 in the Summary chapter of the Draft EIR/EIS and requested revising the text to clarify that the goal of the MOU integration process is to ensure the Final EIS provides sufficient information for the evaluation of alternatives under the Guidelines and can be adopted by the U.S. Army Corps of Engineers (USACE) without supplementation for the USACE's independent need to comply.

The Authority believes the text in this section is clear as to the use and intent of the EIS which states the following. "The USACE intends to use the Final EIR/EIS to integrate procedural requirements of NEPA and its permitting responsibilities (including the United States Environmental Protection Agency's Section 404(b)(1) Guidelines) to provide a single document that streamlines and enables informed decision-making, including, but not limited to, adoption of the EIS, issuance of necessary RODs, Section 404 permit decisions, and Section 408 permission (as applicable), as well as support the USACE's final Least Environmentally Damaging Practicable Alternative determination and public interest review determination." The MOU integration process is described on pages 2-37 of Chapter 2 in the Draft EIR/EIS and is explained as follows "For Clean Water Act Section 404(b)(1) compliance, the United States Army Corps of Engineers (USACE) must take into consideration the applicant's needs in the context of the geographic area of the proposed project in concurring with the project purpose. FRA, the Authority, USACE, and the United States Environmental Protection Agency (USEPA) signed the Memorandum of Understanding - National Environmental Policy Act (42 U.S.C. 4321 et seq) and Clean Water Act Section 404 (33 U.S.C. 1344) and Rivers and Harbors Act Section 14 (33 U.S.C. 408) - Integration Process for the California High-Speed Train Program (NEPA-404 MOU) in November 2010 to coordinate environmental reviews under NEPA with the regulatory processes under Section 14 of the Rivers and Harbors Act (Section 408) and Section 404 of the Clean Water Act. The NEPA-404 MOU provides a structure for this process that includes several "checkpoint" reports. Pursuant to the NEPA-404 MOU, Checkpoint A set out the purpose and needs for the Tier 2 project, Checkpoint B identified the range of alternatives to be analyzed in the project EIR/EIS, and Checkpoint C includes an analysis to determine the preliminary least environmentally damaging practicable alternative. USACE concurrence with the Checkpoint C Summary Report prepared by the Authority would signify that sufficient information has been provided to support the USACE's final Least Environmentally Damaging Practicable Alternative determination.

4526-10636

The commenter suggested revising the last sentence in the second paragraph of Section S.12.2.4 of the Summary in the Draft EIR/EIS to be more reflective of the alteration of U.S. Army Corps of Engineers projects.

The Authority has consulted with USACE regarding project impacts to flood control facilities and floodplains in the project area and has reached concurrence through Checkpoint C that the project would not require a permit under Section 14 of the Rivers and Harbors Act (33 U.S.C. 408). This is reflected in Section S.14.3 in the Final EIR/EIS. Thus, the text in Section S.12.2.4 does not need to be revised per the commenter's request.

4526-10637

The commenter asks whether the Burbank to Los Angeles Project Section should be listed under the completed Tier 2 EIR/EISs in Section 1.1.3.5 of the Draft EIR/EIS, since the Final EIR/EIS for that project section was released in November 2021. The list of completed Tier 2 EIR/EISs in Section 1.1.3.5 has been updated in the Final EIR/EIS to reflect the Burbank to Los Angeles Project Section EIR/EIS being a completed Tier 2 EIR/EIS.

4526-10638

The commenter inquired if edits to Section 1.1.4 of the Draft EIR/EIS should be made to describe the Burbank to Los Angeles Project Section as approved. Section 1.1.4 of the Final EIR/EIS has been revised accordingly to add reference to the Burbank to Los Angeles Project Section as approved.

Response to Submission 4526 (Spencer MacNeil, US Army Corps of Engineers, December 1, 2022) - Continued

4526-10639

The commenter asks why Section 1.1.5 does not include SHPO and the Los Angeles County Flood Control District as CEQA responsible agencies, given that they are listed as CEQA responsible agencies in Section S.2 of the Draft EIR/EIS. Section 1.1.5 in the Final EIR/EIS has been revised to indicate that SHPO and the Los Angeles County Flood Control District are CEQA responsible agencies.

4526-10640

The commenter identifies a difference in the language used to describe the purpose of the HSR system in Sections 1.2.1 and S.4.1 of the Draft EIR/EIS. Section S.4.1 has been revised in the Final EIR/EIS to be consistent with the language used in Section 1.2.1. This change does not affect the overall purpose and need for the statewide HSR system but was done to create consistency between text in these two chapters of the Final EIR/EIS.

4526-10641

The commenter noted a discrepancy between the stated purpose in Section S.4.2 and the one stated in Section 1.2.2, Purpose of the Palmdale to Burbank Project Section of the Draft EIR/EIS and requested clarification. The text in both Section S.4.2, Purpose of the Palmdale to Burbank Project Section, and Section 1.2.2, Purpose of the Palmdale to Burbank Project Section, of the Final EIR/EIS have been revised to reflect the purpose and need statement agreed by U.S. Army Corps of Engineers on December 18, 2014 as follows: The purpose of the Palmdale to Burbank Section of the California HSR system is to provide the public with electric-powered HSR service that provides predictable and consistent travel times between the Antelope Valley and the San Fernando Valley, provide connectivity to airports, mass transit systems, and the highway network in the Antelope Valley and the San Fernando Valley; and to connect the Northern and Southern portions of the Statewide HSR system.

