Draft
Environmental Impact Statement for the Expansion and Modernization of the Raul Hector Castro Land Port of Entry and Proposed Commercial Land Port of Entry in Douglas, Arizona

January 2023

Prepared for:
GSA Region 9

Prepared by:
Potomac-Hudson Engineering, Inc.

This Page Intentionally Left Blank

COVER SHEET

Responsible Agency: U.S. General Services Administration

Title: Environmental Impact Statement for the Expansion and Modernization of the Raul Hector Castro Land Port of Entry and Proposed Commercial Land Port of Entry, Douglas, Arizona

The United States (U.S.) General Services Administration (GSA) proposes to expand and modernize the existing Raul Hector Castro (RHC) Land Port of Entry (LPOE), including construction of a new Commercial LPOE approximately 5 miles west of the existing RHC LPOE to address various operational, capacity, and safety issues associated with the existing LPOE. The RHC LPOE is located at the U.S.-Mexico border in Douglas, Arizona, located in the southeastern corner of the state and across from Agua Prieta, Sonora in Mexico.

GSA has prepared this Draft Environmental Impact Statement (EIS), which examines the purpose of and need for this project; alternatives considered; the existing environment that could be affected; the potential impacts resulting from each of the alternatives; and proposed best management practices and/or mitigation measures. This Draft EIS considers two action alternatives: 1) Alternative 1 (Sequential Construction) would involve construction of a new Commercial LPOE first, followed by a phased expansion and modernization of the existing RHC LPOE after the Commercial LPOE is operational; and 2) Alternative 2 (Concurrent Construction) would involve construction of the new Commercial LPOE and phased expansion and modernization of the existing RHC LPOE at the same time.

GSA is soliciting comments from interested persons and stakeholders on this Draft EIS during a 45-day comment period. The public was notified of the RHC LPOE Draft EIS public hearing through publication of a Notice of Availability in the *Federal Register*, as well as multiple other channels of communication, including newspaper ads, letters to interested parties, and social media posts. Comments received during the 45-day comment period will be considered in preparation of the Final EIS and will be made part of the Administrative Record.

Comments on this Draft EIS may be emailed to Osmahn.Kadri@gsa.gov or sent to:

Potomac-Hudson Engineering, Inc.
Attention: RHC LPOE Draft EIS
77 Upper Rock Circle, Suite 302
Rockville, MD 20850

For individuals with sensory disabilities, this document can be made available in alternate formats. To obtain a copy in an alternate format, receive special assistance to attend and participate in the Draft EIS public meeting, or for further information concerning this Draft EIS, please contact Osmahn Kadri at the email or mailing address provided above or call 415-522-3617.

This Page Intentionally Left Blank

SUMMARY

The United States (U.S.) General Services Administration (GSA) proposes to expand and modernize the Raul Hector Castro (RHC) Land Port of Entry (LPOE) and construct a new Commercial LPOE in Douglas, Arizona. The RHC LPOE is a port of entry for vehicles and pedestrians crossing the U.S.-Mexico border, between Douglas, Arizona and Agua Prieta, Sonora in Mexico. The port is operated by the U.S. Department of Homeland Security's Customs and Border Protection (CBP) and is a full-service, multi-modal facility where CBP officers inspect commercially owned vehicles (COVs), privately owned vehicles (POVs), and pedestrians. Due to steady increases in traffic, poor pedestrian infrastructure, lack of separations between traffic types (COVs, POVs, and pedestrians), and undersized facilities at the end of their functional lives, the facilities at the RHC LPOE no longer function adequately and pose safety and security risks for CBP officers and the general public. The existing RHC LPOE also has spatial constraints, with limited interior space for offices and processing and limited opportunity for expansion within its current footprint. The City of Douglas has also expressed concerns with hazardous materials utilized in the mining industry being transported across the border in commercial trucks and passing through the urban core of their community. The Proposed Action would address these varied concerns.

ENVIRONMENTAL REVIEW PROCESS

GSA has prepared this Environmental Impact Statement (EIS) for the purpose of analyzing the potential environmental impacts of the Proposed Action, in accordance with the National Environmental Policy Act (NEPA) of 1969 (42 United States Code 4321 et seq.), the Council on Environmental Quality (CEQ) regulations implementing NEPA (40 Code of Federal Regulations [CFR] 1500-1508), GSA Order ADM 1095.1F (*Environmental Consideration in Decision Making*), the GSA Public Building Service's *NEPA Desk Guide*, and other relevant federal and state laws and regulations.

A Notice of Intent (NOI) for the EIS was published in the *Federal Register* on July 14, 2022. The NOI announced that the meeting would take place at the Douglas Visitor Center on August 11, 2022, from 4 p.m. to 6 p.m. and public comments were requested to be received within the 40-day scoping period, no later than August 22, 2022. GSA also published advertisements in English and Spanish and posted announcements on social media sites in the weeks preceding the public scoping meeting. The advertisements were published in the *Herald Review* on July 20, August 3, and August 7, 2022. Announcements were posted on GSA's social media accounts on July 28, 2022. The advertisements and announcements indicated GSA's intent to prepare an EIS and conduct a scoping meeting; provided a brief description of the project; identified the public scoping meeting date, time, and location; and included instructions on submitting a comment.

