PINE AVENUE EXTENSION PROJECT GEOTECHNICAL INVESTIGATIONS AND SURVEYS

PRADO FLOOD CONTROL BASIN

SAN BERNARDINO COUNTY, CALIFORNIA

Draft ENVIRONMENTAL ASSESSMENT and Draft FINDING OF NO SIGNIFICANT IMPACT

Prepared for

U.S. Army Corps of Engineers
Los Angeles District
915 Wilshire Boulevard
Los Angeles, CA 90017

City of Chino 13220
Central Avenue
Chino, CA 91710

March 2016

Federal ID# HPLUL – 5188(018)

DRAFT FINDING OF NO SIGNIFICANT IMPACT
Pine Avenue Extension Project Geotechnical Investigations and Surveys Prado Flood Control Basin
San Bernardino County, California

I have reviewed the Environmental Assessment (EA), which has been prepared pursuant to the National Environmental Policy Act (NEPA), 42 United States Code 4321 et seq. The proposed Federal action is to grant a license to the City of Chino (City) so that Chino can develop data needed to support the design of the Pine Avenue Extension Project. The data development would be the first phase of the project. This EA addresses only the first phase. The second phase would be the detailed design and construction phase, which would be further analyzed at a later time. For the second phase, the City of Chino, in coordination with the California Department of Transportation (Caltrans), proposes to extend Pine Avenue from State Route (SR) 71, eastward to El Prado Road as an urban four-lane arterial and to widen Pine Avenue to a four-lane arterial from El Prado Road to Euclid Avenue (SR 83) in the cities of Chino and Chino Hills.

For the first phase of the project, the City of Chino (City) has requested the U.S. Army Corps of Engineers (Corps) issue a right of entry license for the City to conduct geotechnical investigations and surveys at the Prado Flood Control Basin, San Bernardino County, California. This is the Preferred Alternative. The investigations which would occur pursuant to the license include drilling borings to collect soil samples to identify subsurface conditions including depth to bedrock and depth to groundwater. Undisturbed and bulk samples of various soil types would also be collected for laboratory testing. The equipment required to perform this work includes truck-mounted or track-mounted drill rigs equipped with a hollow stem auger for conducting soil samplings and is further described in Section 2.1.2 of the EA. In addition, field surveys would occur, which would consist of mapping a strip of land along Pine Avenue to locate the roadway centerline, edge of pavement, and surface utilities and to verify elevations, culverts, existing improvements within the defined boundaries, and aerial topographic data. The surveying would be performed by individuals walking the site. The borings would take approximately 9 to 10 days to complete, and the visual surveys would take approximately 3 to 5 days to complete. Including all mobilization, field work, and restoration, the entire proposal would take approximately 10 to 15 days to complete. Field work is anticipated to begin in early 2016. The information gathered during these investigations would then later be used to support the design and proposal of the larger Pine Avenue Extension Project.

The EA has been prepared to comply with applicable Federal laws, regulations, and Executive Orders and Corps policies. The EA analyzes the impacts of the Preferred Alternative and the No Action Alternative on the environmental and human resources in and adjacent to the project area, which is located along the existing and proposed Pine Avenue alignment between SR-71 and Euclid Avenue and a potential borrow area located between Cucamonga Avenue and Hellman Avenue south of Chino Corona Road. Under the No Action Alternative, the Corps would not issue a right of entry license for temporary access to Corps property and no geotechnical investigations or survey activities would occur. Borings and soil samples would not be collected under this alternative.

The No Action Alternative would not meet the purpose and need of the project. However, it is carried forward for comparison purposes. Alternatives that were considered but not carried forward for detailed evaluation are also discussed in Section 2.1.3 of the EA. The draft EA was circulated to the public for comments during Insert Month Day Year and #(add number) comments were received.

There are no anticipated significant impacts to environmental and human resources, in or adjacent to the project area, based on the implementation of the Preferred Alternative. With implementation of the avoidance and minimization measures identified in Section 3 and Section 4, all potential adverse effects to environmental and human resources would be further reduced. The Preferred Alternative would most effectively meet the need and purpose of the proposed action.

I have determined that implementation of the Preferred Alternative with the incorporation of the avoidance and minimization measures identified in this EA and incorporated herein by reference is in compliance with NEPA, the National Historic Preservation Act, the Endangered Species Act, the Clean Water Act, the Clean Air Act, the Migratory Bird Treaty Act, and other Federal laws, regulations, Executive Orders and Corps policies as described in this EA in Section 5. The least Bell's vireo, a species listed as endangered pursuant to the Endangered Species Act, is known to occupy riparian habitat within the action area and the species' designated critical habitat is present within the action area. With implementation of biological avoidance/minimization measures, the Preferred Alternative may affect, but is not likely to adversely affect, this species or its critical habitat. Informal Section 7 consultation with the USFWS is ongoing, and this Preferred Alternative is in compliance with the Endangered Species Act, and there would be no significant impact to biological resources. One boring would occur within jurisdictional non-wetland waters of the United States and the access path to the bore location is within a jurisdictional wetlands and non-wetland waters of the United States. Nationwide Permits 6 and 33 would apply and verification of their applicability was issued by the District's Regulatory Division on December 11, 2015. A Section 401 water quality certification for the project was issued on December 14, 2015. The Preferred Alternative is in compliance with the Clean Water Act and there would be no significant impacts to water resources. There would also be no significant effects to cultural resources or historic properties. The undertaking would result in no adverse effects to historic properties, and Section 106 consultation with the State Historic Preservation Officer pursuant to the National Historic Preservation Act is ongoing. The Preferred Alternative is in compliance with the National Historic Preservation Act.

I have considered the available information contained in the EA, and it is my determination that there are no significant impacts on the human environment which would result from approval of the Preferred Alternative. There are no unresolved environmental issues. Therefore, preparation of an Environmental Impact Statement (EIS) is not required.

Approval by:

_____ _____

Kirk E. Gibbs Date
Colonel, US Army
Commander and District Engineer

NOTICE OF PREPARATION
Pine Avenue Extension Project Geotechnical Investigations and Surveys Prado Flood Control Basin
San Bernardino County, California

This Draft Environmental Assessment (EA) was prepared by the US Army Corps of Engineers (Corps) to comply with the National Environmental Policy Act (NEPA), other Federal laws, regulations, Executive Orders, and Corps policies.

The Draft EA is provided for agency and public review to solicit input on the Proposed Action and is made available for 30 days. Comments received would be considered in determining whether an Environmental Impact Statement (EIS) would be required or whether a Finding of No Significant Impact (FONSI) can be issued.

The City of Chino, in coordination with the California Department of Transportation (Caltrans), proposes to extend Pine Avenue from SR 71, eastward to El Prado Road as an urban four-lane arterial and to widen Pine Avenue to a four-lane arterial from El Prado Road to Euclid Avenue (SR 83) in the Cities of Chino and Chino Hills. To support the engineering design for the Pine Avenue Extension Project, geotechnical investigations (i.e., drilling of borings and collection of soil samples) and surveys must be performed to address various project components that would be considered to provide a basis for the design. Exploratory borings would be conducted to obtain subsurface information including depth to bedrock and depth to groundwater. Undisturbed and bulk samples of various soil types would be collected for laboratory testing. Surveying activity would consist of mapping a strip of land along Pine Avenue to locate the roadway centerline, edge of pavement, surface utilities, verify elevations, culverts, identify existing improvements within the defined boundaries, and verifying of aerial topographic data.

The comment period for this Notice shall be from XXXX to XXXX. Comments should be received no later than close of business on XXXX, and may be provided to:

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1.0 INTRODUCTION

This draft Environmental Assessment (dEA) has been prepared for the U.S. Army Corps of Engineers (Corps, USACE) to comply with the National Environmental Policy Act (NEPA) (42 United States Code (USC) 4321 et seq.), Council on Environmental Quality (CEQ) regulations published at 42 Code of Federal Regulations (CFR) part 1500, the Corps' Procedures for Implementing NEPA (33 CFR Part 230), and other environmental laws, Executive Orders, and Corps regulations. The purpose of the dEA is to provide sufficient information on the existing environmental conditions within the area of a proposed Federal action and the potential environmental effects of a No Action Alternative and various alternative actions so decision makers can fully evaluate the potential environmental impacts of the proposed Federal action in order to decide whether to move forward with such action, and to determine the need to prepare an Environmental Impact Statement (EIS) or a Finding of No Significant Impact (FONSI).

Documentation is an essential component of the NEPA process, which supports and complements public involvement and interagency coordination. For the purposes of this document and pursuant to guidelines for implementing NEPA, the baseline used for the impact analysis reflects conditions at the time of the preparation of this report. Depending on the complexity of a project and potential to affect the environment, the documentation to support the findings can vary. An Environmental Assessment is being prepared as the Corps does not have an agency-specific Categorical Exclusion which would apply to the proposed action under 33 CFR 230.9. Should the environmental analysis and interagency review during the EA process find a project to have no significant impacts on the quality of the environment, a Finding of No Significant Impact (FONSI) may be issued.

1.1 BACKGROUND, LOCATION

The proposed action is to develop data needed to support the design of the Pine Avenue Extension Project. The data development would be the first phase of the project. This dEA addresses only the first phase. The second phase would be the detailed design and construction phase, which would be further analyzed at a later time.

For the first phase of the project, data collection is needed on Federal land located at the Prado Dam Flood Control Basin in San Bernardino County, California, on Assessor's Parcel Numbers (APN) 1027-401-01, 05, 1027-461-01, 1027-471-01, 02, 1027-472-02, 03, 1027-492-01, 1056-361-01, 02, 1056-451-01, 02, 03, and 04.

The data would provide design support for the future Pine Avenue Extension Project proposal by the City of Chino, in coordination with the California Department of Transportation (Caltrans). That larger project would extend Pine Avenue from State Route (SR) 71, eastward to El Prado Road as an urban four-lane arterial and to widen Pine Avenue to a four-lane arterial from El Prado Road to Euclid Avenue (SR 83) in the Cities of Chino and Chino Hills. The Pine Avenue Extension Project is currently in the preliminary design phase.

Following the preliminary design phase of the larger Pine Avenue Extension Project, separate NEPA and other environmental documentation would be prepared to satisfy the environmental requirements for the Pine Avenue Extension Project on Corps-controlled lands.

The future Pine Avenue Extension Project may include the following major components, which would be further developed and designed based on the results of data developed at this time during the first phase of the project:

- Eight barrel 13 feet wide by 15 feet high reinforced concrete box culverts across Chino Creek;
- Approximately 200 foot long bridge structure over Chino Creek;
- Approximately 60 inch diameter reinforced concrete pipe (RCP) culvert under Pomona Rincon Road;
- Reconstruction of approximately 75 feet of existing roadway at SR-71 and Pine Avenue interchange;
- Roadway fill embankment at SR-71; and
- Bridge-style structure to elevate roadway between Pomona Rincon Road and El Prado Road.

1.1.1 **Project Authority**

Pursuant to 10 USC 2667, the Corps is authorized to grant nonfederal entities the right to use federal lands if the proposed use is determined to be compatible with the federal project, laws, and regulations, and serves the interests of the public and/or the federal government.

Lands acquired by the United States and managed by the Corps for flood risk management activities and for other compatible purposes may be outgranted to other entities for use and access. When requests are submitted to enter onto lands controlled by the Corps, the Corps, in its discretion, may issue revocable licenses pursuant to the Secretary of the Army's general administrative authorities and pursuant to 10 USC 2667. The license that the Corps would provide is subject to a determination of whether a request is compatible with the federal project, and applicable laws, regulations, and/or policies.

1.1.2 **Existing Setting**

The proposed project area is within the northern Prado Flood Control Basin in San Bernardino County, California. Prado Flood Control Basin is located within the Santa Ana River watershed and is a Federally owned land entity operated for flood risk management by the USACE, Los Angeles District. The proposed project area is located along the existing Pine Avenue alignment between SR-71 and Euclid Avenue, and between Cucamonga Avenue and Hellman Avenue south of Chino Corona Road in the City of Chino. Current land uses in the vicinity include recreational/open space, El Prado Golf Course, Chino Creek, and commercial/industrial uses. The Santa Ana River, which

originates in the San Bernardino Mountains and flows to the Pacific Ocean, acts as the principal drainage course into the Chino Groundwater Basin and Prado Flood Control Basin where it flows south through the Prado Dam outletworks. The project vicinity and location maps are provided in Figure 1, Figure 2A and Figure 2B.

1.2 PURPOSE AND NEED

The City's purpose for the proposed project is to obtain the best information available to support the preliminary and final engineering and designing of the major components of the future Pine Avenue Extension Project, as listed above. These investigations are necessary to identify the types of soils and materials present below the ground surface in the area, in order to determine feasibility to construct the major components. These major components would require specific and accurate geotechnical information, such as different amounts and types of support from the underlying earthen materials. Further, because geological conditions are expected to vary along the future Pine Avenue Extension alignment, information is needed about subsurface conditions at horizontal intervals short enough to identify any changing sub-surface conditions.

The Corps' need for the proposed project is to respond to a right of entry license request from the City for temporary access to Corps-owned property to complete geotechnical investigations and field surveys. The request will be evaluated for consistency with relevant laws, regulations, and policies, and for consistency with the Prado Flood Control Basin project purpose and the public interest. The Corps' purpose for the proposed action is to decide whether to grant the right of entry license, and provide the terms and conditions for conducting the geotechnical investigations and field survey.

2.0 ALTERNATIVES

This dEA analyzes the likely effects of the proposed project by comparing a No Action Alternative with the Preferred Alternative and with other alternatives deemed to be reasonable. The alternatives carried forward for detailed analysis are limited to alternatives that would meet the purpose and need for the proposed project and to the No Action Alternative for comparison purposes.

2.1 ALTERNATIVES CONSIDERED

The following alternatives were evaluated and discussed in further details below. The alternatives that were analyzed but eliminated from further consideration are discussed in Section 2.1.3.

2.1.1 **No Action Alternative**

The Corps is required to consider a "No Action" Alternative as one of the alternatives in order to comply with the requirements of the NEPA. The No Action Alternative is a basis for comparison with all other alternatives, as it represents a condition, both current and future, under which no Federal action would be taken to address the identified purpose and need. By comparing the No Action Alternative to each action alternative, the advantages and disadvantages of the action alternatives may be assessed in relation to current and future conditions. Under the No Action Alternative, the City of Chino and its representatives would not have access to the USACE-owned property and would not be able to conduct geotechnical field investigations and field surveys, including exploratory geotechnical borings and collecting soil samples. Furthermore, no right of entry license would be issued by the USACE, as no temporary access would occur. Without the geotechnical investigations, the basis for engineering and design of the major project components proposed as part of the future Pine Avenue Extension Project would be incomplete, and thus the project purpose and need would not be met.

2.1.2 **Preferred Alternative**

Under the Preferred Alternative, the Corps would grant the City of Chino a temporary license to access Corps-controlled areas to conduct geotechnical investigation including exploratory geotechnical boring and soil sample collection. The proposed geotechnical investigations and soil sample collections include 12 total exploratory boring locations (Boring #6 will consist of 2 borings within the same station location) along Pine Avenue and 2 borings at a potential borrow site to collect subsurface information, including depth to bedrock and depth to groundwater, and to collect undisturbed and bulk samples of various soil samples for laboratory testing. The approximate location, number of borings, and depth of borings is listed in the following table. The locations of the borings are shown on Figure 2A.

