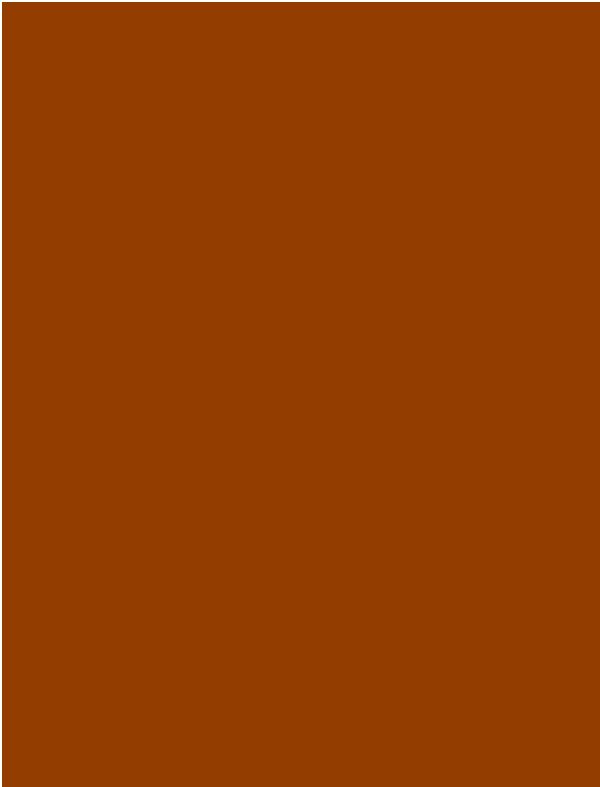




March
2021



Final
**Environmental Stewardship
Plan**

**FENCE CONSTRUCTION AND REPLACEMENT
PROJECTS IN SAN DIEGO COUNTY,
SAN DIEGO SECTOR, CALIFORNIA**

*Department of Homeland Security
U.S. Customs and Border Protection*



**U.S. Customs and
Border Protection**

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Cover Sheet

Preliminary Draft Environmental Stewardship Plan Fence Construction and Replacement Projects in San Diego County, San Diego Sector, California

Responsible Agencies: Department of Homeland Security, United States (U.S.) Customs and Border Protection (CBP), and U.S. Border Patrol (USBP).

Parties Consulted: Department of the Interior, including the Bureau of Land Management, Bureau of Reclamation, and U.S. Fish Wildlife Service; U.S. Environmental Protection Agency; U.S. Army Corps of Engineers; U.S. Section, International Boundary and Water Commission; California Department of Fish and Wildlife; California Environmental Protection Agency; California Office of Historic Preservation; state and local governments; local tribes; and local landowners.

Affected Location: U.S./Mexico international border in the USBP San Diego Sector in San Diego County, California.

Project Description: CBP will replace and maintain approximately 14 miles of bollard wall and construct and maintain approximately five miles of bollard wall along the U.S./Mexico international border in California. Additionally, CBP will install and maintain tactical infrastructure consisting of installation of a linear ground detection system, road construction or refurbishment, and the installation of lighting within USBP's San Diego Sector in San Diego County, California. The project will begin approximately three miles east of the Tecate Port of Entry and continue east in 25 segments across approximately 27 miles.

Report Designation: Preliminary Draft Environmental Stewardship Plan (ESP).

Abstract: CBP will construct and replace approximately 19 miles of border wall system. The project area lies within the USBP San Diego Sector. This ESP evaluates potential environmental impacts associated with the project. Protections and best management practices for considerations such as air quality, noise, land use and recreation, geological resources and soils, hydrology and water management, biological resources, cultural resources, socioeconomics, and hazardous materials and waste have been incorporated into the project design.

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FINAL

**ENVIRONMENTAL STEWARDSHIP PLAN
FENCE CONSTRUCTION AND REPLACEMENT
PROJECT IN SAN DIEGO COUNTY,
SAN DIEGO SECTOR, CALIFORNIA**

**DEPARTMENT OF HOMELAND SECURITY
U.S. CUSTOMS AND BORDER PROTECTION
U.S. BORDER PATROL**

MARCH 2021

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Executive Summary

BACKGROUND

On March 16, 2020, the Secretary of the Department of Homeland Security (DHS), pursuant to Section 102(c) of the Illegal Immigration Reform and Immigrant Responsibility Act (IIRIRA) of 1996, as amended, issued a waiver to ensure the expeditious construction of barriers and roads in the United States Border Patrol's (USBP) San Diego Sector. Although the Secretary's waiver means that United States (U.S.) Customs and Border Protection (CBP) no longer has any specific legal obligations under the laws set aside by the waiver, the DHS and CBP recognize the importance of responsible environmental stewardship. To that end, CBP has prepared this Environmental Stewardship Plan (ESP), which analyzes the potential environmental impacts associated with construction of tactical infrastructure in USBP's San Diego Sector. The ESP also discusses CBP's plans to potentially mitigate environmental impacts.

This report has been prepared from data collected prior to and during the initial phases of project construction. The data was compiled through field surveys, photo interpretation with ground truthing and use of data from prior surveys and other sources, as referenced. The report is an analysis of potential impacts on the resources discussed based on the initially planned project footprint. This is intended to be viewed as a baseline document and is not intended to capture all impacts during construction. Upon completion of the project, an additional report, called an Environmental Stewardship Summary Report (ESSR), will be prepared summarizing the observed actual impacts. This ESSR will review the baseline information provided in this ESP and be used to compare anticipated to actual impacts, so that a final new baseline of impacts is established for any potential future actions, including maintenance and repair activities. The ESSR will document the success of BMPs and any changes or improvements that could be required for the future. Additionally, the ESSR will summarize any significant modifications during construction that increased or reduced environmental impacts.

As the project described in this ESP moves forward, CBP will continue to work in a collaborative manner with local governments, state and federal land managers, and the interested public to identify environmentally sensitive resources and develop appropriate best management practices (BMPs) to avoid or minimize adverse impacts resulting from the project.

GOALS AND OBJECTIVES OF THE PROJECT

The project will allow USBP agents to strengthen control of the U.S. border between ports of entry (POE) in the USBP San Diego Sector. The project will help deter illegal entries within the USBP San Diego Sector by improving enforcement efficiency, thus preventing terrorists and terrorist weapons, cross-border violators (CBVs), drugs, and other contraband from entering the U.S., while contributing to a safer environment for USBP agents and the public.

OUTREACH AND AGENCY COORDINATION

CBP coordinates with numerous government agencies and tribes regarding potential project impacts. Stakeholders with interests in the region include Department of the Interior (DOI), including the Bureau of Land Management (BLM), Bureau of Reclamation (BOR), and U.S. Fish

Wildlife Service (USFWS); U.S. Environmental Protection Agency (USEPA); U.S. Army Corps of Engineers (USACE); U.S. Section, International Boundary and Water Commission (USIBWC); California Department of Fish and Wildlife (CDFW); California Environmental Protection Agency (CalEPA); California Office of Historic Preservation (OHP); state and local governments; local tribes; and local landowners.

DESCRIPTION OF THE PROJECT

CBP will replace and maintain approximately 14 miles of bollard wall and construct and maintain approximately five miles of bollard wall along the U.S./Mexico international border in California (the Project). Additionally, CBP will install and maintain tactical infrastructure consisting of installation of a linear ground detection system, road construction or refurbishment, and the installation of lighting within USBP’s San Diego Sector in San Diego County, California. The Project begins approximately three miles east of the Tecate Port of Entry and continues east in 25 segments across approximately 27 miles.

ENVIRONMENTAL IMPACTS AND BEST MANAGEMENT PRACTICES

The Project could result in impacts on several resource categories; however, BMPs are recommended to minimize or eliminate impacts on the discussed resources. Specific BMPs would be implemented to ensure minimal disturbance to the resources within the Project area.

Table ES-1 provides an overview of potential environmental impacts by specific resource area and a brief summary of associated BMPs. **Chapter 3** through **12** of this ESP provide the evaluation for these impacts and expand upon the BMPs.

Table ES-1. Summary of Environmental Impacts, Mitigation, and Best Management Practices

Resource Area	Effects of the Project	Best Management Practices/ Conservation Measures
Air Quality	Minor and temporary impacts on air quality have the potential to occur during construction; all calculated air emissions are expected to remain below <i>de minimis</i> levels.	Bare soil will be wetted to suppress dust, and equipment will be maintained according to specifications. Construction speed limits will not exceed 25 miles per hour on unpaved roads.
Noise	Noise from construction equipment and increased traffic has the potential to result in short-term, minor adverse impacts.	Mufflers and properly working construction equipment will be used to reduce noise. Generators will have baffle boxes, mufflers, or other noise abatement capabilities. Blasting mats will be used to minimize noise and debris.

Resource Area	Effects of the Project	Best Management Practices/ Conservation Measures
Land Use, Recreation, and Aesthetics	Land use will remain the same while short-term, minor adverse impacts on recreation have the potential to occur. Visual interruption has the potential to result in short- and long-term, minor to moderate adverse impacts.	Environmental monitors will be present during construction to ensure construction activities remain within the Project footprint and impacts on BLM lands are minimized.
Geologic Resources and Soils	Short-term, minor impacts on soils have the potential to occur as a result of the Project. The majority of the impacts will involve only topsoil layers. Approximately 101 acres of previously disturbed soils and 38 acres of previously undisturbed soils within the Project footprint have the potential to be permanently disturbed.	Construction-related vehicles will remain on established or existing roads as much as possible, and areas with highly erodible soils will be avoided where possible. Gravel or topsoil would be obtained from developed or previously used sources. Where grading is necessary, surface soils will be stockpiled and replaced following construction.
Groundwater	The Project has the potential to have moderate, temporary adverse impacts on the availability of water resources in the region.	Equipment maintenance, staging, laydown, or fuel dispensing will occur upland to prevent runoff. A Storm Water Pollution Prevention Plan (SWPPP) and Spill Prevention, Control, and Countermeasure Plan (SPCCP) will be implemented as part of the Project.
Surface Waters and Waters of the United States	Some ephemeral surface waters, including 1.2 acres potential Waters of the U.S. jurisdictional waters, have the potential to experience both short- and long-term, minor, impacts.	Construction activities will stop during heavy rains. All fuels, oils, and solvents will be collected and stored. Stream crossings will not be located at bends to protect channel stability. Equipment maintenance, staging, laydown, or fuel dispensing will occur upland to prevent runoff. A SPCCP and SWPPP will be implemented as part of the Project.
Floodplains	The Project does not have the potential to impact floodplains.	Fence maintenance will include removing any accumulated debris on the fence after a rain event to avoid potential future flooding.

Resource Area	Effects of the Project	Best Management Practices/ Conservation Measures
Vegetation	Disturbance and clearing have the potential to result in short- and long-term, minor adverse impacts.	Construction equipment will be cleaned to minimize spread of non-native species. Removal of brush in federally protected areas will be limited to the smallest amount possible. Invasive plants that appear on Project area will be removed. Fill material, if required, will be weed-free to the maximum extent practicable.
Wildlife and Aquatic Resources	Habitat conversion and fragmentation have the potential to result in short-term, moderate adverse impacts.	Ground disturbance during migratory bird nesting season will require migratory bird nest survey and possible removal and relocation. To prevent entrapment of wildlife, all excavated holes or trenches will either be covered or provided with wildlife escape ramps. All vertical poles and posts that are hollow will be covered to prevent entrapment and discourage roosting. General BMPs will avoid and reduce impacts on wildlife and aquatic resources.
Protected Species and Critical Habitat	Loss of potential habitat, fragmentation, and elevated noise have the potential to result in short-term, minor adverse impacts.	General BMPs and BMPs will be implemented for Quino checkerspot butterfly, arroyo toad, golden eagle, burrowing owl, least Bell's vireo, and southwestern willow flycatcher.
Cultural Resources	No direct or indirect adverse impacts to cultural resources are anticipated. No National Register of Historic Places (NRHP)-eligible cultural resources have the potential to be negatively impacted by the Project.	All construction will be restricted to previously surveyed areas. If any cultural material is discovered during construction, all activities within the vicinity of the discovery will be halted until receipt of clearance to resume work by a qualified archaeologist.
Socioeconomics	Construction activities, increased employment, and new income have the potential to have direct and	None required.

Resource Area	Effects of the Project	Best Management Practices/ Conservation Measures
	indirect short-term, minor beneficial impacts. No adverse impacts are anticipated.	
Hazardous Materials and Waste	Waste generation and use of hazardous materials and wastes has the potential to result in short-term, negligible adverse impacts.	All waste materials and other discarded materials will be removed from the Project Area as quickly as possible. Equipment maintenance, staging, laydown, or fuel dispensing will occur upland to prevent runoff.

CBP followed specially developed design criteria to reduce adverse environmental impacts, which include consulting with federal and state agencies and other stakeholders to develop appropriate BMPs and minimize physical disturbance where practicable. BMPs include implementation of a Spill Prevention, Control, and Countermeasure Plan (SPCCP), Storm Water Pollution Prevention Plan (SWPPP), Environmental Protection Plan, Dust Control Plan, and Fire Prevention and Suppression Plan. CBP will have environmental monitors on site and impacts will be documented during construction to determine the extent and scope of mitigation measures necessary to reduce or offset adverse environmental impacts.

In addition to the design criteria and BMPs, CBP could implement mitigation measures. The scope or extent of CBP’s mitigation will be based on the actual impacts from the Project and available funding. CBP will assess the actual impacts from the Project during and upon completion. CBP’s assessment will be based on, among other things, feedback from environmental monitors and the final construction footprint. To the extent mitigation is warranted and funding is available, CBP will work with stakeholders to identify and implement appropriate mitigation measures.

The following definitions describe various impact characteristics:

- *Short-term or long-term.* These characteristics are determined on a case-by-case basis and do not refer to any rigid time period. In general, short-term impacts are those that occur only with respect to a particular activity or for a finite period or only during the time required for construction or installation activities. Long-term impacts are those that are more likely to be persistent and chronic.
- *Direct or indirect.* A direct impact is caused by an action and occurs contemporaneously at or near the location of the action. An indirect impact is caused by an action and might occur later in time or be farther removed in distance but is still a reasonably foreseeable outcome of the action.
- *Negligible, minor, moderate, or major.* These relative terms are used to characterize the magnitude or intensity of an adverse or beneficial impact. Negligible impacts are generally those that might be perceptible but are at the lower level of detection. A minor impact is slight, but detectable. A moderate impact is readily apparent. A major impact is severe.

Adverse or beneficial. An adverse impact is one having unfavorable or undesirable outcomes on the man-made or natural environment. A beneficial impact is one having positive outcomes on the man-made or natural environment. A single act might result in adverse impacts on one environmental resource and beneficial impacts on another resource.

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1. GENERAL PROJECT DESCRIPTION

1.1 INTRODUCTION TO THE ENVIRONMENTAL STEWARDSHIP PLAN

The United States (U.S.) Customs and Border Protection (CBP) will repair and maintain approximately 14 miles of new steel bollard wall and construct and maintain approximately five miles of steel bollard wall in the El Cajon, Campo, and Boulevard Station Areas of Responsibility (AORs) within the U.S. Border Patrol (USBP) San Diego Sector (the Project). This new bollard wall design is critical to the San Diego Sector's ability to prevent illegal entries and to achieve operational control of the border commensurate with Executive Order (EO) 13767. Under this EO, CBP is directed to "...secure the southern border of the U.S. through the immediate construction of a physical wall on the southern border, monitored and supported by adequate personnel so as to prevent illegal immigration, drug and human trafficking, and acts of terrorism."

Section 102(b) of the Illegal Immigration Reform and Immigrant Responsibility Act (IIRIRA) mandates the Department of Homeland Security (DHS) to install and improve fencing, barriers, and roads along the U.S. border. In 2018, the Secretary of DHS, pursuant to Section 102(c), determined that it is necessary to waive certain laws, regulations, and other legal requirements to ensure expeditious construction of the barriers and roads along the border. Although the Secretary's waiver means that CBP no longer has any specific legal obligations to do so, DHS and CBP are committed to continue to protect valuable natural and cultural resources through responsible environmental stewardship.

This Environmental Stewardship Plan (ESP) presents the analysis for the potential environmental impacts associated with replacement and construction activities for tactical infrastructure in the USBP San Diego Sector. This ESP also includes a summary of best management practices (BMPs) that have been developed to help CBP avoid, minimize, and mitigate for potential environmental impacts, and will guide the planning and execution of the Project.

This ESP is organized into 14 chapters plus appendices. **Chapter 1** provides a general description of the Project, discusses the background of USBP, identifies the goals and objectives of the Project, explains the stakeholder outreach process, and provides an overview of BMPs. **Chapter 2** provides a detailed description of the Project. **Chapters 3** through **11** identify potential environmental impacts that could occur within each resource area. **Chapter 12** contains an analysis of related projects and potential effects. **Chapter 13** provides a list of references used to develop the ESP, and **Chapter 14** provides a list of abbreviations and acronyms used in the ESP. Finally, the appendices include other information pertinent to the development of the ESP.

Going forward, this ESP will guide CBP's efforts in the USBP San Diego Sector, as well as demonstrate CBP's commitment to environmental stewardship during the construction and replacement of the international border fence between the U.S. and Mexico.

This report has been prepared from data collected prior to and during the initial phases of Project construction. The data was compiled through field surveys, photo interpretation with ground truthing and use of data from prior surveys and other sources, as referenced. The report is an analysis of potential impacts on the resources discussed based on the initially planned Project

footprint. This is intended to be viewed as a baseline document and is not intended to capture all impacts during construction. Upon completion of the Project, an additional report, called an Environmental Stewardship Summary Report (ESSR), will be prepared summarizing the observed actual impacts. This ESSR will review the baseline information provided in this ESP and be used to compare anticipated to actual impacts, so that a final new baseline of impacts is established for any potential future actions, including maintenance and repair activities. The ESSR will document the success of BMPs and any changes or improvements that could be required for the future. Additionally, the ESSR will summarize any significant modifications during construction that increased or reduced environmental impacts.

1.2 U. S. BORDER PATROL BACKGROUND

The mission of the USBP is to detect and prevent cross-border violators (CBVs), terrorists, and terrorist weapons from entering the U.S. and prevent illegal trafficking of people and contraband. To achieve effective control of our nation's borders, CBP uses a multi-prong approach including a combination of personnel, technology, and infrastructure, the mobilization and rapid deployment of people and resources, and the fostering of partnerships with other law enforcement agencies. CBP must ensure that tactical infrastructure functions as intended, which includes meeting the following mission requirements:

- Establishing substantial probability of apprehending terrorists and their weapons as they attempt to illegally enter between ports of entry (POE);
- Deterring illegal entries through improved enforcement; and
- Detecting, apprehending, and deterring smugglers of humans, drugs, and other contraband.