INTRODUCTION

The RHC LPOE is located in Douglas, Arizona, in the southeastern corner of the state in Cochise County. The existing port is located on approximately 5 acres with facilities owned and managed by GSA and operated by CBP. The RHC LPOE has been operating since 1914, while the construction of the current facility began in the 1930s. The RHC LPOE consists of multiple buildings and structures and paved lots, including the historic Main Building and Garage. The last facility renovations took place in 1993, which included construction of the commercial building and docks. Existing facilities are undersized, at the end of their functional lives, and no longer meet CBP's mission requirements. GSA is considering acquiring land adjacent to the RHC LPOE to support the project.

The planned site for the proposed Commercial LPOE is approximately 5 miles west of the existing RHC LPOE located off James Ranch Road. The proposed site is undeveloped; the only major infrastructure consists of a U.S. Border Patrol Station built in 2003.

PURPOSE AND NEED

The purpose of this project is for GSA to support CBP's mission by bringing the RHC LPOE operations in line with current land port design standards and operational requirements of CBP while addressing existing deficiencies identified with the ongoing port operations.

In order to bring the RHC LPOE operations in line with CBP's design standards and operational requirements, the project is needed to:

- Improve the capacity and functionality of the LPOE to meet future demand, while maintaining the capability to meet border security initiatives;
- Ensure the safety and security for the employees and users of the RHC LPOE; and
- Improve traffic congestion and safety for the City of Douglas.

SUMMARY OF THE PROPOSED ACTION AND ALTERNATIVES

GSA is proposing a two-port solution that would separate the processing of commercial and non-commercial traffic to alleviate the inadequacies of the existing RHC LPOE. This Proposed Action would consist of two main components:

1) **Construction of a new Commercial LPOE** – A new, dedicated LPOE would be constructed to process only COVs. The proposed Commercial LPOE site is located 5 miles west of the RHC LPOE; and

2) **Expansion and Modernization of the Existing RHC LPOE to a Non-Commercial LPOE** – The existing RHC LPOE would be expanded and modernized. The expanded and modernized facility would be dedicated to processing only POVs (i.e., cars, vans, and buses) and pedestrians.

GSA evaluated two action alternatives in the EIS. Alternative 1 would involve sequential construction – construction of the new Commercial LPOE first, then phased-construction at the existing RHC LPOE. Alternative 2 would involve concurrent construction – construction of the new Commercial LPOE and phased-construction at the existing RHC LPOE at the same time. Both alternatives would require the acquisition of land near the RHC LPOE and phased-construction; however, Alternative 2 would require additional land acquisition so as to allow for expansion and modernization activities to occur while the port remains operational.

Additionally, GSA evaluated sub-alternatives to manage the historic Main Building and Garage. These historic structures, which were constructed in 1933, are listed on the National Register of Historic Places (NRHP). Due to the historic designation, any renovation work to the original buildings would require compliance with the National Historic Preservation Act (NHPA) of 1966 and the U.S. Secretary of the Interior's *Standards for Rehabilitation*.

GSA also evaluated the No Action Alternative in the EIS. Under the No Action Alternative, GSA would not move forward with either alternative. The No Action Alternative is included and analyzed to provide a baseline for comparison with impacts from the Proposed Action and also to satisfy federal requirements for analyzing the "no action" scenario under NEPA.

All new and modernization construction would seek to achieve Leadership in Energy and Environmental Design (LEED) certification at the highest feasible level within reasonable cost, with Gold-level standards at a minimum. The new and modernized facilities would be "net zero ready." Renewable energy sources would be planned for future installation and provided with minimum infrastructure to accommodate the energy source (e.g., photovoltaics), if GSA decides to install such infrastructure. The new facilities would also comply with the Energy Independence and Security Act (EISA) of 2007. Between EISA 2007 and

LEED, the project would adhere to whichever requirements are higher. The project would also adhere to the CEQ's *Guiding Principles for Sustainable Federal Buildings*. The design team would utilize GSA's *Guiding Principles Checklist* to track and report compliance.

Alternative 1 – Sequential Construction

Commercial LPOE

Under Alternative 1, the first stage would be to construct a new Commercial LPOE at an 80.5-acre undeveloped, vacant site. Currently, there are no paved access road or associated utility infrastructure at the proposed location. The only major infrastructure in the area consists of a U.S. Border Patrol Station. The land is currently owned by the City of Douglas; however, the land would be transferred to GSA prior to the implementation of Alternative 1.

The site layout of the proposed Commercial LPOE is currently in the conceptual phase. The environmental analysis presented in the EIS is based on a theoretical representation of the layout. The exact layout of the Commercial LPOE would be determined by the construction contractor but would be similar in scope to what is described in the EIS. The main facilities of the Commercial LPOE would consist of the following:

- Main Building
- Commercial Vehicle Inspection Lanes
- Commercial Inspection/Staging
- Commercial Inspection Building
- Outbound Inspection
- Outbound Support Building
- Kennel
- Indoor Firing Range
- Vault
- FMCSA Facility
- Firearms Simulator Building
- Emergency Power
- Parking/Staging

Under Alternative 1, construction of the proposed Commercial LPOE is estimated to begin in 2025, with substantial completion anticipated in 2028. Construction would be expected to take place over an approximate 48- to 54-month period. Peak construction (up to 2 years) would require a potential maximum of 100 construction workers; non-peak construction would require approximately 50 construction workers. For operations, it is expected CBP would hire for approximately 100 positions to support the proposed Commercial LPOE.