Table 1, Planned Boring Locations and Depths

Bore No.	Future Structure as part of Pine Avenue Extension Project	Station Location	Location	Number of Borings/ Depth (feet)
1	Embankment	27+00	Base of existing embankment for Pine Ave at SR-71	1/50
2	Embankment	31+00	South of future alignment	1/50
3	Embankment	32+00	North of future alignment	1/50
4	Embankment	37+00	Alignment intersection with Pomona Rincon Road	1/30
5	Embankment	43+00	South of alignment on existing Pine Avenue	1/30
6	Bridge	49+00	South of Chino Creek Bridge on existing Pine Avenue	2/70
7	Embankment	54+00	Existing Pine Avenue at merge with future alignment	1/20
8	Signal light	57+00	Intersection of El Prado Road and Pine Avenue	1/20
9	Roadway	62+00	Existing Pine Avenue	1/10
10	Roadway	67+00	Existing Pine Avenue	1/10
11	Culvert	72+00	Pine Avenue at unnamed creek crossing	1/20
12	Roadway	75+50	Pine Avenue at limit of recent improvements	1/10
13	Borrow source for fill material and water storage balance.	N/A	Southeast of Pine Avenue alignment, between Cucamonga Avenue and Hellman Avenue.	1/15
14	Borrow source for fill material.	N/A	Southeast of Pine Avenue alignment, between Cucamonga Avenue and Hellman Avenue.	1/15
Note:There are 12 total boring locations along Pine Avenue, with two borings being conducted at the same station location, 49+00.				

Geotechnical Investigation and Soil Sample Collections

The nine (9) exploratory geotechnical borings, Borings #4 through #12,between Euclid Avenue and Pomona Rincon Road would be drilled on the shoulder of existing Pine Avenue (please refer to Figure 2A), areas which are currently outgranted to Chino from the USACE. Between El Prado Road and Pomona Rincon Road, the existing roadway is approximately 200 feet south of the proposed future alignment of Pine Avenue. The exploratory geotechnical Boring #6, near the Chino Creek Bridge would be located adjacent to the existing roadway due to sensitive habitat constraints. Between Pomona Rincon Road and SR-71, and outside the current Corps outgrant, three additional exploratory borings, #1 through #3would be located near the new future Pine Avenue alignment. The borings in this area would generally be located within the footprint of the future embankment associated with the proposed Pine Avenue connection. The remaining two (2) exploratory borings, #13 and #14,

would occur at a borrow site located between Cucamonga Avenue and Hellman Avenue, south of Chino Corona Road. This proposed site is a potential source for future project fill materials and to provide the volumetric water storage balance if required by the future Extension construction proposal. The borrow site, if necessary, is located approximately two miles southeast of Pine Avenue, between Cucamonga Avenue and Hellman Avenue and south of Chino Corona Road. The borrow site was chosen for its close proximity to the Pine Avenue project site and its availability, size, and scope to serve as a borrow site for the future Pine Avenue construction. The geotechnical borings (#13 and #14) at the borrow site would determine compatibility and useability of additional fill material, should the future project require it.

Geotechnical Boring and Sampling Procedure

For each geotechnical boring, soils from within the upper 10 to 15 feet below existing ground surface would be retrieved by a truck mounted drill rig or a backhoe equipped soil sampling tool. The drill rig or backhoe would use a continuous-flight hollow-stem auger to drill an 8-inch diameter hole into the earth. The auger is shaped in the form of a large screw, as the auger turns, it loosens soil at the bottom of the borehole and acts to lift the soil to the surface. The stem, or center, of the auger is hollow, which allows a sampling device to be lowered to the bottom of the borehole to retrieve soil samples at defined depths. After soil collection is completed, the auger would be removed from the borehole and the soil would be shoveled back into the hole to restore the original ground surface. The samples are collected using a Modified California Sampler, a device with a 2.4 inch inner diameter and a 3.0 inch outer diameter. The sampler would be driven into the bottom of the borehole with successive drops of a 140-pound hammer falling 30 inches. The soil would be collected in brass rings 2.4 inches in diameter and 1.0 inches in height. The samples are then sealed in waterproof plastic containers and sent to a laboratory for analysis. Bulk samples of representative soil types would also be collected in plastic bags and sent for analysis. Groundwater, if encountered, would also be recorded. The collected samples would be shipped to a laboratory for analysis. All borings at the borrow site would be backfilled with soils cuttings.

The exploratory borings would be drilled with a truck-mounted or track-mounted drill rig equipped with a hollow stem auger for soil samplings. See Photo #1: Track-Mounted Drill Rig. No additional vehicles are required. The drill rigs would be mounted to the back of trucks or equipped with tracks for mobility to get to the borehole site. Drill rigs not mounted to trucks would be towed to the site by trailer. The drill rig would be off-loaded from the trailer near the borehole site. The borings along the existing Pine Avenue roadway would be conducted with a hollow-stem auger drill rig mounted on rubber tracks, which result in lower ground pressure than tires and thus in less disturbance to existing ground surfaces at Pine Avenue. The drill rig crew would park their vehicles along existing Pine Avenue and walk to each of the borehole sites. The boring locations were selected to provide information about the engineering properties of the earthen materials underlying the proposed roadway alignment. The number of borings and the typical spacing of borings were planned to provide a representative sampling of subsurface conditions throughout the project area. Because geologic conditions are anticipated to vary within the project area, the boring

locations were selected in areas of differing geology, areas where unfavorable subsurface conditions may be present, and areas where the future roadway alignment (the Pine Avenue Extension Project) would result in the greatest increase in load. Proposed depths of the borings were based on the expected subsurface conditions and the nature of the future roadway construction near the boring. Deeper borings would occur in areas of future large embankments and bridge structure, as well as where soft sediments are anticipated to be thicker to get a representative sampling and better understanding of the geologic conditions where major structures are anticipated to be constructed. Shallow borings are planned in areas where the future roadway would be constructed near the existing grade and where dense sediments are expected to be nearer to the surface.

The time required to complete each boring would depend on boring depth and subsurface conditions encountered during the boring. On average, a boring with a depth of 50 feet would take approximately 3 to 5 hours each to complete. At this rate, the proposed borings would be completed within approximately 9-10 days.

Photo #1: Track-Mounted Drill Rig

A Standard Penetration Test would also be performed at each proposed borehole location. This test involves a standard split-spoon sampler (1.4 inches inner diameter and 2.0 inches outer diameter) driven into the ground with successive drops of a 140-pound hammer falling 30 inches by means of a mechanically driven pulley. Soil retrieved from the spoon sampler would be sealed in waterproof plastic containers and shipped to a laboratory for analysis. All borings would be backfilled with soil cuttings and borings drilled through paved areas would be patched with cold asphalt concrete.

Field Survey

Proposed field survey activities consist of field-mapping a strip of land along Pine Avenue approximately 7,500 linear feet in length and with varying width of 75 feet to 200 feet. The

proposed mapping consists of field-locating the roadway centerline, edge of pavement, surface utilities, culverts, and other existing improvements within the defined boundaries, and of ground shots taken at intervals consistent to produce a one-foot contour map. Full topographic surveys would be conducted along existing paved areas and in creek locations. Spot elevations would be obtained in currently unimproved areas to verify aerial topographic data. The procedure used to complete this survey would consist of a combination of utilizing static G.P.S. and real-time Kinematic G.P.S. equipment as well as conventional ground survey methods. For conventional ground survey methods, a crew member would walk the route carrying a surveyor's rod. The survey crew would avoid cutting any brush or trees and would avoid root formations or potentially sensitive vegetation. One to two (1-2) survey staff is anticipated for this project. All field survey activities are expected to be completed within approximately 14 days. Field work is anticipated to begin during the first half of 2016.

2.1.3 **Alternatives Considered but not Carried Forward for Detailed Analysis**

The following alternatives were evaluated and not carried forward for further consideration in this dEA, for the reasons described below.

Alternative with Fewer Exploratory Geotechnical Borings, Soil Samples, and/or Field Surveys

It would not meet the purpose and need of the project to have an alternative similar to the Preferred Alternative but with fewer borings, soil samples, or surveys because each concrete box culvert, bridge structure, embankment, and roadway structure proposed as a major component of the future Pine Avenue Extension Project (see Table 1) would require a boring to identify the types of soils and materials present below the ground surface in that area, to determine feasibility to construct that feature. These major components of the future Extension Project each require specific and accurate geotechnical information, such as different amounts and types of support from the underlying earthen materials. Further, because geologic conditions are expected to vary along the future extension alignment it is critical to obtain information about subsurface conditions at horizontal intervals short enough to identify any changing sub-surface conditions. The western area of the project area in particular appears to include variable materials, soft ground, and shallow groundwater levels. For these reasons, any fewer than the borings proposed could result in incomplete or insufficient information, would risk missing changes in the geologic conditions, and could negatively affect the design of the future Pine Avenue Extension.

Alternative Using Literature Search or Previously Collected Data

The City of Chino is planning to obtain geotechnical information, including borings data, from the recently improved area immediately west of Euclid Avenue and as such, no borings are planned in this area. For remaining proposed areas, however, the necessary geotechnical data is not available in sufficient detail to complete the proposed future extension's engineering and design. Additionally, current and updated information is required because soil and geotechnical conditions may change through time as a result of settlement, seismic occurrences, erosions, previous

construction, and other activities. Therefore, use of existing literature or previously collected data would not meet the purpose and need of the project, in that it would not provide sufficient data.

Alternative Using Modified Footprint

The preliminary alignment plan for the future Pine Avenue Extension Project takes into consideration the most practical roadway alignment to join the existing Pine Avenue at SR 71 with the existing Pine Avenue at El Prado Road without impacting the El Prado Golf Course or existing creek crossing, and stays within the required curve design limitations. As such, geotechnical investigations and surveys within a smaller area of the USACE-owned site or off the USACE-owned site would not be relevant for the future Pine Avenue Extension Project, and therefore would not meet the project purpose and need. To conduct the geotechnical investigations or survey on a smaller portion of the USACE-owned site would not allow the complete set of information necessary to complete engineering and design for the future Pine Avenue Extension Project.

3.0 ENVIRONMENTAL IMPACTS AND ANALYSIS

3.1 LAND USE

3.1.1 **Baseline Conditions**

The subject Corps land is within northwestern Prado Flood Control Basin and utilized for flood risk management, and located within open-space land use areas outgranted to San Bernardino County for outdoor recreation at facilities such as El Prado Golf Course and Prado Regional Park. Depending on specific elevation and locations at the project area, the City of Chino's Land Use Designation for Pine Avenue corridor consists of Recreation/Open Space and of General Industrial. Presently, the western extent of Pine Avenue terminates at Pomona Rincon Road with portions of the El Prado Golf Course and open space located further to the west towards the SR-71. To the east, recent industrial development has occurred near Euclid and Pine Avenues. Pine Avenue is currently utilized by vehicles accessing the nearby industrial facilities located along Pine Avenue and for visitors to the El Prado Golf Course.

The proposed borrow site, also designated as Recreation/Open Space, is located approximately 2 miles southeast of Pine Avenue, between Cucamonga Avenue and Hellman Avenue and south of Chino Corona Road. Areas adjacent to the borrow site consist of agricultural uses as well as recreational uses.

3.1.2 **Significance Threshold**

A significant impact would occur if the proposed project:

- Were to change land use due to implementation of the Proposal.
- By its implementation was not compatible with the intended land use of the USACE or adversely affects current recreational users.

3.1.3 **Alternative Analysis**

No Action Alternative

There would be no change to existing land uses. Existing recreational users would continue to have access to recreational areas as they currently exist. No impact to land use would be anticipated.

Preferred Alternative

The Preferred Alternative would result in temporary access to USACE-owned property for geotechnical investigations and field surveys. The proposed activities would not result in any changes to existing land uses or designations. Pine Avenue currently provides access to the industrial facilities located along Pine Avenue and access to visitors of the El Prado Golf Course. Vehicles along Cucamonga Avenue are limited to private agricultural land use and to those

accessing recreation and open space lands, such as at Prado AirPark. Only temporary, insignificant impacts from these temporary actions are expected. These temporary, insignificant impacts include motorists having to drive around equipment where borings will occur on the shoulder of existing roads. On average, a boring with a depth of 50 feet would take approximately 3 to 5 hours to complete and borings between Euclid Avenue and Pomona Rincon Road would be drilled on the shoulder of existing Pine Avenue to avoid impacts to the motorists utilizing the roadway. Roadways will remain open and would not be closed to through traffic and access to surrounding areas will remain open.

The Preferred Alternative would not result in any changes, or significant adverse impacts, to current land uses. The proposed activities would be temporary and would pose no significant adverse impacts to existing approved land uses in the area.

3.1.4 **Avoidance/Minimization Measures**

No avoidance or minimization measures are required.

3.2 GEOLOGY AND SOILS

3.2.1 **Baseline Conditions Earthquake Faults**

As is the case for most of southern California, the project is located in a seismically active region and several faults are located in proximity to the project which could potentially produce ground shaking during a major earthquake event. The Elsinore-Whittier Fault zone, with a probable magnitude of 6.5 to 7.5, is one of the largest in southern California but, in historical times, has been one of the quietest. Towards its northern end, the Elsinore Fault Zone splits into two segments, the Chino Fault and the Whittier Fault. The Chino Fault has a probable magnitude of 6.0 to 7.0 and located near the communities of Chino and Corona.

Liquefaction

Liquefaction is the loss of strength of cohesionless soils when the pore water pressure in the soil becomes equal to the confining pressure. Liquefaction is a type of ground failure caused by strong ground-shaking. Primary factors that influence liquefaction potential include groundwater, soil type, relative density of sandy soils, confining pressure, and the intensity and duration of the ground-shaking. According to the City of Chino General Plan Environmental Impact Report (EIR) (2010), due to the City of Chino's loosely compacted, silty, sandy alluvial soil and shallow groundwater, ground-shaking and liquefaction present the most hazards during a moderate-to-significant earthquake. Similar conditions exist in the project area.

Soils and Geology

According to the City of Chino General Plan EIR, the City lies in a region made up of alluvial valley floors, fans, and terraces. The topography is generally flat in the City with a soil type generally consisting of young alluvial deposits. The area generally consists of Sorrento Clay Loam (StA), Grangeville Fine Sandy (Gr), Chualar Clay Loam (CkD, 9 – 15% slopes), Chualar Clay Loam (CkA, 0–2% slopes) and Chualar Clay Loam (CkC, 2–9% slopes) (USDA, Natural Resources Conservation Service, Web Soil Survey, San Bernardino County Southwestern Part, CA677). Similar conditions exist in the project area.

Seiches, Tsunamis, and Mudflows

As indicated in the City of Chino General Plan EIR, the City is at a low risk from damage resulting from seiches or waves generated from bodies of water. As the project area is located inland and away from the Pacific Ocean, there is no risk from tsunamis. Furthermore, the project area is not at risk from mudflow due to its relatively flat topography.

3.2.2 **Significance Threshold**

A significant impact would occur if the Proposal:

- Significantly increases wind or water erosion of soils or loss of topsoil, either on or off site.
- Significantly alters the physical or chemical quality of sediments or soils.
- Triggers or accelerates geologic processes such as erosion or sedimentation brought about by disturbance of landforms.