CBP's USBP administration is divided into nine different sectors, each responsible for border operations between the U.S. and Mexico within their respective AORs. The Project falls within the USBP San Diego Sector AOR.

1.3 GOALS AND OBJECTIVES OF THE PROJECT

The purpose of the Project is to ensure CBP can fulfill its mission to detect and prevent CBVs, terrorists, and terrorist weapons from entering the U.S. and therefore achieve effective control of our nation's borders. The Project will help to deter illegal entries within the USBP San Diego Sector by improving enforcement efficiency, thus preventing terrorists and terrorist weapons, CBVs, drugs, and other contraband from entering the U.S., while also contributing to a safer environment for USBP agents and the public.

1.4 STAKEHOLDER OUTREACH

CBP has notified numerous government agencies and tribes of their intent to replace the existing barrier fence with a new bollard wall. Stakeholders with interest in the region include the following:

- **Department of the Interior.** CBP has coordinated with the Department of the Interior (DOI) regarding design features, potential impacts from the Project, and potential conflicts with DOI's planning goals. Coordination with specific bureaus and offices within the DOI include:
 - **Bureau of Land Management.** CBP has coordinated with the Bureau of Land Management (BLM) regarding design features and potential conflicts with BLM's planning goals, as well as to evaluate potential impacts on BLM land.
 - **Bureau of Reclamation.** CBP has notified the Bureau of Reclamation (BOR) regarding design features and potential conflicts with BOR's planning goals.
 - **U.S. Fish and Wildlife Service.** CBP has coordinated with the U.S. Fish and Wildlife Service (USFWS) to identify listed species that have the potential to occur in the Project area.
- **U.S. Environmental Protection Agency.** CBP has coordinated with the U.S. Environmental Protection Agency (USEPA) to obtain feedback regarding, among other issues, potential mitigation opportunities for unavoidable impacts, should mitigation be necessary, and to ensure appropriate Storm Water Pollution Prevention Plan (SWPPP) guidelines are implemented.
- **U.S. Army Corps of Engineers.** CBP has coordinated all activities with the U.S. Army Corps of Engineers (USACE) to identify potential jurisdictional Waters of the U.S., including wetlands, and to develop measures to avoid and minimize impacts on such resources.
- **U.S. Section of the International Boundary and Water Commission.** CBP has coordinated with the U.S. Section of the International Boundary and Water Commission (USIBWC) to ensure that any construction along the U.S./Mexico border does not adversely affect International Boundary Monuments or substantially impede floodwater conveyance within international drainages.
- **State and Local Governments.** CBP has coordinated with the various state and local government officials to alert them of the Project, including, but not limited to:
 - **California Department of Fish and Wildlife.** CBP has coordinated with the California Department of Fish and Wildlife (CDFW) regarding potential impacts on species within their jurisdiction.
 - **California Office of Historic Preservation Office.** CBP has coordinated with the California Office of Historic Preservation (OHP) regarding the protection and preservation of California's historic resources.
 - **California Environmental Protection Agency.** CBP has coordinated with the California Environmental Protection Agency (CalEPA) regarding potential mitigation opportunities for unavoidable impacts, to identify impaired waters, and

to prepare implementation plans to achieve the needed pollution reductions in the watershed.

- **San Diego Regional Water Quality Control Board.** CBP has coordinated with the San Diego Regional Water Quality Control Board regarding the prevention of adverse impacts to regional water quality and public health.
- **Tribes.** CBP has notified and coordinated with a number of tribes to alert them of the Project. Tribes on the notification list include the Agua Caliente Band of Cahuilla Indians, Augustine Band of Mission Indians, Barona Band of Mission Indians, Cahuilla Band of Mission Indians, Campo Kumeyaay Nation, Chemehuevi Indian Tribe, Ewiiapaayp Band of Kumeyaay Indians, Iipay Nation of Santa Ysabel, Inaja-Cosmit Band of Mission Indians, Jamul Indian Village, Kwaaymii Laguna Band of Mission Indians, La Jolla Band of Luiseno Indians, La Posta Band of Mission Indians, Los Coyotes Band of Mission Indians, Manzanita Band of Kumeyaay Nation, Mesa Grande Band of Mission Indians, Pala Band of Mission Indians, Rincon San Luiseno Band of Mission Indians, San Pasqual Band of Mission Indians, Santa Rosa Band of Cahuilla Indians, Soboba Band of Luiseno Indians, Sycuan Band of the Kumeyaay Nation, Tohono O'odham Nation, Torres-Martinez Desert Cahuilla Indians, Twenty-Nine Palms Band of Mission Indians, and Viejas Band of Kumeyaay Indians.

1.5 BEST MANAGEMENT PRACTICES

It is CBP's policy to reduce impacts through the sequence of avoidance, minimization, and mitigation. BMPs vary based on location and resource type. Both general BMPs and species- and habitat-specific BMPs have been developed during the preparation of this ESP. CBP could also implement mitigation measures. The scope or extent of CBP's mitigation will be based on the actual impacts from the Project and available funding. Project impacts will be documented during construction and assessed through monitoring after Project construction is complete. CBP's mitigation assessment will be based on, among other things, feedback from environmental monitors and the final construction footprint.

The following sections describe those measures that could be implemented to reduce or eliminate potential adverse impacts on specific aspects of the human and natural environment. Many of these measures have been incorporated by CBP as standard operating procedures based on past projects. Below is a summary of BMPs for each resource category that will be potentially affected. The BMPs have been coordinated with the appropriate agencies and land managers or administrators.

1.5.1 General Design BMPs

The design-build contract will include design performance measures aimed at avoiding impacts prior to any construction. Designs will be evaluated on their ability to avoid and otherwise minimize environmental impacts by incorporating the following design BMPs:

- Maximum use of existing roads for construction access.

- Lands and roads disturbed by temporary impacts repaired/returned to pre-construction conditions.
- Early identification and protection of sensitive resource areas to be avoided.
- Restoration of grades, soils, and vegetation in temporarily disturbed areas.
- On-site retention of stormwater and runoff.

1.5.2 Air Quality

Measures will be incorporated to ensure that emissions of particulate matter less than or equal to 10 microns in diameter (PM₁₀) do not significantly impact the environment. These measures include dust suppression activities, such as wetting soils, to minimize airborne particulate matter generated during construction activities. Standard construction BMPs, such as minimized diesel idling and routine watering of the construction site and access roads, will be used to control fugitive dust emissions during the construction and maintenance phases of the Project. Additionally, all construction equipment and vehicles will be maintained in good operating condition to minimize exhaust emissions.

1.5.3 Noise

All Occupational Safety and Health Administration (OSHA) requirements will be followed by the contractor. The blasting contractor will provide further analysis of blasting techniques and measures to be taken to ensure negligible impacts from the blasting. Construction equipment will possess properly working mufflers and will be properly tuned to reduce backfires.

1.5.4 Geological Resources

Vehicular traffic associated with the construction, maintenance, and repair activities will remain on established roads to the maximum extent practicable. A SWPPP will be prepared prior to construction activities, and BMPs described in the SWPPP will be implemented to reduce erosion. Areas with highly erodible soils will be given special consideration when designing the Project to ensure incorporation of various BMPs, such as silt fences, straw bales, aggregate materials, wetting compounds, and rehabilitation, where possible, to decrease erosion. Materials such as gravel or topsoil will be obtained from existing developed or previously used sources and not from undisturbed areas adjacent to the Project corridor.

Erosion-control measures, such as water bars, gabions, straw bales, and revegetation, will be implemented during and after construction activities. Revegetation efforts will be needed to ensure long-term recovery of the area and to prevent soil erosion problems.

1.5.5 Water Resources

To address stormwater runoff, construction contractors will adopt and implement a SWPPP, which will include BMPs to reduce potential stormwater erosion and sedimentation effects on local drainages, as discussed in **Chapter 1.5.4**.

The changing of oil, refueling, and other actions that could result in a release of a hazardous substance should be restricted to designated staging areas that are a minimum of 100 feet from any

surface drainage. Such designated areas should be surrounded with berms, sandbags, or other barriers to further prevent the accidental spill of fuel, oil, or chemicals. Any accidental spills should be immediately contained, cleaned up, and properly disposed.

Recycled water will be used for dust suppression to the maximum extent possible. Water tankers will not discard unused water where it has the potential to enter any aquatic or marsh habitat.

Water storage within the Project area should be maintained in closed, on-ground containers in upland areas, not in washes. Pumps, hoses, tanks, and other water storage devices will be cleaned and disinfected.

1.5.6 Biological Resources

The following summary of general and species-specific biological BMPs will be implemented and are referenced in more detail in the Biological Survey Report (BSR) prepared for the Project (see **Appendix A**). This list has been ordered to follow a typical construction sequence and discusses species- and habitat-specific BMPs at the end. BMPs were developed in coordination with USFWS and BLM.

1.5.6.1 Biology General Measures Prior to Construction

Contractors will mark designated travel corridors with high visibility, removable or biodegradable markers, and minimize construction traffic through the corridor. No activities, ground disturbance, vegetation removal, or trimming will occur outside of the marked designated work area.

1.5.6.2 General Biology Measures During Construction

Construction equipment will be cleaned prior to entering and departing the Project corridor to minimize the spread and establishment of non-native invasive plant species.

If construction or clearing activities are scheduled during the nesting season (typically February 1 through September 15), the Government will perform a pre-construction survey for migratory bird species to identify active nests prior to the start of any construction or clearing activity. If construction activities will result in the disturbance or harm of a migratory bird, coordination with USFWS and CDFW will be required. Buffer zones around active nests will be established until nestlings have fledged and abandoned the nest.

The USBP will provide monitors for environmental and cultural resources throughout the duration of the construction contract.

1.5.6.3 Measures for Wildlife and Aquatic Resources

Areas that are hydro-seeded for temporary erosion-control measures must use only native plant species appropriate to surrounding habitat types. Removal of trees and brush in federally listed species habitats will be limited to the least amount needed to meet contract requirements.

Within the designated disturbance area, grading or topsoil removal will be limited to areas of necessity and within the limit of grading to provide required ground conditions for construction

and maintenance activities. Minimizing the disturbance footprint minimizes impacts and restoration requirements.

To prevent wildlife species entrapment during construction, all excavated, steep-walled holes or trenches more than 2 feet deep must be covered by plywood at the close of each working day or provided with one or more escape ramp. Each morning before the start of construction and before such holes or trenches are filled, they will be thoroughly inspected for trapped animals. Any animals discovered must be allowed to voluntarily escape, without harassment, before construction activities resume, or removed from the trench or hole by a Government biologist. Additionally, all vertical bollards that are hollow must be covered to prevent wildlife entrapment. Bollards should be covered from the time they are erected until the time they are filled.

1.5.6.4 Measures for Protected Species and Critical Habitats

Prior to ground-disturbing activities or vegetation removal or trimming, a qualified biologist will present an environmental awareness program to all on-site personnel. The program will contain, at a minimum, information regarding listed species including Quino checkerspot butterfly, arroyo toad, golden eagle, burrowing owl, least Bell's vireo, coastal California gnatcatcher, and southwestern willow flycatcher. This will include general species identification, habitat description, species sensitivity to human activity, and measures to avoid and protect the species during construction. Following the education program, photographs of the species must be posted in the office of the contractor and resident engineer, where they will remain throughout the duration of the Project. The contractor is responsible for ensuring that employees are aware of the listed species.

Any San Diego barrel cactus found within the Project area during construction activities will be flagged and avoided until the plant(s) can be salvaged. If they are unable to be salvaged, then they will be avoided by construction activities where possible.

To eliminate attraction of predators to protected animals, all food-related trash items such as wrappers, cans, bottles, and food scraps must be disposed in closed containers and removed daily from the Project site.

In areas of riparian vegetation, the size of the Project work area must be minimized to the extent possible. Vegetation within critical habitat or sensitive areas identified for removal and preservation must be clearly marked both in the field and on design plans, and otherwise communicated in the field to all workers.

When an individual of a federally listed species is found within the Project limits, work must cease in the area of the species. Any threatened and endangered species or species of concern must not be harmed, harassed, or disturbed to the extent possible by Project activities. Work may resume when the individual moves away on its own, or when a Government biologist safely removes the individual. Individuals of federally listed species found in the Project area and requiring relocation will be relocated by the Government biologist.

Active burrowing owl burrows will be flagged for avoidance with a 250-foot buffer. Active burrows that cannot be avoided will be collapsed. If construction is during the nesting period

(February 15 through September 15), the presence of eggs or young will be determined before owls are prevented from reentering and collapsing the burrows following established guidelines. If young are present, burrows will not be collapsed until they fledge.

1.5.7 Cultural Resources

All construction will be restricted to previously surveyed areas. Any known cultural resources must be clearly flagged for avoidance during construction. CBP will be contacted to complete any necessary flagging efforts for cultural resource avoidance prior to ground-disturbing activities taking place. Should any archaeological artifacts or human remains be found during construction, all ground-disturbing activities in the vicinity of the discovery must stop, and the contractor must immediately notify the contracting officer. Work will not resume until receipt of clearance by a qualified archaeologist.

1.5.8 Hazardous Materials and Wastes

All fuels, waste oils, and solvents will be collected in tanks or drums within a secondary containment system. The refueling of machinery will be completed following accepted guidelines, and all vehicles will have drip pans during storage. All spills will be contained immediately using an absorbent (e.g., granular, pillow, sock) to absorb and contain the spill. Any spill of a hazardous or regulated substance will be immediately recorded by the contractor and reported to the monitor on-site. A SPCCP will be implemented as part of the Project.

1.5.9 Potential Avoidance and Mitigation for Unavoidable Impacts

If unavoidable impacts result from Project construction, CBP could implement mitigation measures. The scope or extent of CBP's mitigation will be based on the actual impacts from the Project and available funding. CBP will assess the actual impacts from the Project after it is complete. CBP's assessment will be based on, among other things, feedback from environmental monitors and the final construction footprint.

2. DESCRIPTION OF THE PROJECT

2.1 LOCATION

CBP will replace and maintain approximately 14 miles of bollard wall and construct and maintain approximately five miles of bollard wall along the U.S./Mexico international border in California. Additionally, CBP will install and maintain tactical infrastructure consisting of installation of a linear ground detection system, road construction or refurbishment, and the installation of lighting within USBP’s San Diego Sector in San Diego County, California. The Project is split into 25 segments across approximately 27 miles within southeastern San Diego County (the Project Area).

Segment 1 and 2 are contiguous and begin approximately three miles east of the Tecate POE and extend east for approximately 0.9 miles. They alternate between new and replacement barrier. Segment 3 is new primary border wall; it begins approximately 0.2 miles east from Segment 2 and extends east for 1.15 miles. Segments 4-12 are contiguous and alternate between new and replacement barrier. They begin approximately 0.9 miles east from the Segment 3 and extend approximately 4.7 miles east. Segment 13 consists of replacement barrier; it begins approximately 0.4 miles from Segment 12 and continues 0.4 miles east. Segments 14-16 are contiguous and alternative between replacement and new barrier. They begin approximately 0.2 miles from Segment 13 and extend approximately 7.4 miles east. Segment 17 is replacement barrier and begins approximately one mile from Segment 16. It continues approximately 0.3 miles east. Segments 18-21 are contiguous and alternate between replacement and new barrier. They begin approximately 0.1 mile from Segment 17 and continue east for 2.8 miles. Segment 22 consists of replacement barrier; it starts approximately 1.7 miles from Segment 21 and continues east for 0.7 miles. Segment 23-25 are all new barrier. Segment 23 begins approximately 2.1 miles from Segment 22 and continues east for approximately 0.2 miles. Segment 24 begins approximately 0.1 miles from Segment 23 and continues east for approximately 0.1 miles. Finally, Segment 25 begins approximately 1.5 miles east of Segment 24 and continues east for approximately 0.5 miles. **Table 2-1** lists the segment location data. **Figure 2-1** provides a general location map of the Project Area and **Figures 2-2** through **2-4** show the Project segments.

Table 2-1. Segment Location Data

Section	Latitude	Longitude	Length	Fence Type
San Diego 15 Segment 1 Start	32.5811480570001	-116.57022369	0.32 miles	New Primary
San Diego 15 Segment 1 Stop	32.5815878010001	-116.564842826		
San Diego 15 Segment 2 Start	32.5815878010001	-116.564842826	0.55 miles	Replacement Primary
San Diego 15 Segment 2 Stop	32.5823996080001	-116.5553837		
San Diego 15 Segment 3 Start	32.5826533440001	-116.55269952	1.15 miles	New Primary
San Diego 15 Segment 3 Stop	32.584282751	-116.533133648		
San Diego 15 Segment 4 Start	32.58546482	-116.517663415	0.44 miles	Replacement Primary
San Diego 15 Segment 4 Stop	32.586049062	-116.51012619		
San Diego 15 Segment 5 Start	32.586049062	-116.51012619	0.08 miles	New Primary
San Diego 15 Segment 5 Stop	32.586169329	-116.508836		

San Diego 15 Segment 6 Start	32.586169329	-116.508836	0.56 miles	Replacement Primary
San Diego 15 Segment 6 Stop	32.5869539	-116.499285423		
San Diego 15 Segment 7 Start	32.5869539	-116.499285423	0.13 miles	New Primary
San Diego 15 Segment 7 Stop	32.5871308530001	-116.496984		
San Diego 15 Segment 8 Start	32.5871308530001	-116.496984	0.29 miles	Replacement Primary
San Diego 15 Segment 8 Stop	32.5875513	-116.491975		
San Diego 15 Segment 9 Start	32.5875513	-116.491975	0.08 miles	New Primary
San Diego 15 Segment 9 Stop	32.58765888	-116.490663		
San Diego 15 Segment 10 Start	32.58765888	-116.490663	0.27 miles	Replacement Primary
San Diego 15 Segment 10 Stop	32.5880071560001	-116.486043953		
San Diego 15 Segment 11 Start	32.5880071560001	-116.486043953	0.05 miles	New Primary
San Diego 15 Segment 11 Stop	32.5880872870001	-116.485211816		
San Diego 15 Segment 12 Start	32.5880872870001	-116.485211816	2.75 miles	Replacement Primary
San Diego 15 Segment 12 Stop	32.5919069390001	-116.438264027		
San Diego 15 Segment 13 Start	32.5924100610001	-116.432051218	0.37 miles	Replacement Primary
San Diego 15 Segment 13 Stop	32.592924069	-116.425676158		
San Diego 15 Segment 14 Start	32.5931786150001	-116.422629586	0.14 miles	Replacement Primary
San Diego 15 Segment 14 Stop	32.5933647730001	-116.420295338		
San Diego 15 Segment 15 Start	32.5933647730001	-116.420295338	0.37 miles	New Primary
San Diego 15 Segment 15 Stop	32.593884115	-116.413913066		
San Diego 15 Segment 16 Start	32.593884115	-116.413913066	6.88 miles	Replacement Primary
San Diego 15 Segment 16 Stop	32.603376762	-116.296389625		
San Diego 15 Segment 17 Start	32.604799535	-116.278557823	0.25 miles	Replacement Primary
San Diego 15 Segment 17 Stop	32.6051473540001	-116.274302873		
San Diego 15 Segment 18 Start	32.60527259	-116.272846877	0.65 miles	Replacement Primary
San Diego 15 Segment 18 Stop	32.6061627610001	-116.261786206		
San Diego 15 Segment 19 Start	32.6061627610001	-116.261786206	1.05 miles	New Primary
San Diego 15 Segment 19 Stop	32.607516479	-116.243807312		
San Diego 15 Segment 20 Start	32.607516479	-116.243807312	0.05 miles	Replacement Primary
San Diego 15 Segment 20 Stop	32.607568746	-116.242975031		
San Diego 15 Segment 21 Start	32.607568746	-116.242975031	1.05 miles	New Primary
San Diego 15 Segment 21 Stop	32.609046634	-116.225056573		
San Diego 15 Segment 22 Start	32.6112678170001	-116.196810148	0.7 miles	Replacement Primary
San Diego 15 Segment 22 Stop	32.6122293110001	-116.184901444		
San Diego 15 Segment 23 Start	32.6150326870001	-116.148892658	0.23 miles	New Primary
San Diego 15 Segment 23 Stop	32.6153404460001	-116.145009402		
San Diego 15 Segment 24 Start	32.6155272300001	-116.142999769	0.13 miles	New Primary
San Diego 15 Segment 24 Stop	32.6157129790001	-116.140843498		
San Diego 15 Segment 25 Start	32.6176753510001	-116.115477828	0.54 miles	New Primary
San Diego 15 Segment 25 Stop	32.618404281	-116.106242754		

The construction corridor is the width of the Roosevelt Reservation, the 60-foot-wide strip of land owned by the Federal Government along the U.S. side of the U.S./Mexico border in California, New Mexico, and Arizona.

