

# **APPENDIX A**

Draft 404b (1) Alternate Analysis

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**US Army Corps  
of Engineers.**

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## SECTION 404 (b)(1) EVALUATION & PUBLIC INTEREST REVIEW

Permit Application No: 200600615  
Applicant: BNSF Railway Co.

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## **I. Proposed Action**

### **A. Project Background Information**

The BNSF Railway Company (BNSF) is proposing to construct a third main track through Cajon Pass (Proposed Action). The BNSF system has three existing main tracks south and three tracks (one siding and two higher speed) north of Cajon Pass. This project will remove the bottleneck that results from the slow train speeds required to negotiate the steep grades through Cajon Pass. The Proposed Action is located in southwest San Bernardino County (County) and will be constructed between Cajon Summit (Summit) (Railroad Milepost [MP] 55.70) and Keenbrook (MP 69.50), a distance of about 15.9 miles (25.6 km). The Keenbrook end of the project is located approximately 15 miles (24.15 km) northwest of downtown San Bernardino. Heading north from Keenbrook the proposed alignment generally parallels Interstate 15 (I-15), passing under State Route (SR)-138 before reaching Alray. At Alray the proposed alignment turns to a northeasterly direction and passes under the I-15 before continuing on to Summit. From Summit, the BNSF line continues to Barstow before turning east towards Needles and eventually leaving California. The project will traverse Sections 6, 7, 19, 29, 30, 32 & 33 of Township 2 North, Range 5 West; Sections 1, 12, 13 & 24 of Township 2 North, Range 6 West; Sections 19 & 20 of Township 3 North, Range 5 West; and Sections 22, 23, 24, 26, 27, 34, 35 & 36 of Township 3 North, Range 6 West of the San Bernardino Baseline and Meridian.

### **B. Proposed Action**

BNSF (the applicant) proposes to install a third main track from Summit to Keenbrook within Cajon Pass. In addition to the new track, the Proposed Action includes:

1. The removal of two tunnels within the BNSF ROW.
2. Installation of retaining walls to avoid impacts to off-site lands and environmentally sensitive areas.
3. Aesthetic treatment of retaining walls, including coloring, to alter as little of the pre-existing view shed as is possible.
4. The lengthening and improvement of culverts to maintain the pre-project flow rates and make some of them more accessible for wildlife movement.
5. The construction of three wildlife ramps to further aid in wildlife movement through Cajon Pass.
6. The relocation of 261,000 cubic yards of material within the project area during construction activities, with the remaining 664,000 cubic yards of excess cut material removed from the site or relocated to a portion of the San Bernardino National Forest (SBNF) in order to help return the area known as the borrow pit to its historic topographic appearance.
7. The re-alignment of Swarthout Canyon Road.

### **C. Specific Activity Requiring Department of the Army Permit**

The Proposed Action will lengthen existing culverts and bridges that result in 73 separate fills. The Proposed Action permanently discharges fill material into 2.95 acres of jurisdictional waters of the U.S., including 1.56 acres of wetlands, and temporarily discharges fill material into 3.43 acres of jurisdictional waters of the United States, including 1.71 acres of wetlands. The Proposed Action is a linear transportation project involving 73 separate wetland and non-wetland waters of the U.S. that are under the jurisdiction of the United States Army Corps of Engineers (USACE). Therefore, BNSF submitted an application for Department of the Army (DA) authorization under Section 404 of the Clean Water Act (CWA) for the aforementioned impacts to waters of the U.S.

### **D. Scope of Analysis**

The third main track project is a linear transportation corridor project that traverses a relatively steep mountain pass (Cajon Pass) that encompasses numerous ephemeral washes and one major perennial stream, named Cajon Creek. Although a linear project, when examined in their aggregate, the activities under USACE jurisdiction are considered to be more than “merely a link” because the discharge of fill material occurs at 73

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different locations within the 15.9-mile project length and without authorization to perform these activities the Proposed Action could not be accomplished. In addition, there are several aspects of the Proposed Action that occur in upland areas that influence the location and configuration of the third main track. The safety requirements for the rail design in conjunction with the topography of Cajon Pass adjacent to the existing BNSF Right-of-Way (ROW) limit the configuration of the new third track. The extent to which the entire project will be within Corps jurisdiction federalizes the majority of the project activities. Consequently, the entire 15.9-mile long project area, including the adjacent uplands, is included within the USACE's scope of analysis.

Although additional federal permitting by the United States Forest Service (USFS) is required for project completion, the aerial extent of land subject to USFS jurisdiction is less than the area under Section 404 jurisdiction. Based on this factor, the USACE has greater federal control and responsibility; and accordingly, has been designated the lead agency for purposes of NEPA compliance.

## **II. Public Interest Factors Considered:**

### **A. Basic Project Purpose and Water Dependency**

The basic project purpose is rail transportation, which is not a water dependent activity. As a result, the applicant must rebut the presumption that a project alternative is available that would not affect special aquatic sites.

### **B. Overall Project Purpose for 404(B)(1) analysis**

The overall project purpose is to address the increasing demand for goods movement to facilitate commerce by efficiently sustaining current levels of rail traffic through Cajon Pass, and do so in an environmentally sensitive way. To that end, the goals and objectives are:

- Increase the sustainable capacity of rail traffic through Cajon Pass;
- Increase the operational flexibility of rail traffic through Cajon Pass;
- Recognizing the steepness of Cajon Pass, design a solution that meets BNSF's operational safety requirements for speed; and
- Achieve all of the foregoing objectives in an environmentally sensitive manner by utilizing the existing ROW to the greatest possible extent while maintaining the ecological functions within Cajon Pass.

### **C. Project Need**

This project is needed because the existing BNSF rail system through Cajon Pass cannot efficiently sustain current levels of rail traffic or the anticipated amount of future freight traffic. Currently, the sustainable capacity of the existing two main tracks through Cajon Pass is 102 trains per day. Presently, the BNSF tracks in Cajon Pass accommodate an average of 96 trains, with peaks exceeding 100 trains per day. In addition to BNSF trains, both the Union Pacific Rail Road (UPRR) and National Railway Passenger Corporation (Amtrak) operate trains over this segment of track. With an increase in goods moving by rail, traffic has been gradually increasing and is now exceeding the maximum sustainable average rail capacity through Cajon Pass. Exceeding the maximum sustainable average capacity leads to operational inefficiencies, a significant slowdown in train movements due to physical capacity constraints, and insufficient time being available for track maintenance.

Unlike the UPRR, which has multiple rail lines for the movement of goods to areas outside of California, BNSF only has one route under its control. All BNSF rail traffic into and out of southern California must go through Cajon Pass. Existing and considerable future delays are unavoidable based on the current track configuration and physical characteristics.

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The Existing Capacity of Cajon Pass segment of the BNSF railway is constrained because of operational restrictions on train speed both ascending and descending the Cajon Pass (Figure 2-1). On the relatively flat section south of Cajon Pass, the maximum authorized speed for freight trains is 50 miles per hour (mph). The maximum authorized speed north of Cajon Pass is as high as 70 mph. However, due to the steep grade between San Bernardino and Summit, typical train speeds range between 14 and 22 mph for eastbound trains ascending Cajon Pass, and 20 to 30 mph for the descending westbound trains. The reduction in train speeds between Keenbrook and Summit, combined with having only two existing tracks in this area, create a bottleneck effect, delaying the movement of trains entering Cajon Pass from both ends. Additionally, while westbound trains will typically use Main Track 2, operational safety requirements mandate that certain westbound trains use Main Track 1 because of its lesser grade. This further reduces the operational capacity of the existing tracks.

With the installation of a third main track through Cajon Pass, the sustainable capacity along this segment of track will be 153 trains per day. BNSF anticipates that, with continued growth in freight rail traffic (assuming economic conditions remain approximately the same as exist at present) this capacity is expected to be sufficient to meet projected increases in rail freight demand for at least 20 years.

#### **D. Public Interest Factors Considered**

There are 21 public interest factors listed in 33 CFR 320.4 that were initially considered as part of this evaluation. Based on the nature and scope of the Proposed Action, 13 public interest factors were deemed relevant to this activity, including: conservation, economics, aesthetics, general environmental concerns, wetlands, historic properties, fish and wildlife values, flood hazards, floodplain values, recreation, land use, water quality, and safety.

### **III. Alternatives**

#### **A. Development of Alternatives**

The Proposed Action is not a “water dependant” activity and therefore the presumption that an upland site exists and that the upland site is less environmentally damaging must be rebutted. DA authorization cannot be granted for a discharge of dredged or fill material if there is a practicable alternative to the proposed discharge which would have less adverse impact on the aquatic ecosystem, so long as the alternative does not have any other significant adverse environmental consequences.”

The alternatives analysis must “rigorously explore and objectively evaluate” all reasonable and practicable alternatives capable of achieving the overall project purpose.

Between June 2005 and October 2006 the applicant worked cooperatively with the USACE, USFS and United States Environmental Protection Agency (USEPA) to develop criteria that would be utilized to formulate alternatives. The first five criteria represent characteristics that a new route for rail transport must have:

- Available real estate within and/or adjacent to the existing BNSF ROW;
- Ability to improve operational efficiencies through enhanced flexibility of scheduling freight movement;
- Track curvature limited to less than 12 percent and grade limited to less than 2.3 percent;
- Retain proximity to existing tracks; and
- Overall ability to effectively increase freight movement in both directions (east and west) to reduce the existing bottleneck in Cajon Pass.

Several technical and logistical constraints were recognized early in the alternatives development process, which influenced the overall design and location of alternatives (i.e., proximity of the new track to the existing tracks). These factors and constraints are as follows:

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- The severe topographic conditions and constraints make a close proximity between tracks necessary for successful operation through Cajon Pass.
  - When tracks are parallel and in close proximity, a single maintenance road can be used to maintain and repair multiple tracks, reducing the need to extend maintenance roads into previously undisturbed area. Two parallel tracks with a maintenance road require a minimum of 50 feet. A single track with a maintenance road requires a minimum of 35 feet. Accordingly, two divergent tracks plus a maintenance road will require minimum ROW of 70 feet; 20 feet more than a two-parallel track design. Further, maintenance can be accomplished with one crew rather than two separate crews, making it more efficient and cost-effective.
  - When tracks are parallel and in close proximity, the length and number of support structures (e.g., culverts, wing walls, retaining walls, at grade crossing protective devices, etc.) can typically be reduced, avoiding adverse impacts on previously undisturbed areas.
  - When tracks are parallel and in close proximity, security measures can be implemented more efficiently and effectively.
  - When tracks are parallel and in close proximity, operational flexibility is enhanced, which allows more efficient routing of trains.
  - Federal Railroad Administration (FRA) mandated maintenance is facilitated by parallel tracks in close proximity, because one track can be inspected from the other track.
  - When tracks are parallel and in close proximity, redundant signal and safety detection facilities can be avoided (e.g., a single signal appliance location can control multiple tracks).
  - When tracks are parallel and in close proximity, communications equipment can be located in single rather than multiple corridors.

## **B. Sequenced Search for Less Environmentally Damaging Alternatives**

### **1. No Action Alternative**

With the No Action Alternative, a new third main track through Cajon Pass would not be constructed and railroad operations in the region would continue as present. If the new track is not constructed, the purpose would not be met. With anticipated growth of freight rail traffic, delays would increase for trains traversing Cajon Pass. Additional congestion would cause an increasing number of trains to stop or be delayed for extended periods due to the time required for trains to navigate the two existing tracks. Failure to implement the project would delay passenger rail operation, adversely affecting passenger trains that utilize BNSF tracks, potentially making this form of public transportation less desirable. Ultimately, as the delays become greater, transportation by truck would be the option selected to move goods through the Cajon Pass because it would be the shortest, most efficient route.

### **2. Other sites/Off-Site Alternatives**

As part of the alternatives analysis, several off-site alternatives were developed for consideration. Many of these, however, were unable to achieve the project purpose and need, or were not technically practicable, and therefore were not carried forward for additional evaluation. Selection of off-site alternatives focused on providing east west connections to existing BNSF facilities on other rail lines, abandoned railroads or grades, and least damage to the environment. Figure 3-1 shows the location of off-site alternatives evaluated as part of this evaluation.

#### **a. UPRR Yuma Line**

This alternative will require BNSF to use the UPRR Yuma Line. The Yuma Line runs southeast from the UPRR Colton yard to the Mexican border. Because BNSF does not have a line that connects with this line, it makes adopting this option infeasible, as BNSF trains will dead-end into a UPRR yard. Further, the Yuma line heads southeast, not northeast, and therefore will be routing the BNSF trains away from their intended destination. In addition, scheduling time on this stretch of the UPRR

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will be difficult because it is not controlled by BNSF and is already near capacity. Even if improvements are made to increase capacity, this alternative will require the construction of over 100 miles of new track to link up with existing BNSF facilities to the north near Needles and bypass the UPRR yard in Yuma.