Under a separate project, the Arizona Department of Transportation would improve (i.e., widen and resurface) and extend James Ranch Road to the project area. Additionally, Cochise County is planning to construct new utility lines near the proposed Commercial LPOE site, also under a separate project. These projects are not affiliated with GSA's Proposed Action but are being planned to support regional future development efforts, such as the proposed Commercial LPOE.

RHC LPOE

Under Alternative 1, expansion and modernization of the existing RHC LPOE would begin after the proposed Commercial LPOE is complete and all commercial operations at the existing RHC LPOE is transferred to the new facility. Following expansion and modernization, the existing RHC LPOE would be dedicated to processing only non-commercial vehicles (cars, vans, and buses) and pedestrians. To the extent practicable, Alternative 1 would be implemented using a phased-construction approach to alleviate potential disruptions at the existing RHC LPOE. The following facilities would be constructed at the existing RHC LPOE:

- A new Main Building, with 6 pedestrian inspection booths
- Non-Commercial Vehicle Inspection to include 10 primary lanes; 24 secondary bays
- Headhouse
- Outbound Inspection
- Outbound Support Building
- Outbound Support Building
- Public-Facing/Trusted Traveler Enrollment Center
- Family/UAC Processing
- Emergency Power
- Parking

Construction at the RHC LPOE is estimated to begin in 2028, with substantial completion anticipated in 2031. Construction would be expected to take place over an approximate 36- to 42-month period. Peak construction (up to 2 years) would require a potential maximum of 100 construction workers; non-peak construction would require approximately 50 construction workers. For operations, it is expected CBP would hire for approximately 50 positions to support the expanded and modernized RHC LPOE.

The Alternative 1 Expansion Area is 1.6-acres of primarily developed area, comprising a city park, commercial facilities, and a Federal Motor Carrier Safety Administration (FMCSA) facility which would be demolished and new facilities would be constructed. Similar to the Commercial LPOE, a conceptual site layout for the modernized existing LPOE was used as a theoretical representation for discussion and environmental analysis for this EIS. The exact layout of the LPOE would be determined by the construction contractor but would be similar in scope to what is described in the EIS.

As portions of the project area fall within a floodplain, standard protocols for flood mitigation and stormwater management would be incorporated into the final design to mitigate against impacts from flooding. GSA completed a Finding of No Practicable Alternative (FONPA) for this EIS and is included in Appendix D.

Alternatives 1a – 1d: Reuse, Relocate, or Demolish Historic Structures

Because the existing historic Main Building and Garage are listed on the NRHP, any modifications or potential demolition associated with the historic Main Building and Garage would be required to follow GSA's *Procedures for Historic Properties*. Any changes to the buildings would also follow the Secretary of the Interior's *Standards for the Treatment of Historic Properties* and applicable guidelines.

GSA would manage the historic structures through one of the following sub-alternatives, pending the outcome of ongoing Section 106 consultation with the State Historic Preservation Officer (SHPO) and consulting parties.

- **Alternative 1a: Adaptive Reuse of Historic Structures** – Under this sub-alternative, the historic Main Building and Garage would be carefully integrated into the modernization plans of the RHC LPOE and repurposed into a more current and useful structure. Any remodeling or renovation work would be done in a manner that preserves the cultural and historic significance of these structures.
- **Alternative 1b: Relocation of Historic Structures** – Under this sub-alternative, the historic Main Building and Garage would be relocated to another location within the project area. Relocating these structures would most likely require lifting the whole structure intact and transporting it to a new location.
- **Alternative 1c: Demolition of Historic Structures** – Under this sub-alternative, the historic Main Building and Garage would be demolished during the modernization of the RHC LPOE. GSA would consult the SHPO and additional consulting parties to develop an agreement document and appropriate mitigation measures, such as documentation of the structures prior to demolition.

- **Alternative 1d: Combination of Alternative 1a through 1c** – Under this sub-alternative, some combination of adaptive reuse, relocation, or demolition would be selected for the historic Main Building and Garage.

Alternative 2 – Concurrent Construction

Under Alternative 2, GSA proposes to construct the commercial and non-commercial facilities concurrently to expedite construction for the purpose of achieving cost and time efficiencies. The RHC LPOE would continue to operate as usual – including the processing of COVs – while construction activities for the proposed Commercial LPOE and for the expansion and modernization of the RHC LPOE would occur at the same time. As under Alternative 1, a phased-construction plan would be implemented.

Under Alternative 2, construction of the proposed Commercial LPOE and at the RHC LPOE is estimated to begin in 2025, with substantial completion anticipated in 2028. Construction would be expected to take place over an approximate 48- to 54-month period. Peak construction (up to 2 years) would require a potential maximum of 100 construction workers at each location (i.e., a total of 200 construction workers at any given time during peak construction); non-peak construction would require approximately 50 construction workers at each location or a total of 100 construction workers total at both locations.

Because the existing RHC LPOE has limited opportunity for expansion within its current footprint, the expansion area for Alternative 2 includes acquisition of up to approximately 19 acres of adjacent land parcels to facilitate concurrent construction (including the 1.6-acre expansion area identified under Alternative 1). GSA may also consider acquiring temporary easements from the city for construction laydown areas for portions of this expansion area. The additional area proposed for acquisition is primarily undeveloped land owned by a combination of other federal landowners, the City of Douglas, and private owners; and also includes roadways owned by the City of Douglas or State of Arizona.

Alternatives 2a – 2d: Reuse, Relocate, or Demolish Historic Structures

Management of the historic Main Building and Garage would be handled the same as the sub-alternatives described under Alternatives 1a through 1d.