2.2 DESIGN

The current design features 30-foot, bollard-style fence composed of 6-inch diameter steel bollards spaced center to center 10 inches apart, forming a 4-inch gap between each bollard. The construction corridor will be 60 feet wide. The Project also includes repairs and improvements to the existing access roads, and installation of a fiber-optic cable for communications, LED lighting, and electrical utilities to supply power to the communications cable and lighting. Border security lighting will illuminate the Project Area to allow for construction at night. In areas where border security lighting is not present, mobile light poles will be used during nighttime construction.

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Figure 2-1. Project Overview Map

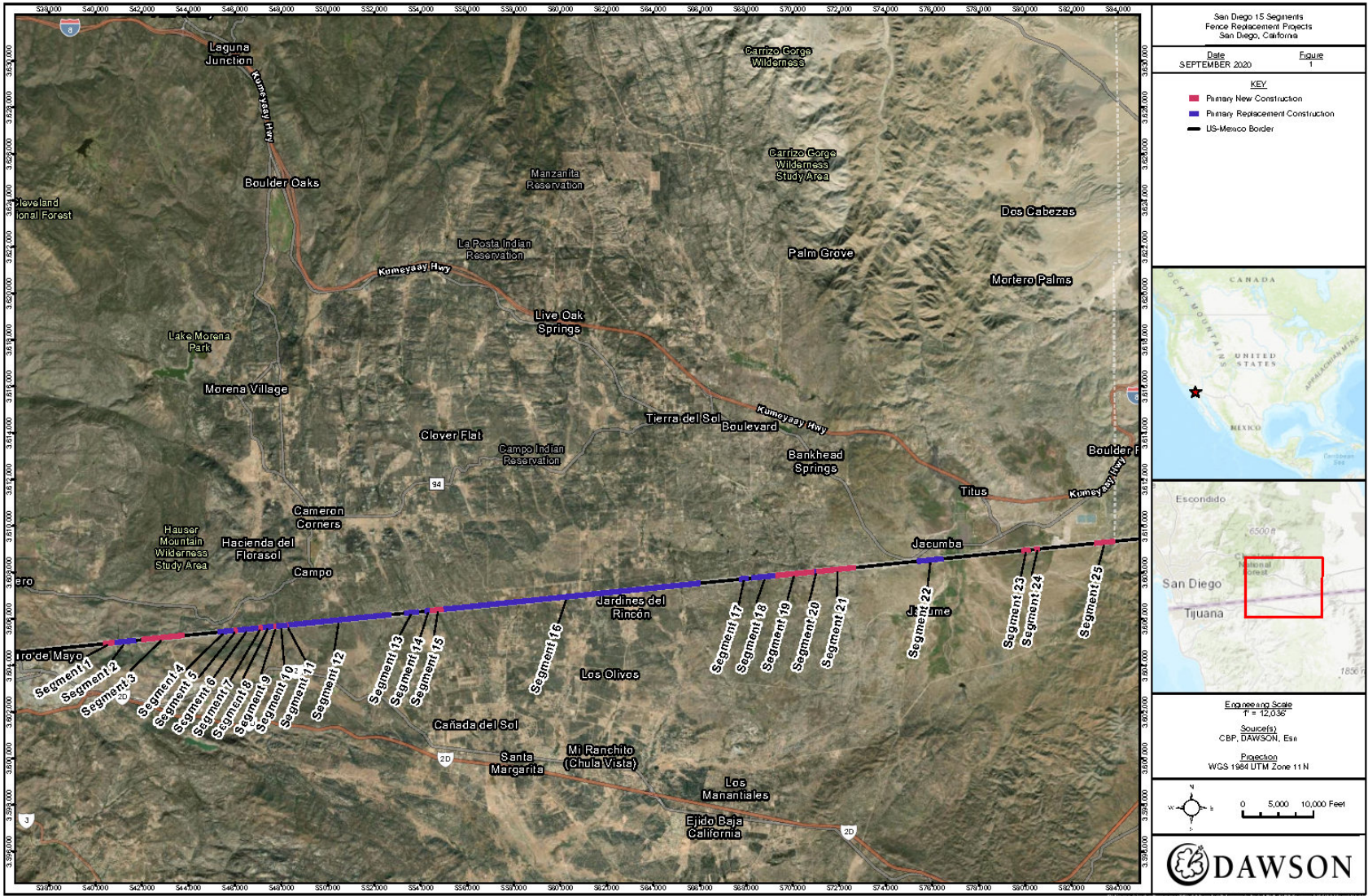


Figure 2-2. Segments 1-15 Map

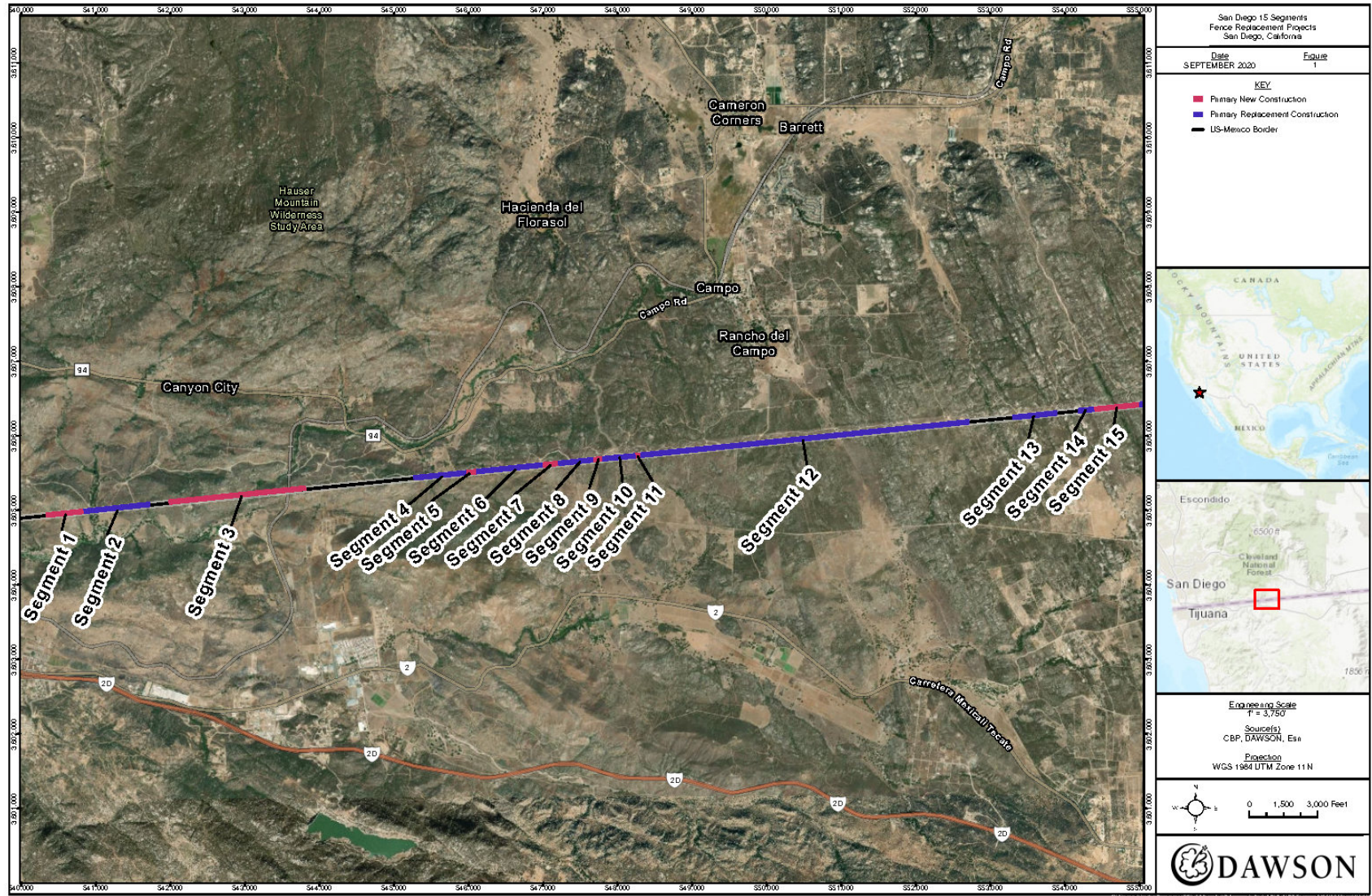


Figure 2-3. Segments 16-19 Map

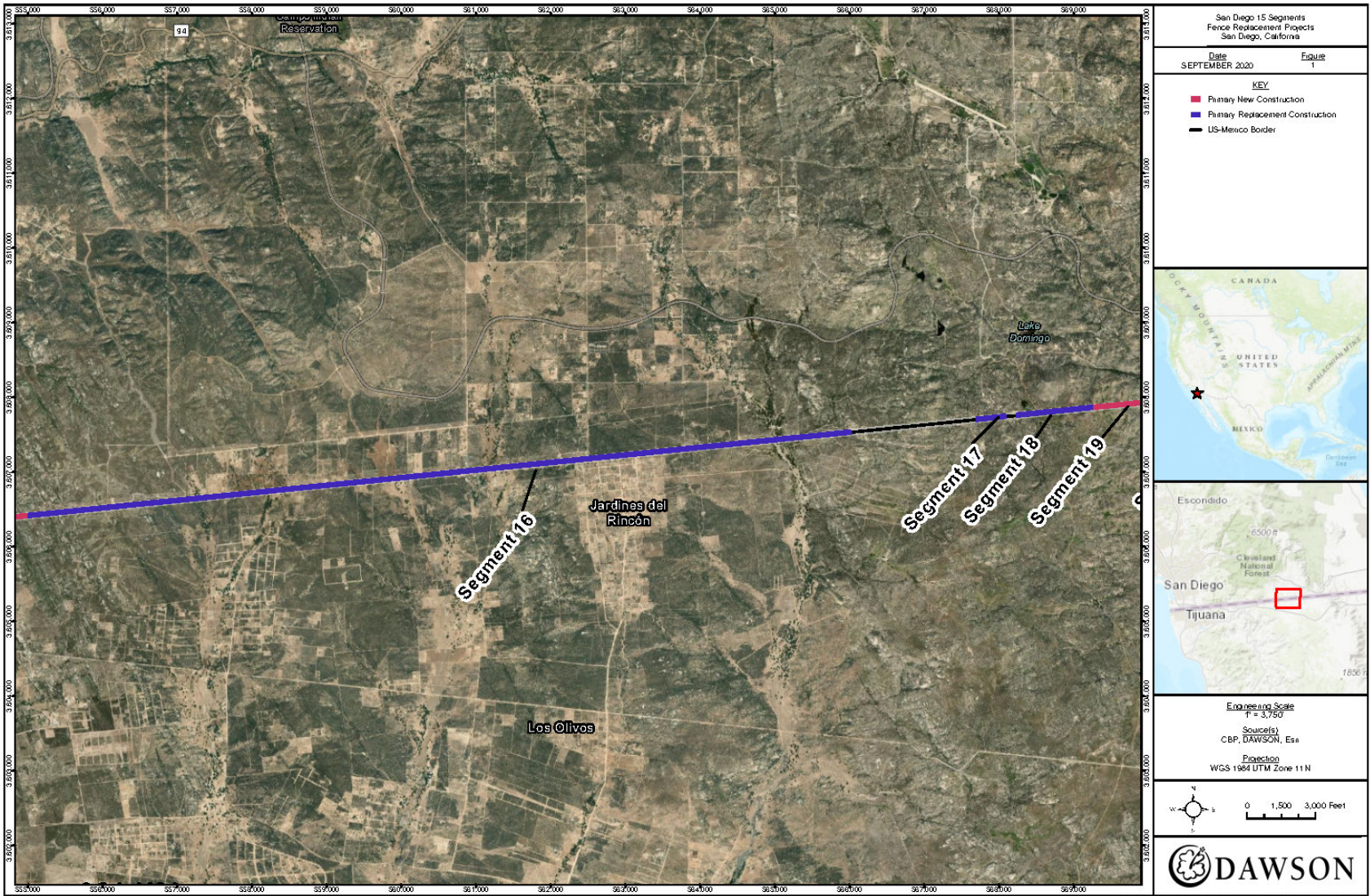


Figure 2-4. Segments 20-25 Map



2.3 CONSTRUCTION ACCESS, MATERIALS DELIVERY, AND STAGING

The new bollards will be delivered to 12 laydown areas adjacent to the Roosevelt Reservation, and fabricated prior to installation. Each panel will be 8- to 10-foot-wide and composed of eight to ten, 6-inch-square (5/16-inch thick) Core-10 steel bollards filled with cement and welded in place by a horizontal steel bar on the bottom and an approximately 5-foot-wide steel sheet across the top. The steel bollards will be spaced 4 inches apart to allow for cross-border visibility. Each panel is estimated to weigh approximately 3,500 pounds, excluding any below-ground materials or concrete.

The laydown areas will store large equipment and construction materials, establish batch plants for mixing concrete, and act as fabrication yards for panel assembly. Access to the Project corridor will use existing roads within the Project Area wherever possible, including federal, state, county, and local roads.

2.4 SITE PREPARATION

Site preparation primarily consists of grading the access roads and 12 staging areas, which will be located in previously disturbed areas whenever possible, including areas previously used for vehicle fence construction. Site preparation may also include drilling groundwater wells to provide water for cement mixing or dust suppression activities. Erosion-control measures will be necessary prior to ground disturbance activity, as will biological surveys, if construction takes place during the nesting season (from February 1 through September 15). BMPs will limit impacts on resources including wildlife, botanical, and cultural resources, among others (see **Chapter 1.5**). Specific BMPs will be implemented prior to and during construction activities to ensure minimal disturbance within the Project Area.

All activities associated with implementation of the Project have been designed pursuant to the constraints identified in the BSR (see **Appendix A**) prepared for the Project. These constraints to on-site preparation and construction ensure impacts on the biological resources present are minimized to the extent practicable.

2.5 CONSTRUCTION SCHEDULE

Construction is expected to last from May to December 2020. The total duration for the Project is approximately 186 days. It is anticipated that construction will occur six days per week from 7:00 a.m. to 7:00 p.m., with some exceptions where work could be scheduled 24 hours per day.

2.6 ENVIRONMENTAL CONSIDERATIONS

Chapters 3 through 11 address numerous environmental factors to be considered during final design and implementation of the Project.

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3. AIR QUALITY

3.1 AFFECTED ENVIRONMENT

Pursuant to the DHS Secretary’s waiver, CBP no longer has any specific legal obligations under the Clean Air Act (CAA). However, CBP recognizes the importance of environmental stewardship and has applied the appropriate standards and guidelines associated with the CAA as the basis for evaluating potential environmental impacts and implementing appropriate BMPs regarding air quality.

Air quality is defined by the concentration of various pollutants in the atmosphere at a given location. Under the CAA, the six principal pollutants defining air quality, called “criteria pollutants,” include carbon monoxide (CO), sulfur dioxide (SO₂), nitrogen dioxide (NO₂), ozone (O₃), suspended particulate matter (PM) (measured less than or equal to 10 microns in diameter [PM₁₀] and less than or equal to 2.5 microns in diameter [PM_{2.5}]), and lead. CO, SO₂, lead, and some particulates are emitted directly into the atmosphere from emissions sources. O₃, NO₂, and some particulates are formed through atmospheric chemical reactions that are influenced by weather, ultraviolet light, and other atmospheric processes. Volatile organic compounds (VOCs) and nitrogen oxides (NO_x) emissions are used to represent O₃ generation because they are precursors of O₃.

Federal Air Quality Standards. The USEPA established National Ambient Air Quality Standards (NAAQS) for specific pollutants determined to be of concern with respect to the health and welfare of the general public. Ambient air quality standards are classified as either primary or secondary. Primary standards protect against adverse health effects and secondary standards protect against welfare effects, such as damage to farm crops and vegetation and damage to buildings. NAAQS represent the maximum levels of background pollution that are considered safe, with an adequate margin of safety, to protect the public health and welfare. The NAAQS are included in **Table 3-1**.