**b. UPRR Saugus Line**

This alternative will require BNSF to utilize the UPRR Saugus line. The Saugus line links with the UPRR Coastal Route, and BNSF line near Mojave by cutting north through Palmdale. As BNSF does not control this route, the implementation of this alternative will cause a decrease in operational flexibility for BNSF. In addition, this route is currently at sustainable capacity and will require substantial improvements over the approximately 80-mile (128.7 km) stretch to increase capacity. Because of the length of the track improvements required to accommodate this alternative, the improvements will likely cause environmental impacts greater than those anticipated under other on-site alternatives. In order to get to the Saugus Line, the BNSF trains will need to traverse either the UPRR Coastal Route or the UPRR Palmdale Cut-off, either of which will increase operational inefficiencies. The Saugus line intersects the BNSF line between Boron (northwest of Barstow) and Bakersfield. Goods traveling east will then have to backtrack to Barstow where the current BNSF alignment through Cajon Pass turns east.

**c. UPRR Coastal Route**

This alternative will require BNSF to utilize the UPRR Coastal Route to transport goods. The Coastal Route runs west from the UPRR Colton yard to Los Angeles before turning north and traveling along the coast. The Coastal Route will transport goods westward, and will require them to be redirected eastward. To redirect the good to the east, the BNSF train will have to either:

1. Switch to the Saugus line, adding the limitations of this line as addressed previously;
2. Continue along the UPRR lines to San Francisco, then back track to Barstow utilizing the existing BNSF lines, which are already near capacity; or
3. Construct a new 100 plus miles of track to connect the UPRR Coastal Route with the existing BNSF lines north of Mojave and then back track along the existing BNSF lines to Barstow.

As with the Saugus Line, BNSF does not control this route; therefore, the implementation of this alternative will cause a decrease in operational flexibility for BNSF. In addition, this route is currently at sustainable capacity and will require substantial improvements to increase capacity. Because of the length of track improvements required to accommodate this alternative, these capacity improvements will cause environmental impact greater than those anticipated under other on-site alternatives due to the need to construct the new railroad track through a 100-mile area. The construction of the new track will need to cross a number of streambeds, wetlands and wildlife habitats that will not be necessary should on-site alternatives be used.

**3. Other Project Designs/On-site Alternatives**

As part of the alternatives analysis, several on-site alternatives were developed for consideration. Many of these, however, showed insufficient potential to achieve the project purpose and need, or were not technically practicable, and therefore were not carried forward for additional evaluation. Selection of on-site alternatives focused on providing east west connections to existing BNSF facilities on other rail lines, abandoned railroads or grades, and least damage to the environment. Additional information regarding onsite alternatives is discussed in Section 2.0 of the Final Environmental Impact Statement/Environmental Impact Report (FEIS/EIR).

The placement and design of the third main track through Cajon Pass is limited by the area available for new track based on terrain, changes in elevation, Cajon Creek, and other jurisdictional

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watercourses, including floodplains and wetlands. Lands immediately outside the BNSF ROW are owned primarily by the USFS, limiting development potential.

**a. Reduced Footprint (Proposed Action)**

The applicant would construct a new third main track adjacent and parallel to Main Track 1, which minimizes the environmental footprint by placing retaining walls in sensitive environmental areas and enhancing the existing drainage structures to provide for increased ease in wildlife movement through the existing linkages. The new third track would begin at MP 55.70 on the north side of the existing Main Track 1 in the Summit area and transition to the south side near Alray (approximately MP 59.9x). Transitioning to the south side of the tracks allows for the complete avoidance of wetlands adjacent to the north side of the tracks located near MP 60.00x. The new third main track would then transition again to the west side of the track near MP 63.2 to avoid direct impacts to Cajon Creek. For most of the alignment, this alternative would be constructed on existing cleared or disturbed areas and maintenance roads within the BNSF ROW. A new access road would be built adjacent to the new track for maintenance access and to protect the track against rock fall and erosion. Existing maintenance roads would be maintained in areas where construction does not impact the current road, reestablished adjacent to the new track in impacted areas where feasible, or eliminated where significant topography or environmental concerns such as wetlands limit the footprint.

**b. Standard Engineering Design**

The Standard Engineering Design Alternative is similar in configuration to Preferred Alternative. However, standard, cost-efficient rail engineering and design methods would be utilized to reduce expense and construction complexity. This alternative does not include the more extensive, difficult, and environmentally sensitive design features that would be implemented with the Reduced Footprint alternative. Construction of the Standard Engineering Design would be less expensive and less difficult than the Reduced Footprint Alternative, but would have additional impacts to wetlands, floodplains, and other sensitive environmental areas. This alternative does not include improvements to all drainage structures or wildlife linkages and would result in the removal of wetlands adjacent to the east side of the existing tracks near MP 60.3. Under this alternative, the tracks would not transition to the west side of the tracks until MP 65, necessitating the filling of portions of Cajon Creek for the new embankment. The use of retaining wall structures would be limited to three, these being the minimal number necessary to avoid property takes outside of the BNSF ROW. This alternative would also require construction of a new maintenance road on one or both sides of the new rail embankment, where as with the Preferred Alternative, a maintenance road would only be constructed on one side of the new embankment where environmental constraints allow for its construction.

**c. Reduced Footprint with Drainage Structure Replacement**

Under this alternative the proposed third main track would be built identical to the Reduced Footprint Alternative. However, rather than extending culverts through drainages that currently restrict the natural drainage flow, the culverts would be replaced with new larger culverts or bridges in order to improve drainage and water quality and further enhance wildlife movement through the project area.

Implementation of this alternative would involve the replacement of several culverts through the project area. At 59.1X the existing culvert would be replaced with a new bridge. In other areas, culvert replacement would require track removal to dig up and replace the existing culvert, and in some cases, would require boring a new pipe next to the existing one. Removal of the track at each culvert location would require a track outage long enough to replace the culvert, stopping goods movement over this period. Boring of new pipe could be accomplished without a track outage in

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most cases, but requires a large area of temporary disturbance within the channel and is dramatically more expensive compared to conventional culvert replacement. The jack-and-bore process involves pushing smooth pipe through the rail embankment. Corrugated pipe is too thin and its ridges would resist insertion into the embankment. To withstand the process, a thick smooth steel pipe must be used and slowly pushed through the embankment while a hole is bored. The jack and bore equipment requires on average a 30 foot wide by 30 foot long pad and the placement of a large earthen berm to push against. Preliminary estimates show that this would double the impacts to jurisdictional waters required under the Reduced Footprint Alternative. These impacts would be subject to DA permit as well and compensatory mitigation. It can take several days to insert a new pipe through an embankment and cost up to 10 times as much as a traditional corrugated steel pipe. In most of replacement locations, digging up and replacing the existing culvert is not an option due to its depth below the embankment surface. Replacement of these culverts would also dramatically increase the temporary and permanent impacts to jurisdictional waters. In addition, the existing retention basins would be removed at each culvert replacement location potentially causing increased downstream sedimentation and flood flow.

A preliminary evaluation for replacement of the culvert located at MP 59.1X with a new bridge was conducted and a preliminary engineering typical section and cost estimate prepared. The rationale for replacement of the culvert with a bridge was to improve wildlife access and restore more normal functions to the drainage channel. Replacement of the culvert would require a new bridge and track segment be built to accommodate three tracks while current train operations continued. Once complete and trains were operating on the new bridge the earth underneath the bridge and old tracks would be slowly removed until the final grade for the drainage was reached. The final slope under the new bridge would be approximately 12 degrees and would require wildlife to travel nearly 250 feet in a relatively enclosed area. Replacement of this single culvert through both embankments with bridges would be approximately \$2,500,000. For these reasons this alternative was not selected as being a reasonable or practical alternative and was not selected to be carried forward.

#### **d. Main Track 2 Route Alternative**

The Main Track 2 Route Alternative would construct a new third main track adjacent and parallel to Main Track 1. Beginning at Summit (MP 55.70), the new alignment would be constructed on the north side of the existing Main Track 2, aligning with the existing siding at Summit. At the location of the split between Main Track 1 and Main Track 2 (MP 56.6), the proposed track would transition across Main Track 1 and continue to follow the north side of Main Track 2. The track would be constructed 15 feet (4.6 m) on center from the existing track, except at bridge locations where the separation would increase to 25 feet (7.6 m) to accommodate the construction of bridges adjacent to existing bridges. At Alray (MP 59.7), a new bridge would be built over Baldy Mesa Road. A tunnel would need to be built to accommodate the new track under I-15 and SR-138. Above SR-138 a new bridge would be added over Cajon Wash at the upper end of where surface flows begin. Below SR-138, the new track would continue on the west side with a series of built up embankment segments and bridges. Approaching the Cajon Station area, the track would span existing wetlands and Cajon creek. On the approach to Cajon Station where Main Track 1 merges back together with Main Track 2 (MP 64.25x), the track would transition and run along the east side of Main Track 2. From the Cajon area to Keenbrook, this alternative matches the Reduced Footprint Alternative. Topography along Main Track 2 from Silverwood to Cajon is steeper (e.g., 3.4%) than would be encountered with either the Reduced Footprint or Standard Engineering Design Alternatives (e.g., 2.2%).

The Main Track 2 Route Alternative has not been carried forward for detailed evaluation because its steeper grade creates a greater operational constraint as compared with the Reduced Footprint or Standard Engineering Design Alternatives, resulting in greater operational difficulties. It also represents a potentially greater safety hazard from rock fall on the tracks. Design of a new appropriately sized maintenance road and rock fall protection structures will be necessary to ensure safe train passage resulting in a considerably larger footprint than required under the Reduced

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Footprint or Standard Engineering Design Alternatives. Impacts to wetlands, linkages and the ability to incorporate avoidance as part of the track design is limited in this option based on topography. Streambed alteration, wetlands impact, and habitat disruption will be greater with this alternative than will be experienced with either the Reduced Footprint or Standard Engineering Design Alternatives because this alternative would require a larger footprint that would span an existing wetland and Cajon Creek and the construction of a new maintenance road that would further encroach into wetland areas along the Creek.

**e. Historic Route**

This alternative will follow the route detailed in the Main Track 2 Alternative above except for a mile-long segment between Cajon and Swarthout Canyon Road (MP 63.2 to MP 64.45). The original historic alignment of Main Track 2, now abandoned, ran alongside historic U.S. Route 66 (Cajon Blvd.) in this segment. The historic alignment was moved in 1938 to the west side of Cajon Creek due to numerous seasonal floods washing out the embankment and track structure. From Cajon Station, this alternative veers east from the existing two tracks after crossing the Cleghorn Creek Bridge adjacent to Cajon Blvd. and parallels Route 66. The route along the east bank of Cajon Creek will require the construction and installation of a built-up embankment with culverts to handle captured water and small water courses from the east flowing into Cajon Creek. Existing abutments from the historic alignment will not be utilized, but rather removed if they are within the embankment area. Near Swarthout Canyon Road this alignment will cross back over Cajon Creek and meet up with Main Track 2 near MP 64.1.

The Historic Route has not been carried forward for detailed evaluation because it is expected to have similar topographical and grade related drawbacks associated with the Main Track 2 Alternative including the addition of increased maintenance on, and encroachment of, the embankment in the Cajon Creek and associated floodplain. Further, the construction of a new embankment, culverts, and bridges will result in streambed alteration affecting ponding and hydrology, and disturbing habitat.

**f. UPRR Palmdale Cut-off**

This alternative will utilize the UPRR Palmdale Cut-off ROW. The Palmdale Cut-off travels through Cajon Pass adjacent to the BNSF lines to Summit before heading west to Palmdale where it connects to the Saugus Line. Currently, this UPRR line is at sustainable capacity as evidenced by the fact that UPRR trains utilize the BNSF tracks through this section of the Pass.

The UPRR Palmdale Cut-off has not been carried forward for detailed evaluation because it will require construction of a new track in or adjacent to the UPRR ROW, resulting in the similar or increased environmental impacts to the area as compared to the Reduced Footprint and Standard Engineering Design Alternatives. In addition, the grade of the existing UPRR track exceeds the design objective of a 2.3%, eliminating the effectiveness of a new track along this alignment. BNSF currently has no entitlement to use UPRR tracks and as trackage rights are very valuable, BNSF may never be able to obtain trackage rights over UPRR's Palmdale line. Further, BNSF trains will eventually have to transfer from the Palmdale Cut-off line to the Saugus Line, adding the limitations of this line as addressed in Section 3.3.2 or construct an additional new track in excess of two miles to connect this line with the BNSF line near Summit.

**IV. Evaluation**

**A. Local Watershed Characteristics**

Most of the Project site is located within the northeastern portion of the Santa Ana watershed and 3,000 linear feet is located within southwestern portion of the Lahontan watershed. Only one drainage (i.e., Drainage #1 at MP 55.90) is located with the boundaries of the Lahontan Regional Water Quality Control

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Board (Lahontan Region 6), while the remaining waterways crossed by the BNSF railroad alignment is located within the Santa Ana Regional Water Quality Control Board (Santa Ana Region 8). With the exception of Cajon Wash, these drainages primarily consist of head waters located within the upper most portion of the Santa Ana watershed. The Project alignment crosses mostly ephemeral washes with some intermittent water courses and the Cajon Wash being considered a perennial drainage. All drainages, except Drainage #1, crossed by the Project alignment flow into Cajon Wash.