4526-10642

The commenter requests that a brief discussion be added to Section 1.2.2 clarifying that the Authority's NEPA purpose statement was agreed to by the U.S. Army Corps of Engineers. Section 1.2.2, Purpose of the Palmdale to Burbank Project Section, of the Final EIR/EIS was revised to reflect the purpose statement agreed by U.S. Army Corps of Engineers on December 18, 2014 as follows: The purpose of the Palmdale to Burbank Section of the California HSR system is to provide the public with electric-powered HSR service that provides predictable and consistent travel times between the Antelope Valley and the San Fernando Valley, provide connectivity to airports, mass transit systems, and the highway network in the Antelope Valley and the San Fernando Valley; and to connect the Northern and Southern portions of the Statewide HSR system. Section 1.2.2 was also clarified in the Final EIR/EIS to provide more information regarding "checkpoint" process described in the Memorandum of Understanding - National Environmental Policy Act (42 U.S.C. 4321 et seq) and Clean Water Act Section 404 (33 U.S.C. 1344) and Rivers and Harbors Act Section 14 (33 U.S.C. 408) - Integration Process for the California High-Speed Train Program and USACE's agreement with the Authority's purpose statement for the Palmdale to Burbank Project Section.

4526-10643

The commenter identified an inconsistency between Section 1.2.4 and Section S.4 in the Draft EIR/EIS. Bullets in Section 1.2.4 of the Final EIR/EIS have been edited to be consistent with the correct listing of bulleted items in Section S.4 of the Final EIR/EIS.

4526-10644

The commenter noted that Section 1.2.4.4 is inconsistent with Section 3.3 in the Draft EIR/EIS, which identifies that the Build Alternatives traverse two air basins (Mojave Desert Air Basin [MDAB] and South Coast Air Basin [SCAB]). Section 1.2.4.4 has been revised in the Final EIR/EIS to clarify that the Build Alternatives would also traverse the MDAB, in addition to the SCAB.

Response to Submission 4526 (Spencer MacNeil, US Army Corps of Engineers, December 1, 2022) - Continued

4526-10645

The commenter inquired if NO₂ is monitored in the South Coast Air Basin. The South Coast Air Basin is within the South Coast Air Quality Management District (SCAQMD). The SCAQMD is responsible for air quality within the South Coast Air Basin, including monitoring of NO₂ concentrations. The nitrogen dioxide (NO₂) concentrations monitored in Lancaster, Santa Clarita, and Reseda are listed in Table 3.3-8 of the Draft EIR/EIS. As shown in the Draft EIR/EIS, the concentrations did not exceed the State or federal standards.

4526-10646

The comment refers to text (see pages 2-3) in the EIR/EIS pertaining to the inclusion of the Burbank Station in this EIR/EIS for informational purposes, as it was approved as part of the Burbank to Los Angeles Project Section on January 20, 2022. The commenter is correct, the Burbank Airport Station is approved and the Final EIR/EIS has been revised for clarity. This change does not affect the CEQA and NEPA conclusions presented in the EIR/EIS.

4526-10647

The commenter requested edits to Chapter 2.0, Alternatives, in regard to the reference to NEPA 404.

Section 2.4.1.1 has been revised for consistency with Chapter 1, Project Purpose, Need, and Objectives. This change does not affect the CEQA and NEPA conclusions presented in the EIR/EIS.

4526-10648

The commenter requested edits to Chapter 2.0, Alternatives, in regard to the reference to NEPA 404.

Section 2.4.1.1 has been revised for consistency with Chapter 1, Project Purpose, Need, and Objectives. This change does not affect the CEQA and NEPA conclusions presented in the EIR/EIS.

4526-10649

The commenter states that a citation in the first paragraph of Section 2.4.1.2 in Chapter 2 of the Draft EIR/EIS should be corrected to read "40 Code of Federal Regulations Section 1502.14(a)." This correction has been made to Section 2.4.1.2 of the Final EIR/EIS.

4526-10650

The commenter requested edits to Section 2.4.1.2 of the Draft EIR/EIS regarding the references to the NEPA-404-408 MOU and the purpose and need statement. These edits have been made to Section 2.4.1.2 of the Final EIR/EIS.

4526-10651

The comment refers to text that is included in the EIR/EIS (see Section 2.5.2.2, Summary of Design Features) pertaining to the inclusion of the Burbank Station being included in this EIR/EIS for informational purposes as it was approved as part of the Burbank to Los Angeles Project section on January 20, 2022. The EIR/EIS does cite this same information in multiple locations including Chapter 2, Alternatives as well as Chapter 8, Preferred alternative. Since this information is cited multiple times throughout the document no changes have been made. The citing of this information in additional locations of the EIR/EIS does not pertain to the sufficiency of the Draft EIR/EIS. No change to the EIR/EIS has been made.