3.2.3 **Alternative Analysis**

No Action Alternative

The No Action Alternative would not impact the area's current soil or geological condition. There would be no ground disturbance under this alternative. There would be no change to the area's current soil or geological conditions. No vehicular traffic or foot traffic would occur as no borings or soils surveys would need to occur. The area would still be located in a seismically active region. Current seismic activity, earthquake fault zones, areas of liquefaction, and soil types would remain unchanged.

Preferred Alternative

The activities as proposed would not occur on or adjacent to faults. No significant direct or indirect impacts are expected to geology or soils including to earthquake faults, liquefaction, soils, geology, seiches, tsunamis, or mudflows, due to the temporary nature of the proposed activities. All borings would be backfilled with soil cuttings and disturbed areas would be restored to pre-project conditions within the same day after completion of the investigations. The geotechnical investigations and soil samples could expose disturbed and loosened soils to erosion by wind and runoff which could result in increased erosion and siltation. However, the proposed borehole excavation sites consist of relatively small, 8 inch diameter holes drilled into the earth and backfilled after completion of the borings. Due to the small size of the exposed soils, impacts are not anticipated to occur. No structures or facilities would be constructed under this alternative. There would be no impact to landforms. This alternative would not affect current seismic activity, earthquake fault zones, or areas of liquefaction, and soil types would remain unchanged. No significant impact to geology or soils would occur.

3.2.4 **Avoidance/Minimization Measures**

No avoidance or minimization measures are required.

3.3 HYDROLOGY/WATER QUALITY

3.3.1 **Existing Conditions**

The project area is located in the Santa Ana River Basin which covers portions of southwestern San Bernardino County, western Riverside County, and northwestern Orange County. The Santa Ana River Basin is the largest watershed in southern California, with a drainage area of approximately 2,670 square miles and more than 50 contributing tributaries and an average rainfall ranging from 12 to 18 inches. With Prado Dam as a middle point, the Santa Ana River Watershed is divided into an upper and lower watershed.

Surface Water

The principal drainage course in the project vicinity is the Santa Ana River which flows across the Santa Ana Watershed from its origin in the San Bernardino Mountains to the Pacific Ocean. The Santa Ana River enters the Basin at the Riverside Narrows and flows along the southern boundary of the Basin to the Prado Flood Control Reservoir where it is eventually discharged through the outlet at Prado Dam and, from the Dam, the River flows the remainder of its course to the Pacific Ocean.

Near the project area, the SAR's Chino Creek Reach 1B flows roughly parallel with SR-71 and eventually connects with Chino Creek Reach 1A and further downstream with the Santa Ana River Reach 3, below the Dam and SR-91.

Groundwater

The Chino Groundwater Basin is one of the largest groundwater basins in southern California and is an integral part of the regional and statewide water supply system. The Basin encompasses the cities of Upland, Rancho Cucamonga, Fontana, Ontario, Eastvale, Montclair Pomona and Chino. The Basin contains approximately 5,000,000 acre-feet of water in the Basin and an unused storage capacity of about 1,000,000 acre-feet. The actual groundwater volume stored in the Basin may be 6,000,000 acre-feet or greater. Cities and other water supply entities produce groundwater for all or part of their municipal and industrial supplies; and, approximately 300-400 agricultural users produce groundwater from the Basin.

Prior to 1978, the Basin was in overdraft and since then, the Basin has been operated as described in the 1978 Judgment in Chino Basin Municipal Water District vs. City of Chino et al.

Water Quality

The Santa Ana River floodplain's hydrology and local water quality is directly influenced by inflows into the Basin including several tributaries including Chino Creek, and non-point sources caused by rainfall or snowmelt moving over and through the ground. The runoff picks up and carries away natural and man-made pollutants, eventually depositing them into lakes, rivers, wetlands, coastal waters, and underground water sources. Typical urban runoff includes oil, grease,

and related petroleum derivatives. Point-source pollution involves discrete conveyances such as pipes or man-made ditches. Water quality of the inflows is variable and elements of concern include Total Dissolved Solids (TDS), nitrates, iron, and manganese. A potential exists for cadmium, lead, mercury, polychlorinated biphenyls (PCB's), and the insecticide lindane, to accumulate in freshwater organisms in the Santa Ana River. This is because anaerobic conditions may contribute to release from sediments of these trace substances. Local nuisance conditions can also occur and may be exacerbated by long periods of water storage, especially during summer months when higher temperatures facilitate stratification and anaerobic conditions, creating conditions beneficial to algal blooms and mosquito breeding.

Jurisdictional Waters and Wetlands

At the west end of project site, a topographic basin captures perennial flows and conveys these flows east into Chino Creek. The basin appears to support a high water table and to be partially inundated for most of the year. Wetland conditions have formed within portions of the basin due to the year-round saturation of soils, including a predominance of hydrophytic vegetation, hydric soil indicators, and wetland hydrology indicators. A jurisdictional delineation was conducted on February 3, 2015, to determine any wetland boundary within the vicinity of Bore #3 (refer to Appendix A) and jurisdictional limits as shown on Figure 3. USACE representatives conducted a site visit on June 11, 2015, and a Preliminary Jurisdictional Determination was approved in August 2015.

Floodplain

Both the Corps and Environmental Protection Agency (EPA) refer to floodplains as areas bordering inland or coastal waters and formed by sediment deposition from such water under present climatic conditions which may become inundated during periods of moderate to high water flows. Thus, much of the Prado Basin through which SAR flows and where water may be occasionally be held by the Dam, may be described as a floodplain.

For purposes related to potential flood hazard, the Federal Emergency Management Agency (FEMA) utilizes other standards and at the specific Pine Avenue locale, FEMA has identified this area (Map 06071C9335H) on its Flood Insurance Rate Map (FIRM) as Zone AE, which is subject to inundation by the 1% annual chance flood:

- Zone AE – Base flood elevations determined. Special flood hazard areas subject to inundation by the 1% annual chance flood. The 1% annual flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood.

3.3.2 Significance Thresholds

A significant impact would occur if the Proposal:

- Would have a substantial adverse effect on federally protected wetlands as defined by Section 404

of the Clean Water Act

- Substantially alters the existing drainage pattern of the site or area, including the alteration of the course of a stream or river, in a manner that would result in substantial increase in erosion or siltation on or off site.

- Substantially alters the existing drainage pattern of the site or area, including the alteration of the course of a stream or river, in a manner that would result in a substantial reduction in the quantity of surface water.

- Substantially alters the existing drainage pattern of the site or area, including the alteration of the course of a stream or river, or substantially increases the rate or amount of surface runoff in a manner that would result in flooding on or off site or provide substantial additional sources of polluted runoff.

- Increases substantial erosion or sedimentation in relation to existing conditions.

3.3.3 **Alternative Analysis**

No Action Alternative

The No Action Alternative would have no impacts on hydrology or water quality. Under this alternative the geotechnical investigations, soils and field surveys would not be conducted on USACE-managed lands. Potential impacts associated with these activities would not occur.

Preferred Alternative

The Preferred Alternative would require equipment and field personnel access the project area through the floodplain to conduct the proposed work within USACE-approved locations, including some work located near Chino Creek. These activities would not result in significant effects to the floodplain because the activities would be short term and the area (boreholes) would be restored to its natural state after the activities are concluded. Dredged or fill materials would be discharged into waters of the United States., pursuant to Section 404 of the Clean Water Act (CWA) (33 USC 1344), as Boring #3 is located within jurisdictional non-wetland and the access path is within wetland and non-wetland waters of the United States. Nationwide Permit (NWP) 6, Survey Activities, and NWP 33, Temporary Construction, Access, and Dewatering, would apply for these impacts. The area in which the boring is dug would be restored to its preconstruction elevation upon completion of the work and would not drain a water of the U.S. NWP 6 is precertified by the State Water Resources Control Board, however, NWP 33 is not so a 401 certification is required pursuant to 33 USC 1341. To further reduce potential effects to hydrology and floodplains, the mobilization of equipment and personnel would follow a designated path limited to existing roadways. The proposed work may expose disturbed and loosened soils to erosion by wind and runoff. As such, these activities could result in increased erosion and siltation, which may affect drainages downstream of the site. This could result in minor, temporary impacts to water quality. The proposed boreholes consist of excavation sites with an approximately 8-inch diameter hole drilling into the earth with

either a truck- mounted or track-mounted drill rig. Due to the small amount of ground disturbance of these borings consisting of 8-inch diameter holes, with each boring taking approximately 3 to 5 hours to complete, no significant impacts to hydrology or water quality are expected. No ground disturbance is anticipated for activities related to the topographic field survey, as the activity would involve a surveyor walking the site by foot with a survey rod and making visual observations.

Non-point source and point source pollution is not anticipated by the geotechnical investigations, collection of soil samples, or field surveys because the activities do not involve large areas of soil to be excavated and the potential for spills consists of minor amounts of engine fluids from equipment and biodegradable drilling mud. With implementation of spill prevention BMPs, potential effects to water quality would be further minimized. Further, there would be no increase in impervious surfaces or watering activities associated with the activities. Soils generated from the geotechnical activities would be backfilled and not be discharged into surface waters. Given the areas of boring activities and soil sample collections being limited to the boring location itself and the pathway to the boring location, the Preferred Alternative is not likely to result in effects to water quality. Implementation of minimization measures will further reduce these insignificant impacts. Topographic survey activities would not likely impact hydrology or water quality because the proposed activities consist of field personnel on foot carrying a survey rod and visually field-locating the roadway centerline, edge of pavement, surface utilities, culverts, and other existing improvements. Implementation of the Preferred Alternative would not alter the drainage pattern for the site, increase erosion or sedimentation, or adversely affect wetlands. Therefore, no significant impacts to hydrology or water quality are anticipated.

3.3.4 **Avoidance/Minimization Measures**

WQ-1 The contractor will ensure that the area is returned to its original state after field investigations are completed to maintain the integrity of the floodplain.

WQ-2 All work will conform to the Field Investigation Site Best Management Practice (BMP)(Category II) requirements specified in the latest edition of the Caltrans Storm Water Management Plan (SWMP) to control and minimize the impacts of field investigation and field investigation-related activities. These include, but are not limited to, temporary sediment control, temporary soil stabilization, scheduling, waste management, materials handling, and other non-stormwater BMPs.

WQ-3 The mobilization of equipment and personnel is to follow a designated path limited to existing roadways.

WQ-4 The following conditions shall also be included:

- The proponent shall clearly mark the limits of the workspace with flagging or similar means to ensure mechanized equipment does not enter preserved waters of the U.S. and riparian

wetland/habitat areas shown on the USACE/RWQCB Jurisdiction Delineation results. Adverse impacts to waters of the U.S. beyond the Corps-approved construction footprint are not authorized.

- No later than one month following completion of authorized work in waters of the U.S., the permittee shall ensure all sites within waters of the U.S. subject to authorized, temporary impacts are restored to pre-project alignments, elevation contours, and conditions to the maximum extent practicable to ensure expeditious resumption of aquatic resource functions. No later than 45 calendar days following completion of authorized work in waters of the U.S., the permittee shall submit a memorandum documenting compliance with this special condition.

- The proponent shall abide by the terms and conditions of the Clean Water Act Section 401 WQC.

3.4 AIR QUALITY

3.4.1 **Existing Conditions**

The project site is located in San Bernardino County which, with northwestern (non-desert) Riverside County, all of Orange County, and parts of Los Angeles County, are considered within the South Coast Air Basin (SCAB). Air quality regulation in the SCAB is administered by the South Coast Air Quality Management District (SCAQMD). The SCAB is a coastal plain with connecting broad valleys and low hills and its climate is determined by terrain and geographical location.

This region lies in a semi-permanent high-pressure zone of the eastern Pacific Ocean. As a result, the climate is mild, tempered by cool sea breezes. Warm, dry summers, low precipitation, and mild winters characterize the overall climate in the SCAB. In the project area, average daily winter temperature is 54 degrees Fahrenheit (°F), and average daily summer temperature is 80°F.

Ninety percent (90%) of the annual rainfall occurs between November and April with more than two-thirds occurring from December through March. The mean annual precipitation in the Riverside Fire Station 3 area over a 104-year period (1893-2007) was 10.3 inches. In nearly all months of the year, evaporation exceeds precipitation.

Topography is a major factor influencing wind direction over the project area. The predominant wind direction in the project area is determined by the land-sea breeze circulations. Regional wind patterns are dominated by daytime onshore sea breezes. At night, the wind generally slows and reverses direction, traveling toward the sea. Wind directions are also affected by local canyons, with wind tending to flow parallel to the canyons. Average wind speed in the project area ranges between 4 and 6 miles per hour (mph). There is little seasonal variability in the wind patterns. Occasionally, however, during autumn and winter, "Santa Ana" conditions develop from a high-pressure zone to the east that bring dry, high-velocity winds from the deserts over the Cajon Pass to the coastal region. These winds, gusting to more than 80 mph, can reduce relative humidity to below 10 percent.

Air Quality Standards

The Federal Clean Air Act (CAA), passed in 1970 and last amended in 1990, requires the EPA to set National Ambient Air Quality Standards (NAAQS) for pollutants, considered harmful to public health and the environment, as a basis for the national air pollution control effort. Basic elements of the CAA include NAAQS for criteria air pollutants, hazardous air pollutants (HAPs) emissions standards, state attainment plans, motor vehicle emissions standards, stationary source emission standards and permits, acid rain control measures, stratospheric ozone (O_3) protection, and enforcement provisions.

The NAAQS have two tiers: primary standards to protect public health and secondary standards to prevent environmental degradation (e.g., damage to vegetation and property, visibility impairment,

and to other capabilities). EPA has set NAAQS for six principal pollutants: Carbon Monoxide, Lead, Nitrogen Dioxide, Ozone, Particulate Matter, and Sulfur Dioxide, which are collectively called criteria pollutants and are listed in Table 2 below.

Air pollution has been associated with a variety of harmful health effects. As such, the California Air Resources Board and the U.S. Environmental Protection Agency have adopted ambient (outdoor) air quality standards. These legal limits on outdoor air pollution are designed to protect the health and welfare of Californians. The state of California has established ambient air quality standards for air pollutants, which are also listed in Table 2 below. Ambient air quality standards define clean air, and are established to protect the most sensitive individuals. The air quality standard defines the maximum amount of a pollutant that can be present in outdoor air without harm to the public's health. California law authorizes the California Air Resources Board (CARB) to set ambient air pollution standards in consideration of public health, safety, and welfare.