The Santa Ana watershed is bounded on the south by the Santa Margarita watershed, on the east by the Salton Sea and Southern Mojave watersheds, and on the north/west by the Mojave and San Gabriel watersheds. The highest elevations (upper reaches) of the watershed occur in the San Bernardino (San Gorgonio Peak -- 11,485 feet in elevation) and eastern San Gabriel Mountains (Transverse Ranges Province; Mt. Baldy -- 10,080 feet in elevation). Further downstream, the Santa Ana Mountains and the Chino Hills form a topographic high before the river flows into the Coastal Plain (in Orange County) and into the Pacific Ocean. Primary slope direction is northeast to southwest, with secondary slopes controlled by local topography.

From Keenbrook (the southernmost portion of the proposed project alignment) the Cajon Creek flows for approximately 9.28 miles before emptying into Lytle Creek Wash. Subsequently, Lytle Creek Wash courses for approximately 6.82 miles before entering the Santa Ana River near the intersection of I-15 and I-10. From the location of the intersection of I-15 and I-10 the Santa Ana River flows for approximately 45 miles and empties into the Pacific Ocean at Huntington Beach.

## **B. Anticipated Changes to the Physical/Chemical characteristics of the aquatic Environment**

### **1. General water quality:**

Designated uses for Cajon Creek currently include: Aquatic Life Support, Fish Consumption, Swimmable, Secondary Contact Recreation, Drinking Water Supply, Cold Freshwater Habitat, Groundwater Recharge, Municipal and Domestic Water Supply, Water Contact Recreation, Non-Contact Recreation, and Wildlife Habitat. Cajon Creek is not listed on the CWA Section 303(d) list of water quality limited segments. The project design includes an evaluation for each culvert potentially affected by the action and proposed improvements. The effects of storm water such as scour and erosion are mitigated through design by the inclusion or restoration of silt/catch basins on the up side of culverts and rip rap of other velocity dissipation devices at the end of culverts. No measurable effects on designated uses are anticipated by implementation of the proposed project. Water clarity and quality natural processes will be stabilized in the area with project design features.

Through the compliance with the National Pollutant Discharge Elimination System (NPDES) permit, Storm Water Pollution Prevention Plan (SWPPP), best management practices, resizing culverts, and revegetating graded and denuded sites, the proposed Project will not result in substantial increases in particulates and/or turbidity. In the case of installing properly sized culverts and bank stabilization structures, down stream particulates and/or turbidity is expected to decrease.

### **2. Substrate:**

The substrate of 2.95 acres of waters of the United States, of which 1.56 acres consists of wetlands, would either be permanently cut or filled with native materials associated with onsite grading to an elevation that they are no longer waters.

### **3. Currents, circulation or drainage patterns:**

Drainage patterns within the site will be slightly modified, with storm culverts extended in order to carry water underneath a wider embankment, however will not substantially affect the current, circulation, or drainage patterns. In a few cases bridges that already cross jurisdictional drainages will have to be widened and additional support structures will have to be installed within

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jurisdictional channels. However, these support structures will duplicate already existing support structures and will not substantially affect current, circulation, or drainage patterns.

#### **4. Suspended particulates; turbidity:**

A state water quality certification and a NPDES permit will be obtained from the Regional Water Quality Control Board. These actions will ensure that suspended particulates and turbidity will be minimized to the maximum extent practicable.

A SWPPP will be prepared and best management practices will be implemented in accordance with the NPDES permit to control erosion and siltation during construction and to ensure that suspended particulates and turbidity will be minimized to the maximum extent practicable. In addition, BNSF will submit an application for water quality certification to the Regional Water Quality Control Board thereby ensuring that federal and state water quality standards will be met.

In addition, several culverts that currently pass underneath the railroad tracks have not been maintained for some time, and as a result, have eroded the down slope side of the track which subsequently produces down stream particulates and turbidity. Under the Proposed Action each culvert will have adequate bank stabilization structures installed as necessary in order to reduce erosion and downstream siltation.

To address longer term erosion issues a revegetation plan will be prepared. The revegetation plan would include the revegetation for the purpose of erosion control for graded areas and other sites denuded due to construction activities. Areas in which vegetation did not exist prior to project related activities would be returned to their pre-construction state. Vegetative coverage would be re-established in areas where coverage existed prior to construction. The goal of the revegetation plan is to protect the final cover soils against erosion and to provide vegetative cover that will survive the arid climate of the site with minimal irrigation and maintenance. In addition, the goals of the revegetation plan include the management and preservation of existing sensitive habitats, such as the coastal sage scrub and riparian habitats downstream of the Proposed Action; and the creation or restoration of additional native habitats. Recommended actions include subsequent monitoring of biological resources within the revegetation and enhancement areas, and implementation of protective measures to preserve and protect existing habitats adjacent to the revegetation area. In addition, in areas where stream banks or channels exhibit excessive erosion, or are otherwise damaged by overuse or other unnatural factors, actions will be taken to reinforce or otherwise stabilize such areas to return the bank to a near natural and stable state. Once site revegetation and enhancement is implemented and becomes established it will minimize erosion and be resistant to invasion by non-native plant species.

Through the compliance with the NPDES permit, SWPPP, best management practices, resizing culverts, and revegetating graded and denuded sites, the proposed Project will not result in substantial increases in particulates and/or turbidity. In the case of installing properly sized culverts and bank stabilization structures, down stream particulates and/or turbidity is expected to slightly decrease.

#### **5. Water quality (temperature, salinity patterns and other parameters):**

To address short term water quality during the construction period, a SWPPP would be prepared and best management practices implemented in accordance with the NPDES permit to control water quality during construction. In addition, BNSF has submitted an application for water quality certification or waiver to the Regional Water Quality Control Board thereby ensuring that federal and state water quality standards will be met.

Long term, post construction phase water quality would be addressed by correcting the erosion occurring the down slope side of the track which subsequently produces down stream siltation. The

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Proposed Action will redesign the culverts and install bank stabilization structures as necessary in order to reduce erosion and improve downstream water quality compared with existing conditions.

The Revegetation Plan, as discussed in Section 4.3.4 of the FEIS/EIR will protect the final cover soils against erosion and provide vegetative cover that will survive the arid climate of the site with minimal irrigation and maintenance.

Through the compliance with the NPDES permit, SWPPP, best management practices, the installation of the improved culverts, installation of bank stabilization structures, and the revegetation of graded and denuded sites, the proposed project will not result in substantial degradation of water quality.

## **6. Flood control functions:**

Executive Order 11988 (May 24, 1977), Floodplain Management Guidelines, addresses the use of floodplains by federal agencies. The objective is to avoid, to the extent possible, the long- and short-term adverse impacts associated with occupancy and modification of floodplains.

Cajon Wash is generally a wide alluvial channel of coarse sand bed material, with the exception of the Blue Cut area of the canyon that is incised with steep side slopes and bed material composed of gravel, cobbles, and rock. In general, Cajon Creek is characterized as a “non-sinuuous braided” creek. Creeks of this nature are typically highly braided (e.g., network of converging and diverging flow lines separated from each other by narrow strips of sand and gravel) and have moderate rates of lateral migration at random places where one of the multiple branches impinges against a bank, such as Main Track 1 embankment fill. Primary causes of braiding include upstream or tributary sediment over loading, which results in deposition of sediment. Sediment transport through the canyon and smaller tributary drainages typically occur during somewhat infrequent, moderate to high flood events (10-year and higher flood events).

Cajon Wash and Lone Pine Canyon are not delineated on Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps within the study area. Therefore, existing condition 10- and 100-year floodplains were determined within the study area to analyze project impacts on the floodplain. The floodplains were determined using USACE HEC-RAS hydraulic software in conjunction with existing canyon topography and flood discharges calculated from USGS regression equations that are based on over 50 years of stream gauge data for Cajon Creek and Lone Pine Canyon. There are three stream crossings of Cajon Wash at Main Track 1 bridges (i.e., BR 61.5x, BR 64.11x, BR 63.08) and one at Lone Pine Canyon (BR 65.16), along with several areas where the existing floodplain is adjacent to the Main Track 1 alignment. The 10- and 100-year floodplains within Cajon Wash are relatively wide with shallow flow depths and moderate to high flow velocities capable of scour/erosion and excessive sediment transport capacity.

Three basic types of scour protection improvements have been constructed to protect Main Track 1 embankment slopes from scour where the embankment is adjacent to the floodplain. These improvements primarily include riprap, and permeable or jetty retarding protection measures such as steel rail jacks and single-line steel railing. These measures are used to induce silting/aggradation and have historically been constructed at, and parallel to, the toe-of-slope to prevent bank erosion. Because the proposed project is located within the floodplain of Cajon Wash the BMP’s mentioned above have been incorporated into the design plan.

## **7. Storm, wave and erosion buffers:**

Several culverts that currently pass underneath the railroad track have not been maintained, and as a result, eroded the down slope side of the track during storms. To reduce erosion during storms the Proposed Action stabilizes these slopes as necessary to reduce erosion and improve downstream water quality, where as the No Action alternative does not.

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**8. Erosion and accretion patterns:**

Through compliance with the NPDES permit, SWPPP, best management practices, installation of the improved culverts, installation of bank stabilization structures, and the revegetation of graded and denuded sites, the Proposed Action will not result in substantial increases in erosion and/or accretion. In the case of installing properly sized culverts and bank stabilization structures, down stream erosion and accretion is expected to decrease, compared with existing conditions.

**9. Aquifer Recharge:**

The only drainage likely to contribute substantially to aquifer recharge (all other drainages onsite are small ephemeral drainages) is Cajon Creek. The only permanent structures proposed for Cajon Creek are support structures for bridge crossings. Consequently, the activity is not expected to alter aquifer recharge.

**10. Baseflow:**

With the exception of Cajon Creek, none of the on-site drainages have baseflows. None of the project activities will interfere with baseflows. The only permanent structures proposed for Cajon Creek involves the placement of support columns for the widening of currently existing bridges. Therefore, baseflows will not be affected by the proposed work.

**C. Anticipated Changes to the Biological characteristics of the aquatic Environment**

**1. Special aquatic sites (wetlands, mudflats, coral reefs, pool and riffle areas, vegetated shallows, sanctuaries and refuges, as defined in 40 CFR 230.40-45):**

There are several types of special aquatic sites located onsite; they include deep water habitat (i.e., one natural pond located in Cajon Creek at culvert 62.49x), riffle and pool complexes within Cajon Creek, and wetlands. However, wetlands are the only type of special aquatic habitat affected by the proposed project – the other two special aquatic habitats are being avoided. Approximately 2.95 acres of wetlands are permanently impacted by the proposed project, most of which are relatively small impacts to ephemeral drainages supporting wetland vegetation. The impacts to these special aquatic sites are compensated by the creation of 4.30 acres of riparian habitat. Unlike the impacts, which are many but small and isolated and of limited value to wildlife, the proposed mitigation site is located at one contiguous site that is adjacent to high quality habitat known to support the arroyo toad. The fact that the site is located within an area of high habitat value will maximize the function and value gained from the proposed creation and enhancement of additional native riparian habitat.

Creating riparian habitat as mitigation would require extending the existing floodplain area, which can be achieved by excavating the existing overbank in the southeastern quarter of the parcel. The applicant proposes to excavate an area approximately 210 feet (64 m) wide by 900 feet (274.32 m) long and 5 feet (1.52 m) deep in order to inundate the site during a 2-year flood event (a depth to ensure vitality of riparian species). This excavation would require approximately 35,000 cubic yards of cut material and result in approximately 4.30 acres of additional floodplain area available to be planted with riparian species.

**2. Habitat for fish and other aquatic organisms:**

The only drainage onsite that supports substantial aquatic life movement is Cajon Creek. Cajon Creek is considered a major aquatic life movement corridor through the Cajon Pass, and contains fish, amphibians, and aquatic birds and insects.

Within the study area, the reported presence of the Santa Ana speckled dace (*Rhinichthys osculus ssp.*), a State species of concern, was noted. Speckled Dace are known to potentially occur from the

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Crowder confluence to where perennial flows go subsurface, south of Blue Cut. The speckled dace were observed during focused diurnal surveys for Arroyo toad. Hundreds to thousands of dace were observed throughout the survey areas upstream and downstream of Swarthout on July 7 and 16, 2005. In 2004, they were also found in Cajon Creek ½ mile south of Swarthout Road. The speckled dace observed during the 2005 surveys were reported between N 34• 17.461/ W 117• 27.337 and N 34• 16.159/ W 117• 27.345. Speckled dace have also been documented in lower Lone Pine Canyon.

Common amphibian species observed by the surveys include the California chorus frog (*Pseudacris cadaverina*), western toad (*Bufo boreas*), and pacific chorus frog (*Pseudacris regilla*). In addition, the federally listed (endangered) arroyo toad (*Bufo californicus*) has also been identified onsite.