4526-10652

The comment refers to text that is included in the EIR/EIS pertaining to the inclusion of the Burbank Station being included in this EIR/EIS for informational purposes, as it was approved as part of the Burbank to Los Angeles Project section on January 20, 2022. Please see Response to Comment #10651. This information is cited in multiple locations throughout the EIR/EIS, citing this information in additional locations of the EIR/EIS does not pertain to the sufficiency of the Draft EIR/EIS. No change to the EIR/EIS has been made.

Response to Submission 4526 (Spencer MacNeil, US Army Corps of Engineers, December 1, 2022) - Continued

4526-10653

The commenter suggested a text revision in Table 2-39 in Chapter 2.0, Alternatives. Table 2-39, State Agencies, in Chapter 2.0, Alternatives has been revised accordingly. This change does not affect the CEQA and NEPA conclusions presented in the EIR/EIS.

4526-10654

The commenter suggested a text revision in Table 2-39 in Chapter 2.0, Alternatives. Table 2-39, State Agencies, in Chapter 2.0, Alternatives has been revised accordingly. This change does not affect the CEQA and NEPA conclusions presented in the EIR/EIS.

4526-10655

The commenter suggested a text revision in Table 2-39 in Chapter 2.0, Alternatives. Table 2-39, State Agencies, of Chapter 2.0, Alternatives has been revised accordingly. This change does not affect the CEQA and NEPA conclusions presented in the EIR/EIS.

4526-10656

The comment requests corrections to Section 3.1 of the Draft EIR/EIS. The requested correction has been made in the Final EIR/EIS.

4526-10657

The commenter asks about the insert on page 3.1-5 of the Draft EIR/EIS, as to whether the Hollywood Burbank Airport Station is really “proposed if it is included for information only.” As noted in the comment, the Burbank to Los Angeles Project Section Final EIR/EIS was released on November 5, 2021, and the Authority’s Board approved the Burbank to Los Angeles Project Section Preferred Alternative, including the Burbank Airport Station, on January 20, 2022. The information regarding the Burbank Airport Station included in the Palmdale to Burbank Draft EIR/EIS is, as stated in Section 3.1, informational and for reference purposes only. For clarification, the insert has been revised in the Palmdale to Burbank Project Section Final EIR/EIS to indicate that the Hollywood Burbank Airport Station has been approved by the Authority’s Board as part of the Board’s approval of the Burbank to Los Angeles Project Section Preferred Alternative.

4526-10658

The commenter requests a text correction in Section 3.1.4.8 of the Draft EIR/EIS. The commenter identified a typo, and the Authority has made the correction in the Final EIR/EIS.

4526-10659

The commenter refers to page 3.3-3 and inquires about the implementation of 40 CFR Part 51 subpart. That sentence states, “In states that have an approved SIP revision adopting General Conformity regulations, 40 C.F.R. Part 51W applies; in states that do not have an approved SIP revision adopting General Conformity regulations, 40 C.F.R. Part 93B applies. Because the State has an approved SIP revision adopting General Conformity regulations, 40 C.F.R. Part 51W applies.” General Conformity applies to the Palmdale to Burbank Project Section like all other project sections throughout the state.

4526-10660

The Authority identified three instances in EIR/EIS Section 3.3.2.1, in which it misused the word “Part” to refer to Section 93.158, Section 93.153(b) or Section 93.153(c). The references have been revised in Section 3.3, Air Quality and Global Climate Change of the Final EIR/EIS.

4526-10661

The commenter notes changes to Table 3.3-6. The comment is correct. The air basin is in serious nonattainment for the federal PM2.5 standard. The Final EIR/EIS corrects this. The de minimis level is corrected to 70 in Table 3.3-13, 16, 19, 22, 25, and 28, as well as in any other tables that reference this value. The revisions do not affect the results or significance determinations.

Response to Submission 4526 (Spencer MacNeil, US Army Corps of Engineers, December 1, 2022) - Continued

4526-10662

The commenter notes a correction needed to Table 3.3-6 of the Draft EIR/EIS. The comment is correct. The South Coast Air Basin is in maintenance for NO₂. This has been corrected in the Final EIR/EIS. The revisions do not affect the results or significance determinations.

Submission 4529 (Max T. Wiegmann, US Bureau of Land Management, December 19, 2022)

Palmdale - Burbank - RECORD #4529 DETAIL

Status : Unread
Record Date : 12/19/2022
Interest As : Federal Agency
First Name : Max T.
Last Name : Wiegmann
Attachments : Comment_Form_RIFO.pdf (87 kb)

Stakeholder Comments/Issues :

Hello HSRA,

The BLM Ridgecrest Field Office would like to submit the attached comments on the Draft EIR/EIS.