Table 2, Ambient Air Quality Standards

Pollutant	Avg Time	California Standards[1,3]	Federal Standards[2]	
			Primary[3,5]	Secondary[3,6]
Carbon Monoxide	8 hour	9 ppm	9 ppm	-
	1 hour	20 ppm	35 ppm	-
Lead[11,12]	30 day avg	1.5 µg/m^3	-	-
	Rolling 3 month avg	-	0.15 µg/m^3	Same as primary
Nitrogen Dioxide[9]	1 hour	0.18 ppm	100 ppb	-
	Annual	0.030 ppm	53 ppb	Same as primary
Ozone	1 hour	0.09 ppm	-	Same as primary
	8 hour	0.070 ppm	0.075 ppm	Same as primary
PM 2.5	Annual	12 µg/m^3	12 µg/m^3	15 µg/m
	24 hour	-	35 µg/m^3	Same as primary
PM10[8]	Annual	20 µg/m^3	-	-
	24 hour	50 µg/m^3	150 µg/m^3	Same as primary
Sulfur Dioxide[10]	1 hour	0.25 ppm	75 ppb	-
	3 hour	-	-	0.5 ppm

Source: California Air Resources Board, Ambient Air Quality Standards.
Notes:

[1.] California standards for ozone, carbon monoxide (except 8-hour Lake Tahoe), sulfur dioxide (1 and 24 hour), nitrogen dioxide, and particulate matter (PM10, PM2.5 and visibility reducing particles), are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations. Construction standards are used, since the proposed project does not entail any operational activities.

[2.] National standards (other than ozone, particulate matter, and those based on annual arithmetic mean) are not to be exceeded more than once a year. The ozone standards is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over three years, is equal to or less than the standard. For PM10, the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 µg/m3 is equal to or less than one. For PM2.5, the 24 hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard. Contact the U.S. EPA for further clarifications and current national policies.

[3.] Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to areference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per

mole of gas.

[5.] National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.

[6.] National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

[7.] Reference method as described by the U.S. EPA . An "equivalent method" of measurement may be used but must have a "consistent relationship to the reference method" and must be approved by the U.S. EPA.

[8.] On December 14, 2012, the national annual PM2.5 primary standard was lowered from 15µg/m3 to 12.0 µg/m3. The existing national 24 hour PM2.5 standards (primary and secondary) were retained at 35 µg/m3, as was the annual secondary standard of 15µg/m3. The existing 24-hour PM10 standards (primary and secondary) of 150 µg/m3 also were retained. The form of the annual primary and secondary standards is the annual mean, averaged over 3 years.

[9.] To attain the 1-hour national standard, the 3-year average of the annual 98th percentile of the 1-hour daily maximum

concentrations at each site must not exceed 100 ppb. Note that the national 1-hour standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the national 1-hour standard to the California standards the units can be converted from ppb to ppm. In this case, the national standard of 100 ppb is identical to 0.100 ppm.

[10.] On June 2, 2010, a new 1-hour SO2 standard was established and the existing 24-hour and annual primary standards were revoked. To attain the 1-hour national standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971 SO2 national standards (24-hour and annual) remain in effect until one year after an area is designated for the 2010 standard, except that in areas designated nonattainment for the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved.

Note that the 1-hour national standard is in units of parts per billion (ppb). California standards are in units of parts per million. To directly compare the 1-hour national standard to the California standard the units can be converted to ppm. In this case the national standard of 75 ppb is identical to 0.075 ppm.

[11.] The CARB has identified lead and vinyl chloride as 'toxic air contaminants' with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specific for these pollutants.

[12.] The national standard for lead was revised on October 15, 2008 to a rolling 3-month average. The 1978 lead standard (1.5 µg/m3 as a quarterly average) remains in effect until one year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.

Attainment Status

A state or region is given the status of "attainment" or "unclassified" if ambient air quality standards have not been exceeded. A status of "nonattainment" for particular criteria pollutants is assigned if the ambient air quality standard for that pollutant has been exceeded. Once designated as nonattainment, attainment status may be achieved after three years of data showing non-exceedance of the standard. When an area is reclassified from nonattainment to attainment, it is designated as a "maintenance area," indicating the requirement to establish and enforce a plan to maintain attainment of the standard. The attainment status of the NAAQS and California state standards are shown in Table 3, below.

Table 3, South Coast Air Basin Attainment Status

Pollutant	National AAQS	California AAQS
Carbon Monoxide (CO)	Attainment/Maintenance	Unclassified
Ozone (O3) (1-hour standard)	N/A	Extreme Nonattainment
Ozone (O3) (8-hour standard)	Nonattainment-Extreme	Nonattainment
Nitrogen Dioxide (NO2)	Attainment/Maintenance	Attainment
Sulfur Dioxide (SO2)	Attainment	Attainment
Particulate Matter (PM10) 24-hour	Attainment/Maintenance	Unclassified

Pollutant	National AAQS	California AAQS
PM10 Annual	Unclassified	Unclassified
Particulate (PM2.5)	Nonattainment	Unclassified
Lead	Nonattainment	Nonattainment
Source: http://www.arb.ca.gov/desig/adm/adm.htm		

General Conformity

Section 176 (c) of the CAA (42 U.S.C. 7506(c)) requires any entity of the Federal government that engages in, supports, or in any way provides financial support for, licenses or permits, or approves any activity to demonstrate that the action conforms to the applicable State Implementation Plan (SIP) required under Section 110 (a) of the CAA (42 U.S.C. 7410(a)) before the action is otherwise approved. In this context, conformity means that such federal actions must be consistent with a SIP's purpose of eliminating or reducing the severity and number of violations of the NAAQS and achieving expeditious attainment of those standards. Each Federal agency must determine that any action proposed that is subject to the regulations implementing the conformity requirements will, in fact, conform to the applicable SIP before the action is taken.

On April 5, 2010, the EPA revised the general conformity regulations at 40 CFR 93 Subpart B for all federal activities except those covered under transportation conformity (75 Federal Register [FR] 17254). The revisions were intended to clarify, streamline, and improve conformity determination and review processes, and to provide transition tools for making conformity determinations for new NAAQS. The revisions also allowed federal facilities to negotiate a facility-wide emission budget with the applicable air pollution control agencies, and to allow the emissions of one precursor pollutant to be offset by the emissions of another precursor pollutant. The revised rules became effective on July 6, 2010.

The general conformity regulations apply to a proposed Federal action in a Federally designated nonattainment or maintenance area if the total of direct and indirect[1] emissions of the relevant criteria pollutants and precursor pollutants caused by the proposed action equal or exceed certain de minimis amounts, thus requiring the Federal agency to make a determination of general conformity. A Federal agency can indirectly control emissions by placing conditions on Federal approval or Federal funding. According to the Federal NAAQS, the area is considered to be in extreme nonattainment for Ozone, and nonattainment for Particulate Matter 2.5 and Lead. In addition, the area is classified as a maintenance area for Carbon Monoxide, Nitrogen
Dioxide, and Particulate Matter 10, meaning that the area was reclassified from nonattainment to attainment, but requires a plan to maintain the attainment of the NAAQS for those pollutants.

[1] Direct emissions are those that are caused or initiated by the Federal action, and occur at the same time and place as the Federal action. Indirect emissions are reasonably foreseeable emissions that are further removed from the Federal action in time and/or distance, and can be practicably controlled by the Federal agency on a continuing basis (40 CFR 93.152).

Table 4 presents the applicable state daily thresholds and Federal annual de minimis thresholds for each pollutant for which the SCAB is in nonattainment or maintenance status.

Greenhouse Gas Emissions

Greenhouse gases are compounds in the atmosphere that absorb infrared radiation and reradiate a portion of that back toward the earth's surface, thus trapping heat and warming the earth's atmosphere. The most important naturally occurring greenhouse gas (GHG) compounds are carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), ozone, and water vapor. CO_2, CH_4, and N_2O are produced naturally by respiration and other physiological processes of plants, animals, and microorganisms; by decomposition of organic matter; by volcanic and geothermal activity; by naturally occurring wildfires; and by natural chemical reactions in soil and water. Ozone is not released directly by natural sources, but forms during complex chemical reactions in the atmosphere, among organic compounds and nitrogen oxides, in the presence of ultraviolet radiation. While water vapor is a strong greenhouse gas, its concentration in the atmosphere is primarily a result of changes in surface and lower atmospheric temperature conditions.

On April 2, 2007, in Massachusetts v. EPA, 549 U.S. 497 (2007), the Supreme Court found that GHGs are air pollutants covered by the CAA and that EPA has the authority to regulate GHGs. The Court held that the EPA Administrator must determine whether emissions of GHGs from new motor vehicles cause or contribute to air pollution, which may reasonably be anticipated to endanger public health or welfare, or whether the science is too uncertain to make a reasoned decision.

Climate Change

Climate change is a shift in the average weather patterns observed on earth, which can be measured by such variables as temperature, wind patterns, storms, and precipitation. Scientific research to date indicates that observed climate change is most likely a result of increased emission of GHGs associated with human activity.

In the U.S., the main source of GHG emissions is electricity generation, followed by transportation. California ranks among the highest (12^{th}-16^{th} largest) CO_2 emitters in the world and transportation sources, including passenger cars, light-duty trucks, other trucks, buses, and motorcycles, make up the largest source (second to electricity generation) of GHG-emitting sources. The dominant GHG emitted is CO_2, mostly from fossil fuel combustion.

Gases that trap heat in the atmosphere are GHGs, analogous to the way a greenhouse retains heat. The presence of GHGs in the atmosphere affects the earth's temperature. Without the natural heat-trapping effect of GHG, the earth's surface would be cooler; however, human activities have increased the amount of GHGs in the atmosphere, which disrupts the natural climate. While climate change has been a concern for several decades, the establishment of the Intergovernmental Panel on Climate Change (IPCC) by the United Nations and World Meteorological Organization in 1988 has led to increased efforts devoted to GHG emissions reduction and climate change

research and policy. These efforts are primarily concerned with the emissions of GHGs generated by human activity, including CO_2, methane (CH_4), nitrous oxide (N_2O), tetrafluoromethane, hexafluoroethane, sulfur hexafluoride (SF6), HFC-23 (fluoroform), HFC-134a (s, s, s, 2-tetrafluoroethane), and HFC-152a (difluoroethane).

Climate change is expected to exacerbate air quality problems and adversely affect human health by increasing heat stress and related deaths; increase the incidence of infectious diseases, asthma and respiratory health problems; cause sea level rise threatening urban and natural coastal areas; cause variations in natural plant communities affecting wildlife; and cause variations in crop quality and yields. Climate change may also result in more extreme weather events and heavier precipitation events that can lead to flooding as well as more extended drought periods.

Federal

Although climate change and GHG reduction is a concern at the federal level, currently no regulations or legislation have been enacted specifically addressing GHG emissions reductions and climate change at the project level. The United States Environmental Protection Agency (EPA) has not promulgated explicit guidance or methodology to conduct project-level GHG analysis. Climate change and its associated effects are also being addressed through various efforts at the federal level to improve fuel economy and energy efficiency, such as the "National Clean Car Program" and Executive Order (EO) 13514 – Federal Leadership in Environmental, Energy, and Economic Performance. EO 13514 is focused on reducing GHGs internally in federal agency missions, programs, and operations, but also directs federal agencies to participate in the Interagency Climate Change Adaptation Task Force, which is engaged in developing a national strategy for adaptation to climate change. The CEQ has issued draft guidance on the consideration of GHG emissions, entitled Revised Draft Guidance on the Consideration of Greenhouse Gas Emissions and the Effects of Climate Change in NEPA Reviews, dated December 24, 2014, and published at 79 FR 77801. This draft guidance establishes a recommended reference point of 25,000 metric tons of annual CO2 emissions as warranting further review.

State

With the passage of several pieces of legislation, including State Senate and Assembly bills and Executive Orders, California launched an innovative and proactive approach to dealing with GHG emissions and climate change. Assembly Bill (AB) 1493, Pavley. Vehicular Emissions: Greenhouse Gases, 2002: requires the California Air Resources Board (CARB) to develop and implement regulations to reduce automobile and light-truck GHG emissions. These stricter emissions standards were designed to apply to automobiles and light trucks beginning with the 2009-model year. In June 2009, the EPA Administrator granted a CAA waiver of preemption to California. This waiver allowed California to implement its own GHG emission standards for motor vehicles beginning with model year 2009. California agencies would be working with federal agencies to conduct joint rule-making to reduce GHG emissions for passenger cars in model years 2017-2025.

Project Specific GHG Analysis

According to Recommendations by the Association of Environmental Professionals (AEP) on How to Analyze GHG Emissions and Global Climate Change in CEQA Documents (March 5, 2007), an

individual project does not generate enough GHG emissions to significantly influence global climate change. Rather, global climate change is a cumulative impact. This means that a project may contribute to a potential impact through its incremental change in emissions when combined with the contributions of all other sources of GHG. In assessing cumulative impacts, it must be determined if a project's incremental effect is "cumulatively considerable" (CEQA Guidelines sections 15064(h)(1) and 15130). To make this determination, the incremental impacts of the project must be compared with the effects of past, current, and probable future projects. To gather sufficient information on a global scale of all past, current, and future projects to make this determination is a difficult, if not impossible, task.

3.4.2 **Significance Threshold**

Impacts would be considered significant if the alternative:

- Violates state and/or Federal air quality standards or contributes substantially to an existing air quality violation.
- Exposes sensitive receptors to substantial pollutant concentrations.
- Leads to daily emissions of air pollutants in excess of the established SCAQMD thresholds.
- Leads to annual emissions in excess of the Federal de minimis thresholds. There could be significant impacts caused by climate change if the project:
- Increases heat stress and related deaths.
- Increases the incidence of infectious diseases, asthma, and respiratory health problems.
- Causes variations in natural plant communities affecting wildlife.
- Leads to annual CO2 emissions in excess of 25,000 metric tons.

3.4.3 **Alternative Analysis**

No Action Alternative

Air quality would continue to be influenced by climatic conditions and local and regional emissions from mobile and stationary sources. Current land use would continue to be recreational and industrial in the area. No additional pollutant or particulate materials would be produced.

Preferred Alternative

Vehicle emissions, including construction vehicles and construction worker vehicles, associated with the proposed work would be temporary and last approximately 10 to 15 days. The time required to complete each boring would depend on the boring depth and the subsurface conditions encountered at each boring location. It would take approximately 3 to 5 hours to complete

borings with a depth of 50 feet. Under these circumstances, all borings would be completed in roughly 9-10 days. The proposed geotechnical and soil sampling work has the potential to create air quality impacts through use of heavy-duty construction equipment at the site and through vehicle trips by workers traveling to and from the project site. Activities associated with the field surveys would only result in air quality impacts resulting from worker vehicles traveling to and from the project site. Once on the project site the field surveys would be conducted on foot by a single surveyor or a two-person survey team walking the site with a survey rod and making visual observations.

Activities associated with the proposed work would be temporary and be completed within 10 to 15 days. Note that operation of drill rigs and other machinery would not continually operate over this period. Construction emissions were calculated using software (CalEEMod) and assumed worst-case scenario of the drill rig operating 8 hours per day for a duration of 15 days. As seen in the table below, the proposed project would not exceed daily emissions thresholds or annual emissions thresholds. Compared with other construction projects requiring major earth- moving activities, the activities associated with the proposed work consists of little to no soil disturbance and short duration of operations. Lead is not listed because the emissions are anticipated to be insignificant.