A mitigation plan is currently being developed by the applicant that will address enhancement and creation of aquatic and riparian habitat. The goals of this restoration effort would be to improve aquatic wildlife usage as well as increase riverine functions associated with habitat structure and composition. Once diverse strata and riparian vegetation are established, they will provide suitable breeding and foraging habitat for the arroyo toad, and foraging habitat for the least Bell's vireo and southwestern willow flycatcher.

### **3. Wildlife habitat (breeding, cover, food, travel, general):**

Impacts to wildlife habitat as a result of the Proposed Action are unquantifiable, especially with regard to noise impacts, potentially making areas less desirable for wildlife. To maintain the ecological processes within Cajon Pass, on-site compensatory mitigation would be implemented parallel to the BNSF Railroad and adjacent to the location of the Proposed Action impacts. Habitat value degradation from implementation of the Proposed Action is expected to be replaced in-kind and at a greater value (most impacts are located within a disturbed portion of the Cajon Pass [i.e., the BNSF ROW] and the mitigation is located within some of the most valuable portions of Cajon Creek). The mitigation sites under evaluation have the added benefit of being large and contiguous with other resource conservation areas, as apposed to the small linear impact associated with the Proposed Action.

In addition to those proposed efforts to mitigate for impacts to wildlife movement (e.g., fixing culvert outlets), there may be some additional opportunities to improve wildlife corridors at the proposed mitigation sites. Most notably, creating riparian and alluvial scrub habitats and preserving the entire mitigation site in perpetuity for conservation purposes is expected to facilitate local and regional wildlife movement. The riparian vegetation that exists on the proposed mitigation site is of high quality and currently supports wildlife movement through the riparian corridor and Cajon Creek. In addition to the existing high quality riparian habitat, areas surrounding the riparian habitat that are currently disturbed will be enhanced to provide a greater area for wildlife movement, cover, and foraging opportunities.

The proposed mitigation sites currently support wildlife movement east to west, through Cajon Creek and the existing on-site native alluvial fan sage scrub and riparian vegetation. The riparian vegetation that exists on-site provides three key elements to support movement within and through the proposed site: food, water, and cover. The riparian habitat contains a multi-storied canopy that provides a variety of habitat functions. These three factors allow wildlife species to inhabit, forage, nest, or travel though the proposed mitigation site. Wildlife that has a potential to use the proposed mitigation site as a corridor include: riparian birds (including least Bell's vireo and southwestern willow flycatcher), amphibians (including arroyo toad), mammals (including mule deer and mountain lion) and fish species (including speckled dace).

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#### 4. Endangered or threatened species:

In the summer of 2005 and spring of 2006, focused protocol surveys and/or other U.S. Fish and Wildlife Service (USFWS) approved survey methodologies were conducted for the following Federal endangered and threatened species: least Bell's vireo (*Vireo bellii pusillus*), southwestern willow flycatcher (*Empidonax traillii extimus*), arroyo toad (*Bufo californicus*), mountain yellow-legged frog (*Rana muscosa*), California red-legged frog (*Rana aurora draytonii*), and San Bernardino kangaroo rat (*Dipodomys merriami parvus*). Endangered and threatened species and impacts associated with the Proposed Action are discussed in detail in Section 3.4 of the FEIS/EIR. Based on the findings of the surveys, least Bell's vireo, arroyo toad, San Bernardino kangaroo rat and southwestern flycatcher and the nature and scope of the Proposed Action, the USACE determined the project would likely adversely affect these four species and adversely modify designated critical habitat for the arroyo toad and the San Bernardino kangaroo rat. Accordingly, USACE requested the initiation of formal Section 7 consultation with the USFWS in the transmittal of its Biological Assessment, dated December 18, 2006.

The California gnatcatcher (*Polioptila californica californica*), desert tortoise (*Gopherus agassizii*), Braunton's milk-vetch (*Astragalus brauntonii*), Nevin's barberry (*Berberis nevinii*), and slender-horned spineflower (*Dodecahema leptoceras*) are also federally listed threatened and endangered species that were initially considered to have the potential to occur within the Project study area. However, the results of protocol and/or other USFWS approved survey methodologies were negative for these animal and plant species with the exception of the Desert tortoise.

Desert tortoise was not surveyed for because the project area is on the extreme edge of this species range and its' constituent habitat elements are negligible in the project area. Furthermore, extensive literature review and consultation with resource specialists confirmed that there were no known occurrences of mountain yellow-legged frog or red-legged frog within, immediately upstream or downstream of the project area. To that end, basic habitat elements for the mountain yellow-legged frog and red-legged frog are extremely limited within the study area. Furthermore, negative protocol survey results and informal consultation with the USFWS determined that no formal consultation for gnatcatcher was necessary. Based on the aforementioned details, the USACE has determined that the project would not result in an effect on California gnatcatcher, mountain yellow-legged frog, red-legged frog, desert tortoise, Braunton's milk-vetch, Nevin's barberry, or slender-horned spineflower. Consequently, these species are not addressed further in the project BA.

#### 5. Biological availability of possible contaminants in dredged or fill material, considering hydrography in relation to known or anticipated sources of contaminants; results of previous testing of material from the vicinity of the project; known significant sources of persistent pesticides from land runoff or percolation; spill records for petroleum products or designated (Section 311 of the CWA) hazardous substances; other public records of significant introduction of contaminants from industries, municipalities or other sources:

Normal rail operations include the use of hazardous materials such as oils, solvents, and other petroleum products. Hazardous materials are not currently stored in reportable quantities in the project area. However, the cleanup of any minor spills or releases of these products is part of normal operations.

Hazardous materials and petroleum products are transported as freight on the BNSF ROW. Consequently, there is a risk of spillage of hazardous materials and petroleum products in the project vicinity during operational use. Natural disasters within the project area, such as landslides or earthquakes, could result in the release of hazardous materials from ruptures in the wayside oiler system or a train derailment.

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According to the Association of American Railroads (AAR), about 6% of total freight rail traffic is made up of hazardous materials; virtually all (99.998%) shipments arrive at their destination without release caused by an accident. Technical improvements of late have substantially reduced the likelihood of accidental haz-mat releases. The overall hazmat accident rate on Class I railroads has declined by 90 percent since 1980 and 49 percent since 1990. Accident frequency rates for BNSF at a national level mirror the industry improvement in safety performance.

The AAR data shows that rail transportation has proven to be the safest way to move hazardous materials. Railroads are employing various technological advances to improve safety, including new generation metallurgy for rails, trackside detectors that identify wheel bearing defects through acoustic signatures, improved draft gears and cushioning devices, improved tie fastening systems, wayside detectors that identify defects in passing rail cars before structural failure occurs, two way end-of-train telemetry devices capable of applying the brakes from either end of the train, and more.

Several federal agencies have established requirements for hazardous transportation on rail lines, as well as for emergency planning and spill response. The U.S. Department of Transportation administers and regulates hazardous materials transportation through controls and practices that focus on the source of the risk, such as container type, rail cars, oversight of signaling, train control and track structure. The regulations provide for specific shipping and packaging container standards and design as well as emergency response information and training. Overlapping regulations of other federal agencies such as the EPA and the National Response Center set reporting requirements for hazardous material spills and cleanup.

BNSF maintains operating rules and procedures that are designed to reduce the risk of an accident as well as the release of hazardous material. However, in the event of a hazardous materials release on a BNSF line, a variety of emergency response resources are available, including BNSF's System Hazardous Materials Emergency Response Plan, as well as federal, state, local agencies, and shippers or manufacturers of the hazardous materials.

The addition of the Third Main Track will allow for an increased number of trains through the Cajon Pass. BNSF estimates that over time, the Third Main Track will increase train traffic by approximately 51 trains. While the additional track will allow for the possible increase in the tonnage of hazardous materials traveling through the County, accidents, specifically derailments which result in the release of hazardous materials, are rare and the overall hazardous material accident rate in the rail industry is steadily declining. Furthermore, recent statistics demonstrate that the release of hazardous materials or petroleum products will be rare and infrequent.

During construction of the Proposed Action, the applicant will have an Environmental Site Manager on-site whose responsibility in part will be to monitor excavations for hazardous material and oversee the segregation and proper disposal of suspect contaminated material encountered during embankment construction.

Furthermore, under the No Action Alternative, hazardous material shipments would be diverted onto County highways, which show a higher accident rate than the rail lines. According to the AAR, railroads and trucks carry roughly equal amounts of hazmat tonnage. However, moving hazardous materials by rail is 16 times safer than transporting them on public highways.

BNSF's operating rules coupled with BNSF's System Hazardous Materials Emergency Response Plan are designed to reduce the risk of an accident and minimize the potential risk of exposure to hazardous materials. Consequently, the potential for the increased train traffic to result in an increased probability of hazardous material release is insubstantial, and adequate safety measures are currently in place.

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BNSF currently uses herbicides to control vegetation growth on the top ballast and within site triangles. All of BNSF weed and herbicide spraying is contracted. Contractors are selected based on a proven track record of environmental responsibility. They are required to comply with all necessary licensing, permits, and certifications for the area they are working in and with manufacturers' label requirements for products used.

BNSF ROW and the project area are sprayed once a year in early spring and if necessary one additional time during the summer to spot spray for any weed skips or escapes. BNSF only uses USEPA approved products at well below maximum label rates. Products used are Payload and Oust. Roundup is used to address any areas needing spot spray later in the year. Additional products may be used as necessary, but only if they are approved for use in California for the area in question.

BNSF utilizes track mounted trucks, known as Hy-Rails, that are outfitted with spraying equipment with shielded booms to prevent drift. Drift control adjuvant (chemical that reduces the airborne dispersion) is also used to further reduce off-target chemical trespass. The standard spray pattern is 24-foot nozzle separation extending 12 feet from the center of the track. The pattern is widened at public grade crossings to the full width of the ROW and then tapers back 500 feet to the standard 12-foot roadbed pattern.

All waterways and bridges are buffered to comply with laws for pesticide application and manufacturer's label requirements. Herbicide is not applied directly to water or to areas where surface water is present, or to intertidal areas below the high water mark.

**D. Anticipated Changes to the Human use characteristics of the aquatic Environment**

**1. Existing and potential water supplies; water conservation:**

None.

**2. Recreational or commercial fisheries:**

None.

**3. Other water related recreation:**

The project area supports some non-consumptive recreation (e.g., bird watching and rail observation) and consumptive recreation (e.g., panning for gold). The proposed project may temporarily disrupt these activities during construction but will have no permanent affect on "other" water related recreation.

Recreational train viewing within the project area is discussed in detail in the EIS/EIR in Section 3.5.1. Though not a water dependent activity, Cajon Pass is an important viewing location for train enthusiasts worldwide. The Proposed Action is not expected to impact access to existing or established train viewing locations, and is expected to result in increased recreational benefits through more efficient train movement.

Though sections of the SBNF, Forest Service roads, and the 100-foot railroad right-of-way may be temporarily closed for construction, some parts will have to be permanently closed due to concern for public safety and smooth operation of the railroad. Every effort will be made to allow safe and continuous viewing of trains before, during, and after construction.

**4. Aesthetics of the aquatic ecosystem:**

The project site will appear little changed from current existing conditions. The train tracks and bridges will be wider but will not appear any different than current site conditions. However, 4.3 acres of riparian habitat will be created within Cajon Wash where it is currently upland bare ground

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and concrete slabs. Consequently, the proposed project will improve the aesthetics of the aquatic ecosystem within the project area.

**5. Parks, national and historic monuments, national seashores, wild and scenic rivers, wilderness areas, research sites, etc.:**

None.

**6. National natural landmarks program:**

None.

**7. Traffic/transportation patterns:**

Rail capacity within Cajon Pass is constrained based on operational speeds ascending and descending Cajon Pass, creating a bottleneck to train movement delaying freight traffic in both directions. These delays affect both BNSF and UPRR trains, as well as passenger traffic that utilizes BNSF track west of the project. Implementation of the proposed action would remove this bottleneck and allow for increased train movement through Cajon Pass. The Proposed Action will not increase traffic volumes on existing local roads, such as Swarthout Canyon Road, SR-138 and Cajon Boulevard. For the I-15, the Proposed Action may reduce traffic volumes by the utilization of increased freight rail capacity as a substitute for grade movement by trucks through Cajon Pass.

**8. Energy consumption or generation:**

None.

**9. Navigation:**

None.

**10. Safety:**

The Proposed Action would have no adverse effects on public safety. Public safety would be expected to improve as a result of the proposed project. There would be an increase in hazardous materials transportation through the Cajon Pass with or without the construction of the third main track. However, with the addition of the third main track an estimated 51 additional trains can traverse the pass daily, thus increasing the amount of hazardous materials transportation by train. Improvements in train and rail operation safety has significantly reduced the impact of spills associated with rail operations in recent years. Even with the speculative improvements to the I-15, the transport of hazardous materials by rail is 16 times safer than their transport on public highways, thereby resulting in a beneficial impact with the implementation of the Proposed Action. Further, truck traffic would decrease compared with the no action alternative, and safety for automobiles would improve as fewer trucks would be needed to transport goods.