[cid:image001.png@01D91170.AEF08D30]

Max T. Wiegmann
Planning & Environmental Coordinator
Bureau of Land Management
Ridgecrest Field Office
300 S. Richmond Rd, Ridgecrest, CA 93555
Desk 760-384-5431

Response to Submission 4529 (Max T. Wiegmann, US Bureau of Land Management, December 19, 2022)

4529-9977

The commenter requests that the EIR/EIS provide information about Bureau of Land Management (BLM) offices separately, including showing the boundaries between different BLM offices on maps. Per a June 13, 2016, email communication from BLM Palm Springs/South Coast Field Office archaeologist George Klein, the BLM lands surveyed for the Palmdale to Burbank Project Section both fall within the Palm Springs/South Coast Field office. Specifically, Mr. Kline's email stated: "Yes, it appears to be all in our (Palm Springs) Field Office. The boundary line is just a mile or so to the east where it crosses into the Bakersfield Field Office." The acreage surveyed is included in Table 3.17-5 of the Draft EIR/EIS and resources identified are included in Section 3.17.5.2 of the Draft EIR/EIS. Figures in the EIR/EIS have not been updated because there is only one relevant BLM field office that would pertain to the project.

4529-9978

The comment suggests that Section 106 compliance is not complete, including consultation with Native American Tribes, and that until formal plans are developed, the conclusions related to unanticipated discoveries, and CUL-MM#3 in particular, being less than significant is speculative. As described in section 3.17.4.2 of the Draft EIR/EIS, FRA and the Authority have consulted extensively with Native American consulting parties and will continue to do so through project construction. Consultation has occurred in tandem with other efforts to identify archaeological resources described in section 3.17.5.2 of the Draft EIR/EIS, including cultural resources records searches, Native American Heritage Commission sacred lands file searches, and archaeological surveys of accessible portions of the Palmdale to Burbank Project Section APE. Additionally, an archaeological sensitivity analysis was conducted for the Palmdale to Burbank Project Section APE. The Authority will continue tribal consultation throughout project planning and development of the Section 106 Memorandum of Agreement (MOA) and associated treatment plans. This consultation completes the Section 106 process and allows the Authority to issue a record of decision for this undertaking, although the Authority is proposing the record of decision include future procedures that will require further consultations as the project proceeds.

Specifically, the Archaeological Treatment Plan (ATP) is being prepared in consultation with the tribes to focus on the treatment of known and unknown archaeological resources, and requires the phased identification, evaluation, and mitigation of archaeological resources that may be on parcels for which legal access has yet to be granted. The ATP includes provisions that all inaccessible areas would be surveyed prior to the commencement of any ground-disturbing activities. It identifies archaeological monitoring (CUL-IAMF#5) and Native American monitoring as general treatment measures. It also provides requirements for procedures and protocols to be followed in the event of unanticipated discoveries of archaeological resources (Impact CUL#2) or human remains (Impact CUL#3) during construction. CUL-MM#5 addresses efforts to develop meaningful mitigation measures for effects on as-of-yet-unidentified Native American archaeological resources that cannot be avoided, which would be negotiated with the tribal consulting parties. CUL-MM#3 would reduce impacts from ground-disturbing activities from construction by, in the event on an unanticipated discovery, consulting with MOA signatories, concurring parties, and tribal consulting parties to determine the preferred treatment and appropriate mitigation measures, and

Response to Submission 4529 (Max T. Wiegmann, US Bureau of Land Management, December 19, 2022) - Continued

4529-9978

by halting work. Regarding Impact CUL#3, Effects on Human Remains Discovered During Construction Activities, and CUL-MM#2, the Authority will work with the Most Likely Descendant to satisfy the requirements of California Public Resources Code Section 5097.98. This process will involve consultation with the MLD to determine appropriate treatment, which may include preservation in place or other treatment measures. Measures that are negotiated among the MOA signatories and tribal consulting parties will be the responsibility of the Authority to implement. Combined, these measures would mitigate for impacts to both known and unknown archaeological resources and human remains.

4529-9979

The commenter expressed concerns about impacts to the viewshed of the Pacific Crest National Scenic Trail from implementation of the HSR Palmdale to Burbank Section. As discussed in Section 3.16.6.5 of the Draft EIR/EIS, only the Refined SR14 Build Alternative alignment would have impacts to the Pacific Crest Trail (PCT). As such, the following discussion only applies to the Refined SR14 Build Alternative and does not apply to the other alternatives considered in the Draft EIR/EIS. Notably, of the 2,659 total miles of the PCT, only approximately 0.7 mile would be visually impacted by above-ground viaduct (see Draft EIR/EIS, p. 3.15-26).

Figure 3.16-A-14a (Appendix 3.16-A, Page 3.16-A-15) shows that KVP 1.14 is located along the PCT, south of SR 14 looking west. From KVP 1.14, hikers can see the Vasquez Rocks Natural Area Park, which is located in the viewshed, north of this KVP across from SR 14. The view includes mountains, canyons, and angular rock outcroppings associated with Vasquez Rocks, which are the focal point of the view. The SR 14 freeway is also visible in the distance, just below Vasquez Rocks. The PCT and Vasquez Rocks are both considered scenic resources. As described in Impact AVQ#1, construction of viaducts for the Refined SR14 Build Alternative would be highly visually intrusive in the viewshed of the PCT in this limited area where they would occur. Impacts from construction disturbance would be temporary, and disturbed areas would be remediated after completion of construction.

Constructed large-scale structures (i.e., viaducts) would remain as permanent impacts on the landscape.