Table 4, Construction Air Emissions

	ROG[1]	NOX/NO2	CO	PM10	PM2.5	CO_2e
Peak Daily Emissions (pounds)	<1	6	2	<1	<1	926
SCAQMD Regional Significance Threshold (lbs/day)	75	100	550	150	55	N/A
SCAQMD Local Significance Threshold*	N/A	118	863	5	4	N/A
Exceed Daily Emissions Threshold?	No	No	No	No	No	No
Total Emissions (tons)	<1	<1	<1	<1	<1	6
General Conformity De Minimus Levels (tons/yr)	10	10/100	100	100	100	N/A
Exceed Annual Emissions Level/Threshold?	No	No	No	No	No	No

*SCAQMD Source Receptor Area 33, 1 acre site, 25 meter receptor distance [1] ROG is a Ozone precursor and is the same as VOC; therefore, Ozone/VOC limits are listed for ROG
Source: ICF International, June 2015.

Similarly, fugitive emissions from these activities would be minimal and would not, based on the temporary and minimal soil disturbance from the proposed work, affect nearby sensitive receptors. Further, the number of locations and the short duration of each field activity would not expose sensitive receptors to significant amounts of mobile source emissions such as CO, NOX, VOCs, directly emitted particulate matter, or toxic air contaminants.

Odors related to the proposed work would be associated with operation of diesel-powered equipment and vehicles. While equipment and vehicles onsite would generate some objectionable odors, primarily from diesel exhaust, these emissions would be limited to the project site and

would be temporary in nature. As such, odors would be diffuse and not affect a substantial number of people.

The potential for air contaminant emissions during the proposed work would be related to diesel particulate matter emissions associated with the equipment operations. However, the significance of health effects from carcinogenic air toxins is based on a long-term (70 year lifetime) exposure. Because the proposed work is intermittent and would be completed within 10 to 15 days, the project would not result in long-term substantial exposure to toxic air contaminants emissions.

The proposed work would result in operation of machinery; however, this activity is not anticipated to significantly produce effects to air quality or expose sensitive receptors to significant amounts of mobile source emissions. Workers traveling to and from the site are expected to commute locally, to the project site. Due to the temporary nature of the activities and short duration, minimal short-term impacts to air quality may occur during the proposed work. Minimization measures would be implemented to further limit potential effects to air quality. No significant impacts to air quality are anticipated.

GHG/Climate Change
GHG emissions during the geotechnical investigation, soil sample collection, and field survey include emissions produced as a result of on-site equipment. These emissions would be produced at different levels depending on the duration of the equipment. Emissions of CO_2 are temporary in nature and would cease after 10 to 15 days. CO_2 emissions from the Preferred Alternative are not expected to exceed 25,000 metric tons, and thus, further review is not necessary pursuant to the draft CEQ guidance on GHG emissions, referenced above. In addition, there would be no increase of heat stress; incidence of infectious diseases, asthma, or respiratory health problems; or variations in natural plant communities affecting wildlife. Considering the duration of each activity and temporary time period, the project's emission contributions are incremental and significantly small in their contribution of GHGs. There would be no significant impact to GHG or Climate Change.

3.4.4 **Avoidance/Minimization Measures**

In addition to the South Coast Air Quality Management District (SCAQMD) rules, the following avoidance/minimization measures set forth a program of air pollution control strategies that would further ensure that field investigation emissions would not exceed any applicable standard.

AQ-1 In addition to SCAQMD Rule 403 requirements, apply water to all ground disturbance areas as necessary to remain visibly moist during active operations to control dust and minimize impacts to adjacent vegetation.

AQ-2 Apply non-toxic soil stabilizers, as needed, to reduce off-site transport of fugitive dust from unpaved staging areas and unpaved road surfaces.

AQ-3 Properly tune and maintain field equipment and vehicles in accordance with manufacturer's specifications. Low-sulfur fuel shall be used in field investigation equipment per California Code of Regulations (CDCR) title 17 Section 93114.

AQ-4 During field investigation, keep trucks and vehicles in loading/unloading queues with their engines off when not in use to reduce vehicle emissions. Phase field activities to avoid emission peaks, where feasible, and discontinue during second-stage smog alerts.

AQ-5 To the extent feasible, use field equipment that is either equipped with diesel oxidation catalyst or is powered by alternative fuel sources (e.g., methanol, natural gas).

3.5 NOISE

Noise can be defined as unwanted sound or combination of sounds that may interfere with conversation, work, rest, recreation, and sleep, or in the extreme may produce physiological or psychological damage. Sound travels from a source in the form of a wave, which exerts a pressure on a receptor such as a human ear. The amount of pressure a sound wave exerts is referred to as sound level, commonly measured in decibels (dB). Decibels are logarithmic quantities, relating the sound pressure level of a noise source to the reference pressure level. As a reference, a sound level of zero dB corresponds roughly to the threshold of human hearing, and a sound level in the range of 120 to 140 dB can produce human pain.

Wildlife may be sensitive receptors to noise and vibrations. Animals rely on meaningful sounds for communication, navigation, avoiding danger, and finding food. Noise may be defined for wildlife as "any human sound that alters the behavior of animals or interferes with their functioning". The level of disturbance may be qualified as damage, which may harm health, reproduction, survivorship, habitat use, distribution, abundance or genetic distribution, or disturbance which causes a detectable change in behavior. Behavioral and physiological responses of wildlife to noise have the potential to cause injury, energy loss, decrease food intake, habitat avoidance and abandonment, and reproductive losses. The El Prado Golf Course and commercial/industrial uses are located adjacent to the project site.

3.5.1 **Existing Conditions**

Existing noise sources in the area include the SR 71, vehicles accessing and associated with the industrial land uses along Pine Avenue, vehicles and visitors accessing the El Prado Golf Course, and aircraft noise from the Chino and Corona Municipal Airports. The existing SR-71 currently dominates the noise environment in the area.

3.5.2 **Significance Threshold**

A significant impact would occur if the Proposal:

- Results in Federal, state, or local noise standard levels being exceeded significantly during implementation.
- Results in noise level ranges above the ambient noise level range which characterizes the existing setting.
- Produces noise levels that would result in abandonment of bird nests.

3.5.3 **Alternative Analysis**

No Action Alternative

There would be no change in local noise levels, because no geotechnical investigation, soils survey, or field surveys would occur. Pine Avenue would continue to be utilized by vehicles accessing the industrial facilities and the El Prado Golf Course and would not result in any significant adverse impact.

Preferred Alternative

The geotechnical investigation and collection of soil samples would utilize construction equipment commonly used on roadway construction projects which typically range from 80 to 89 dBA at a distance of 50 feet. Noise produced by construction equipment would be reduced over distance at a rate of approximately 6 dB per doubling of distance. No pile driving or other demolition-related machinery, which are considered to generate higher noise levels, would be used. The noise generated by equipment and vehicles associated with the geotechnical investigation, and collection of soil samples may intermittently dominate the noise environment in and around the immediate area. However, no significant noise impacts from the geotechnical investigations or soil surveys are anticipated because activities would be conducted in accordance with Caltrans' Standard Specifications and would be temporary and short-term. Furthermore, the equipment would not operate continuously at any single location. Each boring, on average, is expected to take approximately 3 to 5 hours to complete. Noise associated with the field survey would be limited to vehicle noise accessing the site. Once on site, the field survey activities are not expected to result in excessive noise, as activities would involve a field surveyor walking the site by foot with a survey rod and making visual observations. There would be no significant impacts to noise as a result of project-related noise.

3.5.4 **Avoidance/Minimization Measures**

N-1 In case of noise complaints by the public, the field manager will be notified and noise monitoring would be conducted, if necessary.

N-2 All equipment will have sound-control devices no less effective than those provided on the original equipment. No equipment will have an unmuffled exhaust.

N-3 Truck loading and unloading will be conducted so that associated noise impacts are kept to a minimum by carefully selecting routes to avoid going through residential neighborhoods to the greatest extent possible.

3.6 BIOLOGICAL RESOURCES, INCLUDING LISTED SPECIES AND THEIR CRITICAL HABITAT

3.6.1 **Existing Conditions**

Background Conditions

The project area is near Chino Creek in the Santa Ana River watershed, in northwestern Prado Basin which represents the confluence area of Chino Creek, Mill Creek, Temescal Creek, and the Santa Ana River. Chino Creek traverses the Pine Avenue project area between El Prado Road and Pomona Rincon Road. The action area is defined as the project area and a 50-foot buffer around the project area. The Prado Basin supports a variety of sensitive biological resources including a number of breeding least Bell's vireo as well as designated Critical Habitat for the least Bell's vireo, within the action area.

Critical Habitat
Critical Habitat is designated by U.S. Fish and Wildlife Service (USFWS) for some species that are federally listed as threatened and endangered. Federal agencies must consult with the USFWS when the agencies determine that their actions (funding, permitting or undertaking proposals) may affect designated critical habitat. Critical habitat in this region of Prado Basin is shown in Figure 3.

Federally designated Critical Habitat for least Bell's vireo (listed as a federal and state endangered species) is present within the action area. However, the species' Critical Habitat is limited to areas with riparian vegetation. No other designated Critical Habitat is mapped within the action area.

Vegetation and Wildlife

Vegetation mapping was conducted by ICF in 2012 and with the exception of the development of an industrial center at the east end of the action area, conditions appeared to be consistent during a field visit conducted on January 23, 2015. Vegetation within the action area can generally be characterized as riparian, ruderal, and recreational parklands (i.e. golf course). The remainder of the action area is primarily developed. Riparian vegetation within the action area is comprised of riparian forest, southern willow scrub, tamarisk scrub, mulefat scrub, riparian invasive scrub, and wet meadow. The riparian forest and scrub vegetation communities provide suitable habitat for a number of special-status species, including least Bell's vireo, southwestern willow flycatcher, and yellow warbler. Riparian vegetation within the action area may also provide wildlife refugia and supports wildlife movement during dispersal, seasonal migration, and foraging and breeding for mammals, birds, reptiles, amphibians and fish.

In addition, the riparian scrub vegetation communities provide suitable nesting habitat for a number of non-special status migratory bird species, and foraging habitat for migratory birds and raptors. Species observed during 2012 and 2015 field efforts include house finch, turkey vulture, red-tailed hawk, Cooper's hawk, sharp-shinned hawk, American kestrel, yellow warbler, California

towhee, yellow-rumped warbler, yellow-breasted chat, song sparrow, Wilson's snipe, American coot, ruby-crowned kinglet, vermillion flycatcher, and black phoebe. In addition, least Bell's vireo have been documented in the action area within Chino Creek and in a basin west of Pomona Rincon Road, by ICF in 2012 and the Orange County Water District (OCWD), across multi-year focused surveys. Least Bell's vireo is listed as a state and Federal endangered species. Southwestern willow flycatcher was not documented within the action area by ICF in 2012 or by OCWD in 2013 or 2014.

Jurisdictional Waters and Wetlands
As mentioned earlier (Section 3.3 Hydrology/Water Quality), western areas of the proposed work area support a high water table with partial inundation much of the year. Some wetland conditions have formed, due to the year-round saturation of soils, including a predominance of hydrophytic vegetation, hydric soil indicators, and wetland hydrology indicators. Results of the February 3, 2015, jurisdictional delineation are shown on Figure 3.

3.6.2 **Significance Threshold**

Impacts to biological resources would be considered significant if the direct, indirect or cumulative effects of the project:

- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies or regulations, or by the California Department of Fish and Wildlife (CDFW) or USFWS.

- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the CDFW or USFWS.

- Have a substantial adverse effect on federally protected wetland resources as defined by Section 404 of the Clean Water Act (including, but not limited to marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption or other means.

- Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.

- Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

3.6.3 **Alternative Analysis**

<u>No Action Alternative</u>

There would be no impact to existing biological resources, because no geotechnical investigation, soils survey, or field surveys would occur.

Preferred Alternative

Nine of the proposed boring locations would be located at the shoulder of Pine Avenue or Pomona Rincon Road and would avoid vegetated areas. Least Bell's vireo, a federal and state listed species, is known to occupy the sensitive (riparian) habitat within the basin between the SR 71 and Pomona Rincon Road, and within Chino Creek. The proposed work is scheduled to begin outside the March 15-September 15 nesting season for migratory birds, including least Bell's vireo. The work would be phased to minimize potential impacts to biological resources, as described further below. Access to each of these nine bore locations and equipment placement would avoid direct impacts to riparian vegetation that may serve as nesting and/or foraging habitat for this species (refer to Figure 3) as the proposed activities would occur no less than 50-feet from riparian vegetated areas. There will be no removal of foraging and nesting habitat for least Bell's vireo. With the exception of nesting migratory birds, no other special-status species are anticipated to occur within these proposed nine bore locations, staging areas, or access routes.

One bore location, Bore #3, and access to that bore will result in temporary impacts on USACE jurisdictional wetlands and non-wetland waters of the United States. Bore #3 is generally located north of Pine Avenue, between Fairfield Ranch Road and SR 71 northbound off-ramp for Pine Avenue (refer to Figure 2A). Impacts from the geotechnical investigation would be temporary and limited to transport of the drill rig to Bore #3 and drilling a single 8-inch diameter (approximately 0.039-square-foot) bore hole. The temporary impacts associated with transport of the drill rig have not been quantified because the dimensions of the drill rig are not known at this time. However, temporary impacts associated with transport of the drill rig have been calculated by using the proposed access route and a 50-foot buffer totaling 1.04 acres. Potential temporary impacts on USACE jurisdictional areas total 0.34 acre of wetland waters of the United States and 0.65 acre of non-wetland waters of the United States The bore location or transport of the drill rig (driving of the equipment over vegetation) will not require removal of riparian trees or shrubs.

Implementation of BIO-1 and BIO-2 would ensure that impacts from the geotechnical investigations would be minimal. In addition, Bore #3 would be completed before the nesting season begins on March 15, consistent with the requirements of the Nationwide Permit issued for this project and Avoidance/Minimization Measure BIO-4. The work is not anticipated to cause significant impacts to biological resources.

No designated least Bell's vireo Critical Habitat would be removed or altered in a way that would result in the loss of the primary constituent elements (i.e., riparian habitat) that would support least Bell's vireo nesting or foraging activities as a result of Bore #3 activities. BIO-1 would ensure full avoidance of suitable riparian habitat within the least Bell's vireo Critical Habitat area.

Suitable nesting habitat for least Bell's vireo would be avoided during transport of the drill rig to Bore #3 and during bore activities. No riparian trees or shrubs would be removed in association with the geotechnical investigation or transport of the drill rig. In addition, least Bell's vireo would not forage in the herbaceous area along the drill rig access route. Although noise and vibrations from the drill rig

could disturb least Bell's vireo and other migratory birds that nest within the action area of Bore #3 and cause nest abandonment, implementation of BIO-3 to BIO-5 would ensure that the geotechnical investigations would not impact nesting migratory birds (including least Bell's vireo) within the vicinity of the Bore #3 action area.

With implementation of Avoidance/Minimization Measures BIO-1 through BIO-5, the proposed geotechnical investigations and surveys "May Affect but is Not Likely to Adversely Affect" vireo/flycatcher, nor Santa Ana sucker, nor the western yellow-billed cuckoo, nor their Critical Habitat under the federal Endangered Species Act (ESA) and will not result in "take" under the California ESA. Due to this determination, it is anticipated that formal Section 7 consultation with the USFWS will not be necessary.

3.6.4 **Avoidance/Minimization Measures**

Preconstruction surveys for both sensitive plant and wildlife species will occur prior to the start of the project with results to be provided to USFWS, prior to start of work. The geotechnical work would begin at the west and proceed to the eastern roadway and upland locations. Work may continue beyond March 15 but prior to April 15, if monitoring results indicate no listed avian specie are present in the project area.