Areas that are and have historically been in compliance with NAAQS or have not been evaluated for NAAQS compliance are designated as attainment areas. Areas that violate a federal air quality standard are designated as nonattainment areas. Areas that have transitioned from nonattainment to attainment are designated as maintenance areas and are required to adhere to maintenance plans to ensure continued attainment. The USEPA General Conformity Rule applies to federal actions occurring in nonattainment or maintenance areas when the total direct and indirect emissions of nonattainment pollutants (or their precursors) exceed specified thresholds. The emissions thresholds that trigger requirements for a conformity analysis (the process used to determine whether a federal action meets the requirements of the General Conformity Rule) are called *de minimis* levels. *De minimis* levels (in tons per year [tpy]) vary by pollutant and depend on the severity of the nonattainment status for the air quality management area in question.

California Ambient Air Quality Standards. The State of California adopted the NAAQS and promulgated additional California Ambient Air Quality Standards (CAAQS) for criteria pollutants. The California standards are more stringent than the federal primary standards. California law continues to mandate CAAQS, although attainment of the NAAQS has precedence

over attainment of the CAAQS due to federal penalties for failure to meet federal attainment deadlines. **Table 3-1** presents the primary and secondary USEPA NAAQS and CAAQS.

Table 3-1. Ambient Air Quality Standards

Pollutant	Primary Averaging Time	National Standards		California Standards
		Primary Standard Level *	Secondary Standard Level **	
Carbon Monoxide	8-hour ⁽¹⁾	9 ppm (10 mg/m ³)	-	9 ppm
	1-hour ⁽¹⁾	35 ppm (40 mg/m ³)	-	20 ppm
Lead	Rolling 3-month Average	0.15 µg/m ³ ⁽²⁾	Same as Primary	-
	Quarterly Average	1.5 µg/m ³	Same as Primary	-
	30 Day Average	-	-	1.5 µg/m ³
Nitrogen Dioxide	Annual (Arithmetic Average)	53 ppb ⁽³⁾	Same as Primary	0.030 ppm
	1-hour ⁽⁴⁾	100 ppb	-	0.18 ppm
Particulate Matter (PM₁₀)	Annual (Arithmetic Average)	-	-	20 µg/m ³
	24-hour ⁽⁵⁾	150 µg/m ³	Same as Primary	50 µg/m ³
Particulate Matter (PM_{2.5})	Annual (Arithmetic Average) ⁽⁶⁾	12 µg/m ³	15.0 µg/m ³	12 µg/m ³
	24-hour ⁽⁷⁾	35 µg/m ³	Same as Primary	-
Ozone	8-hour ⁽⁸⁾	0.07 ppm (2015 std)	Same as Primary	0.07 ppm
	1-hour ⁽⁹⁾	-	-	0.09 ppm
Sulfur Dioxide	24-hour	0.14 ppm (for certain areas) ⁽¹⁰⁾	-	0.04 ppm
	1-hour	75 ppb ⁽¹¹⁾	-	0.25 ppm
Visibility Reducing Particles⁽¹²⁾	8-hour	No Federal Standards		See footnote 12
Sulfates	24-hour	No Federal Standards		25 µg/m ³
Hydrogen Sulfide	1-hour	No Federal Standards		0.03 ppm
Vinyl Chloride	24-hour	No Federal Standards		0.01 ppm

Sources: USEPA 2019 and CARB 2020.

Units of measure for the standards are parts per million (ppm) by volume, parts per billion (ppb - 1 part in 1,000,000,000) by volume, milligrams per cubic meter of air (mg/m³), and micrograms per cubic meter of air (µg/m³).

* National Primary Standard Level: The level of air quality necessary, with an adequate margin of safety to protect the public health.

** National Secondary Standard Level: The level of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

(1) Not to be exceeded more than once per year.

- (2) Final rule signed October 15, 2008.
- (3) The official level of the annual NO₂ standard is 0.053 ppm, equal to 53 ppb, which is shown here for the purpose of clearer comparison to the 1-hour standard
- (4) To attain this standard, the 3-year average of the 98th percentile of the daily maximum 1-hour average at each monitor within an area must not exceed 100 ppb (effective January 22, 2010).
- (5) Not to be exceeded more than once per year on average over 3 years.
- (6) To attain this standard, the 3-year average of the weighted annual mean PM_{2.5} concentrations from single or multiple community-oriented monitors must not exceed 15.0 µg/m³.
- (7) To attain this standard, the 3-year average of the 98th percentile of 24-hour concentrations at each population-oriented monitor within an area must not exceed 35 µg/m³ (effective December 17, 2006).
- (8) To attain this standard, the 3-year average of the fourth-highest daily maximum 8-hour average ozone concentrations measured at each monitor within an area over each year must not exceed 0.070 ppm (effective December 28, 2015).
- (9) (a) USEPA revoked the 1-hour ozone standard in all areas, although some areas have continuing obligations under that standard (“anti-backsliding”).
 - (b) The standard is attained when the expected number of days per calendar year with maximum hourly average concentrations above 0.12 ppm is ≤ 1.
- (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.
- (11) Final rule signed June 2, 2010. To attain this standard, the 3-year average of the 99th percentile of the daily maximum 1-hour average at each monitor within an area must not exceed 75 ppb.
- (12) In 1989, the California Air Resources Board converted both the general statewide 10-mile visibility standard and the Lake Tahoe 30-mile visibility standard to instrumental equivalents, which are “extinction of 0.23 per kilometer” and “extinction of 0.07 per kilometer” for the statewide and Lake Tahoe Air Basin standards, respectively.

Project Area. The USEPA designates the entire San Diego County as a moderate nonattainment area for 8-hour O₃.

The California Air Resources Board (CARB) is the state agency that develops comprehensive State Implementation Plans that describe how each non-attainment area will attain national and state air quality standards. The San Diego County Air Pollution Control District (District) shares responsibility with the USEPA and CARB for ensuring that all state and federal ambient air quality standards are achieved and maintained within the county (which is delegated to the District). The USEPA primarily oversees mobile air pollutant emissions and major stationary sources. CARB regulates consumer products (e.g. small engines), motor vehicle fuels, mobile sources, and greenhouse gases. The District regulates stationary sources of air pollutants (APCD 2020).

3.2 ENVIRONMENTAL CONSEQUENCES

Temporary and minor increases in air pollution have the potential to occur during Project construction. The construction phase has the potential to generate air pollutant emissions as a result of transporting materials, grading, compacting, trenching, pouring concrete, and other various activities. Soil disturbance has the potential to contribute to increased fugitive dust emissions and could be greatest during the initial site preparation. Increased PM emissions from vehicles and other activities have the potential to also contribute to increased air pollution. Levels of fugitive dust emissions have the potential to vary from day to day depending on the construction phase, level of activity, and prevailing weather conditions (e.g., wind speed and direction, precipitation). The following paragraphs describe the air calculation methodologies used to estimate air emissions produced by the Project.

USEPA’s Motor Vehicle Emission Simulator (MOVES) model was used to calculate emissions from construction equipment. Combustion emissions calculations were made for standard construction equipment, such as front-end loaders, excavators, bulldozers, cranes, and cement trucks. Assumptions were made regarding the total number of days each piece of equipment will be used and the number of hours or miles per day each type of equipment will be used. Fugitive dust emissions were calculated using the emission factor of 0.22 ton per acre per month (Air Force Civil Engineer Center 2018).

Construction workers have the potential to temporarily increase combustion emissions in the airshed while commuting to and from the Project Area. Emissions from delivery trucks also have the potential to contribute to the overall air emission budget. Emissions from delivery trucks and construction worker commuters traveling to the job site were also calculated using the MOVES model.

Per 40 Code of Federal Regulations (CFR) Part 93, Chapter 153, a conformity determination is required for each criteria pollutant or precursor where the total of direct and indirect emissions from the criteria pollutant or precursors in a nonattainment or maintenance area caused by a federal action will equal or exceed specified *de minimis* levels.

Table 3-2 provides a summary of emissions from the Project and a determination of their significance. The District’s screening level thresholds do not apply to construction emissions and are, therefore, not included in **Table 3-2**. The working assumption for calculating emissions is that all construction activity is to be completed within a single year. The total emissions from construction activity is demonstrated to be below the significance threshold levels established by the CFR. Therefore, the Project is determined to have no significant impacts on ambient air quality. Construction personnel will continue to implement dust control measures, including watering roads, to maintain appropriate air quality levels. Air emissions calculations are provided in **Appendix B**.

Table 3-2. Total Air Emissions from the Project versus the *de minimis* Threshold Levels

Type of Emission	VOCs	CO	NO _x	SO ₂	PM _{2.5}	PM ₁₀
Project Emissions (tpy)	0.66571	2.63540	2.80584	0.00657	1.64589	13.90613
Significance Threshold for Nonattainment Areas (tpy)	50	100	100	100	Moderate: 100 Serious: 70	Moderate: 100 Serious: 70

4. NOISE

4.1 AFFECTED ENVIRONMENT

Sound is a physical phenomenon consisting of vibrations that travel through a medium, such as air, and are sensed by an organism. Noise is defined as unwanted sound, which can be based on objective effects (i.e., hearing loss, damage to structures) or subjective judgments (e.g., community annoyance). Human response to increased sound levels varies according to the type and characteristics of the sound source, distance between the source and the receptor, receptor sensitivity, and time of day. How an organism responds to the sound source determines whether the sound is judged as a pleasing sound or as an annoying noise, or if it disturbs a normal behavior. Sound is usually represented on a logarithmic scale quantified in decibel (dB) units. Sound on the dB scale is referred to as a sound level. The threshold of human hearing is near 0 dB, and the threshold of discomfort or pain is around 120 dB.

The A-weighted decibel (dBA) is used to characterize sound levels that can be sensed by the human ear. Nighttime noise levels are generally viewed as a greater community annoyance than the same levels occurring during the day. It is generally given that people perceive a nighttime noise at 10 dBA louder than when that same noise is experienced during the day. This perception occurs largely because background environmental sound levels at night are approximately 10 dBA lower than those during the day in most areas. As such, nighttime noise levels are often perceived as intrusive more often than the same noise level during the day. Below is a summary and definition of noise levels based on the U.S. Department of Housing and Urban Development noise program.

Acceptable (not exceeding 65 dB) – This noise exposure could be of some concern, but common building construction makes the indoor environment acceptable and the outdoor environment reasonably pleasant for recreation and play.

Normally Unacceptable (above 65 but not greater than 75 dB) – The noise exposure is significantly more severe. Barriers could be necessary between the site and prominent noise sources to make the outdoor environment acceptable. Special building construction could be necessary to ensure that people indoors are sufficiently protected from the outdoor noise.

Unacceptable (greater than 75 dB) – The noise exposure at the site is so severe that the construction costs to make the indoor noise environment acceptable could be prohibitive and the outdoor environment would still be unacceptable.

Generally, noise generated by a stationary noise source, or “point source,” will decrease by approximately 6 dBA over hard surfaces and 9 dBA over soft surfaces for each doubling of the distance. For example, if a noise source produces a noise level of 85 dBA at a reference distance of 50 feet over a hard surface, that noise level will be 79 dBA at a distance of 100 feet from the noise source, 73 dBA at a distance of 200 feet, and so on.

Table 4-1 depicts noise emissions levels for typical construction equipment, which range from 68 dBA to 104 dBA at 100 feet from the source (FHWA 2007).

Table 4-1. A-Weighted Sound Levels of Construction Equipment and Modeled Attenuation at Various Distances from Source

Noise Source	100 feet	200 feet	500 feet	1,000 feet	2,000 feet	3,000 feet
	dBA	dBA	dBA	dBA	dBA	dBA
Backhoe	72	66	58	52	46	43
Crane	75	69	61	55	49	46
Dump truck	70	64	56	50	44	41
Excavator	75	69	61	55	51	48
Front-end loader	73	67	59	53	47	44
Concrete mixer truck	73	67	59	53	47	44
Pneumatic tools	75	69	61	55	49	46
Auger drill rig	78	72	64	58	52	49
Bulldozer	76	70	62	56	50	47
Generator	75	69	61	55	49	46
Impact pile driver	104	98	90	84	78	75
Flatbed truck	68	62	54	48	42	39

Source: FHWA 2007

Notes: The dBA at 50 feet is a measured noise emission (FHWA 2007).

Under the Noise Control Act of 1972, OSHA established workplace standards for noise. The minimum requirement states that constant noise exposure must not exceed 90 dBA over an 8-hour period (OSHA 2018). The highest allowable sound level to which workers can be constantly exposed is 115 dBA and exposure to this level must not exceed 15 minutes within an 8-hour period (OSHA 2018). Furthermore, the standards limit instantaneous exposure, such as impact noise, to 140 dBA. If noise levels exceed these standards, employers are required to provide hearing protection equipment that reduce sound levels to acceptable limits.

For open space areas, the Federal Highway Administration (FHWA) noise regulations define a *de minimis* threshold. This regulation defines open space lands as “land on which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose.” The open space areas, as defined, have a *de minimis* threshold of 57 dBA (23 CFR 722, Table 1).

The Project Area is divided into 25 segments that span 27 miles across southern California. The Project region is characterized by undeveloped, open landscapes with the exception of small residential communities near Canyon City, Campo, and Jacumba. These sensitive noise receptors occur within 300 feet of Project Area. However, the majority of the Project will occur in a remote area, consisting of open landscape.

4.2 ENVIRONMENTAL CONSEQUENCES

Noise within the Project Area has the potential to be created during the transportation of construction materials, operation of construction equipment, and numerous construction activities. Noise levels to receptors vary widely depending on several factors, such as climatic and soil

conditions, topography, the equipment condition, and current ambient noise levels. Open space areas that are less developed have a lesser ambient noise level than developed areas, making it much easier for an adverse noise impact to result in an open space area.

Replacement of the existing barrier fence and construction of the new bollard wall are anticipated to be completed in segments; therefore, construction noise has the potential to be temporary and only occur near work being performed. Additionally, most of the noise generated by the Project has the potential to occur during construction, and thus is not likely to contribute to ambient noise levels. Routine maintenance of the fence and roads has the potential to result in slight temporary increases in noise levels that could continue to sporadically occur over the long-term and have the potential to be similar to those of ongoing road maintenance within the Project Area. Using a worst-case scenario of 104 dBA, the noise model predicts that noise emissions from the impact pile driver (proposed construction equipment) will have to travel 3,000 feet before attenuating to levels below 75 dBA. The area encompassed within the 3,000 feet noise contour includes sensitive receptors such as small residential areas. Thus, the noise generated by the construction and maintenance of Project infrastructure has the potential to have a minor to moderate adverse effect.

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5. LAND USE AND AESTHETICS

5.1 AFFECTED ENVIRONMENT

5.1.1 Land Use

The Project will occur within the Roosevelt Reservation, a 60-foot-wide swath of federal land immediately north of the U.S./Mexico international border that was set aside for border security uses. Therefore, CBP operations and tactical infrastructure construction within the Roosevelt Reservation is consistent with the purpose of the Reservation. Areas immediately outside of the Roosevelt Reservation are both privately owned and BLM property (USGS 2020). The Project Area is generally undeveloped, open landscape, with the exception of the existing barrier fence and patrol roads.

5.1.2 Aesthetics

Aesthetic resources consist of natural and man-made landscape features that give a particular environment its visual characteristics. The majority of the Project segments are within areas previously disturbed by prior fence and road construction and USBP law enforcement activities. With the exception of small residential communities near Canyon City, Campo, and Jacumba, the Project region is characterized by undeveloped, open landscapes. The major appeal of the region is its vast areas of naturally occurring landscape. At a closer look, however, a large number of illegal trails and roads, damage from human-induced wildland fires, and litter left behind by illegal aliens can be found throughout the Project corridor, all of which detracts from the region's natural beauty. There are no unique, natural, or manmade features in the Project Area that create any different visual landscapes than those described above.

5.2 ENVIRONMENTAL CONSEQUENCES

5.2.1 Land Use

All replacement and new bollard wall will be constructed within the Roosevelt Reservation. Therefore, land use will remain the same as the Project is consistent with the purpose of the Reservation which was set aside for border security uses. Land use has the potential to change, however, in areas where the Project Area extends beyond the Reservation.

5.2.2 Aesthetics

The existing border barriers that are to be replaced as a part of the Project consist of pedestrian fence made of landing mat, a solid metal which is typically 12- to 18- feet high. The replacement bollard wall, however, will include small gaps, allowing for individuals to see through to the other side, thus potentially having a beneficial impact on the appearance of the landscape. The transparent qualities of the bollard wall also allow for USBP agents to see through the fence, which has the potential to be beneficial in an operational sense and for anyone else wishing to view the broader landscape across the border. Additionally, the bollard wall will be 18- to 30- feet tall, which is four to eight feet taller than the current 12-foot pedestrian fence. While the bollard wall

has the potential to be significantly more visually obstructive than the existing pedestrian fence, it could potentially be considered less of a visual impediment.

6. GEOLOGICAL RESOURCES AND SOILS

6.1 AFFECTED ENVIRONMENT

Geology is the study of Earth’s composition and provides information on the structure and configuration of surface and subsurface features. Soils are the unconsolidated materials overlying bedrock or other parent material. Differences among soil types in terms of their structure, elasticity, strength, water absorption potential, and erosion potential affect the ability to support certain applications or uses.

Regional Geology. The Project is located within the Peninsular Range Geomorphic Province, which is mostly comprised of granitic rock (Nyman 2002). The Peninsular Ranges Province was formed by the Southern California Batholith, a composite of several bodies of igneous rock formed in the subsurface (Demere 1997). These bodies of igneous rock, having varying chemical composition, shifted from gabbro to granodiorite. In the Cretaceous period, the Nevadan Orogeny caused major upward thrusting in southern California (Sharp 1976).

Soils. California has a diverse assortment of soil types throughout the state, with variations in depth, texture, chemical properties, and appropriate land uses. This diversity is directly related to regional differences in climate, parent material, topography, and erosion actions. The Project Area consists primarily of excessively or somewhat excessively drained soils that have low runoff potential. **Table 6-1** describes the soil characteristics of the Project Area.

Soil structure and chemistry contributes to the determination of prime and unique farmland. Prime and unique farmland is protected under the Farmland Protection Policy Act (FPPA) of 1981. Prime farmland is defined as land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops, and is also available for these uses. Soil qualities, growing season, and moisture supply are needed for a well-managed soil to produce a sustained high yield of crops in an economic manner. The land could be cropland, pasture, rangeland, or other land, but not water or urban built-up land.