No Action Alternative

Under the No Action Alternative, there would be no construction of a new Commercial LPOE and expansion and modernization of the RHC LPOE would not occur. Any type of modification to the existing port would be limited to minor repairs and maintenance, as needed. The operation of the RHC LPOE would generally remain as it currently does, but the capacity and efficiency of the port would likely degrade over time due to increased traffic demand. In general, this alternative would not meet the Purpose and Need of the Proposed Action.

IMPACT COMPARISON MATRIX

This EIS evaluates the potential impact on the environmental conditions from implementing the Proposed Action's Alternative 1 and Alternative 2 and the No Action Alternative. For each resource area analyzed in this EIS, the expected consequences of the alternatives and impact reduction measures are summarized in Table S-1.

Table S-1. Summary Comparison of Alternatives

Alternative 1 – Sequential Construction	Alternative 2 – Concurrent Construction	No Action Alternative	Impact Reduction Measures
Cultural Resources			
Construction: For both LPOE sites, adverse effects under NHPA and direct, significant adverse impacts could occur under NEPA to cultural resources if unanticipated discoveries are encountered during ground-disturbing activities. Ground-disturbing activities would occur within undeveloped, vacant 80.5 acres at proposed Commercial LPOE and highly developed 1.6-acre expansion area for RHC LPOE. Implementation of archaeological monitoring plan and impact reduction measures would mitigate any potential adverse effects and reduce impacts to less-than-significant levels. Refer to Alternatives 1a – 1d for discussion of adverse effects to historic Main Building and Garage. **Operations**: No adverse effects under NHPA and no significant impacts to cultural resources during the operational phase would be expected. **Alternatives 1a – 1d**: Alternative 1a - no adverse effects under NHPA and direct, negligible, adverse impacts under NEPA. Alternative 1b - no adverse effects under NHPA and direct, negligible to minor, adverse impacts under NEPA. Alternative 1c - direct adverse effects under NHPA and direct, significant, adverse, and permanent impacts under NEPA. Alternative 1d - direct adverse effects under NHPA and direct, minor to significant, adverse, and permanent impacts under NEPA. For both Alternatives 1c and 1d, GSA would be required to develop measures to avoid, minimize, or mitigate adverse effects on these historic properties, which would result in less-than-significant impacts under NEPA and would resolve effects under NHPA.	**Construction**: At proposed Commercial LPOE, similar impacts as Alternative 1. At RHC LPOE expansion area, ground-disturbing activities would occur within an additional 16.4 acres of highly developed land. Refer to Alternatives 2a – 2d for discussion of adverse effects to historic Main Building and Garage. **Operations**: Similar to Alternative 1, no adverse effects under NHPA and no impacts to cultural resources during the operational phase would be expected. **Alternatives 2a – 2d**: Potential impacts from sub-alternatives would be same as Alternatives 1a – 1d.	No adverse effects to historic properties and no adverse impacts to cultural resources would be expected.	Prior to construction, GSA would implement the following measures: • Develop an archaeological monitoring plan in consultation with SHPO, ACHP, federally recognized Indian tribes, and other consulting parties to reduce impacts from ground-disturbing activities. • Identify and develop appropriate mitigation measures to avoid, minimize or mitigate adverse effects on historic properties in consultation with SHPO and other applicable consulting parties. At a minimum, Historic American Buildings Survey documentation for the historic Main Building and Garage would be considered. Additional mitigation could include architectural artifact salvage. Appropriate mitigation would be determined in consultation between GSA, SHPO, and consulting parties.

Alternative 1 – Sequential Construction	Alternative 2 – Concurrent Construction	No Action Alternative	Impact Reduction Measures
Air Quality and Greenhouse Gas Emissions			
Construction: For both LPOE sites, short-term, minor adverse impacts on regional air quality due to dust and emissions from construction equipment and vehicles; emissions would not exceed *de minimis* thresholds for any criteria pollutants. Negligible increases in GHGs. **Operation**: For both sites, long-term, minor adverse impact on air quality due to emissions from onsite equipment and increased commuter vehicles; long-term, minor beneficial impact to air quality from reduced POV wait times; long-term, minor indirect adverse air quality impact due to increased POVs from increased efficiency of the RHC LPOE. Long-term, minor adverse impacts to GHGs from onsite equipment and increased commuter traffic; however, adverse impacts offset by modernized, more sustainable facilities. Negligible air quality impacts at Commercial LPOE from operation of firing range. **Alternatives 1a – 1d**: Potential impacts resulting from sub-alternatives already considered under Alternative 1 analysis. Compared to Alternatives 1a and 1b, impacts under Alternatives 1c and 1d would be greater due to demolition activities and additional trucks hauling debris.	**Construction**: Potential impacts similar to Alternative 1 but would occur over a shorter period and be greater in intensity. Impacts would be short-term, minor and adverse; emissions would not exceed *de minimis* thresholds for any criteria pollutants. Negligible increases in GHGs. **Operations**: Potential impacts would be same as Alternative 1. **Alternatives 2a – 2d**: Potential impacts resulting from sub-alternatives already considered under Alternative 2 analysis. Impacts from sub-alternatives would be same as Alternatives 1a – 1d.	Short-term, minor adverse impacts from ongoing maintenance at RHC LPOE. Long-term, minor adverse impacts due to degradation of capacity and efficiency of operations, resulting in longer wait times and congestion at the RHC LPOE and greater POV emissions.	The following measures would be implemented during construction: • Precautions to prevent PM from becoming airborne, such as using water on dirt roads or clearing land. • Additional measures to control fugitive dust, such as installing wind fencing and operating water trucks for stabilization of surfaces under windy conditions. • Source-specific controls to minimize emissions during construction activities, such as reducing unnecessary idling from heavy-duty equipment. • Administrative controls, such as preparing an inventory of all equipment prior to construction and identifying the suitability of add-on emission controls for each piece of equipment before groundbreaking. To minimize operational emissions from the Commercial LPOE, the addition of electrical connections to power commercial vehicles, such as refrigeration trucks, to prevent spoilage while discouraging engine idling during secondary inspections of COVs, would be considered. To minimize impacts of climate change on human health and safety, implementation of climate change adaptation measures in the project design phase, such as, incorporating shaded areas wherever possible.