As shown in Figure 3.16-A-14b (Appendix 3.16-A, Page 3.16-A-15), the Refined SR14 Build Alternative would construct an elevated viaduct structure that would cross over the PCT, introducing a highly visible and contrasting element to the viewshed. During construction, the PCT would be rerouted through this area and a portion of the trail would be permanently relocated away from both the SR 14 freeway and HSR rail alignment. The Refined SR14 Build Alternative would substantially change the viewshed and visual quality in this specific area. The most prominent project components would be vertical support piers and the horizontal bridge spanning over the trail. OCS poles and wires would also be visible. From the new, relocated trail portion and from the existing trail portion that will remain, the viaduct would be highly visible to hikers on the

Response to Submission 4529 (Max T. Wiegmann, US Bureau of Land Management, December 19, 2022) - Continued

4529-9979

PCT south of SR 14 (i.e., primary viewers), who would be considered highly sensitive to the proposed changes. Motorists traveling on the SR 14 freeway who could view the Refined SR14 Build Alternative, however, would be less sensitive because they would view the changes for a relatively short duration because of their speed. Given the reduced visual quality rating and high sensitivity of viewers, the degree of visual quality would change from a high degree to a moderate one.

Therefore, the project would substantially degrade the existing visual character or quality of public views of the site and its surroundings in a non-urbanized area, in the limited area of the PCT.

Mitigation Measures AVQ-MM#3 and AVQ-MM#4, as described in Section 3.16.7 of the Draft EIR/EIS, are required to reduce impacts on visual quality. These measures would incorporate local design and aesthetic preferences into the design of the viaduct, and require landscape treatments, including vegetation screening of the elevated guideway. Implementation of these measures would reduce the prominence of the elevated alignment. Nonetheless, even with the implementation of mitigation, the project would still reduce visual quality. As described in Impact AVQ#4, after mitigation, permanent impacts on visual quality would remain significant and unavoidable for the Refined SR14 Build Alternative.

Submission 4550 (Connell Dunning, United States Environmental Protection Agency, December 1, 2022)

Palmdale - Burbank - RECORD #4550 DETAIL	
Status :	Action Pending
Record Date :	6/12/2023
Interest As :	Federal Agency
First Name :	Connell
Last Name :	Dunning
Attachments :	PB-4550 C Dunning-EPA_Letter_Original.pdf (305 kb) FW_Missing Comment Letter.pdf (412 kb)
Stakeholder Comments/Issues :	
Subject: Draft Environmental Impact Statement for the California High Speed Rail Palmdale to Burbank Project Section, California (EIS No. 20220122)	



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGI N IX
75 Hawthorne Street
San Francisco, CA 94105-3901

December 1, 2022

Serge Stanich
Director Environmental Services
California High-Speed Rail Authority
770 L Street, Suite 620
Sacramento, California 95814

Subject: Draft Environmental Impact Statement for the California High Speed Rail Palmdale to Burbank Project Section, California (EIS No. 20220122)

Dear Director Stanich,

4550-10740

Thank you for the opportunity to review the Draft Environmental Impact Statement for the California High Speed Rail Palmdale to Burbank Project Section. Our review was completed pursuant to the National Environmental Policy Act, Council on Environmental Quality regulations (40 CFR Parts 1500-1508), Section 309 of the Clean Air Act, and Section 404 of the Clean Water Act.

Throughout development of the DEIS, the EPA has appreciated the commitment of the California High Speed Rail Authority to work closely with state and federal resource and regulatory agencies to address concerns early and avoid and minimize impacts to environmental resources. Through a collaborative approach of monthly agency meetings and iterative reviews, the EPA has had the opportunity to provide feedback and have our comments addressed through multiple revisions to the environmental document, including significant changes to the project alternatives in order to avoid impacts to Una Lake, a unique aquatic feature within an otherwise arid region. We offer the following recommendations for additional minimization of impacts and improvements to the project.

4550-10741

Environmental Justice and Community Improvements Planning

We commend your agency for the extensive coordination that occurred with local community organizations in the San Fernando Valley which led to significant revisions to project alternatives in order to minimize impacts on low-income and minority communities in the project area. The DEIS identifies many minimization and mitigation measures that will further reduce potential impacts on these communities. However, the DEIS concludes that any of the six project alternatives would continue to result in disproportionately high and adverse effects on EJ populations related to business displacements and community cohesion. We understand that coordination with local communities is ongoing, and we recommend that coordination follow a similar structure to that of the San Jose to Merced project section of California High Speed Rail in order to identify better environmental outcomes for communities with environmental justice concerns. As with this project segment, the San Jose to Merced project DEIS identified that some disproportionately high and adverse effects on minority and low-income populations would remain, even after application of direct mitigation and consideration of project benefits. The project team then collaborated directly with these communities on a comprehensive community improvement planning process to identify locally desired improvements to offset residual project effects. We recommend that the process for meaningful community involvement and improvement planning for this project segment be clearly documented in the Final EIS, including information on any improvements requested by communities and why specific recommended improvements were or were not selected for implementation.