BIO-1 Riparian vegetation (i.e., mulefat scrub, southern willow scrub, riparian forest, and riparian invasive scrub) will be fully avoided during all geotechnical investigation activities. All boring activities and field surveys, including access routes, will occur within areas that have already been developed, occur in disturbed uplands, or occur in areas with ruderal vegetation.

BIO-2 Although no wetland is proposed for impact from a borehole location, soil from the top 6-inches from the single 8-inch-diameter bore will be removed, preserved, and replaced as the borehole is backfilled to minimize potential effects on the existing hydrophytic vegetation seed bank.

BIO-3 A biological monitor will be present on-site during drill rig transport and boring activities associated with Bore #3 to ensure that no riparian trees or shrubs are trimmed or removed.

BIO-4 The proposed work related to Bore #3 for which the NWP and 401 WQC were issued will occur outside of the March 15 through September 15 nesting season for least Bell's vireo and migratory birds. The remainder of the proposed work will occur, to the extent possible, outside the March 15 through September 15 nesting season, with the exception that with biological and noise monitoring as described, work may proceed if no sensitive avian species are present.

BIO-5 Preconstruction surveys for both sensitive plant and wildlife species, as well as baseline noise monitoring, will be conducted in project areas prior to the start of project and continue while any work is progressing. If at any time that listed birds are seen, then additional work shall be

delayed until after 11 a.m. to minimize potential effects. If absent, conduct surveys every 5 days to ensure no nesting on-site.

3.7 CULTURAL RESOURCES

3.7.1 Existing Conditions

The National Historic Preservation Act (NHPA) provides a regulatory framework for the documentation, evaluation, and protection of cultural resources that may be affected by federal projects or by private projects operating under federal license, using federal money, or occurring on federally managed land. Federal law requires that agencies analyze project effects in terms of their area of potential effect (APE), which is the geographic area within which an undertaking may directly or indirectly cause changes in the character or use of cultural resources that have been determined eligible for listing on the National Register of Historic Places.

The Corps has defined the APE for the undertaking as the stretch of Pine Avenue between SR-71 and Euclid Avenue where the bore holes would be placed, and the location of the two "borrow site" boreholes and access path between Cucamonga Avenue and Hellman Avenue in the City of Chino. The track mounted drill rig would drive overland to the borehole locations. A road would not be constructed.

The City of Chino provided the Corps with a literature and records search conducted at the San Bernardino Archaeological Information Center (SBAIC) during January 12-14, 2015. The search included a review of all available archaeological resource reports and archaeological site records, within a 0.5-mile radius of all proposed work areas, for prehistoric and historic resources. In addition, the California Points of Historical Interest (PHI), the California Historical Landmarks (CHL), the California Register of Historical Resources (CRHR), the National Register of Historic Places (NRHP), and the California State Historic Resources Inventory (HRI) were reviewed.

The results of the literature and records search for the area along Pine Avenue indicate that the APE has not been inventoried but that several surveys have occurred immediately adjacent to Pine Avenue. Two sites bisect the Pine Avenue APE. One site, the Pederson Ranch (CA-SBR-13728 H) historically had buildings on both sides of the paved road. No structures or artifact concentrations are located within the shoulder of the road where the work would occur. The Pederson Ranch site has not been evaluated for listing on the National Register. The other site is the Cypress flood control channel, P-36-024903, which has previously been determined ineligible for listing on the National Register.

Two of the exploratory geotechnical borings would occur at a borrow site located between Cucamonga Avenue and Hellman Avenue, south of Chino Corona Road. No sites have been recorded along the access route or bore hole locations.

3.7.2 Significance Threshold

A significant impact would occur to cultural resources if the Proposal:

- Alters the characteristics of a property that may qualify for inclusion in the National Register of Historic Places. For the purpose of determining effect, alteration to features of a property's

location, setting, or use may be relevant depending on a property's significant characteristics and should be considered.

3.7.3 **Alternative Analysis**

No Action Alternative

The No Action Alternative would not affect historic or cultural resources because no work would occur. No activities would occur that could potentially affect cultural resources yet undiscovered in the area.

Preferred Alternative

The Preferred Alternative (undertaking) includes geotechnical investigations and field surveys. The Corps has determined that implementation of the Preferred Alternative would result in no adverse effect to any properties eligible for listing on the NRHP under the NHPA implementation regulations (36 CFR 800). The preferred alternative would not alter the characteristics of any properties within the APE that may qualify for inclusion in the National Register of Historic Places such as Pederson Ranch (Appendix B).

3.7.4 **Avoidance/Minimization Measures**

CULT-1 If previous unknown cultural resources are identified during project implementation, all activity would cease until requirements of 36 C.F.R. 800.13, Post-review discoveries, are met.

3.8 HAZARDOUS WASTE AND MATERIALS and PETROLEUM, OIL, AND LUBRICANT SUBSTANCES (POL)

3.8.1 Existing Conditions

Conditions at Pine Avenue in the project area consist of industrial uses, a golf course, and undeveloped land. As indicated in the City of Chino General Plan EIR, and based on a search for Federal Superfund sites, State response sites, voluntary cleanup sites, school cleanup sites, permitted sites, and corrective action sites, the City has had four contaminated sites, with none located near the vicinity of the project area.

Chino Airport, owned by the County of San Bernardino, is located approximately 4 miles away to the northeast of the project area. Chino Valley Independent Fire District provides structural fire protection and emergency medical services at the airport, including hazardous materials incidents. The Chino Airport and surrounding areas are subject to the Chino Airport Comprehensive Land Use Plan (CACLUP). The CACLUP outlines airport Safety Zones that have particular land use restrictions associated with them. The project area is designated under Safety Zone 2, which only allow for land use designations for Urban Reserve, General Industrial, Light Industrial, Agriculture, and Recreation/Open Space.

3.8.2 Significance Threshold

A significant impact would occur if the project:

- Caused soil contamination, including flammable or toxic gases, at levels exceeding Federal, state, and local hazardous waste limits established by 40 CFR Part 261.
- Exposed the general public to hazardous situations through the transport, use, storage, or disposal of hazardous materials.
- Created a significant hazard to the public or environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.
- Caused mobilization of contaminants, creating potential pathways of exposure to workers, the public or other sensitive receptors to contaminated or hazardous materials and such exposure exceeds permissible exposure levels set by the California OSHA in CCR Title B, and Federal OSHA in Title 29 CFR Part 1910.

<u>No Action Alternative</u>

Under the No Action Alternative, no geotechnical investigation, soils sample collection, or field surveys would occur. Baseline conditions regarding hazardous, toxic, or POL materials usage, and the generation, storage, and disposal of such wastes in the Basin, would continue as at present into the foreseeable future.

Preferred Alternative

The geotechnical investigation and soil sample collection involves drilling borings on USACE property and would not utilize chemicals, open flames, or other potentially hazardous materials. The field survey would not result in any chemical, open flames, or hazardous material use, as the activity would be limited to a surveyor walking the site by foot and visually assessing the area. Any potential, but accidental, spills during proposed work activities would come from engines, vehicles, or equipment. If motor oil or other motor fluid leaks are observed from the motors of the vehicles or equipment during the activities, plastic tarp would be placed beneath the leak. Refueling and other maintenance of vehicles and equipment would not be permitted on the site. No significant adverse impacts as a result of hazardous, toxic, or POL materials is anticipated as a result of the proposed work activities.

Corps policy as well as State and Local policies guide the management of and response to spills of oils, grease, and other compounds that could be introduced into the vicinity as a result of typical geotechnical and other proposed work. The proposed activities do not result in the handling of hazardous materials, or the transport of hazardous materials. Therefore, there is extremely low potential for hazmat and/or related substances to be introduced into the environment, and no significant impact is expected to occur. Spill and hazardous waste prevention during project activities would utilize Caltrans Spill Prevention Best Management Practice WM-4. The procedures and practices implemented in WM-4 is described as preventing and controlling spills in a manner that minimizes or prevents the discharge of spilled material to the drainage system or watercourses.

3.8.3 **Avoidance/Minimization Measures**

HAZ-1 Spill and hazardous waste prevention during project activities would utilize Caltrans Spill Prevention Best Management Practice WM-4.

3.9 AESTHETIC RESOURCES

3.9.1 **Existing Conditions**

The prominent geographic features within the project area are characterized by the relatively flat topography of the El Prado Golf Course and the low-lying vegetation and willow trees dispersed throughout. Primary factors influencing views into the project vicinity are structures, trees, and topography. At various locations, some electrical transmission towers and associated lines may be seen in the surrounding area. In general, the action area sits within a basin formed incised by the Santa Ana River and its tributaries mentioned earlier. The SR-71, located to the west, is topographically higher than the geological investigation and survey area. Travelers along Pine Avenue include those visitors accessing the El Prado Golf Course and commercial traffic related to the industrial uses in the southwest Chino area. Vehicles on Cucamonga Avenue are limited to those accessing the agricultural land uses located in the area and for visitors to the Prado AirPark, a recreational facility for model airplane (remote control) flying.

3.9.2 **Significance Threshold**

A significant impact would occur to aesthetic resources if the Proposal would:

- Create direct, permanent changes to important existing scenic characteristics of a landscape that is viewed by a large number of viewers.
- Impair or obstruct views of major visual elements.

3.9.3 **Alternative Analysis**

No Action Alternative

There would be no impact to aesthetics in the area because no geotechnical and other investigations would occur.

Preferred Alternative

The proposed work would be conducted along the Pine Avenue corridor and adjacent areas near the SR 71 west of Pomona Rincon Road, and at the borrow site location west of Cucamonga Avenue. Vehicles traveling on Pine Avenue would have views of the geotechnical investigation, and of soils sampling and field survey. Potential changes to the existing landscape would include the presence of machinery, equipment, and vehicles at various locations within USACE property. However, this impact is temporary and would cease after the activities are completed within a timeframe of 10 to 15 days. Use of night-time lighting is not expected because activities would occur during daylight hours. No vegetation or trees are expected to be removed. Based on this information, the geotechnical investigations, soil sample collection, and field survey would have no permanent or temporary direct or indirect impacts on aesthetics within the area of the proposed investigation sites and survey areas. The proposal's effects to aesthetics are not anticipated to cause significant impacts.

3.9.4 **Avoidance/Minimization Measures**

Additional avoidance or minimization measures are not required.

3.10 RECREATION RESOURCES

3.10.1 **Existing Conditions**

Recreation facilities are located near the project area, including the Prado Regional Park, Chino Hills State Park, El Prado Golf Course, and the Prado AirPark. Prado Regional Park is located south of Pine Avenue and consists of 2,000 acres with amenities for fishing, boating, camping, horseback riding, golfing, and picnic areas. Chino Hills State Park is located the west of SR 71 and north of SR 91 and consists of 14,102 acres dedicated to hiking, camping, horseback riding, and picnic facilities. The El Prado Golf Course is a public golf course consisting of two 18-hole golf courses, banquet facilities, and practice range. The Prado AirPark is located in the Prado Flood Control Basin and is used as a recreational facility for flying model airplanes (remote controlled). The Prado AirPark has an 800 foot by 60 foot asphalt "airstrip" for the model airplanes, and also a picnic facility. The site is leased from the San Bernardino County Parks and Recreation Department and operated by the Pomona Valley Model Airplane Club.

3.10.2 **Significance Threshold**

A significant impact would occur if the Proposal would:

- Disrupt or limit access to recreation and/or open areas.
- Result in construction or operational activities that substantially conflict with recreational uses.

3.10.3 **Alternative Analysis**

No Action Alternative

The No-Action alternative would not affect existing open space or recreation areas. The geotechnical investigations, soils sample collection, and field survey on USACE-managed lands would not be conducted.

Preferred Alternative

Although some of the proposed work activities would occur on lands currently outgranted to San Bernardino County for outdoor recreation, activities associated with the work would not occur at active recreation areas because the proposed work areas are characterized as open- space and are in remote areas, rather than at specific recreation facilities. The El Prado Golf Course, Prado Regional Park, Chino Hills State Park, and Prado AirPark would not be affected because the proposed work would avoid parks and recreational areas and would not affect access to and from any parks or recreational facilities. Potential impacts to recreational facilities are not expected to occur. Significant impacts to recreation are not anticipated.

3.10.4 **Avoidance/Minimization Measures**

No avoidance or minimization measures are required.

3.11 PUBLIC HEALTH AND SAFETY

3.11.1 **Existing Conditions**

Safety

Public health and safety measures at Corps lands are intended to protect the public, to maintain public services, to ensure compliance with applicable Federal and state laws, to prevent waste contamination and to minimize hazards resulting from actions on Corps-managed lands or amenities.

The region is usually arid but heavy rainfall during winter months may result in flooding throughout Chino's sphere of influence within Prado Basin. Southwest Chino is located within a 100-year floodplain, indicating that there is a 1 percent chance of flooding in these areas in any given year. Serious flooding could result in the contamination of water supplies and may lead to electrical outages and to the closure of major transportation routes throughout the City. Flooding may also result in ponding due to accumulation of debris in storm drains, flood control channels, and drainage systems. The Prado Dam was completed in 1941 and designed to provide flood control for portions of Orange, Riverside, and San Bernardino Counties. The City of Chino is located upstream of the dam, which may create flood risk when the water level rises to the top of the dam. Existing land uses below the dam inundation line primarily include dairies, agricultural uses, vacant land, Prado Park and the El Prado Golf Course. Pine Avenue is located within the Prado Dam inundation area, as indicated in the City of Chino General Plan Safety Element. In the event of flooding, hazards may occur both within and downstream of the southwest Chino area. Pine Avenue and Chino-Corona Road, located southeast of Pine Avenue, are closed when there may be danger of flooding near Chino and Mill Creeks. On occasion, before these roads were closed, vehicles have been stranded due to flooding. However, alternative access is available for all public services.

Wildfires

The risk of wildland fires is correlated to a combination of factors, including winds, temperatures, humidity levels and fuel moisture content. The City of Chino's grassland areas, agricultural vegetation, and warm and dry summers create a potential for wildland fires. High fire hazard areas within the City sphere of influence include outlying residential parcels and open space lands which are adjacent to residential areas. The California Department of Forestry and Fire Protection (Cal Fire) maintains a database of Wildland Urban Interface Fire Threat which describes the relative wildfire risk to areas of significant population density. According to the City of Chino General Plan, within the City of Chino, the southwest portions, which includes the project area, are in the "Very High Threat to Community Areas" range, northwest portions are in "High Threat to Community Areas", and the rest of the City are located within the "Moderate Threat to Community Areas" range.

3.11.2 **Significance Threshold**

A significant impact would occur if the Proposal:

- Increases exposure of people or structures to flooding hazards.
- Creates conditions that would present potential dangers to the public or attract the public to a potentially hazardous area (e.g., attractive nuisances).
- Does not use herbicides per recommended manufacturer's instructions and general standards of use. An example of such standards is restricted application before and after rainstorms.

3.11.3 **Alternative Analysis**

No Action Alternative

The No Action alternative would have no impact on health and safety resources. Under this alternative, the geotechnical investigation, soils survey, and field survey would not be conducted on USACE-managed lands.