**11. Air quality:**

Air quality would be expected to be adversely affected during the construction phase (temporary adverse impact) of the proposed project and air quality is expected to improve subsequent to construction (permanent beneficial effect). Emissions from the construction phase of the proposed project are expected to exceed regulatory thresholds for some pollutants. These impacts are short term (i.e., for the duration of the construction period). As more trains would traverse the Cajon Pass, operational emissions from the proposed project would increase all criteria pollutants considered (with the exception of nitrogen oxides [NO<sub>x</sub>] emissions) all criteria pollutant emissions are below the applicable South Coast Air Quality Management District (SCAQMD) and Mojave Desert Air Quality Management District (MDAQMD) emission significance thresholds. However, compared with the

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No Action Alternative, the proposed project would result in a decrease in truck traffic on the I-15 and operational emissions for most air pollutants would be reduced.

**12. Noise:**

Noise environment at some receptors would increase from 70 to 83 dBA Leq. Mitigation measures include limiting night-time construction adjacent to residences and adjustments in construction equipment operation and staging near receptors.

While there are indications of human disturbances in Cajon Pass, including those generated from man made sources of noise, may adversely impact wildlife behaviors, there is no feasibly available evidence from which such impacts can be properly identified and quantified with scientific certainty. Where appropriate, specific mitigation measures for quantifiable effects are required of the applicant and along with these measures, the project design features are expected to offset project impacts through the preservation of lands within the Pass. These preservation efforts will preclude further expansions of human encroachments into critical wildlife areas and consequently are expected to maintain the ecological functions of the Pass.

**13. Historic properties:**

The National Historic Preservation Act requires that projects be evaluated with respect to their potential impact on historic and archaeological sites. The area of potential effect for the Proposed Action will be determined based on the findings of the Cultural Resources Survey for the project area, which is currently under review. Under Section 106, the Cultural Resources Survey will be forwarded to the State Historic Preservation Office (SHPO) for review and concurrence with the report's findings.

It is anticipated that the SHPO will require mitigation consistent with state and federal regulations. However, the SHPO has not completed review of the cultural resources technical report, and final mitigation is not yet determined. Impacts to cultural resources are expected to be fully compensated through this process.

**14. Land use classification:**

Approximately 26.11 acres of land owned by BNSF will be placed in conservation for in-perpetuity protection as compensatory mitigation for unavoidable impacts to aquatic resources (see Section 3.4 and Appendix D of the Final EIS/EIR). The Proposed Action will permanently impact 2.95 acres of CWA jurisdiction. To replace the functional losses of these aquatic resources, 4.82 acres of riparian habitat will be created and an additional 5.98 acres of contiguous high quality riparian habitat (i.e., consisting of southern willow scrub, southern cottonwood willow riparian forest, and open water habitats) will be preserved.

**15. Economics:**

Construction of the proposed project will create temporary jobs for the construction-related sector of the regional economy. Furthermore, implementation of the Proposed Action in the post construction period is expected to have a substantial economic benefit for the Nation, as the movement of goods along this railway from/to the Ports of Los Angeles and Long Beach is vital since this port complex is the fifth largest in the world. The Proposed Action is needed because the existing BNSF rail system through Cajon Pass is a bottleneck for freight traffic needed to move goods. Exceeding the maximum sustainable average capacity leads to operational inefficiencies, a significant slowdown in train movements due to physical capacity constraints, and insufficient time available for track maintenance. Freight traffic on U.S. railroads has approximately doubled and intermodal traffic has more than tripled since 1980, with demand expected to continue to increase into the future. This national trend is reflected in the rising demand for freight transportation by rail through Cajon Pass,

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which is now approaching or exceeding the maximum sustainable average capacity along portions of BNSF's transcontinental rail route. Especially constrained is the segment from Keenbrook to Cajon Summit. In addition to BNSF trains, Amtrak, and UPRR also operate over this line segment as a result of Joint Facility Agreements with BNSF. Consequently, the beneficial effects to the regional and national economies as a result of the proposed project are expected to be substantial.

**16. Prime and unique farmland (7 CFR Part 658):**

None.

**17. Food and fiber production:**

None.

**18. Mineral needs:**

None.

**19. Consideration of private property:**

None.

**20. Other Issues and Considerations:**

None.

**E. Other anticipated changes to Non-Jurisdictional Area that have been determined to be within the Corps' NEPA Scope of analysis.**

None.

**F. Summary of Cumulative Effects Associated with the Project**

Cumulative effects associated with the Proposed Action are described in detail in Section 3.6 of the FEIS/EIR. The following represent potential impacts resulting from foreseeable future projects. The following future off-site projects have been identified that may contribute to cumulative impacts of jurisdictional waters within the Cajon Wash.

**West Cajon Valley:** Small parcel development is continuing on private properties located west of I-15 along SR-138. These lot developments border the SBNF within the Cajon Pass watershed.

**Utility Development:** Numerous utilities traverse the Cajon Pass. A number of these utilities are considering expansion that would include new utility lines and associated maintenance roads. Kinder Morgan is planning a new replacement pipeline project that is expected to be completed by 2012. The replacement project would involve the idling of the existing 8-inch pipeline and constructing a new 16-inch pipeline from Colton, CA through Cajon Pass to Las Vegas, NV.

**I-15 Truck Lane Improvements:** Caltrans is currently evaluating, as part of its Regional Transportation Plan, the I-15 Cajon Pass widening project located northbound from SR-138 to Oak Hill Road. The I-15 Cajon Pass widening project may potentially add one northbound lane to the median and convert right lane to truck climbing lane. This potential project is currently in the initial planning stages. Although this project remains under evaluation at this time, (with no specific engineering or environmental analysis completed), for this environmental review, this project is considered as part of the cumulative impact analysis.

**I-15/SR-138 Improvement Project:** The USFS has identified the I-15/SR-138 improvement project currently being evaluated by Caltrans as a proposed improvement to service the proposed traffic associated with the

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Rancho Las Flores development. This project is in the conceptual planning phase and would eventually widen SR-138 east of I-15 and west of Summit Post Office Road.

These identified projects are still in preliminary stages and quantifiable impacts are not yet available. Potential likely impacts such as the effects of cumulative noise level increases on wildlife are not quantifiable and may result in a decrease in habitat suitability and create movement avoidance for some species through established corridors such as Cajon Wash.

## **G. Mitigation Proposed by Applicant**

### **1. Avoidance, Minimization, and Compensation Sequence**

#### **a. Avoidance and Minimization Measures:**

The applicant incorporated a number of minimization and avoidance measures as part of the Proposed Action. These measures are intended to minimize and/or avoid adverse impacts on the aquatic environment as well as to address potential adverse effects on federally listed species and their designated critical habitat that are known to occur or have the potential to occur within the aquatic environment and adjacent areas within the scope of analysis. Sections 2.2.1 and 2.2.5 of the FEIS/EIR describe the details of the avoidance and minimization measures employed as part of the project design. The primary avoidance and minimization measures include the following:

1. Installation of retaining wall structures will be used along the proposed rail embankment to minimize and avoid wetlands and other aquatic resources whenever practicable. Retaining wall use for avoidance of streambed alteration will be used on the south side of the embankment at 60.00x and at 60.90x for approximately 500 feet at each location. The retaining wall through this area will be built above existing riprap structures on the east fork of Cajon Wash. Ending at MP 62.49x a 500-foot long retaining wall will be used above a wetland to avoid impacts from the new rail embankment. From the lower end of Cajon to Swarthout (approximately MP 63.10 to 63.48 and 63.85 to 63.95 and 63.99 to 64.17) a retaining wall structure will be constructed to avoid fill placement in Cajon Wash.
2. Existing drainage structures will be improved to provide for increased ease in wildlife movement through existing linkages.
3. BNSF will make a monetary contribution toward the conservation of parcels totaling approximately 50+/- acres near the Cleghorn Road underpass, or other similar property. These parcels are currently owned by Kane Ranch Land Stewardship and Cattle Company ("Cleghorn property"). A portion of the Cleghorn property has previously been permitted for gravel mining by the County of San Bernardino and is eminently developable. The USFS has identified the Cleghorn property in its Land Management Plan as of primary importance for conservation due to its position along a major wildlife migration corridor and its suitable habitat for endangered and threatened species. The Cleghorn property is also located within a broader nexus of preserved lands making its preservation important to the cohesiveness and quality of the surrounding ecosystem. The applicant's contribution is intended to ensure needed wildlife linkages and functional connectivity would be maintained in the Cajon Pass to benefit a wide variety of plant and wildlife species, including those protected by Federal statutes, such as least Bell's vireo, southwestern willow flycatcher, San Bernardino kangaroo rat, and arroyo toad.

The applicant, BNSF, proposes numerous other avoidance and minimization measures that are intended to reduce, ameliorate, and/or avoid potential adverse effects on the aquatic ecosystem, including habitat suitable for or occupied by the following sensitive species: least Bell's vireo, southwestern willow flycatcher, San Bernardino kangaroo rat, and arroyo toad. The following measures are expected to augment other project-related environmental commitments, best management practices (BMPs), and mitigation measures that are required under separate Federal and State laws, regulations, and executive orders.

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1. Prior to construction, BNSF will stake, flag, fence or otherwise conspicuously delineate all environmentally sensitive areas that are to be protected in place and remain undisturbed during construction. The construction materials used to delineate environmentally sensitive areas will be removed no later than 30 days following physical completion of construction.
  2. BNSF will develop and implement a “*Native Vegetation Restoration and Monitoring Plan*” for temporarily disturbed areas within the Project area (e.g., staging areas, borrow pit, access roads, etc.). The restoration and monitoring plan will become part of BNSF’s post-construction general operations and maintenance program. The final plan will be prepared and submitted prior to construction for USACE, USFS and USFWS review and approval.
  3. BNSF will develop and implement an environmental education program prior to the start of construction. Employees and contractors working in the field will be required to complete an environmental training session before beginning work. The program will include discussions of the biology, distribution, and ecology of listed species within the construction area and the protection afforded such species under applicable Federal and State laws and regulations.
  4. BNSF will develop and implement an “*Off-Highway Vehicle (OHV) Barrier Implementation Plan*”. The plan will become part of BNSF’s post-construction general operations and maintenance program. In accordance with the plan, barriers will be installed where practical to reduce impacts on native vegetation and federally protected species. The final *OHV Barrier Implementation Plan* will be prepared and submitted prior to construction to the USACE, USFS and USFWS for review and approval.
  5. BNSF will hire an Environmental Manager/Inspector (EM/I) who will be responsible for overseeing the Project’s environmental protection and mitigation measures. Environmental inspection and monitoring procedures will be in compliance with the environmental commitments documented in the November Draft EIS/EIR (URS, 2006a), the HHMP, and any special conditions that would be required as part of other Federal and/or State permits, approvals or licenses. The EM/I will be a qualified biologist who will be responsible for identification of habitat that supports federally listed species. The EM/I will be responsible for implementation of measures requiring a qualified biologist’s intervention and, if needed, will hold the required permits or Memoranda of Understanding with appropriate Federal and State agencies for the survey for or handling of any listed species. The EM/I will have the contractual authority to temporarily halt construction should a federally listed species be found or encountered during construction activities so that procedures may be implemented to either relocate the species (if applicable) or notify the appropriate agency personnel.
  6. Concurrent with construction, BNSF will commence restoration activities at the 26.11-acre mitigation site as prescribed in the final approved HHMP.
  7. Employees and contractors will carefully examine vehicles and construction equipment for the presence of federally protected species prior to movement. If a federally listed species is found underneath or near a vehicle or piece of equipment the EM/I will be notified immediately and no equipment will be moved until the animal has left voluntarily or it is relocated by a biologist authorized to do so.
  8. All encounters with federally listed species will be immediately reported to the EM/I, who will record the following information:
    - Species name;
    - Location (narrative and maps) and dates of observations;
    - General condition and health, including injuries and state of healing;
    - Diagnostic markings, including identification numbers or markers; and
    - Locations moved from and to (if applicable)
  9. If a federally listed species is located during construction and a contingency plan for avoidance, removal, or relocation/transplant has not been approved by USFWS or was not considered in the incidental take statement pursuant to Section 9 of the ESA, BNSF will cease all activities that could affect the species until the USACE re-initiates Section 7 consultation with USFWS.
  - 10 BNSF will implement the following Best Management Practices (BMPs) during construction to the maximum extent practical:

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- Avoid water resources (including dry creeks or cement-lined channels) and associated vegetation whenever possible;
  - Protect water quality both on and off site by implementing a sediment and runoff management plan;
  - Do not allow runoff from construction activities to enter water sources;
  - Use measures such as straw bales and silt fencing to control erosion;
11. Ambient dust related to use of construction haul roads, access roads, staging areas, and disposal sites will be watered daily, or on an alternative schedule as appropriate, to effectively control ambient dust generated from construction activities.
  12. Within one month following Project completion, BNSF will submit a post-construction monitoring report in accordance with the HMMP to the USACE, USFS, and USFWS. The report will document the effectiveness of each avoidance and minimization measure, the actual acreage disturbed by Project activities by habitat type (including designated critical habitat), the number of individual federally listed species observed during construction, the number of individuals killed, harmed, harassed, or injured in accordance the Section 9 incidental take statement, and any other pertinent information. The report will also make recommendations for modifying the avoidance and minimization measures in order to enhance species protection in the future.