Submission 4550 (Connell Dunning, United States Environmental Protection Agency, December 1, 2022) - Continued

4550-10742

Vulcan Mine Restoration

We are encouraged by discussion in the DEIS that construction of the SR14 Refined alignment would present the opportunity to remediate potential hazardous contamination and restore habitat at the Vulcan mine site within the Angeles National Forest. As described in the DEIS, this habitat restoration would consist of depositing tunnel spoils at the Vulcan Mine, filling the existing mine pit, and regrading 219 acres of land to better reflect the surrounding topography. Spoils deposited at the Vulcan Mine would cover highly erosive soils, which would then be planted to meet U.S. Forest Service re-vegetation requirements, resulting in a more natural overland flow pattern for waters in the project area. This has the potential to be a significant project benefit, particularly if it also helps to lower construction emissions by reducing the number of truck trips required to haul tunnel spoils offsite. We recommend that the discussion of potential restoration at the Vulcan Mine site be expanded upon in the Final EIS, including any benefits that are likely to accrue, as well as any coordination that has taken place with the U.S. Forest Service and the mine owner regarding feasibility of a potential restoration plan.

4550-10743

Aquatic and Biological Resource Impacts

This project segment passes through miles of wildlife habitat and natural aquatic ecosystems including riverine, slope and depression wetlands. These aquatic resources provide a wide range of functions that are critical to the health and stability of the aquatic environment. In addition to our monthly agency meetings, EPA has continued to coordinate with CHSRA through a process intended to integrate NEPA and CWA Sections 404 and 408 requirements. This process is outlined in the National Environmental Policy Act/Clean Water Act Section 404/408 Integration Process for the California High-Speed Train Program Memorandum of Understanding (NEPA/404 MOU). Because only the least environmentally damaging practicable alternative (LEDPA) can be permitted pursuant to the CWA, we recommend that CHSRA continue efforts to ensure high value resources are not significantly degraded, and that any impacts to aquatic and other environmental resources are minimized to the greatest extent possible. We look forward to continuing coordination and providing feedback on the alternative that is most likely to be considered the LEDPA. In addition, we encourage CHSRA to continue coordination with wildlife agencies and NGOs to further refine measures to maintain wildlife connectivity and movement throughout this project segment.

4550-10744

The EPA has no further comments on the DEIS. We look forward to continued collaboration with your agency to identify further avoidance and minimization measures, and to develop a compensatory mitigation plan for any unavoidable impacts to wetlands and waters of the U.S. When the Final EIS for this project section is available for review, please provide a copy to Clifton Meek, the lead reviewer for this project, at the same time the Final EIS is formally filed online. Mr. Meek can be reached by phone at 415-972-3370 or by email at meek.clifton@epa.gov.

Sincerely,

for Jean Prijatel
Manager, Environmental Review Branch

cc via email:

LaDonna DiCamillo, California High Speed Rail Authority
Crystal Huerta, U.S. Army Corps of Engineers
Susan Meyer Gayagas, U.S. Army Corps of Engineers
Justin Seastrand, U.S. Forest Service

Response to Submission 4550 (Connell Dunning, United States Environmental Protection Agency, December 1, 2022)

4550-10740

The commenter expresses their appreciation of the Authority's commitment to work closely with state and federal resource and regulatory agencies to address concerns early and avoid and minimize impacts to environmental resources. The Authority appreciates the opportunity to work with the EPA.

4550-10741

The commenter commends the Authority for its extensive coordination with community organizations in the San Fernando Valley that occurred during development of the Draft EIR/EIS and identified that this led to revisions to the Build Alternatives that minimized impacts on low-income and minority communities. In addition, the commenter requests the Authority's continued public and community outreach follow a similar structure to that used during the environmental review for the San Jose to Merced Project Section to identify better environmental outcomes for communities with environmental justice (EJ) concerns. The commenter also requested that the process for meaningful community involvement and improvement planning be clearly documented in the Final EIR/EIS, including information on any improvements requested by communities and why specific recommended improvements were or were not implemented. As noted by the commenter, the Authority has had extensive coordination with community organizations in the San Fernando Valley during development of the Draft EIR/EIS, including meetings with EJ populations that were not included in the Draft EIR/EIS. Table 5-4 (Summary of Environmental Justice Outreach Events) in Chapter 5, Environmental Justice of this Final EIR/EIS has been updated to include the additional environmental justice community workshops and meetings conducted for the Palmdale to Burbank Project Section. Meaningful community involvement and improvement planning for the Palmdale to Burbank Project Section was accomplished by soliciting feedback from EJ communities beginning in 2015 through the months immediately prior to release of the Final EIR/EIS, with the latest meeting occurring on November 7, 2023. Also, as noted by the commenter, the Authority has revised the Build Alternatives, based on coordination with EJ populations, to minimize impacts on low-income and minority communities. In November 2023, December 2023 and January 2024 the Authority conducted listening sessions with EJ communities in Pacoima and Sun Valley to seek feedback on potential additional features and/or measures that would avoid, minimize, and mitigate project impacts in EJ communities and would address concerns of EJ communities about the project's adverse effects. In regard to the commenter's request that the process for continued community engagement and community improvement planning follow a similar path that was used as part of the community engagement process used for the San Jose to Merced Project Section, the EJ evaluation provided in the San Jose to Merced Final EIR/EIS determined that there would be disproportionately high and adverse effects to EJ communities regarding aesthetics and visual quality, residential displacements, emergency vehicle response times, and noise, after the implementation