Preferred Alternative

There are no expected direct or indirect impacts on human health or safety because the specific proposed work would be limited to isolated locations, as indicated on Figure 2A and 2B. There would be no increased exposure of people or structures to flooding hazards because the geotechnical and survey activities would be completed within 10 to 15 days. Activities would be avoided during rains.

The Preferred Alternative would not create conditions that would present potential dangers to the public or attract the public to a potentially hazardous area because contractors would follow standard safety requirements and geotechnical activities and surveys would be concluded within 10 to 15 days. No on-site storage of equipment is expected as a result of the Preferred Alternative. Further, there would be no impact to wildfire risk because geotechnical borings and surveys do not utilize equipment that would generate a risk of fire.

The Preferred Alternative would not include use of herbicides. Therefore, no significant impacts to public health and safety is anticipated.

3.11.4 **3.11.14 Avoidance/Minimization Measures**

PH-1 Prohibit the use of equipment that could throw off sparks in areas adjacent to open space or undeveloped land.

PH-2 Prohibit re-fueling of equipment and vehicles, maintenance, and repairs of equipment and vehicles in the project area.

PH-3 Geotechnical and survey activities would be avoided during rain events and resume when conditions are appropriate for conducting geotechnical and survey activities.

3.12 SOCIOECONOMICS AND ENVIRONMENTAL JUSTICE

Each Federal agency is required, by Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, to "make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and-low income populations...."

The Council on Environmental Quality (CEQ) defines a minority population as any group of minorities that exceeds 50% of the existing population within the market area or where a minority group comprises a meaningfully greater percentage of the local population than in the general population. Additionally, the CEQ identifies low income using 2000 Census data for "individuals living below the poverty level."

Ensuring environmental justice means protecting existing local and market-area minority and low-income populations from disproportionate adverse human health or environmental effects related to Federal government action.

3.12.1 **Existing Conditions**

The project area is located within the flood control basin, such that the area has no human population. The 2010 U.S. Census reported that the City of Chino had a population of 77,983 consisting of an aging population with a median age of 34.0. The ethnic composition of the City of Chino consisted of 28 percent White, 54 percent Hispanic, 10 percent Asian/Pacific Islander, and 6 percent African-American. As of 2010, the City of Chino had 20,772 households, representing a 20 percent increase since the year 2000. The City of Chino remains a predominantly family community with family households comprising approximately 82 percent of total households in the City, with an average household size of 3.41 persons. The median household income in the City of Chino from 2009 to 2011 was $81,753, which was higher than most neighboring jurisdictions.

3.12.2 **Significance Threshold**

Impact on socioeconomics and environmental justice would be considered significant if the following impacts were to occur:

- To a sector of the economy, productivity, competition, prices, or jobs; or upon the welfare of minority or low-income populations.
- Proposal-induced population changes on the availability of public services.
- A substantial long-term decrease in local employment due to direct loss of jobs; or an adverse effect on the local economy that results in an indirect long-term loss of jobs.
- Disproportionately high and adverse impacts on minorities, low-income residents, or children.

- A substantial population growth in an area induced by the Proposal.

3.12.3 **Alternative Analysis**

No Action Alternative

The proposed geotechnical investigation, soil sample collection, and field survey would not be conducted on USACE-managed lands under this alternative. Under the No Action Alternative, there would be no effect to socioeconomic and environmental justice issues because lands would continue to be used as currently used.

Preferred Alternative

The Preferred Alternative would have no direct effect on growth-inducing impacts that would affect local economy, housing, demographics, or service needs. The locations of the geotechnical investigation and proposed soil and ground survey and sampling are not within residential uses or areas that support a population. Although the workers necessary to implement this alternative are anticipated to be from the general area, any socioeconomic impacts from this employment would be temporary in nature and not significant. There would be no effects to socioeconomic and environmental justice populations.

3.12.4 **Avoidance/Minimization Measures**

No avoidance or minimization measures are required.

3.13 TRAFFIC AND TRANSPORTATION

3.13.1 **Existing Conditions**

The SR 71 is located to the west and Pine Avenue intersects with 2-4-laned hard-surfaced roadways including Pomona Rincon Road, El Prado Road, Fern Avenue and Euclid Avenue in the project vicinity. Roadways in the vicinity of the borrow site include Cucamonga Avenue and McCarty Road which are rural, 2-laned hard-surfaced roadways.

3.13.2 **Significance Threshold**

A significant impact would occur to transportation and traffic if the Proposal:

- Caused closure of a major roadway (arterial or collector classification) to through traffic for which there would be no suitable alternative route available.
- Caused an increase in vehicle trips associated with additional commuter and truck trips resulting in an unacceptable reduction in level of service of local jurisdictions on roadways resulting in safety problems for vehicular traffic, transit operations, or trains.
- Created an increase in roadway wear in the vicinity of the work zone as a result of heavy truck or equipment movements, resulting in noticeable deterioration of roadway surfaces.

3.13.3 **Alternative Analysis**

No Action Alternative

There would be no change to any traffic or transportation use adjacent to the area.

Preferred Alternative

The proposed work would not result in impacts to existing roadways or result in congestion. The project activities would occur in isolated areas with minimal traffic. Vehicles and equipment would be on the shoulders of roadways for activities along Pine Avenue, and Cucamonga Avenue and would not affect existing roadway wear or result in noticeable deterioration of the roadway surface. Therefore, no significant impacts to traffic or transportation would occur.

3.13.4 **3.13.4 Avoidance/Minimization Measures**

No avoidance or minimization measures are required.

3.14 CUMULATIVE IMPACTS

Pursuant to 40 CFR Parts 1500-1508, cumulative impacts of a proposed action must be assessed. A cumulative impact is an "impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions" (40 CFR Part 1508.7).

The intent is to identify impacts of other past, present, and future actions that, when considered together with the current project, may significantly compound or increase environmental impacts. Cumulative impacts can result from individually minor, but collectively significant, actions taking place over a period of time. Infrastructure, industrial, commercial, residential, and other actions located in close proximity to the project site are considered to have the potential for creating cumulative impacts in association with the proposed activity. The table below summarizes the past, present, and reasonably foreseeable projects that have or could impact the environmental resources within the project area.

Table 7, Cumulative Projects List

Name		Description
SR-91 Eastbound Lane Addition Project Between SR-241 and SR-71	One additional eastbound general purpose lane on SR-91 between SR-241 and SR-71.	Completed in 2011.
SR-91 Corridor Improvement Project	Addition of SR-91 regular lanes, tolled express lanes, auxiliary lanes and direct express lane connectors from the northbound I-15 to the westbound SR-91 and from eastbound SR-91 to southbound I-15. Improvements to interchanges, ramps and surface streets.	Construction started in 2014. First segments to open in 2017.
SR-71 Widening and Corridor A	Extension of six-lane SR-71 south for 3 miles from San Bernardino County Line to SR-91.	Construction anticipated between 2015-2035.
SR-71/SR-91 Interchange Flyover Project	Construct a two lane direct flyover connector from the eastbound SR-91 to the northbound SR-71.	Longer range. Preliminary engineering and environmental document process begun.

Name		Description
Auxiliary Dike Project	Construction of auxiliary dike at southeastern part of Prado Dam spillway, parallel to SR-91, along the northern side of the BNSF railroad track to Auto Center Drive	Project originally analyzed under the 1988 Supplemental EIS, and the 2001 Supplemental EIS/EIR. A Supplemental EA and EIR Addendum has since been prepared.
Alcoa Dike	Construction of a dike around the old Alcoa Aluminum plant adjacent to the existing Smith Avenue and Rincon Street.	Anticipated future project.
California Institute for Women Prison Dike	Construction of a dike on mostly existing reservoir land along the western and southern border of the prison facility, located in the northern part of Prado Dam reservoir.	Construction began in 2013.
Pine Avenue Extension	Extension of Pine Avenue to the SR-71.	Future Project.
USACE Santa Ana River Interceptor Line Realignment	Santa Ana River Interceptor Line repair and realignment of pipeline.	Completed in 2013.
USACE Santa Ana River Mainstem Project Reach 9 Phase IIA and IIB	Provide improvements to the USACE flood control system by realigning the Santa Ana River and constructing bank protection for adjacent development.	Completed in 2012.
Central and Francis Residential Projects	General Plan Amendment and Zone Change to allow for future development of 113 residential dwelling units on 13 acre site in the City of Chino.	Addendum to environmental document completed in October 2014.
Borba Tract Residential Project	Future development of 84 homes on 17 acres in the City of Chino.	Addendum to environmental document completed in October 2014.
Brewar Residential Project	Request for General Plan Amendment and amendment to the East Chino Specific Plan to allow residential development.	Addendum to environmental document completed on January 2014.

Name		Description
Chino Central Project	Request for General Plan Amendment and Zone Change and Zoning Ordinance to allow for development of 94 residential dwelling units.	Addendum submitted on January 2013.
Albers/Verhoeven Residential Project	Request for General Plan Amendment and amendment for East Chino Specific Plan for 203 residential units.	Addendum submitted on March 2014.
Harvest at the Preserve Residential Project	Master Site approval for construction of 600 units on 72 acres.	Addendum submitted on July 2014
Falloncrest at the Preserve Master Plan	Master Plan development of commercial, residential, and open space uses on 125 acres.	Draft environmental document submitted, June 2014.
Watson Industrial Park Project	General Plan Amendment, Amendment to the Preserve Specific Plan, Master Site Approval and Development Agreement for 190 acre property.	Notice of Preparation submitted, April 2014.
Source: City of Chino Community Development Department, website: www.cityofchino.org/government-services/community-development.		

3.14.1 **Past Impacts**

The Proposed Action area is surrounded by areas that have experienced an increase in growth. The cities of Corona, Norco, Ontario, Chino, and Chino Hills have increased in population, resulting in urbanization, increased traffic, and increased demands on water and land resources. As a result of the growth and to minimize the potential for downstream flooding, the Corps has implemented upgrades and improved the Prado Dam and the downstream flood control facilities. Construction of the flood control facilities, surrounding developments, and improved transportation facilities has contributed to the cumulative environmental impacts to the area.

Cumulative impacts from projects that have already been completed have affected water quality, water resources, air quality, noise, and the biological environment. Development within and around the Proposal site has increased the introduction of invasive species, pollutants, and human disturbance within the natural areas of the project site. As the proposed project would involve geotechnical investigations and surveys lasting 10 to 15 days in duration, these proposed project activities would not add to the cumulative impacts from past projects.

3.14.2 **Present Impacts**

The existing Corps property and flood control facility would continue to be operational, with implementation of all proposed work but may contribute to cumulative effects from ongoing construction activities in the area, as listed above. Cumulatively, the aesthetics, biological and water resources within the project area may be affected in the short-term, but effects from the proposed work would be negligible when compared in addition to other projects that may be occurring concurrently as the proposed project would involve geotechnical investigations and surveys lasting between 10 to 15 days in duration. Furthermore, the equipment utilized for the proposed activities would not operate continuously throughout the day, instead lasting only 3 to 5 hours per boring As such, cumulative impacts with presently planned projects are not expected to occur.

3.14.3 **Future Impacts**

The Corps properties and flood control facilities would continue to be operational in the future equally with or without implementation of the proposed work. As stated in the Watson Industrial Park Environmental Impact Report, the Watson Industrial Park project would result in construction noise impacts that would exceed the 65 dBA Leq noise level threshold, thus the short-term construction activities would result in short-term significant noise impacts. Furthermore, the Watson Industrial Park Project would result in significant and unavoidable short-term construction related air quality impacts and long-term operational air quality impacts. The Falloncrest at The Preserve Master Plan project would result in cumulative impacts to land use, traffic, noise, and air quality. The Harvest at the Preserve Residential Project would result in cumulative impacts to land use, agriculture, biological resources, transportation, air quality, and electrical energy supplies. As the proposed project would not result in impacts to land use, agriculture, air quality, transportation, and electrical energy supplies, the project would not contribute to cumulative impacts from other future projects. Furthermore the proposed project would not cause significant impacts to biological resources, and would not contribute to cumulative biological resource impacts. Implementation of the proposed project would not result in land use impacts as there would be no changes, or significant impacts to current land uses. The proposed project would not contribute to cumulative impacts to traffic, as there are no road closures, detours, or impacts to the existing or future flow of traffic along Pine Avenue or at the borrow site. With implementation of any future construction proposal, or any combination of proposals, the aesthetics, biological, water, and other resources may be affected but each approved project would include minimization, avoidance, and/or compensatory measures to maintain the integrity of the existing environment. Implementation of the currently proposed work would not have significant cumulative effects nor would be likely to contribute significantly to cumulative adverse effects to resources within the project area.

4.0 AVOIDANCE/MINIMIZATION MEASURES

This section describes environmental commitments that would be implemented as part of the project. Due to the limited nature of disturbance, the activities of the Preferred Alterative are not expected to cause any long term adverse effects. The avoidance/minimization measures discussed below would be included as part of the project, and would further decrease the severity of any short-term or temporary impacts on resources.

4.1 Hydrology and Water Quality

WQ-1 The contractor will ensure that the area is returned to its original state after field investigations are completed to maintain the integrity of the floodplain.

WQ-2 All work will conform to the Field Investigation Site Best Management Practice (BMP)(Category II) requirements specified in the latest edition of the Caltrans Storm Water Management Plan (SWMP) to control and minimize the impacts of field investigation and field investigation-related activities. These include, but are not limited to, temporary sediment control, temporary soil stabilization, scheduling, waste management, materials handling, and other non-stormwater BMPs.

WQ-3 The mobilization of equipment and personnel is to follow a designed path limited to existing roadways.

WQ-4 The following conditions shall also be included:

- The proponent shall clearly mark the limits of the workspace with flagging or similar means to ensure mechanized equipment does not enter preserved waters of the U.S. and riparian wetland/habitat areas shown on the USACE/RWQCB Jurisdiction Delineation results. Adverse impacts to waters of the U.S. beyond the Corps-approved construction footprint are not authorized.

- No later than one month following completion of authorized work in waters of the U.S., the permittee shall ensure all sites within waters of the U.S. subject to authorized, temporary impacts are restored to pre-project alignments, elevation contours, and conditions to the maximum extent practicable to ensure expeditious resumption of aquatic resource functions. No later than 45 calendar days following completion of authorized work in waters of the U.S., the permittee shall submit a memorandum documenting compliance with this special condition.

- The proponent shall abide by the terms and conditions of the Clean Water Act Section 401 WQC.

4.2 AIR QUALITY

In addition to the South Coast Air Quality Management District (SCAQMD) rules, the following avoidance/minimization measures set forth a program of air pollution control strategies that would further ensure that field investigation emissions would not exceed any applicable standard.

AQ-1 In addition to SCAQMD Rule 403 requirements, apply water to all ground disturbance areas as necessary to remain visibly moist during active operations to control dust and minimize impacts to adjacent vegetation.

AQ-2 Apply non-toxic soil stabilizers, as needed, to reduce off-site transport of fugitive dust from unpaved staging areas and unpaved road surfaces.

AQ-3 Properly tune and maintain field equipment and vehicles in accordance with manufacturer's specifications. Low-sulfur fuel shall be used in field investigation equipment per California Code of Regulations (CDCR) title 17 Section 93114.

AQ-4 During field investigation, keep trucks and vehicles in loading/unloading queues with their engines off when not in use to reduce vehicle emissions. Phase field activities to avoid emission peaks, where feasible, and discontinue during second-stage smog alerts.