Alternative 1 – Sequential Construction	Alternative 2 – Concurrent Construction	No Action Alternative	Impact Reduction Measures
			To minimize impacts of climate change on energy resources, implementation of climate change adaptation measures in the project design phase, such as implementing measures to maximize energy efficiency where possible. To minimize impacts of climate change on water resources, design with a minimum of LEED Gold certification for the proposed facilities, which would incorporate water conservation and efficiency measures. Refer to Section 3.3, Air Quality and Greenhouse Gas Emissions in the EIS for the full list of impact reduction measures that would be considered.
Land Use and Visual Resources			
Construction: For both LPOE sites, short-term, minor adverse impacts to adjacent land uses due to construction activities from dust, traffic, noise, road delays, and access limitation. At proposed Commercial LPOE, short-term, moderate adverse impacts to visual resources; at the RHC LPOE, short-term, minor adverse impacts to visual resources. **Operations**: Permanent, moderate beneficial impacts to land use from aligning with long-term land use planning goals at both LPOE sites; long-term, moderate, beneficial, indirect impacts to land use at the RHC LPOE from potential future repurposing of existing warehouse district by the city; and long-term, minor adverse impacts from permanent loss of a city park and temporary absence of a duty-free shop at the RHC LPOE. Permanent, minor to moderate adverse visual impacts from distinct visual change and from lighting at the proposed Commercial LPOE; permanent, minor beneficial visual impacts from newly constructed buildings at the RHC LPOE.	**Construction**: At proposed Commercial LPOE, same impacts as Alternative 1. At RHC LPOE, similar impacts to land use and visual resources as Alternative 1, but to greater extent from larger expansion area. **Operations**: At proposed Commercial LPOE, same impacts as Alternative 1. At RHC LPOE, similar land use and visual impacts as Alternative 1, but to greater extent from larger expansion area, including loss of trails from Paseo de las Americas Linear Park (minor adverse impact) and conversion of land with illicit construction debris dumping (minor beneficial impact). **Alternatives 2a – 2d**: Potential impacts resulting from sub-alternatives already considered under Alternative 2 analysis. Impacts from sub-alternatives would be same as Alternatives 1a – 1d.	Long-term minor to moderate adverse land use impacts from COV traffic remaining in city and conflicting with city's long-term revitalization plans. Long-term, minor adverse visual resources impacts from continuation of deterioration of facilities at RHC LPOE and increasing traffic congestion.	Regarding land use, consideration of local zoning laws and all design requirements of state and local governments to the extent practicable, including both the incorporation of exterior design elements to reflect the unique character of the area and the emphasis on pedestrian circulation and amenities, to the extent practicable and consistent with GSA design standards. Regarding visual resources, implementing the following measures: • Consult with local officials, consider local requirements, and comply with building codes to the maximum extent practicable. • Integrate its programs of design/architecture and construction excellence into the new facility in order to optimize building performance and aesthetics.

Alternative 1 – Sequential Construction	Alternative 2 – Concurrent Construction	No Action Alternative	Impact Reduction Measures
Alternatives 1a – 1d: Potential impacts resulting from sub-alternatives already considered under Alternative 1 analysis. Long-term, negligible to moderate beneficial visual impact from potential remodeling or renovation work on the historic structures under Alternatives 1a and 1b.			• Design exterior lighting to meet physical security requirements but controlled to minimize light trespass (e.g., direct light downward and minimize glare). Exterior lighting would be consistent with the local ordinance code for outdoor lighting to the extent possible. • Incorporate landscaping and screening into the exterior design consistent with GSA's *Urban Development/Good Neighbor Program*. Also refer to impact reduction measures under Air Quality and Greenhouse Gas Emissions; Transportation and Traffic, and Noise for measures to reduce construction impacts on land use-related concerns related to fugitive dust, traffic, and noise.
Geology and Soils			
Construction: For both LPOE sites, minor adverse impacts on geology and negligible adverse impacts on topography. At proposed Commercial LPOE, permanent, moderate adverse impacts to soils from disturbing 80.5 acres; at RHC LPOE, permanent, minor adverse impacts to soils from disturbing 7.6 acres. **Operations**: No impacts to geology or topography. At proposed Commercial LPOE, long-term, minor, adverse, and indirect impacts to soils due to erosion. At the RHC LPOE, long-term, negligible, adverse, and indirect impacts due to soil erosion. **Alternatives 1a – 1d**: Potential impacts resulting from sub-alternatives already considered under Alternative 1 analysis.	**Construction**: At proposed Commercial LPOE, same impacts as Alternative 1. At RHC LPOE, similar impacts to geology and soils as Alternative 1, but to greater extent from larger expansion area (16.4 acreage difference), resulting in permanent, minor to moderate adverse soil impacts. **Operations**: At proposed Commercial LPOE, same impacts as Alternative 1. At RHC LPOE, similar impacts to geology and soils as Alternative 1, but to greater extent from larger expansion area, resulting in long-term, minor, adverse, and indirect impacts due to soil erosion.	No impacts to geology or topography would be expected. Negligible impacts to soils could occur due to land disturbance and soil erosion from ongoing maintenance activities.	Measures to reduce construction impacts on geology and soil-related concerns such as soil erosion, loss, and stability would be addressed in the design, grading and drainage plan, and the Arizona Stormwater CGP.