**b. Compensation:**

For unavoidable adverse impacts to waters of the U.S., including wetlands and riparian habitat, the applicant proposes to replace the functional losses through active wetlands and riparian habitat creation, enhancement and preservation. The creation and enhancement of wetland and riparian habitat will be implemented at a 3:1 ratio, that is, for every acre permanently impacted, 3 acres will be replaced concurrent with or immediately following construction. The permanent impacts to wetlands are 1.56 acres and 1.39 acres of non-wetland waters of the U.S. (e.g., ephemeral drainages). To offset these losses, approximately 4.82 acres of riparian habitat will be created and an additional 5.98 acres of contiguous high quality riparian habitat (i.e., consisting of southern willow scrub, southern cottonwood willow riparian forest, and open water habitats) will be preserved. In addition, 10.6 acres of Riversidian alluvial fan sage scrub habitat will be enhanced and preserved to offset adverse impacts to adjacent floodplain terraces that support or have the potential to support the San Bernardino kangaroo rat and its designated critical habitat. The details of the proposed compensatory mitigation measures, responsible parties, mitigation goals and objectives, implementation schedule, and monitoring and success criteria are provided in the draft Habitat Mitigation and Monitoring Plan (HMMP) appended to the Final EIS/EIR.

In addition to the 26.11-acre compensatory mitigation site, the applicant proposed other mitigation measures that are specific to federally listed species and are intended to ameliorate or offset the loss in wetland/sensitive habitat that supports these species.

**1) Least Bell's vireo**

Unavoidable adverse impacts on the LBVI ("vireo") are proposed to be minimized and offset by the implementation of the following measures:

1. BNSF will ensure a qualified biologist conducts presence/absence surveys for the vireo during its breeding season (March 15<sup>th</sup> through June 15<sup>th</sup>) to determine the need for implementation of site-specific noise mitigation measures. Upon contract award, a detailed construction schedule will be utilized to establish and coordinate survey dates and times. The results of the focused surveys will be used to stage construction in such a manner that LBVI impacts are minimized. In addition, the survey data will be used to assist in identifying areas where directional lighting would be needed and where temporary soundwalls would be installed to reduce the adverse effects of increased noise and light from construction.

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2. Any construction or installation work performed within 500 feet of suitable or occupied LBVI habitat during the period of March 15<sup>th</sup> to June 15<sup>th</sup> will limit noise, dust, night-time lighting, and human presence as follows:
    - a. Noise levels will be controlled with residential or better level mufflers or engine enclosures on mobile equipment.
    - b. When night-time operations are required, activities will be conducted behind suitable barriers that will effectively control noise and light emissions. These barriers will be placed in areas abutting or adjacent to suitable or occupied LBVI habitat. The type of barriers and their placement (location) will be undertaken with input from the EM/I or a qualified biologist.
    - c. Directional lighting will be used when construction work is within the vicinity of suitable or occupied LBVI habitat. The type of directional lighting, including any associated apparatuses, and location for its use will be decided and undertaken with input from the EM/I or a qualified biologist.
    - d. Construction work performed within 500 feet of suitable or occupied habitat for the vireo during the period of March 15<sup>th</sup> to June 15<sup>th</sup> will be monitored weekly by a qualified biologist. Monthly monitoring reports will document the construction activities and their effects on the LBVI and will be submitted to the USACE, USFS, and USFWS on a regular basis and in compliance with the HMMP.

## 2) Southwestern willow flycatcher

Unavoidable adverse impacts on the SWFC (“flycatcher”) are proposed to be minimized and offset by the implementation of the following measures:

1. In accordance with USFWS protocol, presence/absence surveys (Revision 2000) for SWFC will be conducted by a qualified biologist during its breeding season (March 15<sup>th</sup> through July 17<sup>th</sup>) to determine the need for implementation of noise mitigation measures. A construction schedule would be utilized to coordinate survey dates and times. The results of the focused surveys will be used to stage construction in such a manner that SWFC impacts are minimized. In addition, the survey data will be used to assist in identifying areas where directional lighting would be needed and where temporary soundwalls would be installed to reduce the adverse effects of increased noise and light from construction.
2. Any construction or installation work performed within 500 feet of suitable or occupied SWFC habitat during the period of March 15<sup>th</sup> to August 15<sup>th</sup> will limit noise, dust, night-time lighting, and human presence as follows:
  - a. Noise levels will be controlled with residential or better level mufflers or engine enclosures on mobile equipment.
  - b. When night-time operations are required, activities will be conducted behind suitable barriers that will effectively control noise and light emissions. These barriers will be placed in areas abutting or adjacent to suitable or occupied SWFC habitat. The type of barriers and their placement (location) will be undertaken with input from the EM/I or a qualified biologist.
  - c. Directional lighting will be used when construction work is within the vicinity of suitable or occupied SWFC habitat. The type of directional lighting, including any associated apparatuses, and the location for its use will be decided and undertaken with input from the EM/I or a qualified biologist.
  - d. Construction work performed within 500 feet of suitable or occupied habitat for the SWFC during the period of March 15<sup>th</sup> to August 15<sup>th</sup> will be monitored weekly by a qualified biologist. Monthly monitoring reports will document the construction activities and their effects on the LBVI and will be submitted to the USACE, USFS, and USFWS on a regular basis and in compliance with the HMMP.

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### 3) San Bernardino kangaroo rat

Unavoidable adverse impacts on the SBKR (“kangaroo rat”) are proposed to be minimized and offset by the implementation of the following measures:

1. To the maximum extent practicable, including temperature permitting (50 degree F minimum), nightly pre-construction trapping of the construction area in the vicinity of suitable SBKR habitat or designated critical habitat will be conducted. This trapping will occur using the USFWS protocol and performed by an approved biologist permitted by the USFWS to handle SBKR.
2. A “drift fence” (e.g., silt fence, or similar material) will be installed wherever construction is taking place within 300-500 feet of suitable SBKR habitat or designated critical habitat (depending on topography and access to breeding habitat). The fence will be in place far enough ahead of the construction to effectively exclude kangaroo rats from the work space for a period of 24 hours prior to construction. The fence may be removed progressively behind equipment as the construction footprint is re-graded. Kangaroo rats trapped on the inside of the enclosure will be relocated outside of the active construction area and released in Riversidean alluvial sage scrub by a biologist permitted by the USFWS to handle SBKR.
3. BNSF will submit to USFWS a list of monitors with their credentials regarding their experience in identification and handling of small mammals. The USFWS will respond with a list of the approved monitors.
4. During construction, temporary access roads will be constructed and maintained to specified standards as shown on the engineering drawings/construction plans. Construction personnel and equipment will be prohibited from driving off these roads and entering areas marked as “environmentally sensitive areas”.
5. Directional lighting will be used when nighttime construction is within the vicinity of suitable/occupied SBKR habitat or designated critical habitat. The type of directional lighting, including any associated apparatuses, and location for its use will be decided and undertaken with input from the EM/I or a qualified biologist.

### 4) Arroyo toad

Unavoidable adverse impacts on the arroyo toad are proposed to be minimized and offset by the implementation of the following measures:

1. To the maximum extent practicable nightly pre-construction sweeps of the construction area in the vicinity of suitable arroyo toad habitat will be conducted. These pre-construction sweeps will be performed by a qualified biologist permitted by the USFWS to handle arroyo toad.
2. A “drift fence” (silt fence or similar material) will be installed wherever construction is taking place within 100 yards to 1 km of suitable arroyo toad habitat (depending on topography and access to breeding habitat). The fence will be installed far enough ahead of the construction to effectively exclude toads from the work space for a period of 24 hours prior to construction. The fence may be removed progressively behind equipment as the construction footprint is re-graded. This fence will be effective at excluding foraging arroyo toads from the work area and will be cleared before construction begins every morning by a qualified biological monitor. This process will proceed every hour if there is any measurable precipitation. Toads found on the inside of the enclosure will be relocated outside on the stream side of the enclosure. Toads found on the outside of the enclosure will be relocated out of harm’s way and in such a manner as to facilitate the toads’ presumed trajectory.

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3. BNSF will submit to USFWS a list of monitors with their credentials regarding their experience in identification and handling of herptofauna. The USFWS will respond with a list of the approved monitors.
  4. BNSF will prepare a site-specific *Arroyo Toad Breeding Season Monitoring Plan* that will include stipulations for fencing, surveys/monitoring, and relocation of the species. Immediately following contract award, a construction schedule will be provided by BNSF in order to adequately coordinate and perform the necessary survey/monitoring during the arroyo toad breeding season. The monitoring plan will be submitted to USACE, USFS, and USFWS for review and approval prior to commencement of construction.
  5. During periods of precipitation within 0.6 mile of arroyo toad habitat, vehicle speeds will be 20 mph or less within the work zone.
  6. Project construction will avoid work within stream channels to the maximum extent practicable.
  7. Construction personnel, including the EM/I and other biological monitors will be trained and supervised by a qualified herpetologist on the identification and avoidance of the arroyo toad.
  8. Directional lighting will be used when construction is expected to occur within the vicinity of suitable/occupied arroyo toad habitat or designated critical habitat. The type of directional lighting, including any associated apparatuses, and location for its use will be decided and undertaken with input from the EM/I or a qualified biologist.

## **2. Summary of why applicant's proposal does or does not reduce impacts to below significance**

The applicant's Proposed Action includes several environmental commitments, including funding to help acquire approximately 50 acres at the Cleghorn Creek underpass that have reduced potential impacts to the physical, biological and human environment within the Cajon Pass. In addition, the applicant proposes 26.11 acres of mitigation for impacts to biological and aquatic resources from development of the Proposed Action. The restoration and ecological easement associated with the 26.11 acres of mitigation is detailed in the draft *Habitat Mitigation Monitoring Plan*, included as part of the Final EIS/EIR.

Unavoidable adverse effects from the applicant's proposal are discussed in Section 3.9 of the FEIS/EIR. Unavoidable adverse effects were identified to Air Quality and Noise environment from implementation of the Proposed Action. Mitigation measures to reduce short-term impacts to air quality from construction emissions will not reduce emissions below regulatory thresholds for PM<sub>10</sub> and NO<sub>x</sub>. However, these emissions are short-term, and will, over the long term, reduce operational emissions from increased truck traffic within Cajon Pass. In addition, noise generated by increased train operations can not be mitigated to less than severe impact levels. Although existing noise levels are currently in the severe impact level to nearby receptors, the Proposed Action will include mitigation measures such as noise berms and sound proofing that are not currently available to the affected residences.

## **V. Findings**

### **A. Status of other authorizations and legal requirements**

#### **1. Water Quality Certification**

The applicant submitted a water quality certification application and supporting documentation to the State Water Resources Board on March 16, 2007. The application requests water quality certification under Section 401 of the Clean Water Act. The Proposed Action is pending by the Santa Ana Regional Water Quality Control Board.

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## 2. Compliance with Section 106 of the National Historic Preservation Act

Construction of this alternative would require cut and fill along the whole length of the track, including the excavation and replacement of the tracks in the excavated area. Some structures that would be impacted are listed on, or are eligible for, the National and California historic registers.

The National Historic Preservation Act requires that projects be evaluated with respect to their potential impact on historic and archaeological sites. The area of potential effect for the Proposed Action will be determined based on the findings of the Cultural Resources Survey for the project area, which is currently under review. Under Section 106, the Cultural Resources Survey will be forwarded to SHPO for review and concurrence with the report's findings.

It is anticipated that the SHPO will require mitigation consistent with state and federal regulations. However, the SHPO has not completed review of the cultural resources technical report, and final mitigation is not yet determined. Impacts to cultural resources are expected to be fully compensated through this process.

## 3. Compliance with the Endangered Species Act

On December 18, 2006 the Corps submitted a Biological Assessment to the USFWS along with a request to initiate formal consultation pursuant to Section 7 of the ESA for arroyo toad, southwestern willow flycatcher, Least Bell's vireo, and the San Bernardino kangaroo rat and designated critical habitat for the arroyo toad and SBKR. A Biological Opinion (BO) addressing the Proposed Actions' impacts on these four federally endangered species and the adverse modification of their designated critical habitat is scheduled to be rendered by the USFWS in May 2007. The BO is expected to provide an analysis of effects and an incidental take statement for the species of concern and is incorporated herein by reference.

## 4. Compliance with Section 176(c) of the Clean Air Act

Any transportation project receiving federal funds or that requires federal approval is required to conduct a transportation conformity assessment under CAA section 176(c) (42 United States Code 7506(c)). The proposed 3MT project is funded in its entirety by BNSF (i.e., would not require any federal funds), but requires approval by the USACE. However, since the project is not a highway or transit project, a transportation conformity assessment is not required.