Response to Submission 4550 (Connell Dunning, United States Environmental Protection Agency, December 1, 2022) - Continued

4550-10741

of mitigation measures. However, the EJ evaluation provided in the Palmdale to Burbank Project Section Final EIR/EIS determined that there would be disproportionately high and adverse effects on EJ communities due to business displacements (for all six Build Alternatives) and community cohesion (for the E2 and E2A Build Alternatives only), after implementation of mitigation measures. The processes for community involvement and improvement planning for the Palmdale to Burbank Project Section and the San Jose to Merced Project Section are similar, but not identical, due to the difference in disproportionately high and adverse effects. Nonetheless, the Authority has committed to a continued robust community involvement and improvement planning process appropriate for the Palmdale to Burbank Project Section. The commenter also requests that the Final EIR/EIS include information on any improvements requested by communities and the reasons why requested improvements were or were not implemented. The Authority has continued to coordinate with EJ communities since the Draft EIR/EIS and has included additional information in the Final EIR/EIS about that coordination and its results. For example, in November 2023, December 2023 and January 2024, the Authority conducted listening sessions with EJ communities in Pacoima and Sun Valley to seek feedback on potential additional measures that would avoid, minimize, and mitigate project impacts in EJ communities and would address concerns of EJ communities about the project's adverse effects. In response to the listening sessions, the Authority has developed additional measures to respond to concerns from EJ communities, which are listed in Section 5.4.2 in Chapter 5, Environmental Justice, and described in Appendix 2-E, Impact Avoidance and Minimization Features of this Final EIR/EIS. The Authority has also developed offsetting mitigation measures (OMM) to offset disproportionately high and adverse effects (DHAE) on minority and low-income populations. See Section 5.8, in Chapter 5, Environmental Justice of this Final EIR/EIS, along with Appendix 5-B for additional information on IAMFs and OMM EJ Community Benefits (e.g., street safety improvements, workforce development programs, school communication and community connectivity). The new EJ-related measures will require the Authority to create an ombudsman position (liaison) to address the needs of adversely affected EJ communities, including the communities of Pacoima and Sun Valley in the San Fernando Valley. The ombudsman shall be a bilingual single point of contact for the EJ communities adversely affected by the project. The scope of the EJ ombudsman's responsibilities and duties will include those articulated in the EJ-related IAMFs and

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OMMs, such as implementing programs (e.g., Pacoima and Sun Valley Workforce Development Program, community air quality monitoring) and holding community roundtables to obtain ideas for business spotlighting, aesthetic treatments, as-applicable noise treatments, and intersection and/or safety improvements. The Authority will also comply with the Uniform Relocation Assistance and Real Property Acquisitions Policies Act (SOCIO-IAMF#2), which is a federally mandated program that will apply to all acquisitions of real property or displacements resulting from the project. The Authority will also prepare a relocation mitigation plan (SOCIO-IAMF#3) prior to construction, which will require the Authority to develop a relocation mitigation plan in consultation with affected cities, counties, and property owners, enabled for use as a public information document. In addition, the Authority will maintain its own Environmental Justice Guidance in compliance with Title VI of the Civil Rights Act of 1964, USEO 12898, and California state law (Government Code Section 65040.2 et seq. and Public Resources Code Section 11110 et seq.). The Authority is committed to ensuring that no person in the state of California is excluded from participation in, nor denied the benefits of, its programs, activities, and services on the basis of race, color, national origin, age, sex, or disability as afforded by Title VI of the Civil Rights Act of 1964 and related statutes. The Authority has also adopted a policy and plan to ensure that the California HSR Program complies with the requirements of USEO 13166, to communicate effectively and provide meaningful access to limited English proficiency individuals to all the Authority's programs, services, and activities. Adherence to the above policies to Title VI of the Civil Rights Act, USEO 12898, and USEO 13166, underscores the Authority's commitment to minimizing community effects by not disproportionately favoring or discriminating against any populations in the process of providing support to residences and businesses. As discussed in Section 5.8.3 of the Palmdale to Burbank Draft EIR/EIS, the project would provide benefits to the regional transportation system by reducing vehicle trips on local freeways through the diversion of intercity trips from road trips to the HSR system, improving the LOS of the regional roadway system, and reducing the overall VMT compared with existing conditions and compared to the No Project Alternative. Reductions in VMT would have the added benefit of reducing air pollutant and greenhouse gas emissions and improving local, regional, and statewide air quality. The Build Alternatives would also provide a safe and reliable means of intercity travel, operating on a fully grade-separated, dedicated track using contemporary safety, signaling, and automatic train control systems and would reduce growth in air and