Table 6-1. Soil Characteristics of Project Area

Soil Type	Profile	Slope	Runoff Potential	Farmland Classification	Percent of Project Area ¹
Acid igneous rock land	Unweathered bedrock	15 to 75%	Very high	Not prime farmland	5.0%
Calpine coarse sandy loam, eroded	Well drained, coarse sandy loam	9 to 15%	Low	Farmland of statewide importance	3.9%
Kitchen Creek loamy coarse sand	Somewhat excessively drained, loamy coarse	5 to 9%	Very low	Farmland of statewide importance	15.2%

	sandy/coarse sandy loam				
La Posta loamy coarse sand, eroded	Somewhat excessively drained, loamy coarse sand	5 to 30%	Very low	Not prime farmland	0.9%
La Posta loamy coarse sand, severely eroded	Somewhat excessively drained, loamy coarse sand, gravelly loamy coarse sand	5 to 30%	Very low	Not prime farmland	1.1%
La Posta rocky loamy coarse sand	Somewhat excessively drained, loamy coarse sand	5 to 30%	Very low	Not prime farmland	4.9%
La Posta rocky loamy coarse sand, eroded	Somewhat excessively drained, loamy coarse sand/ gravelly loamy coarse sand	5 to 30%	Very low	Not prime farmland	10.1%
Las Posas stony fine sandy loam	Well drained, stony fine sandy loam/clay loam	30 to 65%	Very high	Not prime farmland	0.3%
Mottsville loamy coarse sand	Excessively drained, loamy coarse sand/ stratified sand to loamy sand	2 to 9%	Very low	Farmland of statewide importance	5.3%
Rositas loamy coarse sand	Somewhat excessively drained, loamy coarse sand/ gravelly loamy sand	2 to 9%	Very low	Farmland of statewide importance	0.1%
Stony land	Unweathered bedrock	Unknown	Unknown	Not prime farmland	0.3%
Tollhouse rocky coarse sandy loam, eroded	Somewhat excessively drained, gravelly coarse sandy loam/ unweathered bedrock	5 to 30%	Medium	Not prime farmland	3.3%
Tollhouse rocky coarse sandy loam	Somewhat excessively	30 to 65%	Medium	Not prime farmland	10.0%

	drained, gravelly coarse sandy loam				
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Source: NRCS Undated.

(1) Natural Resources Conservation Service (NRCS) does not have available data for the 39.6% of the Project Area.

6.2 ENVIRONMENTAL CONSEQUENCES

Impacts on geology and soils are considered adverse if they alter the lithology (i.e., the character of a rock formation); stratigraphy (i.e., the layering of sedimentary rocks) and geological structures that dictate groundwater systems; change the soil composition, structure, or function within the environment; or increase the risk of geological hazards.

Regional Geology. Short- and long-term, moderate, adverse impacts on topography has the potential to occur from earthmoving and grading activities during construction. Topography has the potential to be altered using drill-and-shoot excavation and other ground-leveling techniques to provide flat surfaces for the construction of the pedestrian and vehicle barriers, ancillary support facilities and structures, and access roads.

Soils. Approximately 101 acres of previously disturbed soil and 38 acres of undisturbed soil have the potential to experience permanent, moderate, adverse impacts from disturbance of ground surfaces, earthmoving activities, and grading within the proposed disturbance area during construction. These activities would excavate soils and expose rock materials, temporarily remove vegetation in some areas, and expose soils to erosion.

In general, accelerated erosion of soils has the potential to be short-term during construction activities and minimized by appropriately siting and designing facilities to account for soil limitations, employing construction and stabilization techniques appropriate for the soil and climate, and implementing BMPs and erosion-control measures. BMPs include the installation of silt fencing and sediment traps, application of water to disturbed soil to reduce dust, grading of staging areas, and revegetation of disturbed areas as soon as possible following ground disturbance, as appropriate. Pre- and post-construction BMPs will be developed and implemented to reduce or eliminate erosion and potential downstream sedimentation.

The potential exists for petroleum, oil, and lubricants (POLs) to be spilled during refueling of the construction equipment, adversely impacting soils; however, drip pans will be placed under all staged equipment, and secondary containment will be used when refueling equipment. A SWPPP and SPCCP have been prepared prior to construction activities and BMPs described in these plans will be implemented to reduce potential erosion and contamination.

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7. HYDROLOGY AND WATER MANAGEMENT

7.1 AFFECTED ENVIRONMENT

Hydrology and water management relate to natural and man-made water resources that are available for use by, and for the benefit of, humans and the environment. Evaluation of hydrology and water resources examines the quantity and quality of the resource and its demand for various purposes.

Hydrology concerns the distribution of water-to-water resources, including surface waters and groundwater, through the processes of evapotranspiration, atmospheric transport, precipitation, surface runoff and flow, and subsurface flow. Groundwater consists of subsurface hydrologic resources and includes underground streams and aquifers. It is an essential resource that functions to recharge surface water and is used for drinking, irrigation, and industrial processes. Groundwater features include depth from land surface, aquifer or well capacity, quality, recharge rate, and surrounding geologic formations. Surface water includes natural, modified, and constructed water confinement and conveyance features above groundwater that could have a defined channel and discernable water flows. These features are generally classified as streams, springs, wetlands, natural and artificial impoundments (e.g., ponds, lakes), and constructed drainage canals and ditches.

7.1.1 Groundwater

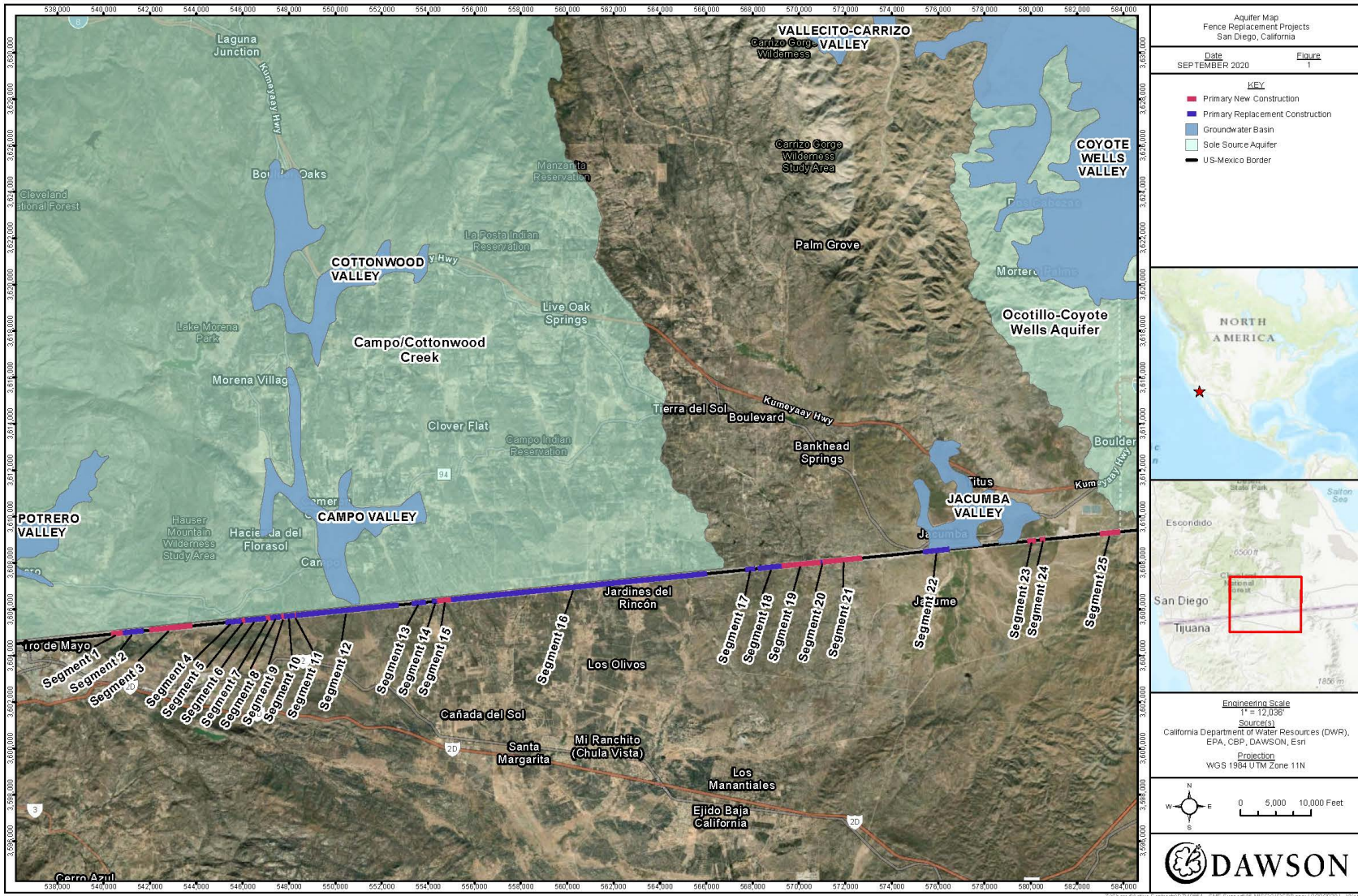
The Project overlies the Jacumba Valley Groundwater basin (see **Figure 7-1**). The basin, whose surface area is estimated to be 6,400 acre-feet, is bound by faults on the east and west, the international border along the south, and crystalline rocks along other sections. The main water bearing deposits in the basin are alluvium, which constitutes unconfined sections of the aquifer, and Table Mountain Formation, which constitutes semi-confined to confined sections of the aquifer. Wells completed in alluvial deposits can produce more than 1,000 gallons per minute and yields range from 5 to 10 percent and 15 to 25 percent. Wells completed in the Table Mountain Formation have yields ranging 5 to 10 percent (CADWR 2004). Groundwater storage in the alluvial deposits is estimated to range between 3,200 to 16,000 acre-feet. Storage in the Table Mountain Formation is estimated to range between 84,000 to 169,000 acre-feet (CADWR 2004).

The Project is located near the Campo Valley Groundwater Basin, which is located approximately 40 miles east of the City of San Diego. The basin is approximately 3,550 acres. Approximate well yields are usually under 40 gallons per minute. The groundwater storage in the basin is estimated to be 7,614 acre-feet (CADWR 2003).

The Project also falls within the Campo/Cottonwood Creek Sole Source Aquifer designated by the USEPA under the authority of Section 1424(e) of the Safe Drinking Water Act (61 FR 47752). The aquifer is the sole source of drinking water for the communities of Boulevard, Campo, and Pine Valley, as well as various tribal communities in eastern San Diego County.

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Figure 7-1. Map of Aquifers in the Project Area



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7.1.2 Surface Water and Waters of the United States

The Project is in an arid climate characterized by high air and soil temperatures and high evaporation rates. The primary source of water inflow into the basin is runoff from adjacent lands, occasional precipitation in the spring, and monsoonal rainfall during the summer and fall. Precipitation across the entire span of the Project Area can range between eight and 23 inches annually. Minimal groundcover and steep topography can lead to heavy runoff and high erosion during the infrequent precipitation events.

The Project Area is characterized by the presence of ephemeral streams, which are episodic channels that convey water flow during and immediately after precipitation events. The streams are generally shallow-bottomed narrow channels, however some braided systems that stretch across alluvial fan and flood plain systems were also observed. Although the channels appear larger due to surrounding topography, their single flow channels remain shallow and flows were not considered to be intermittent.

Waters of the United States. USACE regulates “Waters of the United States” (WOUS) under Section 404 of the Clean Water Act (CWA). WOUS is defined in the CFR as waters susceptible to use in commerce, including interstate waters and wetlands, all other waters (intrastate waterbodies, including wetlands), and their tributaries (33 CFR 328.3). Potential wetland areas are identified by the presence of (1) hydrophytic vegetation, (2) hydric soils, and (3) wetland hydrology. Areas that are inundated at a sufficient depth and for a sufficient duration to exclude growth of hydrophytic vegetation are subject to Section 404 jurisdiction as “non-wetland waters” and are characterized by an Ordinary High Water Mark (OHWM). Non-wetland waters generally include lakes, rivers, streams, and other open-water habitats.

The evaluation of wetland and waters indicators to determine the presence of water subject to jurisdiction was conducted between March and April 2020 (see **Appendix C**). The Survey Area for the delineation consisted of a 100-foot boundary north of the International Boundary Line along each of the Project segments.

The Survey Area contains 1.94 acres of potentially jurisdictional non-wetland waters. Of these, 1.2 acres waters are located in the Project Area. All waters are identified as ephemeral. The ephemeral streams are not considered to be connected to traditional navigable waters that flow year-round or seasonally up to a period of three months. The Project Area does not contain any jurisdictional wetland waters. The complete WOUS assessment is provided in **Appendix C**.

Impaired Surface Waters. Water quality standards are regulated by USEPA, under the Safe Drinking Water Act and the CWA. Section 303(d) of the CWA requires states to identify and develop a list of impaired water bodies where technology-based and other required controls have not provided attainment of water quality standards. Section 305(b) of the CWA requires states to assess and report the quality of their water bodies. California’s State Water Resources Control Board works to achieve water quality standards and maintain beneficial uses in all of California’s surface waters.

Segment 3 of the Project crosses a USEPA-designated impaired water body, Campo Creek (USEPA 2020). Campo Creek is on the impaired water bodies 303(d) list for impaired recreational use due to the presence of bacteria and other microbes.

7.1.3 Floodplains

Floodplains are areas of low-level ground present along rivers, stream channels, large wetlands, or coastal waters. Floodplain ecosystem functions include natural moderation of floods, flood storage and conveyance, groundwater recharge, and nutrient cycling. Floodplains also help to maintain water quality and are often home to a diverse array of plants and animals. In their natural vegetated state, floodplains slow the rate at which the incoming overland flow reaches the main water body.

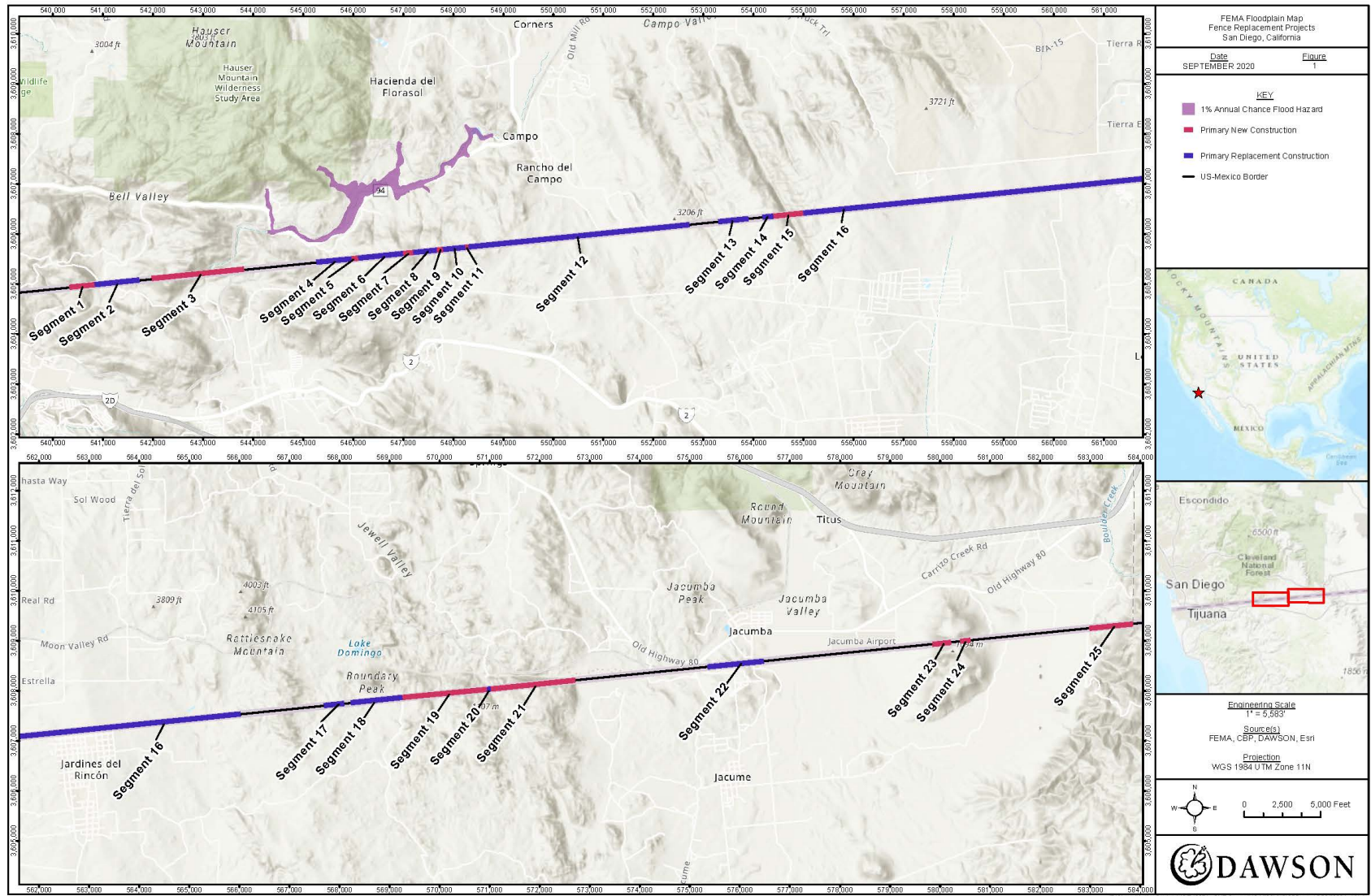
Flood potential is evaluated by the Federal Emergency Management Agency (FEMA), which defines the 100-year floodplain as the area that has a 1 percent chance of inundation by a flood event in any given year. Risk of flooding typically hinges on local topography, the frequency of precipitation events, and the size of the watershed above the floodplain. Certain facilities, such as hospitals, schools, or storage buildings for irreplaceable records, inherently pose too great a risk to be in either the 100- or 500-year floodplain. Federal, state, and local regulations often limit floodplain development to passive uses, such as recreational and preservation activities, to reduce the risks to human health and safety.

Floodplains are protected under EO 11988, Floodplain Management, which requires federal agencies to determine whether a proposed action would occur within a floodplain. This determination typically involves consultation of appropriate FEMA Flood Insurance Rate Maps (FIRMs), which contain enough general information to determine the relationship of the Project Area to nearby floodplains. If a federal agency action encroaches within the floodplain and alters the flood hazards designated on a FIRM (e.g., changes to the floodplain boundary), an analysis reflecting any changes must be submitted to the FEMA. EO 11988 directs federal agencies to avoid floodplains unless the agency determines that there is no practicable alternative. Where the only practicable alternative is to site in a floodplain, a specific step-by-step process must be followed to comply with EO 11988 outlined in the FEMA document Further Advice on EO 11988 Floodplain Management.

All construction activities near the floodplain should be coordinated with the Floodplain Manager for the area FEMA office.

Floodplains in the Project Area. A review of the FIRM for San Diego County in California does not show any floodplain zones within the Project Area (FEMA 2020) (see **Figure 7-2**). Many areas are marked as Zone X, which are defined as areas determined to be outside the 0.2 percent annual chance floodplain and Zone D, which area defined as areas of underdetermined flood hazards.