Alternative 1 – Sequential Construction	Alternative 2 – Concurrent Construction	No Action Alternative	Impact Reduction Measures
	Alternatives 2a – 2d: Potential impacts resulting from sub-alternatives already considered under Alternative 2 analysis. Impacts from sub-alternatives would be same as Alternatives 1a – 1d.		
Water Resources			
Construction: At proposed Commercial LPOE, short-term, minor, direct adverse, and indirect impacts to surface waters and groundwater from sedimentation and contamination, and from groundwater use of a water well planned by the city. At RHC LPOE, short-term, minor, adverse, and indirect impacts to surface waters and groundwater from sedimentation and contamination, and from groundwater used during construction; long-term, minor, adverse, direct and indirect impacts to floodplains from construction within floodplain (inside RHC LPOE boundary). Additional 1.03 acres within 500-year floodplain not currently occupied by existing RHC LPOE (see FONPA in Appendix D). **Operations**: At proposed Commercial LPOE, long-term, minor, adverse, and indirect impacts to water resources due to increases in stormwater runoff, decreases in groundwater recharge, potential sedimentation or contamination, and from groundwater usage. Impacts would be similar at RHC LPOE, although would be long-term, negligible to minor, and adverse. **Alternatives 1a – 1d**: Potential impacts resulting from sub-alternatives already considered under Alternative 1 analysis.	**Construction**: At proposed Commercial LPOE, same impacts as Alternative 1. At RHC LPOE, similar impacts to water resources as Alternative 1, but to greater extent from larger expansion area – short-term, minor, adverse, and indirect impacts from sedimentation and contamination, and construction near riverine feature (inside expansion area boundary); and long-term, minor, adverse, direct and indirect impacts from construction within floodplain (inside RHC LPOE and expansion area boundaries). Additional 3.89 acres within 500-year floodplain not currently occupied by existing RHC LPOE (see FONPA in Appendix D). **Operations**: At proposed Commercial LPOE, same impacts as Alternative 1. At RHC LPOE, similar water resources impacts as Alternative 1, but to greater extent from larger expansion area; long-term, minor, adverse, and indirect impacts to surface water from increase in runoff and downstream water quality degradation. **Alternatives 2a – 2d**: Potential impacts resulting from sub-alternatives already considered under Alternative 2 analysis. Impacts from sub-alternatives would be same as Alternatives 1a – 1d.	Long-term, negligible impacts to surface waters due to runoff during ongoing maintenance activities. No impacts to groundwater, floodplains, and wetlands.	• Obtaining a minimum LEED Gold certification may include WCMs, such as low-flow fixtures and installing a retention system to control stormwater. • A minimum Sustainable Sites Initiative (SITES) silver rating is required for project design to manage stormwater and conserve water. • Compliance with impact reduction measures and BMPs as outlined in the Arizona Stormwater CGP and the Cochise County Stormwater Ordinance.

Alternative 1 – Sequential Construction	Alternative 2 – Concurrent Construction	No Action Alternative	Impact Reduction Measures
Biological Resources			
Construction: At proposed Commercial LPOE, permanent, moderate, adverse, and direct adverse impacts to biological resources from ground disturbance, grading/clearing activities, and conversion of undeveloped land to developed; and short-term, moderate, adverse, and indirect impacts from increased level of human activities. At RHC LPOE, short-term, minor, adverse and indirect impacts to biological resources from increased levels of human activities. **Operations**: At proposed Commercial LPOE, long-term, moderate, adverse, and indirect effects to species from noise, lighting, spread of non-native species, or accidental mortality of species. At RHC LPOE, long-term, negligible, beneficial, indirect impacts due to removal of COVs and associated noise and traffic. **Alternatives 1a – 1d**: Potential impacts resulting from sub-alternatives already considered under Alternative 1 analysis.	**Construction**: At proposed Commercial LPOE, same impacts as Alternative 1. At RHC LPOE, similar adverse impacts to biological resources as Alternative 1, but to greater extent from larger expansion area – permanent, moderate, adverse, and direct impacts from ground disturbance and grading/clearing activities. Indirect impacts would be greater under Alternative 2 due to concurrent construction – temporary, moderate, indirect adverse impacts from increased levels of human activities. **Operations**: At proposed Commercial LPOE, same impacts as Alternative 1. At RHC LPOE, long-term, minor, adverse, and indirect impacts from increased human presence west of the RHC LPOE. **Alternatives 2a – 2d**: Potential impacts resulting from sub-alternatives already considered under Alternative 2 analysis. Impacts from sub-alternatives would be same as Alternatives 1a – 1d.	Negligible, adverse, indirect impacts on biological resources due to ongoing maintenance activities.	• Only approved, native species would be used for revegetation. These plant species would not be invasive or noxious species, and disturbed areas would restored or revegetated to the extent practicable following construction. • Construction equipment would be washed before and after coming to the site to the extent practicable to limit the transport of invasive species.
Transportation and Traffic			
Construction: Overall, short-term, minor adverse impacts to transportation resources (SR-80, US-191, and Pan American Avenue) from increased construction-related traffic. At the RHC LPOE, temporary, minor adverse impacts to pedestrian facilities from walkway closures. **Operations**: Overall, long-term, minor adverse impacts to transportation resources (SR-80 and US-191). For the City of Douglas, long-term, beneficial direct impact from relocation of COVs; long-term, minor to moderate, adverse, and	**Construction**: Potential impacts similar to Alternative 1 but overlap of construction traffic from both LPOE sites would occur. Overall, short-term, minor to moderate adverse impacts to transportation resources (SR-80, US-191, and Pan American Avenue) from increased construction-related traffic. Similar adverse impacts to pedestrian facilities as Alternative 1 would occur at the RHC LPOE.	Long-term, minor to moderate adverse impacts to transportation and traffic from increased traffic volumes, COV traffic remaining through the City of Douglas, and inefficient	• Minimize construction vehicle movement during peak traffic hours. • Place construction staging areas where they would least interfere with local traffic and parking. • Minimize construction detours and impacts to pedestrians. • Develop a construction traffic and parking management plan.