AQ-5 To the extent feasible, use field equipment that is either equipped with diesel oxidation catalyst or is powered by alternative fuel sources (e.g., methanol, natural gas).

4.3 NOISE

N-1 In case of noise complaints by the public, the field manager would be notified and noise monitoring would be conducted, if necessary.

N-2 All equipment would have sound-control devices no less effective than those provided on the original equipment. No equipment would have an unmuffled exhaust.

N-3 Truck loading, and unloading would be conducted so that associated noise impacts are kept to a minimum by carefully selecting routes to avoid going through residential neighborhoods to the greatest extent possible.

4.4 BIOLOGICAL RESOURCES

BIO-1 Riparian vegetation (i.e., mulefat scrub, southern willow scrub, riparian forest, and riparian invasive scrub) will be fully avoided during all geotechnical investigation activities. All boring activities and field surveys, including access routes will occur within areas that have already been developed, occur in disturbed uplands, or occur in areas with ruderal vegetation.

BIO-2 Although no wetland is proposed for impact from a borehole location, soil from the top 6-

inches from the single 8-inch-diameter bore will be removed, preserved, and replaced as the borehole is backfilled to minimize potential effects on the existing hydrophytic vegetation seed bank.

BIO-3 A biological monitor will be present on-site during drill rig transport and boring activities associated with Bore #3 to ensure that no riparian trees or shrubs are trimmed or removed.

BIO-4 The proposed work related to Bore #3 for which the NWP and 401 WQC were issued will occur outside of the March 15 through September 15 nesting season for least Bell's vireo and migratory birds. The remainder of the proposed work will occur, to the extent possible, outside the March 15 through September 15 nesting season, with the exception that with biological and noise monitoring as described, work may proceed if no sensitive avian species are present.

BIO-5 Preconstruction surveys for both sensitive plant and wildlife species, as well as baseline noise monitoring, will be conducted in project areas prior to the start of project and continue while any work is progressing. If at any time that listed birds are seen, then additional work shall be delayed until after 11 a.m. to minimize potential effects. If absent, conduct surveys every 5 days to ensure no nesting on-site.

4.5 CULTURAL RESOURCES

CULT-1 If previous unknown cultural resources are identified during project implementation, all activity would cease until requirements of 36 C.F.R. 800.13, Post-review discoveries, are met.

4.6 HAZARDOUS WASTE AND MATERIALS AND PETROLEUM, OIL, AND LUBRICANT SUBSTANCES (POL)

HAZ-1 Spill and hazardous waste prevention during project activities would utilize Caltrans Spill Prevention Best Management Practice WM-4.

4.7 PUBLIC HEALTH AND SAFETY

PH-1 Prohibit the use of equipment that could throw off sparks in areas adjacent to open space or undeveloped land.

PH-2 Prohibit re-fueling of equipment and vehicles, maintenance, and repairs of equipment and vehicles in the project area.

PH-3 Geotechnical and survey activities would be avoided during rain events and resume when conditions are appropriate for conducting geotechnical and survey activities .

5.0 APPLICABLE ENVIRONMENTAL LAWS AND REGULATIONS

The draft EA fulfills the requirements of NEPA and other pertinent laws and regulations discussed below.

5.1 National Environmental Policy Act (42 USC 4321 et seq.); Council on Environmental Quality Regulations for Implementing NEPA (40 CFR Parts 1500 et seq.); USACE Procedures for Implementing NEPA (33 CFR Part 230)

NEPA is the nation's primary charter for protection of the environment. It establishes the national environmental policy that provides a framework for federal agencies to minimize environmental damage and requires federal agencies to evaluate the potential environmental impacts of their proposed actions. Under NEPA, a federal agency must prepare a document, such and an Environmental Assessment (EA) describing the anticipated environmental effects of any proposed federal action, in order to inform agency decisions. The EA must identify measures necessary to avoid or minimize impacts resulting from the proposed action or determine if further analysis is required through preparation of an EIS. This document was prepared to comply with NEPA and related federal requirements.

5.2 U.S. Fish and Wildlife Coordination Act (16 USC 661 et seq.)

This Act requires federal agencies to coordinate with USFWS and local and state agencies when any stream or body of water is proposed to be modified. The intent is to give fish and wildlife conservation equal consideration with other purposes of water resources development proposals. The project would not involve modification of a body of water; therefore, formal coordination and preparation of a Coordination Act Report is not required.

5.3 Endangered Species Act (16 USC 151 et seq.)

The Endangered Species Act (ESA) protects threatened and endangered species, as listed by USFWS, from unauthorized take, and directs federal agencies to ensure that their actions do not jeopardize the continued existence of such species. ESA Section 7 defines federal agency responsibilities for consultation with USFWS. In certain instances, the Act requires preparation of a biological assessment to address the effects on listed and proposed species of a proposal. Activities related to Bore #3 would take place outside of the Least Bell's vireo nesting season (March 15 – September 15). There would be no removal of foraging and nesting habitat for the species. Some potential activities may continue shortly past March 15, however not for Bore #3. Due to the mostly disturbed landscape of the proposed locations and implementation of avoidance and minimization methods, no effect to listed or proposed species are expected. This determination has been coordinated with USFWS, and informal consultation is ongoing. This Proposed Alternative would be in compliance with the ESA.

5.4 Migratory Bird Treaty Act (16 USC 7**03** et seq.)

The Migratory Bird Treaty Act (MBTA) prohibits the taking or harming of any migratory bird, its eggs, nests, or young without an appropriate federal permit. Almost all native birds are covered by this Act, as well as any bird listed in wildlife treaties between the United States and several countries, including Great Britain, Mexican States, Japan, and countries once part of the former Soviet Socialist Republics. A "migratory bird" includes the living bird, any parts of the bird, its nests, or its eggs. The take of all migratory birds is governed by the MBTA's regulation of taking migratory birds for educational, scientific, and recreational purposes and requiring harvest to be limited to levels that prevent over-utilization. Section 704 of the MBTA states that the Secretary of the Interior is authorized and directed to determine if, and by what means, the take of migratory birds should be allowed and to adopt suitable regulations permitting and governing take. Disturbance of the nest of a migratory bird requires a permit issued by USFWS pursuant to 50 CFR. This work would not involve the taking or harming of any migratory bird, its eggs, nests, or young, and would occur outside the nesting season, which is from March 15 through September 15 for activities related to Bore #3. Some potential activities for other borings may continue shortly past March 15, however not for Bore #3. The Preferred Alternative would be in compliance with the MBTA.

5.5 Clean Water Act (33 USC 1251, et seq.)

The Clean Water Act (CWA) Section 404 (33 USC 1344) prohibits the discharge of dredged or fill materials into waters of the United States, including wetlands, except as permitted under separate regulations by the Corps and EPA. Under CWA Section 404, USACE regulates discharges of dredged or fill material into "Waters of the United States," including wetlands. "Waters of the United States" is defined in 33 CFR 328.3 as follows:

- All waters that are currently used, or were used in the past or may be susceptible to use in interstate or foreign commerce;
- All interstate waters including interstate wetlands;
- All other waters such as intrastate lakes, rivers, streams, (including intermittent streams), among others, the use, degradation or destruction of which could affect interstate or foreign commerce;
- All impoundment of waters otherwise defined as Waters of the United States under the definition; and
- Tributaries of waters, defined above.
- The territorial seas
- Wetlands adjacent to water (other than waters that are themselves wetlands) identified above.

Pursuant to 40 CFR 230.10, for all Waters of the United States, only the least environmentally damaging practicable alternative (LEDPA) can be permitted. The Preferred Alternative involves

discharge of dredged or fill material in waters of the United States, as boring activities would occur in wetlands (portion of the access path) and non-wetland waters of the United States for Boring #3. NWPs 6 and 33 would apply for these activities. The area in which the boring is dug will be restored to its preconstruction elevation upon completion of the work and will not drain a water of the United States. NWP 6 is precertified by the State Water Resources Control Board, however, NWP 33 is not so a 401 certification is required pursuant to 33 USC 1341. NWP 6 and 33 certification has been provided by the Corps' Regulatory Division on December 11, 2015, and a 401 certification for use of NWP 33 was obtained on December 14, 2015. The Proposal would not require a Storm Water Pollution Prevention Plan (SWPPP) under the NPDES under CWA Section 402 (33 USC 1342). The Preferred Alternative is in compliance with the CWA.

5.6 Clean Air Act (42 U.S.C. 7401 et seq.)

1977 Amendments to the Clean Air Act (CAA) enacted legislation to control seven toxic air pollutants. EPA adopted National Emission Standards for Hazardous Air Pollutants (NESHAP), which has been designed to control HAP emissions to prevent health effects in humans.

1990 Amendments to the CAA determine the attainment and maintenance of NAAQS (Title I), motor vehicles and reformulation (Title II), HAP (Title III), acid deposition (Title IV), operating permits (Titles V), stratospheric O3 protection (Title VI), and enforcement (Title VII).

5.6.1 **General Conformity**

Under Section 176(c) of the Clean Air Act Amendments (CAAA) of 1990 (42 USC 7506), the lead agency is required to make a determination of whether the proposed action "conforms" to the State Implementation Plan (SIP). Conformity is defined in CAAA Section 176(c) as compliance with the SIP's purpose of eliminating or reducing the severity and number of violations of the NAAQS and achieving expeditious attainment of such standards; however, if the total direct and indirect emissions from the proposed action are below the General Conformity Rule *de minimis* emission thresholds, the proposed action would be exempt from performing a comprehensive air quality conformity analysis and would be considered to be in conformance with the SIP.

The Preferred Alternative would not have a significant impact on air quality. The action is not considered to be regionally significant. Although there would be an increase in vehicle and other equipment use, it would be temporary and emissions are expected to be minimal and below the *de minimis* thresholds and thus would not violate national or state standards. As a result, the Preferred Alternative would have no long-term impacts on local or regional air quality. Therefore, this proposed action conforms to the Federal CAA as amended in 1990 and as required and a conformity analysis is not required. The Preferred Alternative is in compliance with the CAA.

5.7 Noise Control Act of 1972, as amended (42 U.S.C. 4901 et seq.)

Noise generated by any activity and that may affect human health or welfare on federal, state, county, local, or private lands must comply with noise limits specified in the Noise Control Act. The Corps has determined that, as the proposed activities are short term, lasting approximately 10 to 15 days without the use of equipment that would result in excessive noise, the Preferred Alternative is in compliance with the Noise Control Act.

5.8 National Historic Preser**vation Act** (54 USC 300101 et seq.)

The purpose of the National Historic Preservation Act (NHPA) is to preserve and protect historic and prehistoric resources that may be damaged, destroyed, or made less available by a project. Under this Act, Federal agencies are required to take into account the effects of the agency's undertakings on properties included in or eligible for the Nation Register of Historic Places.

The Preferred Alternative would constitute an undertaking as defined in 36 CFR § 800.16(y). The undertaking would result in no adverse effects to historic properties. Section 106 consultation with the State Historic Preservation Officer is ongoing. The Preferred Alternative would be in compliance with the NHPA.

5.9 Archaeological Resources Protection Act (16 USC 470aa et seq.)

The Archaeological Resources Protection Act (ARPA) requires oversight when cultural resources may be impacted when working on federal lands or in case of other work-related federal connections. ARPA allows for the preservation of historical and archeological data, including relics and specimens, which might otherwise be irreparably lost or destroyed. The Preferred Alternative is in compliance with ARPA because it is not anticipated that buried or other cultural resources would be affected by the Proposal.

5.10 Comprehensive Environmental Response, Compensation, and Liability Act (42 USC 9601 et seq.)

The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) provides EPA with the authority to identify and clean up contaminated hazardous waste sites. CERCLA also contains enforcement provisions for the identification of liable parties. It details the legal claims that rise under the statute and provides guidance on settlements with EPA. Section 120 of this Act (42 USC 9620) addresses hazardous waste cleanups at federal facilities and requires the creation of a Federal Agency Hazardous Waste Compliance Docket, which lists facilities that have the potential for hazardous waste problems. In addition, a Hazardous Substance Superfund was established to pay not only the EPA cleanup and enforcement costs and certain natural resource damages, but also to pay for certain claims of private parties. Conformance with this law would only be engaged if unforeseen waste was found or was abandoned onsite. The proposed action is in compliance with

this Act because no such CERCLA substances are involved with, or are locally stored for, the Preferred Alternative's activities.

5.11 Executive Order 13690: Establishing a Federal Flood Risk Management Standard and a Process for Further Soliciting and Considering Stakeholder Input(amending Executive Order 11988)

Executive Order 136090 establishes that it is the policy of the United States to improve the resilience of communities and Federal assets against the impacts of flooding. The Executive Order also reiterates the requirements of Executive Order 11988, including that executive departments and agencies will avoid, to the extent possible, the long- and short-term adverse impacts associated with the occupancy and modification of floodplains and to avoid direct or indirect support of floodplain development wherever there is a practicable alternative. Efforts have been made during the planning process to ensure that the formulated plans were developed in a manner meeting objectives of floodplain management as detailed in Executive Orders 13690 and 11988. The Preferred Alternative would not impact floodplain management or add to excessive floodplain development.

5.12 Executive Order 12088: Federal Compliance with Pollution Control Standards

This EO directs the head of each executive agency to ensure that all necessary actions are taken for the prevention, control, and abatement of environmental pollution with respect to federal facilities and activities under control of the agency. No significant pollution is anticipated to occur due to this project. Enactment of the avoidance and minimization measures to further minimize pollution impacts during the Preferred Alternative would meet the standards of this order.

5.13 Executive Order 12898: Environmental Justice Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations

This order was intended to direct federal agencies "To make achieving environmental justice part of its mission by identifying and addressing... disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations in the [U.S.]...."

No minority or low-income communities would be disproportionately affected by implementation of the Preferred Alternative because the proposed activities would not impact minority or low-income communities. The Preferred Alternative is in compliance with this order.

6.0 RECOMMENDATIONS

The Preferred Alternative discussed in this dEA would serve to provide necessary and required information on the geotechnical and topographic condition of the project site. Implementation of the measures described in Chapter 4, Avoidance/Minimization Measures would minimize or avoid potential impacts that could occur as a result of implementation of the Preferred Alternative. As no additional outstanding significant adverse impacts or objections have been noted, with respect to the Proposed Action, it is recommended that an Environmental Impact Statement (EIS) not be prepared and that a Finding of No Significant Impact (FONSI) be prepared for this project.

The Corps will actively consider any comments timely received. The results of this consideration would be reflected in a memorandum for record placed in the Administrative Record, unless consideration of the comments was reflected directly in the EA, either through a modification of the document prompted by the comments or an appendix to the EA articulating responses to the comments. Once the EA is complete and if a FONSI is determined to be appropriate based upon the analysis contained in the EA, pursuant to the last clause of 33 CFR § 230.11, a separate notification will be sent to concerned agencies, organizations and to the interested public stating that the FONSI is available for review. If significant effects on the quality of the human environment are subsequently identified and cannot be mitigated to a less than significant level, the Corps will initiate preparation of an EIS and afford the public opportunities to participate in the environmental review process.

Conclusion:

[ ] EIS **[ ] FONSI**

7.0 REFERENCES

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