Pursuant to the General Conformity Rule (40 CFR Part 51, Subpart W), a federal agency must perform a General Conformity Analysis for any Federal Action. The federal agency must then make a General Conformity Determination for any federal action in non-attainment or maintenance areas where the total of direct and indirect emissions of the applicable criteria pollutants or their precursors exceeds threshold levels. The Proposed Project is considered a Federal Action since it requires federal approval and is, therefore, subject to a General Conformity Analysis.

The proposed project is within the South Coast Air Board (SCAB) and the Mojave Desert Air Board (MDAB). The project area in the SCAB is currently designated as a severe non-attainment area for the 8-hour National Ambient Air Quality Standards (NAAQS) for Ozone (O<sub>3</sub>); a serious non-attainment area for Carbon Monoxide (CO) and particulate matter less than 10 microns in diameter (PM<sub>10</sub>); and a non-attainment area for particulate matter less than 2.5 microns in diameter (PM<sub>2.5</sub>). The project area in the MDAB is currently designated as a moderate non-attainment area for the 8-hour NAAQS for O<sub>3</sub> and PM<sub>10</sub>. The project area in the two air basins is in attainment with the NAAQS for the other applicable criteria pollutants. The *de minimis* emission thresholds that trigger a General Conformity Determination for non-attainment and maintenance pollutants are specifically identified in the General Conformity Rule.

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Federal Actions must show that associated emissions are below applicable conformity emission thresholds and are also not regionally significant (e.g., less than 10% of the emission budget for the region). Federal Actions that exceed the thresholds are required to demonstrate conformity by conducting a General Conformity Analysis. The construction and operational emissions associated with the Proposed Action are lower than the General Conformity emission thresholds and are not regionally significant. The Proposed Action is, therefore, deemed to conform with the requirements of the General Conformity Rule.

## 5. State and/or other local authorizations

All applicable state and local permits, as related to the Proposed Action, have or would be obtained by the applicant and include:

- A take permit of any of these listed species as provided for in the California Fish and Game Code 2081;
- Streambed Alteration Agreement as provide for in the California Fish and Game Code, 1600;
- Encroachment Permit from the State Department of Transportation, District 8 (Caltrans) is required for all work within, or on structures within, the Caltrans easement along SR-138 and I-15;
- Approval of the California Public Utilities Commission is required for all projects that include expansion of railroads and highway/rail crossings;
- An easement agreement with BNSF to recognize Swarthout Canyon Road and its relocation on BNSF Land; and
- Notification to the utility companies within the project corridor to inform them of the potential to affect the alignment of their utilities, and to initiate steps to re-align these facilities as necessary.

### B. Corps public notice and comment process

A complete DA application for authorization of discharges of fill material in waters of the U.S. was received on February 3, 2006. A Notice of Intent (NOI) to prepare an EIS/EIR was published in the *Federal Register* (page 16296, Volume 71, Number 62) on Friday, March 31, 2006. At the same time, a Public Notice was issued by the Corps to inform the general public, adjacent landowners, and coordinating agencies that an application was received for a Section 404 permit and that an EIS would be prepared. The Notice of Availability (NOA) of the Draft EIS/ EIR was published in the *Federal Register* November 10, 2006. Copies of the Draft EIS/EIR were distributed to all interested parties including appropriate Federal, State and local agencies. Following the statutory public review period for the Draft EIS/EIR, substantive comments received on the EIS/EIR and Public Notice were considered and incorporated into the Final EIS/EIR, as appropriate. A NOA for the Final EIS/EIR was published in the *Federal Register* on November 10, 2006 and a second Public Notice was issued on March 16, 2007 to also inform the public, adjacent landowners and coordinating agencies of the availability of the Final EIS/EIR.

#### 1. Public Notice Summary of Findings

Comments on the draft EIS/EIR were received from November 10, 2006 to January 4, 2007 and a public hearing on the EIS/EIR was held on December 5, 2006. A complete discussion of the public notice and comments received on the draft EIS are included on the FEIS/EIR in Appendix F. Public comments have been considered in USACE's final decision to issue a 404 permit for the applicants Proposed Action.

Federal Agencies that commented on the Proposed Action include:

- Department of the Interior;
- Federal Emergency Management Act
- Environmental Protection Agency

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**a. State Agencies that commented on the Proposed Action include:**

State agencies that commented on the Proposed Action Include:

- Native American Heritage Commission
- California Public Utilities Commission
- Southern California Association of Governments
- California Highway Patrol

**b. Local Agencies that commented on the Proposed Action include:**

Local agencies that have commented on the Proposed Action include:

- Riverside County Flood Control District
- South Coast Air Quality Management District
- Regional Water Quality Control Board

**c. Native American Tribes and Bands that commented on the Proposed Action include:**

No letters were received from any Native American Tribes or Bands.

**d. Other Organizations and Individuals that commented on the Proposed Action include:**

Additional organizations and individuals that have commented on the Proposed Action include:

- San Bernardino Historical and Pioneer Society
- Summit Valley Ranch LLC, and Summit Valley Materials Inc.
- Southern California Edison
- C.W. Lee
- David R. Busse
- John Parker
- Rhonda and Robin Scanes
- Gary G. Gray
- James H. Welsh
- Paul H. Renico
- Robert A. Pecotich
- Roy J. Zeiher
- Robert N. Edwards
- Tom Trumpy
- Steve Stewart
- Dennis Carr
- Bob and Carol Westover
- Paul D. Westover
- Lane H. Frank
- Donald E. Toles
- Timothy G. Costello
- John Callas
- Paul Beier
- Robert E. Mulford

**e. Public Hearing Requests**

No requests for a public hearing were made, however a public hearing on the Draft EIS was conducted on December 5, 2006 at the Norman F. Feldheym Central Library - Bing Wong Auditorium, located at 555 West 6th Street, San Bernardino, California 92401. An open house began at 6:00 P.M.

and focused on the overall project design, biological impacts, air quality impacts, noise impacts, USFS involvement, and the NEPA/California Environmental Quality Act (CEQA) processes. The open house was followed by an introduction by the USACE, County, USFS, a brief overview of the project by the Applicant, and the Public Hearing. The public hearing was concluded at 7:30 P.M. with no comments entered into record.

**2. Project Modifications Based on Coordination and Circulation of public notice**

**a. Project Design Changes**

None.

**VI. Findings**

**A. Evaluation**

The USACE has evaluated the documents and factors concerning this permit application and views stated by other interested agencies and the public with regards to the overall public interest of the Proposed Action. Further, the USACE has considered the possible consequences of the Proposed Action with respect to the regulations published in 33 CFR Part 320 to 330 and 40 CFR Part 230. The evaluation of the Proposed Actions compliance with the cited regulations and the comments received during the review period is provided in the following sections.

**1. Consideration of Comments**

The comment letters received with respect to the Proposed Action indicate the applicant's compliance with all other applicable laws and/or programs. All concerns and issues raised during the public review process have been evaluated and have been addressed appropriately, as detailed in the Final EIS/EIR document. The responses to comments received on the Draft EIS/EIR and the Public Notice are included in Appendix F. The Proposed Action has been determined to support the interest of the public.

**2. Evaluation of Compliance with 404(b)(1) Guidelines:**

Specific guidelines have been published by the USEPA to assist the USACE in evaluating activities that result in the discharge of dredge and fill material to ensure compliance with Section 404(b)(1) guidelines. The following checklist sections provide a response to each of the evaluation criteria and demonstrate that the Proposed Action is (1) the LEDPA; (2) the Proposed Action would not significantly degrade the aquatic environment (3) the project design, construction and operation would minimize adverse effects on waters of the U.S., including wetlands; and (4) does not violate any environmental restrictions or laws.

**a. Review of Compliance (40 CFR 230.10(A)-(D)):**

Respond with Yes or No to each statement:

	<u>Yes</u>	<u>No</u>
A Review of the permit application indicates that:		
a: The discharge represents the least environmentally damaging practicable alternative, and if in a special aquatic site, the Proposed Action associated with the discharge must have direct access or proximity to, or be located in the aquatic ecosystem to fulfill its basic purpose.	<u>X</u>	<u>      </u>

Response: The Proposed Action would result in minor adverse environmental impacts relative to the existing environmental baseline. The other alternatives have

a potential to result in additional environmental impacts that would be avoided by the selection of the Proposed Action. The impacts associated with the other alternatives include an increased loss of acreages of wetlands and riparian habitat, and a greater disturbance of occupied arroyo toad habitat. This project includes creek crossings, which imply some need to work near and within the creek. It is also an upgrade and expansion of an existing railroad alignment and associated bridges and culverts, which existed prior to passage of the Federal Clean Water Act. The other alternatives are not practicable as discussed in the prior section. Because of the limited ROW and its location relative to Cajon Creek, no practicable alternatives exist that would meet the project's purpose and need while avoiding waters of the U.S. These factors result in a positive determination for this question.

Yes      No

- |     |                                                                                                                                                       |              |               |
|-----|-------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|---------------|
| b1: | The Proposed Action does not appear to violate applicable state water quality standards or effluent standards prohibited under Section 307 of the CWA | <u>  X  </u> | <u>      </u> |
| b2: | The Proposed Action does not appear to jeopardize the existence of Federally listed endangered or threatened species or their habitat                 | <u>  X  </u> | <u>      </u> |
| b3: | The activity does not appear to violate requirements of any Federally designed marine sanctuary.                                                      | <u>  X  </u> | <u>      </u> |

Response: The proposed project may result in minor increases in turbidity within the Cajon Creek during construction. Best Management Practices (BMPs) would be employed to control increases in turbidity. Turbidity levels resulting from construction of the project are expected to be lower than those experienced from normal flow/flood levels within the creek. Fill material would be free from hazardous materials. This project would be performed under Certification from the Regional Water Quality Control Board pursuant to Section 401 of the Clean Water Act.

The project would affect arroyo toad designated critical habitat for the arroyo toad. Informal Consultation to date, with the USFWS pursuant to Section 7 of the Endangered Species Act, has determined that the proposed project would not jeopardize the continued existence of a listed species. In comparison with other alternatives considered under NEPA, the proposed project is most likely to maintain existing populations of listed species in the area.

- |    |                                                                                                                                                                                                                                                                                                        |              |               |
|----|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|---------------|
| c: | The activity would not cause or contribute to significant degradation of waters of the U.S. including adverse effects on human health, life stages of organisms dependent on the aquatic ecosystem, ecosystem diversity, productivity and stability, and recreational, aesthetic, and economic values. | <u>  X  </u> | <u>      </u> |
|----|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|---------------|

Response: The proposed project is consistent with water quality regulations and would not result in significant degradation of water of the U.S. Mitigation measures would ensure that potential effects on these areas of concern are compensated for, further avoiding the potential for significant degradation. No significant degradation would occur relative to the existing and future environmental conditions.

- |    |                                                                                                                                    |              |               |
|----|------------------------------------------------------------------------------------------------------------------------------------|--------------|---------------|
| d: | Appropriate and practicable steps have been taken to minimize potential adverse impacts of the discharge on the aquatic ecosystem. | <u>  X  </u> | <u>      </u> |
|----|------------------------------------------------------------------------------------------------------------------------------------|--------------|---------------|

Response: Alternative 2 - The Standard Engineering Design would have resulted in

	Yes	No
<p>greater fill within wetlands and other waters of the U.S. These fills have been eliminated or substantially reduced during the environmental review process, and further reduction of potential adverse effects is not practicable. In addition, avoidance measures have been incorporated into the project design to minimize the potential adverse impacts on the aquatic ecosystem.</p>		

**b. Technical Evaluation Factors (40 CFR 230, SUBPART C-F):**

Respond with “Significant (S)”, “Not Significant (NS)”, or “Not Applicable (NA)” to each statement.

	S	NS	NA
<p>An EIS/EIR has been prepared for this project and potential significant impacts have been addressed therein. Avoidance and engineering designs to minimize impacts to the aquatic environment are part of the Proposed Action and would result in reduced impacts when compared to the other considered alternatives. The assessment below considers these avoidance and engineering designs in the judgment of the Proposed Actions potential significance.</p>			

a: Physical and Chemical Characteristics of the Aquatic Ecosystem (Subpart C):

- |                                                          |  |   |  |
|----------------------------------------------------------|--|---|--|
| 1) Substrate impacts.                                    |  | X |  |
| 2) Suspended particulates/turbidity impacts.             |  | X |  |
| 3) Water column impacts.                                 |  | X |  |
| 4) Alteration of current patterns and water circulation. |  | X |  |
| 5) Alteration of normal water fluctuation/hydroperiod.   |  | X |  |
| 6) Alteration of salinity gradients.                     |  | X |  |

Response: Potential increases in turbidity and suspended solids during construction would be controlled by BMPs. These potential effects would be less than those experienced during normal flow/flooding. Arroyo toad and other aquatic life, are expected to continue in the area of potential effect without diminishment relative to existing conditions.

The proposed project would not substantially alter existing current patterns, water circulation, or hydroperiod. Some minor changes in hydraulic conditions under the bridges would result and are planned to maintain sufficient scour in this area to maintain passage of water under the bridge and avoid excess sediment accumulation. These potential effects would be minimal and not significant. Other alternatives evaluated during environmental review have a greater potential to change these characteristics relative to the environmental baseline with adverse, and potentially significant effects.

b: Biological Characteristics of the Aquatic Ecosystem (Subpart D).