Alternative 1 – Sequential Construction	Alternative 2 – Concurrent Construction	No Action Alternative	Impact Reduction Measures
indirect impact from population growth and increased efficiency of the RHC LPOE. **Alternatives 1a – 1d**: Potential impacts resulting from sub-alternatives already considered under Alternative 1 analysis. Temporary, minor adverse impacts under Alternatives 1c and 1d from additional trucks hauling debris during construction.	**Operations**: Similar impacts as Alternative 1. **Alternatives 2a – 2d**: Potential impacts resulting from sub-alternatives already considered under Alternative 2 analysis. Impacts from sub-alternatives would be same as Alternatives 1a – 1d.	operations at RHC LPOE.	• Develop and implement Transportation Demand Management strategies. • Implement traffic signal coordination on arterial streets where practical. • Coordinate with local, state, and federal transportation authorities when planning access to the RHC LPOE site.
Noise			
Construction: At the proposed Commercial LPOE, short-term, minor adverse noise impacts from construction activities and from COVs along transportation routes (SR-80 and US-191); closest three residential properties to proposed site are approximately 2,500 feet (1 property) and 5,500 feet (two properties) to the north. At the RHC LPOE, short-term, minor adverse noise impacts from construction activities and from trucks along transportation routes (SR-80, US-191, and Pan American Avenue); outdoor intermittent noise levels at closest residences of 80 dBA (at 160 feet) and 67 dBA (at 80 700 feet) and inside intermittent noise levels of 65 dBA (at 160 feet) and 52 dBA (at 700 feet). **Operations**: At the proposed Commercial LPOE, permanent, moderate adverse noise impacts to closest receptors (three residential properties within 1 mile) and to receptors along SR-80 and US-191. At the RHC LPOE, long-term beneficial noise impacts for receptors in City of Douglas from removal of COVs; long-term, minor indirect adverse noise impact from increased POVs due to population growth and increased efficiency of the RHC LPOE.	**Construction**: At proposed Commercial LPOE, same impacts as Alternative 1. At the RHC LPOE, types of noise sources similar to Alternative 1; however, intensity of noise levels greater due to COV processing remaining onsite while construction occurring at RHC LPOE, resulting in short-term, intermittent, moderate adverse noise impacts to same noise receptors identified under Alternative 1. **Operations**: Similar impacts as Alternative 1. **Alternatives 2a – 2d**: Potential impacts resulting from sub-alternatives already considered under Alternative 2 analysis. Impacts from sub-alternatives would be same as Alternatives 1a – 1d.	Long-term, minor to moderate adverse impacts to noise from ongoing maintenance activities at the RHC LPOE and from COV traffic remaining through the City of Douglas.	• Implementation of noise control measures, such as project scheduling, noise barriers, and using noise controls on equipment (e.g., mufflers). • Conduct construction activities within hours that are in accordance with local noise ordinances. • If a variation from normal construction hours is required, a variance permit from the City of Douglas or Cochise County would be obtained.