Figure 7-2. Map of Floodplains in the Project Area



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7.2 ENVIRONMENTAL CONSEQUENCES

The Project is not bound by Section 404 of the CWA and therefore CBP is not required to abide by its rules and regulations. Nevertheless, CBP recognizes the importance of environmental stewardship and will provide post-construction determinations of impacts to determine if and where additional stewardship may be necessary, given the availability of appropriate funds.

7.2.1 Groundwater

The Project has the potential to have moderate, temporary adverse impacts on the availability of water resources in the region. The Project requires groundwater from the local supply for road construction, including pouring concrete, cut-and-fill operations, and fugitive dust suppression during construction activities.

This temporary demand is unlikely to have a permanent impact on the local water supply, which is drawn from a diverse set of water sources. If CBP environmental monitors find that local groundwater pumping is having an adverse effect to aquatic-, marsh-, or riparian-dwelling threatened and endangered species, treated water from outside the immediate area must be utilized.

Prior to drilling new wells or using existing ones, the contractor is required to receive approval for all proposed well locations from CBP. In order to use private wells, the contractor must receive permission from the individual landowner.

Groundwater contamination due to road improvements or fence installation is likely to be negligible due to the implementation of SWPPP measures and the natural filtration of soils overlying the aquifers in the Project corridor. Groundwater quality does not have the potential to be permanently impacted as a result of the Project.

7.2.2 Surface Water and Waters of the United States

Construction of the new barrier system has the potential to result in permanent and temporary, minor, adverse impacts on ephemeral surface waters, including a USEPA designated-impaired water body, Campo Creek, and 1.2 acres of potentially jurisdictional waters within the Project Area. The Project has the potential to increase impervious surfaces, which could redirect surface flows and result in adverse impacts on surface waters if these flows cause scour or introduce sediment or other contaminants not already occurring in the drainages.

During construction, there is a potential for sediment and other contaminants to be introduced to surface waters and ultimately impact downstream water quality. Chemical or petroleum spills have the potential to result in short-term, direct impacts on surface waters. However, implementation of typical stormwater protection BMPs and spill prevention and management plans have the potential to reduce or eliminate permanent, adverse impacts on the water quality of surface waters.

7.2.3 Floodplains

The Project does not have the potential to impact floodplains. However, CBP will continue to coordinate with the construction contractor to consider potential impacts and develop a barrier design that allows for continuous water flow and minimizes debris build-up during flood events. Erosion and sediment control and storm water management practices will be implemented during and after construction.

8. BIOLOGICAL RESOURCES (VEGETATION, WILDLIFE, AQUATIC SPECIES, SPECIAL STATUS SPECIES)

8.1 AFFECTED ENVIRONMENT

The Project is located in the eastern portion of the San Diego Sector and is composed of eight separate survey segments starting approximately 3 miles east of the Tecate POE and ending approximately one half-mile east of the San Diego County line. The Survey Area focused on areas where no border infrastructure was present. The Project is located on a combination of BLM lands and undeveloped private holdings. The Survey Area is defined as an area extending 100 feet to the north from the international border along each of the eight segments. In addition, the proposed staging areas also surveyed. Staging areas were identified in the field by staking prior to surveys being conducted.

The Survey Area is located within the Southern California/Northern Baja Coast Ecoregion and two Level IV Ecoregions: Diegan Western Granitic Foothills and Morena/Boundary Mountain Chaparral (Griffith et al. 2016). To the west, the ecoregion is characterized by low hills at intermediate elevations and includes parts of the lower Peninsular Ranges. A few valleys occur in the ecoregion and can be narrow to broad. The ecoregion is mildly influenced by marine air. Characteristic vegetation includes needlegrass, coast live oak, chamise mixed chaparral and California sagebrush. The ecoregion to the eastern part of the Survey Area is transitional between the Southern California/Northern Baja Coast Ecoregion to the west and south, and the Southern California Mountains to the east. The topographical relief in this area is less dramatic than in the Southern California Mountains and it lacks the hardwood and conifer woodlands. Characteristic vegetation is mixed chaparral and chamise. Elevations along the Survey Area gradually increase moving west to east and range between 1,998 to 4,026 feet above mean sea level (Google Earth 2020).

A search of relevant literature identified 73 special-status plants and 55 special status animal species whose potential to occur in the Survey Area required assessment. Field surveys were conducted in March, April, and May of 2020 to map vegetation communities in the Survey Area and to identify suitable habitat for special-status species. The potential for special status species to occur in the Survey Area was based on the conditions observed in the field, habitat preferences and known distributions of special-status species, and the professional expertise of the biologists conducting the survey. The following resources were reviewed to determine which special-status plant and animal species have potential to occur in the Survey Area:

- California Natural Diversity Database records (CNDDDB 2020);
- California Native Plant Society Inventory of Rare and Endangered Plants of California (CNPS 2020);
- United States Geological Survey 7.5-minute quadrangles Potrero, Campo, Tierra del Sol, Jacumba OE S, and In-Ko-Pah Gorge OE S. (USGS 1972);
- NatureServe (NatureServe 2020);

- U.S. Department of Agriculture Natural Resource Conservation Service Soil Survey Data (Soil Survey Staff 2020);
- Conservation Biology Institute, Data Basin (CBI 2013);
- Bureau of Land Management California Special-Status Animal Species and Sensitive Species List (BLM 2014); and
- California Department of Fish and Wildlife, Special Animals List (CDFW 2020).

General biological surveys were conducted in March, April, and May 2020. Vegetation communities in the Survey Area were mapped using the United States National Vegetation Classifications Database and A Manual of California Vegetation (USNVC 2020, Sawyer et. al 2008). Vegetation communities were mapped to the association level when possible (see **Appendix A.**) Vegetation mapping was conducted using aerial imagery and on-site ground truthing and species identification. Biologists documented all plant and wildlife species observed during field surveys.

8.1.1 Vegetation

Plant species observed in the Survey Area were identified using the Jepson eFlora (Jepson Flora Project 2020) and The Jepson Manual, Vascular Plants of California (Greenhouse et. al. 2012). Vegetation in the Survey Area presented varying degrees of human disturbance, including foot-trails, Customs and Border Protection patrol and access roads and private land holdings and managed vegetation to create firebreaks. Proposed staging yards were sighted within these disturbed areas.

Vegetation within the Survey Area consists of native vegetation communities as follows: *Adenostoma fasciculatum* – (*Eriogonum fasciculatum*, *Artemisia californica*, *Salvia melifera*) Association, *Adenostoma fasciculatum* – *Eriogonum fasciculatum* Association, *Adenostoma fasciculatum* – annual grass-forb Association, *Adenostoma sparsifolium* Association, *Agave deserti* Association, *Artemisia californica* – *Eriogonum fasciculatum* Association, *Bahiopsis laciniata* – *Artemisia californica* – *Eriogonum fasciculatum* Association, *Ceanothus leucodermis* Association, Developed – Non native forbs, *Ericameria teretifolia* Association, *Eriogonum fasciculatum* Association, *Larrea tridentata* Association, *Prunus fremontii* Alliance, *Quercus agrifolia* – *Salix lasiolepis* Association, *Quercus berberidifolia* Association, *Quercus berberidifolia* – *Adenostoma fasciculatum* Association, *Rhus ovata* Association, *Quercus cornelius-mulleri* – *Rhus ovata* Association, *Eriogonum fasciculatum* Shrubland Alliance, *Eriogonum fasciculatum* – *Salvia apiana* Xeric Scrub Alliance, *Keckiella antirrhinoides* Shrubland Alliance, and *Lotus scoparius* [*Acmispon glaber*] Shrubland Alliance.

Five special-status plant species was observed within the Survey Area during field surveys or during subsequent monitoring. Of the special-status species assessed for the Survey Area but not observed, 36 special-status plants have the potential to occur (**Appendix A**). Special-status species have the potential to occur in the Survey Area due to suitable soils, vegetation communities, preferred elevation range, habitat characteristics and known distribution. Specific vegetation

communities where each special-status species may be expected to occur are listed in **Appendix A**.

8.1.2 Wildlife and Aquatic Resources

One special-status wildlife species was observed within the Survey Area during field surveys or during subsequent monitoring. Of the special-status species assessed for the Survey Area but not observed, 49 special status wildlife species have the potential to occur (**Appendix A**). Special-status species have the potential to occur in the Survey Area due to suitable soils, vegetation communities, preferred elevation range, habitat characteristics and known distribution. Specific vegetation communities where each special-status species may be expected to occur are listed in **Appendix A**. Suitable habitat for migratory birds also exists within the Project Area.

8.1.3 Critical Habitat

Critical habitat has been designated for one special-status wildlife species in the Survey Area, arroyo toad (*Anaxyrus californicus*). Critical habitat for the arroyo toad has been identified along Campo Creek in the Survey Area (USFWS 2020). Suitable shallow, slow-moving stream habitat is present in the survey. No surveys for arroyo toads were conducted as part of this survey effort.

8.2 ENVIRONMENTAL CONSEQUENCES

8.2.1 Vegetation

Construction of the new wall along the U.S./Mexico international border with 30-foot bollard has the potential to cause both permanent and temporary impacts on the native vegetation communities listed in **Section 8.1.1**. Permanent impacts have the potential to occur in areas of the new bollard wall alignment, adjacent patrol road, infrastructure related to communications, and installation of LED lighting. Temporary impacts have the potential to occur in areas north of the alignment and patrol roads used for equipment and materials storage and staging, and laydown yards used to store equipment, materials, and conduct temporary activities in support of the Project.

Five special-status plant species are known to occur within the Survey Area and 36 additional special-status plant species have the potential to occur within the Survey Area. Therefore, direct adverse impacts on special-status plant species within the Survey Area have the potential to occur as a result of construction activities. Special-status plant species have the potential to be impacted through direct loss of individuals. Adverse impacts on special-status plant species found within the Survey Area could be mitigated by avoidance with guidance by a qualified biological monitor. BMPs will be implemented to minimize potential impacts on special-status plant species.

8.2.2 Wildlife and Aquatic Resources

One special-status wildlife species is known to occur within the Survey Area and 49 additional special-status wildlife species have the potential to occur within the Survey Area. Mobile wildlife such as birds and larger mammals have the potential to move away from the construction area toward nearby areas of similar habitat, while smaller, slow, or sedentary species such as reptiles,

amphibians, and smaller mammals have the potential to be lost during construction. Therefore, direct negligible to minor, negative impacts on wildlife within the Project Area have the potential to occur. However, because construction will be temporary and much of the habitat will be restored, the potential for this Project to result in long-term or significant decreases in most wildlife populations in the region is unlikely. Migratory birds have the potential to be impacted through direct loss of habitat, including foraging, roosting, nesting, and escape cover. Adverse impacts on nesting birds within the Project footprint have the potential to be mitigated by avoidance or relocation by a qualified biologist. BMPs will be implemented to minimize potential impacts on migratory birds.

Construction-related noise has the potential to have short-term impacts on wildlife species within the Project Area. Anthropogenic noise has been found to increase physiological stress, compromise predator/prey detection, affect mating signals and territorial defense, decrease foraging efficiency, and alter temporal or movement patterns in wildlife, although the intensity of behavioral responses due to noise varies among species as well as individuals within a species (Francis and Barber 2013). Because construction activities could take place 24 hours a day and the most active periods for most wildlife are between dusk and dawn, the Project noise-related impacts during construction have the potential to be moderate.

The use of portable construction lighting has the potential to affect wildlife. Light pollution can cause disorientation to wildlife by extending diurnal and crepuscular behaviors into the night. Some species have the potential to benefit from this, as it increases foraging potential for predators but decreases benefits for prey (Longcore and Rich 2004). Conversely, animals that forage at night have the potential to be negatively influenced due to the shortened nighttime hours or could move away from the area altogether.

Reproduction in certain species also has the potential to be affected; frogs, for example, have been documented to stop mating activity in the presence of nighttime light. The Project Area will be illuminated at night by permanent lighting for border enforcement activities, which has the potential to have a moderate impact on wildlife activities. However, all lighting will be shielded and directed down to minimize impacts on wildlife.

8.2.3 Critical Habitat

Critical habitat has been designated for one species in the region, arroyo toad, which occurs within the Survey Area. Additionally, suitable shallow, slow-moving stream habitat is present in the Survey Area and has the potential to be impacted by construction activities by way of direct habitat loss or habitat disruption. Therefore, arroyo toad critical habitat has the potential to be impacted as a result of the Project.

9. CULTURAL RESOURCES

9.1 AFFECTED ENVIRONMENT

“Cultural resources” is an umbrella term for many heritage-related resources defined in several federal laws and executive orders, including the National Historic Preservation Act (NHPA), the Archeological and Historic Preservation Act, the American Indian Religious Freedom Act, the Archaeological Resources Protection Act, and the Native American Graves Protection and Repatriation Act (NAGPRA). NHPA focuses on cultural resources such as prehistoric and historic sites, buildings and structures, districts, and other physical evidence of human activity considered important to a culture, subculture, or community for scientific, traditional, religious, or other reasons. Such resources might provide insight into the cultural practices of previous civilizations or retain cultural and religious significance to modern groups. Resources judged important under criteria established in NHPA are considered eligible for listing in NRHP. These resources are termed “historic properties” and protected under NHPA.

9.1.1 Project Location and Setting

A cultural resources survey of approximately 237 acres of right-of-way (ROW) for the Project was completed. Topography for the survey areas included both alluvial fan and mountainous terrain. The ROW consists of a 27-mile long, 60-foot wide (194.70 acres) primary and secondary fence installation corridor, and a 300-foot wide corridor covering approximately 42.28 acres for the construction of switchback roads for heavy machine access.

The survey area is located near Campo and Jacumba Hot Springs in the eastern part of San Diego County, California (the Survey Area). The Survey Area stretches across the Laguna Mountains within the Peninsular Range, which is on the desert side of the transitional area between coastal and desert climates and within a subdivision of the Sonoran Desert scrub biome. The Survey Area is within the Lower Colorado River Valley, Mojave Desert – Sonoran Desert transition biotic community (Brown 1994). Vegetation within the Project Area consists primarily of California buckwheat (*Eriogonum fasciculatum*) and California sagebrush (*Artemisia californica*) shrub community with isolated riparian areas near perennial streams. Overall, the vegetation assemblages across the Project are similar to coastal scrub communities toward the west and transitioned to lower density desert scrub communities to the east.

The underlying geology in an around Campo, California, is composed of Mesozoic gabbroic rocks (Triassic to Cretaceous in age) with mostly small exposures of gabbro and diorite (USGS 2019). Soil classification series ranged from Acid Igneous Rock Land Series in the mountainous areas to Rositas and Kitchen Creek Soil Series in alluvial fans (SoilWeb 2020).

9.1.2 Cultural History

The Project is located within the historical territory of the Kumeyaay, which extends from northern Escondido to some distance south of Ensenada in northern Baja California (Mexico), and east nearly as far as the lower Colorado River. The Kumeyaay were historically referred to as the Diegueño after Mission San Diego de Alcalá was established. The main language spoken is Hokan

within the Yuman language family with dialects that are further broken into Tipai (southern) and Ipai (northern).

The Kumeyaay were organized into autonomous bands, which usually occupied a main village and several smaller habitation sites. Communities disbanded seasonally and established smaller groups of 200 to 1,000 people to gather, process, and store resources. Subgroups spoke individual dialects and often intermarried (Royo 1999).

Trade routes also were used for communication. Runners could relay important information over great distances in a relatively short time. When the Quechan at Yuma rebelled against the Spanish in 1780, the news reached the Kumeyaay at the Mission in San Diego that same evening—a distance of 120 miles (Connolly Campo 2013).

The earliest explorations of the San Diego area began in 1542, when Juan Rodríguez Cabrillo and his party landed near Point Loma. Cabrillo had been tasked with the exploration of the coastal areas of the western U.S. by the Spanish monarch. Interaction with the Kumeyaay was initiated, but overall little attention was given to California until the 1700s.

Spanish settlement of the San Diego area began in 1769 when the Spanish developed plans to build four presidios (forts), and three towns along the California coastline stretching from San Diego northward to Monterey. The town sites, established between 1777 and 1797, included present-day Los Angeles, San Jose, and a small town near Santa Cruz, named Branciforte; while the presidios were established at San Diego, Santa Barbara, Monterey, and San Francisco. Under Spain, the “borderlands were colonized as defenses against the intrusion of the English, French, Dutch, and Russians, with the Manila trade an important item for protection in California. They were held by two typical institutions: the mission and the presidio” (Bolton 1913, 1921, 1930 as cited in Aviña 1976).

The arrival of the Spanish missionaries, starting in 1769, brought about prevailing changes for the Native Americans, including high mortality rates and social changes due to the introduction of European diseases and customs (e.g., European farming methods) (Dobyns 1983; Walker and Hudson 1993). Due to the high mortality rates, many Native American villages were abandoned, with inhabitants recruited for the missions.

Mexico gained independence from Spain in 1821, taking control of the lands Spain once held. The Secularization Act of 1833 transferred much of the Mission San Diego Alcalá lands to Mexican land grants given to political appointees in 1834-1836. Due to natives outnumbering all others of the population combined, and with the reduction in military personnel due to secularization, violence and continued conflict heavily crippled the San Diego area. Between 1840 and 1846, the Governors of California, Juan B. Alvarado, Manuel Micheltoarena and Pio Pico, made further land grants transferring Mission properties to private ownership, but growth and economic prosperity in the area continued to lag (Cowan 1977; Hughes 1975; Ohles 1997).

With the arrival of United States soldiers during the Mexican American War of 1846-1848, and the subsequent flood of Anglo settlers and speculators, order was finally restored in the San Diego area. Meanwhile, former mission Indians were resettled on reservations within the interior of San

Diego County, their coastal villages having long been abandoned under the mission system (Dobyns 1983; Walker and Hudson 1993).

9.1.3 Records Check and Survey Results

A search of the California Historic Resources Information System (CHRIS) from the South Coastal Information Center (SCIC) that included the entire proposed Project Area was requested and completed in September 2020. Results of the record search indicate that 25 previous studies have been completed within 0.5 miles of the Project Area (**Table 9-1**).