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surface traffic, providing safety benefits by decreasing the occurrence of air, vehicular, pedestrian, and cycling accidents. Both EJ and non-EJ populations would experience these local, regional and statewide benefits. On a more local level, the Burbank Airport Station would revitalize and bring economic benefits to the Burbank Subsection, which includes both EJ and non-EJ communities. Induced growth associated with the Burbank Airport Station would accelerate the implementation of local development plans in Burbank and provide an opportunity to achieve transit-oriented development planning goals. EJ census block groups directly to the north and west of the Burbank Airport Station would be likely to experience this economic benefit. The project would have both short-term and long-term employment benefits for the region. Construction of the Build Alternatives would generate approximately 80,000 to 85,000 direct, indirect, and induced construction job-years. Furthermore, the Authority will enter into a Community Benefits Agreement, which would provide cooperative partnerships and commitments between the Authority, contractors, and unions, to assist businesses and employment-seekers in finding or obtaining construction contracts, jobs, and training opportunities for residents who reside in disadvantaged areas and those designated as disadvantaged workers. Through the Community Benefits Agreement, the Authority would require each prime contractor of an awarded construction package to commit 30 percent of all construction dollars to hiring small businesses (please refer to the Authority's Small Business Program webpage at: <https://hsr.ca.gov/business-opportunities/small-business-program/> which includes further information on the Authority's commitments to hiring small, disadvantaged, and diverse businesses for the project). The Community Benefits Agreement includes separate goals for the hiring of disadvantaged workers (including workers who are lower-income, veterans, single parents, have no high school or General Educational Development diploma, or suffer from chronic unemployment). Refer to response to comment 9784 for additional information about the Community Benefits Agreement. Thus, the Community Benefits Agreement will extend to low-income workers including those who reside in the Sun Valley neighborhood. The Authority has added Offsetting Mitigation Measures (OMM) and Impact Avoidance and Minimization Features (IAMF) including: EJ-OMM#1 (Construction Jobs and Opportunities, Training and Workforce Development), EJ-OMM#2 (Community Connectivity Workshop), EJ-OMM#3 (Montague Street Improvements), EJ-OMM#4 (Intermediate Window (SR14-W2), Conveyor belt usage requirements and school coordination), EJ-IAMF#1 (Authority EJ Ombudsman and Contractor's EJ Liaison), EJ-

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IAMF#2 (Business Spotighting), EJ-IAMF#3 (EJ Community-Inclusive Development of Aesthetic Treatments and Community Cohesion Enhancements), EJ-IAMF#4 (EJ Business Relocation/Displacement Assistance), EJ-IAMF#5 (EJ Community Post-Construction Communication), EJ-IAMF#6 (Non-Regulatory Supplemental and Informational Monitoring).

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The commenter requests that further discussion be added to the Final EIR/EIS to recognize the benefits of depositing tunnel spoils at Vulcan Mine. Section 8.4.2.8 of Chapter 8, Preferred Alternative was revised in the Final EIR/EIS to acknowledge the Vulcan Mine restoration (including associated benefits such as restoring a more natural overland flow pattern for waters in the project area, and potentially lowering construction emissions by reducing offsite spoils hauling trips) as a differentiating factor between the Build Alternatives. The restoration plan for Vulcan Mine is required by GEO-MM#1 and would be prepared prior to spoils being deposited within the disposal sites.

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The commenter recommends that the Authority continue efforts to ensure high value aquatic and biological resources are not significantly degraded, and that any impacts to aquatic and other biological resources are minimized to the greatest extent possible. The commenter also encourages the Authority to continue coordination with wildlife agencies and NGOs to further refine measures to maintain wildlife connectivity and movement throughout this project segment.

The Authority, in coordination with EPA and USACE, is closely examining practicable alternatives for the alignment to avoid and minimize impacts to aquatic resources. The Authority is committed to further coordination with USACE and EPA in the selection of the preliminary LEDPA through Checkpoint C (established by the Memorandum of Understanding - National Environmental Policy Act [42 U.S.C. 4321 et seq] and Clean Water Act Section 404 [33 U.S.C. 1344] and Rivers and Harbors Act Section 14 [33 U.S.C. 408] - Integration Process for the California High-Speed Train Program).

Regarding wildlife connectivity, the Authority prepared the WCA and Supplemental WCA, which conducted a thorough analysis of wildlife movement across the project and determined the effects to wildlife movement was less than significant, due to the extensive network of tunnel and viaduct supplemented with two wildlife crossings discussed in BIO-MM#64 that align with existing bridge crossing opportunities at the SR 14 freeway and identified wildlife roadkill hotspots. The commenter encourages the Authority to continue coordination with wildlife agencies and NGOs to further refine measures to maintain wildlife connectivity and movement throughout this project segment. The Authority has engaged with the wildlife agencies and a number of NGOs at the commencement of the WCA to solicit input in the study. In addition, the Authority will continue to coordinate with wildlife agencies and NGOs on wildlife connectivity.

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The commenter expresses willingness to work with the Authority to identify further avoidance and minimization measures, and to develop a compensatory mitigation plan for any unavoidable impacts to wetlands and waters of the U.S. The Authority appreciates the opportunity to work with the EPA and will continue to do so. The Final EIR/EIS will be made available to the EPA, as requested in this comment.