- |                                                                        |  |   |  |
|------------------------------------------------------------------------|--|---|--|
| 1) Effect on threatened/endangered species and their habitat.          |  | X |  |
| 2) Effect on aquatic food web.                                         |  | X |  |
| 3) Effect on other wildlife (mammals, birds, reptiles, and amphibians) |  | X |  |

Response: Although arroyo toad and its critical habitat, SBKR and its critical habitat, least Bell’s vireo, and southwestern willow flycatcher is present in the area of potential effect, the project has been designed to avoid and/or minimize effects on the species and habitat. Compensatory mitigation would further ensure that no cumulative effect on these species occurs. Overall,

the aquatic food web would not be adversely affected by this project. Other wildlife using the riparian habitats impacted by this project would also be affected; however, avoidance and compensatory mitigation measures would also serve wildlife in general. No significant impacts on the biological characteristics of the aquatic ecosystem are expected to result from this project after incorporation of mitigation measures. The other alternatives evaluated during this project's environmental review are expected to result in greater adverse impacts on listed species and their associated habitat.

c: Special Aquatic Sites (Subpart E).

- 1) Sanctuaries and refuges.
- 2) Wetlands.
- 3) Mudflats.
- 4) Vegetated shallows.
- 5) Coral Reefs.
- 6) Riffle and pool complexes.

	<u>S</u>	<u>NS</u>	<u>NA</u>
	_____	_____	<u>X</u>
	_____	<u>X</u>	_____
	_____	_____	<u>X</u>
	_____	_____	<u>X</u>
	_____	_____	<u>X</u>
	_____	_____	<u>X</u>

Response: The proposed project would affect wetlands. As discussed in the EIS/EIR and previous sections, adverse effects on wetlands have been avoided to the maximum extent practicable, and would otherwise be compensated for with appropriate mitigation. Therefore, no significant effect on wetlands would result from this project.

d: Human Use Characteristics (Subpart F).

- 1) Effects on municipal and private water supplies.
- 2) Recreational and Commercial fisheries impacts.
- 3) Effects on water-related recreation.
- 4) Aesthetic impacts.
- 5) Effect on parks, national and historical monuments, national seashores, wilderness areas, research sites, and similar preserves

	_____	_____	<u>X</u>
	_____	_____	<u>X</u>
	_____	_____	<u>X</u>
	_____	<u>X</u>	_____
	_____	<u>X</u>	_____

Response: The proposed project would not have an adverse impact on human use characteristics for the aquatic system of the project area. As discussed previously, and in the EIS/EIR, recreational fishing and swimming occur within the study area, however these activities would not be affected by the construction or operation of the third main track. Further, the Cajon Creek is not used for municipal or private water consumption, or commercial fishing. Although a third track would be installed, the current existence of Main Track 1, which it would parallel, and the distance and perspective from existing view sheds, would result in no significant impact with respect to the aesthetic environment. Although small segments of USFS managed land would need to be acquired for project implementation, compensatory mitigation for those acquisitions would result in no significant impact for this resource after mitigation.

**c. Evaluation of Dredged or Fill Material (40 CFR, SUBPART G)**

Respond with Yes or No to each statement:

- |                                                                                                                                                  | <u>Yes</u> | <u>No</u> |
|--------------------------------------------------------------------------------------------------------------------------------------------------|------------|-----------|
| a: The following information has been considered in evaluating the biological availability of possible contaminants in dredged or fill material. | _____      | _____     |

	<u>Yes</u>	<u>No</u>
1) Physical characteristics.	<u>X</u>	<u>      </u>
2) Hydrography in relation to known or anticipated sources of contaminants.	<u>X</u>	<u>      </u>
3) Results from previous testing of the material or similar material in the vicinity of the project.	<u>X</u>	<u>      </u>
4) Known, significant, sources of persistent pesticides from land runoff or percolation.	<u>X</u>	<u>      </u>
5) Spill records for petroleum products or designated (Section 311 of CWA) hazardous substances.	<u>X</u>	<u>      </u>
6) Other public records of significant introduction of contaminants from industries, municipalities or other sources.	<u>X</u>	<u>      </u>
7) Known existence of substantial material deposits of substances which could be released in harmful quantities to the aquatic environment by man-induced discharge activities.	<u>      </u>	<u>X</u>
8) Other sources (specify).	<u>      </u>	<u>X</u>

Response: No contaminants have been identified in the project area, and the project would not result in the discharge of contaminants to the aquatic environment. Materials discharged for this project would be physically consistent with the existing habitats and substrates.

b:	The proposed fill material is not a carrier of contaminants, or that levels of contaminants are substantively similar at extraction and disposal sites. The material meets the testing exclusion criteria.	<u>X</u>	<u>      </u>
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**d. Restriction on Discharge (40 CFR 230.10)**

Respond with Yes, No or "NA" (Not applicable) to each statement:

	<u>Yes</u>	<u>No</u>	<u>NA</u>
a: Alternatives Test			
1) Are there available, practicable alternatives having less adverse impact on the aquatic ecosystem and without other significant adverse environmental consequences that do not involve discharges into "waters of the United States" or at other locations within these waters?	<u>      </u>	<u>X</u>	<u>      </u>
2) If the project is in a special aquatic site and is not water-dependent, has the applicant clearly demonstrated that there are no practicable alternative sites available?	<u>X</u>	<u>      </u>	<u>      </u>
b: Special Restrictions: Would the discharge...			
1) Violate state water quality standards?	<u>      </u>	<u>X</u>	<u>      </u>
2) Violate toxic effluent standards (under Section 307 of the Act)?	<u>      </u>	<u>      </u>	<u>X</u>
3) Jeopardize endangered or threatened species or their critical habitat?	<u>      </u>	<u>X</u>	<u>      </u>
4) Violate standards set by the Department of Commerce to protect marine sanctuaries?	<u>      </u>	<u>      </u>	<u>X</u>
5) The proposed discharge material meets testing exclusion criteria for the following reason(s)	<u>X</u>	<u>      </u>	<u>      </u>
A) The material is not a carrier of contaminants			
B) The levels of contamination are substantially similar at the extraction and disposal sites and the discharge is not likely to result in degradation of the disposal site and pollutants would not be transported to less contaminated areas			

	Yes	No	NA
C) Acceptable constraints are available and would be implemented to reduce contamination to acceptable levels within the disposal site and prevent contaminants from being transported beyond the boundaries of the disposal site	_____	_____	_____
c: Other restrictions. Would the discharge contribute to significant degradation of "waters of the U.S." through adverse impacts to:			
1) Human health or welfare, through pollution of municipal water supplies, fish, shellfish, wildlife and special aquatic sites?	_____	X	_____
2) Life states of aquatic life and other wildlife?	_____	X	_____
3) Diversity, productivity and stability of the aquatic ecosystem, such as the loss of fish or wildlife habitat, or loss of the capacity of wetland to assimilate nutrients, purify water or reduce wave energy?	_____	X	_____
4) Recreational, aesthetic and economic values?	_____	X	_____
d: Actions to minimize potential adverse impacts (mitigation). Would all appropriate and practicable steps (40 CFR 23.70-77) be taken to minimize the potential adverse impacts of the discharge on the aquatic ecosystem?	X	_____	_____

**e. Disposal Site Delineation (40 CFR 230.11(F))**

Respond with Yes, No or "NA" (Not applicable) to each statement:

	Yes	No	NA
a: The following factors, as appropriate, have been considered in evaluating the disposal site.			
1) Depth of water at disposal site.	_____	_____	X
2) Current velocity, direction and variability at disposal site.	_____	_____	X
3) Degree of turbulence.	_____	_____	X
4) Water column stratification.	_____	_____	X
5) Discharge vessel speed and direction.	_____	_____	X
6) Rate of discharge.	_____	_____	X
7) Dredged material characteristics (constituents, amount and type of material, settling velocities)	_____	_____	X
8) Number of discharges per unit of time.	_____	_____	X
9) Other factors affecting rates and patterns of mixing (specify).	_____	_____	X

Response: For the purpose of this analysis, the term "disposal site" refers to the locations of the abutment fills for bridge construction/expansion activities. All excess fill materials for the project would be disposed of onsite at the Caltrans/I-15 Vacated Borrow Pit location and would not impact the aquatic environment of Cajon Wash. Construction plans include consideration of how and where fill material would be placed to avoid significant adverse effects. The above parameters are the primary factors considered in this process.

b: The disposal site and/or size of mixing zone are acceptable.	_____	_____	X
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**f. Actions to Minimize Adverse Effects (40 CFR 230, SUBPART H)**

Respond with Yes, No or "NA" (Not applicable) to each statement:

All appropriate and practicable steps have been taken, through application of recommendation of 40 CFR 230.70-230.77 to ensure minimal adverse effects of the proposed discharge.

Yes	No	NA
X		

Response: The primary measures taken to avoid and then minimize potential adverse effects are described in the previous sections and within the EIS/EIR for the project.

**g. Factual Determination (40 CFR 230.11)**

Respond with Yes, No or "NA" (Not applicable) to each statement:

There is minimal potential for short or long-term environmental effects of the proposed discharge as related to:

- a: Physical substrate at the disposal site.
- b: Water circulation, fluctuation and salinity.
- c: Suspended particulates; turbidity.
- d: Contaminant availability.
- e: Aquatic ecosystem structure and function.
- f: Disposal site.
- g: Cumulative impact on the aquatic ecosystem.
- h: Secondary impacts on the aquatic ecosystem.

Yes	No	NA
		X
X		
X		
X		
X		
X		
X		

**h. Special Conditions:**

**B. General Evaluation (33 CFR 320.4(A))**

**1. The relative extent of the public and private need for the Proposed Project**

The Proposed Action will alleviate an existing bottleneck to goods movement through Cajon Pass. With an increase in rail capacity BNSF will help meet the regions freight rail demands by preventing potential delays to goods movement, and remove potential delays to other freight and passenger traffic using BNSF track west of San Bernardino. In addition the Proposed Action is expected to reduce future truck traffic on I-15 through Cajon Pass by transporting the additional container traffic by rail rather than by truck. Public response received during the comment period on the DEIS/EIR was generally supportive of the project and although there were concerns related to environmental impacts they have been addressed in the FEIS/EIR.

**2. The practicability of using reasonable alternative locations and methods to accomplish the objective of the proposed structure of work.**

Through the purpose and need statement, project objectives, and alternatives analysis, the applicant has demonstrated that there is not an existing alternative that is a less environmentally damaging practicable alternative for the project. Environmentally superior locations, designs or alternatives that adequately meet the objectives of the Proposed Action could not be identified following a diligent search.

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**3. The extent and permanence of the beneficial and/or detrimental effects that the proposed structure or work may have on the public and private uses to which the area is suited.**

The Proposed Action is situated within the existing BNSF ROW and a limited number of acres of San Bernardino National Forest lands. The Forest lands are close enough to the railroad tracks to be of no public or private use other than for conservations. The addition of the third main track would not alter the existing use of the BNSF ROW and the acres of San Bernardino National Forest lands which would be operated by BNSF under a Special Use Permit would be offset by the contribution that BNSF is making to a third party non-profit organization for the purchase of adjacent acres of land that would be preserved in perpetuity.

**C. Determination**

**1. Public Interest Determination**

The USACE finds that issuance of a Department of the Army permit (with special conditions), as prescribed by regulations published in 33 CFR Parts 320 to 330, and 40 CFR Part 230, is not contrary to the public interest.

**2. 404(b)(1) Compliance Review (40 CFR 230.12)**

- ( ) The discharge complies with the guidelines. The Proposed Action is the LEDPA.
- (X) The discharge complies with the guidelines, with the inclusion of the appropriate and practicable conditions minimize pollution or adverse effects to the affected ecosystem.
- ( ) The discharge fails to comply with the requirements of these guidelines because:
  - ( ). There is a practicable alternative to the proposed discharge that would have less adverse effect on the aquatic ecosystem and that alternative does not have other significant adverse environmental consequences
  - ( ). The proposed discharge would result in significant degradation of the aquatic ecosystem under 40 CFR 230.10(b) or (c).
  - ( ). The discharge does not include all appropriate and practicable measures to minimize potential harm to the aquatic ecosystem, namely...
  - ( ). There is not sufficient information to make a reasonable judgment as to whether the proposed discharge would comply with the guidelines.

**3. Finding of Significant Impact (33 CFR 325)**

Having reviewed the information provided by the applicant, all interested parties and our assessment of environmental impacts contained in this document, the USACE finds that this permit action may have a significant impact on the quality of the physical environment. Therefore, based on the potential significant impacts, the proposed project requires an Environmental Impact Statement be prepared. A Draft and Final EIS/EIR was scoped, prepared and publicly distributed for review in accordance with procedures set forth in the National Environmental Policy Act of 1969 and CEQ regulations. The Final EIS/EIR (March 2007) is incorporated into this evaluation by reference.