Table 9-1. Previous Cultural Resource Studies

SCIC No.	Project Name	Author and Date
	Description of the Proposed Action and Alternatives to Improve Cale Road and Rope to FC-2 All-Weather Roadways, U.S. Border Patrol, San Diego Sector, San Diego County, California	Reilly 2018
	Class III Cultural Resources Survey Report for the Proposed Improvement, Operation, Maintenance and Repair of the Cable Road in the El Cajon and Rope Road in the Chula Vista Station Area of Responsibility of the U.S. Border Patrol San Diego Sector, San Diego County, California	Teeter et al. 2019
	Cultural Resource Input for the Environmental Assessment of the Effects of the Proposed Conveyance of Public Lands near Campo, CA to God Unlimited University of Healing, Inc	Musser 1983
IM-01723	Class III Cultural Resource and Historical Property Inventory of United States Border Patrol Tactical Infrastructure maintenance and Repair Roads, San Diego and Imperial Counties, California	HDR, Inc. 2019
SD-00558	An Archaeological Survey Report for a Proposed Project on 11-SD-94 p.m. 46-6/47.3	Cupples 1977
SD-01267	An Archaeological Inventory and Assessment of Corridor Segments 46 and 49, Preferred Southern Route, San Diego County	Johnson 1976
SD-01271	An Archaeological Reconnaissance of TPM #16354/Log#79-22-6 near Jacumba, California	Peterson-May 1980
SD-01318	Archaeological Survey of the Mazzanti Property, Jacumba, California	McCoy and Tesken 1979
SD-01463	Archaeological Report-Volume II Data Presentation on the Re-Survey, Surface Collection and Test Excavation of the Archeological Resources on the Manzanti Property Located in the Jacumba Area of the County of San Diego, TPM 13416 Log 79222	Scientific Resource Surveys, Inc. 1982
SD-01588	Miguel to Mountain Springs Grade (Jade) Archaeological Survey Report	Wirth Associates 1981
SD-02065	Final Environmental Assessment for the Table Mountain Study Area Wind Energy Development	BLM 1984
SD-03836	Southwest Powerlink Cultural Resources Management Plan	Townsend 1984

SD-04273	JTF-6 Border and Fence: Construction and Repair Campo & Jacumba	Dibble 1994
SD-08604	Archaeological Survey Report and Assessment on the Mazzanti Lot Split, TPM 15977, Log #79-22-2	Scientific Resource Surveys, Inc. 1980
SD-09231	Results of Supplemental Surveys for Various U.S./Mexico Border Infrastructure and Road Improvements from Tecate to Jacumba, San Diego County, California	Buysse and Smith 2003
SD-10066	Environmental Development Agency 1975	Environmental Development Agency, County of San Diego 1975
SD-10558	Archaeological Report-Volume I: The RE-Survey, Surface Collection and Test Excavation of the Archaeological Resources on the Mazzanti Property Located in the Jacumba Area of the County of San Diego, TPM 13416 Log 79-22-2	Scientific Resources Surveys, Inc. 1982
SD-10578	An Archaeological Investigation of Sites C-568, C-569, C-570 along the Mexican Border TPM 16354	Banks 1980
SD-11546	A Class III Intensive Field Survey for the Gapfiller Project	Rosenberg and Smith 2008
SD-12646	Cultural Resources Survey Report for the 2010 Revised Gapfiller Project, San Diego County, California	Robbins-Wade 2010
SD-12096	Final Class III Cultural Resources Inventory for the International Fuel Break Project, San Diego, California	Ramirez and Sikes 2008
SD-13720	Cultural Resources Survey for the CMP Pole Replacement, P44734, Portero Project, San Diego County, California	Morgan 2011
SD-14337	Letter Report: Cultural Resources Survey for Smart Meter Installation and Range Extension at Pole P43545, Community of Campo, San Diego County, California	Wilson 2013
SD-15443	Mitigation Survey for Approximately 210 Acres of Bureau of Land Management Property to San Diego Gas & Electric Company's East County Substation Project (ESCP), San Diego County, California	Williams et al. 2014
SD-16086	Cultural Resources Inventory and Evaluation in Support of Section 106 of the NHPA for the Jacumba Solar Energy Project, San Diego County, California	Comeau and Hale 2014

The records search also determined 10 previously recorded resources are located within the Project boundaries (**Table 9-2**). In addition, 37 other cultural resources are located within 0.5 miles of the Project (**Table 9-3**). These include 32 prehistoric archaeological sites, 8 prehistoric isolates, 0 multicomponent sites (both prehistoric and historic), and 8 historic architectural resources (**Table 9-4**).

Table 9-2. Previously Recorded Cultural Resources Within the Project Area

Primary No. (P-37-)	Trinomial/HRI	Resource Type	Related Records/ Authors	USGS Topographic Map	Location
178	CA-SDI-000178	Prehistoric ceramic scatter	Hector et al 2006, Williams et al 2014	Jacumba OES	Access road
6981	CA-SDI-006981; CA SDI-010041H	Historic State Route 94/Campo Road	Townsend 1984 Teeter et al. 2019	Campo	Access road
13193	CA-SDI-013193	Prehistoric bedrock milling feature and lithic scatter	Largent and Buysse 1997	Potero	Border segment
15806	Prehistoric isolate – two flakes	Largent and Buysee 1997	Potero		Access road
15807	Prehistoric isolate – two flakes	Largent and Buysse 1997	Potero		Access road
15808	Prehistoric isolate – one flake	Largent and Buysee 1997	Potero		Access road
25680	Historic San Diego and Arizona Railroad	SD-11977, SD-14021, SD-14042, SD-14078	Potero		Border segment, access road
29839	Prehistoric isolate – lithic scatter	Ramirez and Sikes 2008	Campo		Access road
29865	Modern concrete memorial “Bunker Bob”	Ramirez and Sikes 2008	Campo		Staging area
30855	Historic GLO Survey Monument T18S R7E	Rosenberg and Hubbs 2009	Tierra del Sol		Border segment

Table 9-3. Previously Recorded Cultural Resources Within 0.5 Miles of the Project Area

Primary No. (P-37-)	Trinomial/HR I	Resource Type	Related Records/ Authors
177	CA-SDI-000177	Prehistoric lithic scatter	Johnson 1976; McCoy and Thesken 1979; Scientific Resources Surveys, Inc. 1980,1982

4449	CA-SDI-004449	Prehistoric lithic scatter and chipping station	Williams et al. 2014
4451	CA-SID-004451	Prehistoric habitation	Johnson 1976
4452	CA-SDI-004452	Prehistoric rock shelter	Johnson 1976
4461	CA-SDI-004458	Prehistoric artifact scatter	Williams et al. 2014
4462	CA-SDI-004462	Prehistoric habitation site	Williams et al. 2014
4466	CA-SDI-004466	Prehistoric artifact scatter	Environmental Development Agency 1975
6035	CA-SDI-006035	Prehistoric habitation	Cupples 1977, Morgan 2011, Wilson 2013
6036	CA-SDI-006036	Prehistoric milling features on bedrock outcrops	Cupples 1977, Colombo and Willis 1989, Laylander and Pallete 2006
6990	CA-SDI-006990	Prehistoric habitation	Townsend 1984
6991	CA-SDI-006991	Historic two corrals, two concrete water troughs, rock wall, wooden structure, two iron silos	Burkenroad 1978, Townsend 1984
6992	CA-SDI-006992	Historic San Diego and Arizona Railroad Bridge	Townsend 1984
6993	CA-SDI-006993	Historic farming storage and repair site	Townsend 1984
9173	CA-SDI-009173	Prehistoric grinding slick and sparse lithic scatter	Townsend 1984
9174	CA-SDI-9174	Historic water well dug in 1970	Townsend 1984
29848		Prehistoric isolate – one flake	Rosenburg and Smith 2008
29850		Prehistoric isolate – mano fragment	Ramirez and Sikes 2008
29863	CA-SDI-019088	Prehistoric bedrock milling feature	Ramirez and Sikes 2008
29864		Prehistoric lithic scatter	Ramirez and Sikes 2008
33900	CA-SDI-021287	Prehistoric thermal feature and lithic scatter	Williams et al. 2014
33902	CA-SDI-021289	Prehistoric thermal feature and flake scatter	Williams et al. 2014
33913	CA-SDI-021300	Prehistoric sparse lithic scatter	Williams et al. 2014
33914	CA-SDI-021301	Prehistoric sparse lithic scatter and possible blind	Williams et al. 2014
33915	CA-SDI-021302	Prehistoric possible thermal feature and sparse lithic scatter	Williams et al. 2014

33918	CA-SDI-021305	Prehistoric rock alignment/pile	Williams et al. 2014
33919	CA-SDI-021306	Prehistoric habitation	Williams et al. 2014
34123		Prehistoric isolate – one flake	ASM Affiliates 213
34172	CA-SDI-021382	Prehistoric bedrock milling features	ASM Affiliates 2013
38507	CA-SDI-022689	Prehistoric lithic scatter	HDR 2019
38508	CA-SDI-022690	Prehistoric milling complex with lithic and ceramic scatter	HDR 2019
38524		Prehistoric isolate – Mano	HDR 2019
33901	CA-SDI-033901	Prehistoric milling features	Williams et al. 2014
33916	CA-SDI-021303	Prehistoric rock alignment/rock ring.	Williams et al. 2014
33917	CA-SDI-021304	Prehistoric rock alignment/rock ring	Williams et al. 2014
33911	CA-SDI-021298	Prehistoric artifact scatter	Williams et al. 2014
	CA-SDI-12867	Prehistoric milling slicks	Musser 1983
	CA-SDI-012868	Historic dilapidated structure	Musser 1983

In addition to the SCIC records search a variety of sources were consulted in September 2020 to obtain information regarding the cultural context of the Project Area (**Table 9-4**). Sources included the NRHP, the California Register of Historic Resources (CRHR), California Historical Resources Inventory (CHRI), California Historical Landmarks (CHL), and California Points of Historical Interest (CPHI).

Table 9-4. Additional Sources Consulted

Source	Results
National Register of Historic Places (NRHP; 1979-2002 & supplements)	None
Historic USGS Topographic Maps	Carrizo, CA 1931; Campo, CA 1939; El Centro, CA 1915; Cayamaca, CA 1903; All 7.5 USGS ca. 1940s to modern.
Historic US Department of Agriculture Aerial Photographs	Flight AXN-1953; Flight CAS-SD 1963;
California Register of Historical Resources (CRHR; 1992-2014)	None
California Historical Resources Inventory (CHRI; 1976-2014)	None
California Historical Landmarks (CHL; 1995 & supplements to 2014)	None

California Points of Historical Interest (CPHI; 1992-2014)	None
Caltrans Historic Bridge Inventory (2016)	None
Bureau of Land Management (BLM) General Land Office Records	Several land patents across the 27-mile segment none of which were associated with any known or newly recorded sites.

Archeologists surveyed a total of 236.98 acres in 25 separate survey areas between May 18 and September 22, 2020. Transect width was between 10 to 15 meters where possible, but some of the survey areas were heavily covered in vegetation, difficult terrain, or were not accessible due to steepness or lack of available roads. In difficult terrain, surveys were limited to narrow trails where available. Nikon Aculon A211 10x50 Binoculars were used on inaccessible areas within line of sight. A Garmin inReach SE was used to record all pertinent GPS data. Survey and photo logs were maintained for each individual survey area.

Several border sections contained the various stone or metal Boundary Monuments built or repaired during the 1894 to 1896 Boundary Survey conducted jointly by the United States and Mexican governments, General Land Office (GLO) Survey California/Mexico brass cadastral Boundary Markers dating to between 1921 and 1928, and concrete post boundary markers used between 1928 and 1984 (Dear 2005; International Boundary Commission 1898). The GLO markers consist of the standard bronze disk end cap on a pipe embedded in the ground. Usually these markers are accompanied by a rock cairn of various sizes and heights depending on the availability of local rock and the topography, although rock cairns were also used as markers in the original pre 1894 surveys. The 1894-1896 monuments were placed on average of every 2.5 miles (International Boundary Commission 1898). GLO survey markers were placed at all topographic sections and quarter sections. Other boundary markers seem to have been placed at various intervals that may correspond to lot or grant sections or were simply placed in visibly appropriate areas. Only a representative sample of markers and posts were recorded.

Although ten previously recorded archaeological resources were noted in the Project Area, no significant archaeological resources were located during the survey. A total of 18 resources were recorded. They include sixteen isolates comprising a mano, a handstone, two core/choppers, one ceramic sherd, and several individual flakes, one site comprising a sparse lithic scatter, and one rock features on an indeterminate age were recorded (see **Appendix D**).

9.2 ENVIRONMENTAL CONSEQUENCES

Although the Secretary’s waiver means that CBP does not have any specific obligations under NHPA, DHS and CBP recognize the importance of responsible environmental stewardship. CBP has therefore applied the general standards and guidelines associated with NHPA as the basis for evaluating potential environmental impacts and appropriate BMPs.

None of the resources are considered eligible for inclusion in either the National Register or the California Register of Historical Resources. As a result, no impacts are expected. No further cultural resources work is necessary for the Project.

Due to inaccessible terrain within several survey areas, monitoring is recommending during all ground disturbing activities within steep or mountainous areas. Impacts to cultural resources have the potential to occur, should any sites or isolates be identified.

In the event of any unanticipated cultural resource discoveries during the current undertaking, all finds should be immediately reported to CBP personnel for further evaluation and mitigation responses. If human remains are encountered during construction activity, construction should stop, and the proper authorities from CBP must also be notified per NAGPRA. With the implementation of these recommendations, in conjunction with the BMPs listed in **Section 1.5.7**, the Project does not have the potential to have any direct or indirect adverse impact on known cultural resources.

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10. SOCIOECONOMICS

10.1 AFFECTED ENVIRONMENT

Socioeconomics is defined as the basic attributes and resources associated with the human environment, particularly population and economic activity. While population and demographic data are relatively straightforward and maintained by the Census Bureau, there are many factors that can be used as indicators of economic conditions for a geographic area, such as employment and unemployment rates, employment by business sector, and median household income.

The Project includes the installation of primary pedestrian bollard wall along the U.S./Mexico international border east of Tecate, California, in San Diego County. The Project will occur in a rural/undeveloped area in the U.S. For the purposes of this ESP, the Region of Influence (ROI) includes census tract 211 in San Diego County, California. Census tracts are designed to be relatively homogenous units with respect to population characteristics, economic status, and living conditions at the time of establishment. The demographics of the ROI, county, and state are listed in **Table 10-1**. Within the ROI, a greater percentage of the population is white (78 percent) compared with San Diego County (71 percent) or California as a whole (60 percent). The percentage of the population identifying as American Indian (5 percent) and Hispanic (43 percent) is also higher (U.S. Census Bureau 2020a).

Table 10-1. Demographics by County

Location	Total Population, 2018	Caucasian (%)	Some Other Race	Black/ African American	American Indian/ Native Alaskan	Asian	Native Hawaiian/ Pacific Island	2+ Races	Hispanic/ Latino *
ROI	8,374	78.1%	10%	1.4%	4.7%	1.0%	0%	4.8%	43.2%
San Diego County	3,302,833	70.7%	6.2%	5%	0.6%	11.8%	0.4%	5.2%	33.5%
California	39,148,760	60.1%	13.8%	5.8%	0.8%	14.3%	0.4%	4.8%	38.9%

*Percentage not included as part of demographic total.

Source: U.S. Census Bureau 2020a.

Employment types in the ROI vary (see **Table 10-2**). The largest employment type in the ROI, San Diego County, and California is educational services, and health care and social assistance. Professional, scientific, and management, and administrative and waste management services was the second largest employment type for San Diego County and California, while it was construction in the ROI. In 2018, the ROI had an unemployment rate of 5.2 percent, compared to 4 percent for San Diego County and 6.7 percent for the state (U.S. Census Bureau 2020b).

Table 10-2. Employment Data

Location	Civilians Employed	Top Industries	Unemployment Rate
ROI	2,661	Educational services, and health care and social assistance (17.0%), construction (14.0%), retail trade (13.1)	5.2%
San Diego County	1,564,930	Educational services, and health care and social assistance (21.3%); Professional, scientific, and management, and administrative and waste management services (15.1%); arts, entertainment, and recreation, and accommodation and food services (11.9%)	4%
California	18,309,012	Educational services, and health care and social assistance (21%); Professional, scientific, and management, and administrative and waste management services (13.4%); Retail trade (10.6%)	6.7%

Source: U.S. Census Bureau 2020b.

In 2018, San Diego County had a per capital personal income (PCPI) of \$61,386, which was 97 percent of the state average of \$63,557 (BEA 2020). Total personal income (TPI) of an area is the income that is received by, or on behalf of, all the individuals who live in that area. In 2018, the TPI for San Diego County was \$205.2 billion. The income for San Diego County and California is listed in **Table 10-3**.

Table 10-3. County Income Comparison

Location	PCPI ¹	TPI ¹	Median Household Income ²
San Diego	\$61,386	\$205.2 billion	\$74,855
California	\$63,557	\$2.63 trillion	\$71,228
United States	\$54,446	\$18.6 trillion	\$60,293

¹Source: BEA 2020.

²Source: U.S. Census Bureau 2020b.

10.2 ENVIRONMENTAL CONSEQUENCES

The Project is not anticipated to have impacts, direct or indirect, on long-term population or employment. Legal traffic across the border will continue at the Tecate POE. The Project is anticipated to hire local construction crews and contractors for the duration of construction, reducing the need for new employees or relocation of employees. No potential employees would be required to relocate to San Diego County; therefore, population and demographics of the County would remain the same as preconstruction conditions. The nature of the work associated with the construction phase would be temporary and would not result in additional long-term employment. Additionally, it is anticipated that a portion of the required supplies would be bought from the businesses in the vicinity of the Project Area. It is anticipated that the Project would result in an increase in local spending on food and other incidentals. Although the Project would result in a

short-term beneficial impact to the economy through the provision of temporary jobs and purchasing materials and other personal expenses from local businesses, any increase in economic activity would not be sustained to permanently alter the economic status of the residents and/or businesses in the immediate vicinity.

San Diego County will benefit from the Project in the long term, since the replacement of the primary fence and installation of complimentary security facilities will provide additional protection from illegal traffic across the border.

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11. HAZARDOUS MATERIALS AND WASTE

11.1 AFFECTED ENVIRONMENT

Hazardous materials or wastes have a chemical composition or other properties that make them toxic or otherwise capable of causing illness, death, or some other harmful effect on humans or the environment when mismanaged or released.

USEPA maintains a list of hazardous waste sites, particularly waste storage/treatment facilities or former industrial manufacturing sites in the U.S. The chemical contaminants released into the environment (e.g., air, soil, groundwater) from hazardous waste sites could include heavy materials, organic compounds, solvents, and other chemicals. The potential adverse impact of hazardous waste sites on human health is a considerable source of concern to the general public, as well as government agencies and health professionals.

Solid and hazardous wastes are regulated in California by a combination of mandated laws promulgated by the federal, state, and regional Councils of Government. The EPA Environmental and Compliance History Online Database was reviewed for the locations of hazardous waste sites within or near the proposed Project corridor (USEPA 2020b). According to both of these databases, no hazardous waste sites are located near or within the Project corridor.

Unregulated solid waste within east San Diego County has become a severe problem in recent years due to illegal vehicle and foot traffic. According to the Ninth Report of the Good Neighbor Environmental Board (GNEB) to the President and Congress of the U.S., the average illegal alien disposes of approximately 8 pounds of waste a day. This waste consists of backpacks, clothing, blankets, water bottles, plastic sheeting, food, and other debris. Within the Project Area these forms of unregulated solid waste are the most commonly observed.

In addition to the laws and regulations mentioned earlier, EO 12088, Federal Compliance with Pollution Control Standards, as amended, directs federal agencies to (1) comply with “applicable pollution control standards,” in the prevention, control, and abatement of environmental pollution; and (2) consult with USEPA, state, and local agencies concerning the best techniques and methods available for the prevention, control, and abatement of environmental pollution.

11.2 ENVIRONMENTAL CONSEQUENCES

Soils in the Project Area have the potential to be impacted by hazardous or toxic materials in the event of an accidental spill, which could lead to groundwater contamination. To minimize the potential for release of hazardous materials into the environment, BMPs will be implemented during construction activities to avoid a release to the environment and to anticipate capture requirements in advance of any potential release. To prevent contamination of the Project Area, care will be taken to avoid impacting the Project Area with hazardous substances (e.g., anti-freeze, fuels, oils, lubricants) used during construction. POLs will be stored at designated temporary staging areas to maintain and refuel construction equipment. These activities include primary and secondary containment measures; a SPCCP will be in place prior to the start of construction, and all personnel will be briefed on the implementation and responsibilities of this plan.

Cleanup materials (e.g., oil mops), in accordance with the Project's SPCCP, will also be maintained at the site to allow immediate action in case an accidental spill occurs. Drip pans will be provided for the power generators and other stationary equipment to capture any POLs accidentally spilled during maintenance activities or leaks from the equipment. A concrete washout containment system will be established to ensure concrete washout is safely managed and disposed of properly.

Sanitation facilities will be provided during construction activities, and waste products will be collected and disposed of by licensed contractors. No gray water will be discharged to the ground. Disposal contractors will use only established roads to transport equipment and supplies; all waste will be disposed of in strict compliance with federal, state, and local regulations, in accordance with the contractor's permits. All construction waste will be disposed in compliance with federal, state, and local regulations. Due to the proper permits being obtained by the licensed contractor tasked to handle any unregulated solid waste, and because all of the unregulated solid waste will be handled in the proper manner, no hazards to the public have the potential to occur through the transport, use, or disposal of unregulated solid waste.

12. RELATED PROJECTS AND POTENTIAL EFFECTS

12.1 CUMULATIVE AFFECTED ENVIRONMENT

This chapter of the ESP addresses the potential combined impacts associated with the implementation of the Project and other projects/programs that are planned for the region. Cumulative impacts can result from individually minor, but collectively significant, actions taking place over a period of time by various agencies (federal, state, and local) or individuals. Informed decision making is served by consideration of cumulative impacts resulting from projects that are planned, under construction, recently completed, or anticipated to be implemented in the reasonably foreseeable future.

This cumulative impacts analysis summarizes expected environmental effects from the combined impacts of past, current, and reasonably foreseeable future projects. The geographic scope of the analysis varies by resource area. For example, the geographic scope of cumulative impacts on resources such as soils and vegetation is very narrow and focused on the location of the resource. The scope of air quality, wildlife and sensitive species, visual resources, and socioeconomics is much broader and considers more county or region-wide activities. Projects that were considered for this analysis were identified by reviewing USBP documents, news releases, and published media reports, as well as through coordination with planning and engineering departments of local governments and state and federal agencies, although only projects on the U.S. side of the border were possible to evaluate. Projects that do not occur in close proximity (i.e., within several miles) to the Project will not contribute to a cumulative impact (or are not possible to evaluate if they are south of the border) and are generally not evaluated further.

USBP has been conducting law enforcement actions along the border since its inception in 1924 and has continually transformed its methods as new missions, CBV modes of operation, agent needs, and national enforcement strategies have evolved. Development and maintenance of training ranges, station and sector facilities, detention facilities, and roads and fences have affected thousands of acres, with synergistic and cumulative impacts on soil, wildlife habitats, water quality, and noise. Beneficial effects have resulted from the construction and use of these roads and fences as well, including but not limited to: increased employment and income for border regions and surrounding communities, protection and enhancement of sensitive resources north of the border, reduction in crime within urban areas near the border, increased land value in areas where border security has increased, and increased knowledge of the biological communities and pre-history of the region through numerous biological and cultural resource surveys and studies.

With continued funding and implementation of CBP's environmental conservation measures, including environmental education and training of its agents, use of biological and archaeological monitors, and restoration of wildlife water systems and other habitats, adverse impacts from ongoing and future projects will be prevented or minimized. However, recent, ongoing, and reasonably foreseeable proposed projects will result in cumulative impacts. General descriptions of these types of activities are discussed in the following paragraphs.

12.2 CUMULATIVE FENCING ALONG THE SOUTHWESTERN BORDER

CBP has been identified to construct approximately 738 total miles of border wall system, including approximately 675 miles of primary barriers and approximately 67 miles of secondary barriers on the southwestern border (CBP 2020b). As of October 30, 2020, approximately 390 miles of new primary and secondary border wall system have been constructed. A summary of past, present, and reasonably foreseeable future actions near the Project Area are presented below.

12.3 PAST ACTIONS

Past actions include projects that have occurred in the relatively recent past that are within the cumulative effects analysis areas of this ESP. The effects of these past actions are generally described throughout the previous sections. For example, the existing vehicle and pedestrian fence, the Tecate POE, the existing access roads, and the previously developed border infrastructure system (BIS) have all contributed to the existing environmental conditions of the area.

12.4 PRESENT ACTIONS

Present actions include current or funded construction projects, USBP or other agency actions in close proximity to the fence locations, and current resource management programs and land use activities within the cumulative effects analysis area. Ongoing actions considered in the cumulative effects analysis include the following:

CBP-Funded Border Barrier – CBP is constructing, improving, and maintaining new bollard wall on several projects in San Diego County. These include: replacing existing primary fence and constructing, operating, and maintaining approximately 14 miles of new pedestrian bollard wall along the U.S.–Mexico international border, primarily between the cities of Tijuana Mexico and San Diego, California; removing and replacing an estimated 12.4 miles of existing secondary fence along the International Border adjacent to the City of Tijuana and constructing approximately 1.6 miles of new bollard wall in areas where there is no existing secondary wall; and removing and replacing approximately 4 miles of existing pedestrian fence with a bollard wall along the international border near Tecate, California.

Additionally, CBP is constructing, improving, and maintaining approximately 3.2 miles of bollard wall along the U.S./Mexico international border in Imperial County, California. The original planned mileage was 10 miles, but the project scope has since been reduced.

- **BIS Maintenance and Repair** - Routine all-weather road, secondary fence, and associated lighting and water conveyance system repair and maintenance.
- **Revegetation Projects** - A variety of revegetation projects have recently been completed as part of previous construction projects (such as Comprehensive Tactical Infrastructure Maintenance and Repair [CTIMR] and tower installations) and additional work is planned to minimize Project-related impacts and to restore habitat along the border.

A review of the California Department of Transportation website, Governor's Office of Planning and Research, and San Diego County Planning & Development Services did not yield any results for additional construction projects to consider.

12.5 REASONABLY FORESEEABLE FUTURE ACTIONS

Reasonably foreseeable future actions consist of activities that have been approved and can be evaluated with respect to their effects. The following projects are reasonably foreseeable actions that are likely to occur in the San Diego Sector:

- **Department of Defense (DoD) 10 U.S.C. § 2808 Military Construction-Funded Border Barrier** –DoD is planning to construct and maintain two miles of primary bollard wall and two miles of secondary bollard wall along the U.S./Mexico international border near the Chula Vista Border Patrol Station. It is also planning to replace and maintain three miles of primary bollard wall on either side of the Tecate POE.
- **CBP-Funded Border Barrier** –In San Diego County, CBP will be constructing approximately 0.2 miles of border wall system across the Tijuana River. The project will include a bridge with 30-foot tall steel bollards, a vertical lift gate, lighting, a 20-foot-wide roadway and a maintenance walkway. CBP is also planning to replace approximately 1,350 linear feet of existing secondary fence with new secondary bollard wall from Yogurt Canyon down to the Pacific Ocean.

USBP might be required to implement other activities and operations that are currently not foreseen or mentioned in this document. These actions could be in response to national emergencies or security events, or to changes in the mode of operations of CBVs.

Plans by other agencies that will also affect the region's natural and human environment include various road improvements by California Department of Transportation and San Diego County Transportation. The majority of these projects will be expected to occur along existing corridors and within previously disturbed areas. The magnitude of the impacts depends upon the length and width of the road right-of-way and the conditions within and adjacent to the right-of-way. However, currently no large state or county projects are ongoing or near completion within the vicinity of the Project Area.

Other organizations, such as BLM, routinely prepare or update Resource Management Plans for the resources they manage. A summary of the anticipated cumulative impacts relative to the Project (i.e., construction of the all-weather road and installation of the secondary fence) is presented below. These discussions are presented for each of the resources previously described.

12.6 ENVIRONMENTAL CONSEQUENCES

12.6.1 Air Quality

The emissions generated during and after the replacement of the legacy pedestrian and vehicle fence have the potential to be short-term and minor. There is the potential for cumulative adverse construction impacts on air quality from the current or foreseeable wall replacement Project

discussed above. The emissions associated with these actions also have the potential to result in short-term and minor impacts on the airshed, even when combined with the other proposed developments in the border region. CBP will minimize air quality impacts by using standard BMPs, such as dust suppression, during construction. Deterrence of and improved response time to illegal border crossings created by the construction of infrastructure has the potential to lead to improved control of the border. A potential result of this improved control could be a reduction in the number of off-road enforcement actions that are currently necessary by USBP agents, thus potentially reducing dust generation and serving to benefit overall air quality as well.

12.6.2 Noise

Most of the noise generated by the Project has the potential to occur during construction and thus is not likely to contribute to cumulative impacts of ambient noise levels. Routine maintenance of the primary pedestrian fence and roads has the potential to result in slight temporary increases in noise levels that could sporadically occur over the long-term and have the potential to be similar to those of ongoing road maintenance within the Project Area. Potential sources of noise from other projects are likely not significant enough (temporally or spatially) to increase ambient noise levels above 75 dBA at the Project sites. Thus, the noise generated by the construction and maintenance of Project infrastructure, when considered with the other existing and proposed projects in the region, has the potential to have minor cumulative adverse effects.

12.6.3 Land Use, Recreation, and Aesthetics

The Project has the potential to primarily affect lands in the Roosevelt Reservation, which was set aside specifically for border control actions. This Project is therefore consistent with the authorized land use and, when considered with other potential alterations of land use, does not have the potential to have a major cumulative adverse impact. Similarly, the open space opportunities they provide would not likely be affected by the Project and do not have the potential to be negatively impacted when considered with other present and foreseeable projects in the region.

There is the potential for visually apparent changes within the viewsheds that currently include the primary fence. However, although the addition of a new, larger fence has the potential to cause an adverse visual effect in some areas, it does not constitute a major impact on visual resources within the Project Area due to the presence of currently existing infrastructure. Still, when considered with other USBP projects, it has the potential to degrade the existing visual character of the region; thus, cumulative impacts have the potential to be considered moderate and CBP will minimize impacts on resources to the maximum extent feasible.

Areas north of the border within the construction corridors have the potential to experience beneficial, indirect cumulative impacts on aesthetics and habitat through the reduction of trash, soil erosion, and creation of trails by illegal pedestrian traffic.

12.6.4 Geological Resources and Soils

The Project does not have the potential to create any dangerous or unstable conditions within any geologic unit, nor to expose people or structures to potential substantial adverse effects. Further,

no geologic resource is exclusively within the Project Area. The Project impact on previously disturbed lands, when combined with past and proposed projects in the region, has the potential to have minor, cumulative adverse impacts on geological resources.

The Project, when combined with other USBP projects, does not have the potential to permanently reduce prime farmland soils or agricultural production. Pre- and post-construction SWPPP measures will be implemented to control soil erosion. The permanent impact of approximately 101 acres for legacy fence replacement and 38 acres of new fence construction combined with the other USBP projects, will constitute a moderate cumulative adverse impact.

12.6.5 Hydrology and Water Management

As a result of the Project, when combined with other USBP projects, increased temporary erosion during construction could occur. Pre- and post-construction SWPPP measures for this and other projects will be implemented to control erosion. Water withdrawal from domestic water supplies or regional groundwater basins for dust suppression and other construction/maintenance activities, for this and other related projects in the region, could result in moderate to major, adverse, cumulative impacts to water quantity. Additionally, these short-term activities have the potential to affect long-term water supplies or the quantity of groundwater in the region. Although the volume of water withdrawn is not expected to affect the public drinking water supplies, it could indirectly contribute to aquifer contamination from surface runoff. With the implementation of appropriate BMPs, the Project will not likely substantially affect water quality.

12.6.6 Biological Resources (Vegetation, Wildlife, Aquatic Species, Special Status Species)

The Project has the potential to have minor impacts on native vegetation communities, but as discussed in **Chapter 8**, some direct negative impacts on wildlife within the Project Area could occur due to erosion, noise, lighting, or conflict with construction equipment. However, because construction will be temporary and impacts will be minimized through implementing appropriate BMPs for the protection of general plants and wildlife, these combined projects are unlikely to result in any long-term or significant decreases in wildlife populations in the region.

12.6.7 Cultural Resources

Construction of the Project does not have the potential to impact any NRHP-eligible sites; additionally, implementation of monitoring and other avoidance measures, as described in **Chapter 9**, will result in minimal, if any, adverse impacts. Therefore, this action, when combined with other existing and proposed projects in the region, will likely have negligible cumulative impacts on cultural resources.

12.6.8 Socioeconomics

Construction of the Project, when combined with other USBP projects, has the potential to result in temporary, minor, and beneficial impacts on the region's economy. No impacts on populations, minorities, or low-income families will likely occur. When practicable, materials and other Project expenditures will predominantly be obtained through merchants in the local community. Local construction crews will also be employed to complete the Project. Safety buffer zones will be

designated around all construction sites to ensure public health and safety. Long-term, cumulative effects of the projects on the regional economy have the potential to be beneficial by reducing smuggling and other illegal activity in the area. Legal border crossings and international trade have the potential to continue unaffected by the Project. When combined with the other ongoing or currently planned projects within the region, they have the potential to have minor cumulative, temporary beneficial impacts on the region's socioeconomics.

12.6.9 Hazardous Materials and Waste

The use of hazardous substances will be required in small amounts within the Project Area during the construction phase. With the inclusion of BMPs listed in **Chapter 1.5.8**, impacts resulting from the use of hazardous materials during this phase have the potential to be avoided or minimized. Similarly, only minor temporary increases in the use of hazardous materials would potentially be experienced from construction associated with other projects in the region. Removal of the existing fence could generate waste, but most of the existing steel plate and mesh material is valuable as a recyclable material. Therefore, the Project, when combined with other ongoing and proposed projects in the region, does not have the potential to have a major cumulative impact on the generation of waste nor the potential for release of hazardous materials.

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14. ABBREVIATIONS AND ACRONYMS

AOR	Area of Responsibility
BIS	Border Infrastructure System
BLM	Bureau of Land Management
BMP	Best Management Practice
BOR	Bureau of Reclamation
BSR	Biological Survey Report
CAA	Clean Air Act
CAAQS	California Ambient Air Quality Standards
CADWR	California Department of Natural Resources
CalEPA	California Environmental Protection Agency
CARB	California Air Resources Board
CBP	U.S. Customs and Border Protection
CBV	Cross-border violator
CDFW	California Department of Fish and Wildlife
CFR	Code of Federal Regulations
CHL	California Historic Landmarks
CHRI	California Historic Resources Inventory
CHRIS	California Historical Resources Information System
CNDDB	California Natural Diversity Database
CO	Carbon monoxide
CPHI	California Points of Historic Interest
CRHR	California Register of Historic Resources
CTIMR	Comprehensive Tactical Infrastructure Maintenance and Repair
CWA	Clean Water Act
dB	Decibels
dBA	A-Weighted decibel
DHS	Department of Homeland Security
DoD	Department of Defense
DOI	Department of the Interior
EO	Executive Order
ESCP	East County Substation Project
ESP	Environmental Stewardship Plan

ESSR	Environmental Stewardship Summary Report
FCC	Federal Communications Commission
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
FIRMS	Flood Insurance Rate Maps
FPPA	Farmland Protection Policy Act
GLO	General Land Office
GNEB	Good Neighbor Environmental Board
IBWC	International Boundary and Water Commission
IID	Imperial Irrigation District
IIRIRA	Illegal Immigration Reform and Immigrant Responsibility Act
mg/m ³	Milligram per cubic meter
MOVES	Motor Vehicle Emission Simulator
NAAQS	National Ambient Air Quality Standards
NAGPRA	Native American Graves Protection and Repatriation Act
NHPA	National Historic Preservation Act
NO ₂	Nitrogen dioxide
NO _x	Total nitrogen oxides
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
O ₃	Ozone
OHP	California Office of Historic Preservation Office
OHWM	Ordinary High Water Mark
OSHA	Occupational Safety and Health Administration
PCPI	Per capita personal income
PM	Particulate matter
POE	Port of Entry
POLs	Petroleum, oil, and lubricants
ppb	Parts per billion
ppm	Parts per million
ROI	Region of Influence
ROW	Right-of-way
SANDAG	San Diego Association of Governments
SCIC	South Coastal Information Center

SGCN	Species of Greatest Conservation Need
SO ₂	Sulfur dioxide
SPCCP	Spill Prevention, Control, and Countermeasure Plan
SWPPP	Storm Water Pollution Prevention Plan
TPI	Total personal income
tpy	Tons per year
USACE	U.S. Army Corps of Engineers
USBP	U.S. Border Patrol
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
USIBWC	U.S. Section, International Boundary and Water Commission
USNVC	U.S. National Vegetation Classification
VOC	Volatile organic compound
WOUS	Waters of the U.S.
µg/m ³	micrograms per cubic meter
°F	Degrees Fahrenheit

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APPENDIX A

Biological Survey Report



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APPENDIX B

Air Emissions Calculations



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APPENDIX C

Waters of the U.S. Jurisdictional Assessment



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APPENDIX D

Cultural Resources Survey Report



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