Alternative 1 – Sequential Construction	Alternative 2 – Concurrent Construction	No Action Alternative	Impact Reduction Measures
Alternatives 1a – 1d: Potential impacts resulting from sub-alternatives already considered under Alternative 1 analysis. Type and intensity of noise impact depends on sub-alternative but would range from temporary negligible to temporary, minor adverse impacts.			
Infrastructure and Utilities			
Construction: At the proposed Commercial LPOE short-term, moderate adverse impacts to International Avenue from construction vehicles; and short-term, negligible adverse impacts to public utilities from increased demand. At the RHC LPOE, short-term, moderate adverse impacts on facilities and roadway network from construction activities; short-term, negligible adverse impacts to utilities from increased demand; and intermittent, minor adverse impacts from potential service disruptions. **Operations**: At the proposed Commercial LPOE, long-term, moderate beneficial impacts to facilities from new infrastructure and utilities; long-term negligible to minor adverse impacts to public utilities from increased demand. At the RHC LPOE, long-term moderate beneficial impacts from new, improved infrastructure and long-term, negligible to minor adverse impacts to utilities from increased demand. **Alternatives 1a – 1d**: Potential impacts resulting from sub-alternatives already considered under Alternative 1 analysis. Type and extent of impacts dependent on sub-alternative chosen; range of impacts includes temporary, negligible to minor adverse impacts on utilities from potential service disruption to users.	**Construction**: Potential adverse impacts similar as Alternative 1 at both LPOEs, but slightly greater due to greater demand on utilities from concurrent construction and additional utility coordination due to natural gas utilities located in Alternative 2's Expansion Area, resulting in short-term, negligible adverse impacts to utilities. Impacts to facilities would be similar as Alternative 1, but only minor due to shorter construction period. **Operations**: Potential adverse impacts similar as Alternative 1. At the RHC LPOE, long-term, negligible to minor, adverse impacts to water/wastewater systems and stormwater system from increased demand and runoff, respectively. **Alternatives 2a – 2d**: Potential impacts resulting from sub-alternatives already considered under Alternative 2 analysis. Impacts from sub-alternatives would be same as Alternatives 1a – 1d.	Long-term, minor to moderate adverse impacts from ongoing demand on and degradation of infrastructure and utilities; increased need for maintenance as building systems continue to age.	• Adherence to GSA's P100 Standards (*Facilities Standards for the Public Buildings Service*). • Buildings would be "net zero" ready on a source energy basis with onsite renewables for future installation. • Coordinating with utility providers in advance by implementing measures to protect utility lines or by arranging for their temporary or permanent relocation.

Alternative 1 – Sequential Construction	Alternative 2 – Concurrent Construction	No Action Alternative	Impact Reduction Measures
Socioeconomics			
Construction: Overall, short-term, negligible impacts on population and housing; up to 100 workers would be directly hired, but mostly not expected to relocate to area. Short-term, minor, beneficial, and direct impact on unemployment and income from job creation. Short-term, moderate to significant, beneficial, and indirect impact from materials and equipment purchases, as well as indirect and induced job creation from wages spent in local economy. Temporary, minor adverse impacts on local businesses adjacent to RHC LPOE as commercial operations relocate to proposed Commercial LPOE. Temporary, minor adverse impacts to nearby neighborhoods from decreased quality of life due to increased noise levels, air pollutants, and traffic associated with construction. **Operations**: Long-term, negligible to minor, beneficial, and direct impacts to population and housing from 150 workers hired. Long-term, moderate to significant, beneficial, and direct impacts to labor and earnings from additional $10.8 to $20 million to revenue per year to City of Douglas and Cochise County. Long-term minor to moderate, beneficial, direct and indirect impact on unemployment in all industries in Cochise County. Long-term, moderate to significant, beneficial, and indirect impacts from commercial and industrial business growth around the Commercial LPOE. Long-term, minor to moderate, beneficial impacts to quality of life in the City of Douglas from removal of COVs. Long-term, minor adverse impacts from increasing population and contributing to unfavorable student-to-teacher ratios. **Alternatives 1a – 1d**: Potential impacts resulting from sub-alternatives already considered under Alternative 1 analysis.	**Construction**: Overall, similar socioeconomic impacts as Alternative 1, except up to 200 workers would be hired at one time. Spending on labor and materials would be similar but likely less than under Alternative 1, due to decreased cost escalation and inflationary pressures as a result of the compressed project timeline. Impacts would be greater in the near term, but would occur for a shorter duration than under Alternative 1. **Operations**: Same impacts as Alternative 1. **Alternatives 2a – 2d**: Potential impacts resulting from sub-alternatives already considered under Alternative 2 analysis. Impacts from sub-alternatives would be same as Alternatives 1a – 1d.	Long-term, minor adverse socioeconomic impacts to businesses and regional economy from loss of RHC LPOE capacity and efficiency over time and from COVs remaining in the City of Douglas, hindering revitalization plans and economic growth. Potential short-term and long-term socioeconomic benefits from direct, indirect, and induced jobs from the Proposed Action would not occur.	No impact reduction measures would be applicable for Socioeconomics.

Alternative 1 – Sequential Construction	Alternative 2 – Concurrent Construction	No Action Alternative	Impact Reduction Measures
Environmental Justice and Protection of Children's Health and Safety			
Construction: At the proposed Commercial LPOE, disproportionate adverse impacts to minority populations from short-term, minor increases in air pollutants, traffic congestion, and noise and short-term, minor beneficial impacts from increased job opportunities. At the RHC LPOE, disproportionate adverse impacts to minority and low-income populations from short-term, minor increases in air pollutants, traffic congestion, and noise and short-term, minor beneficial impacts from increased job opportunities. No impacts would be disproportionately high and adverse and overall impacts to environmental justice populations would be short-term, minor, and adverse. Short-term, negligible to minor and short-term, minor to moderate adverse impacts to child populations at the proposed Commercial LPOE and RHC LPOE, respectively, due to increased air pollutants, traffic congestion, and noise. **Operations**: At the proposed Commercial LPOE site, disproportionate adverse impacts to minority populations from short-term, minor adverse impacts from increased air pollutants, COV traffic, and associated noise. Long-term, negligible to moderate beneficial impacts to low-income and minority populations from increased job opportunities. Overall negligible adverse impacts to child populations. At the RHC LPOE, long-term, minor beneficial impacts from removal of COVs (improved air quality, congestion and noise) and job opportunities; permanent, minor adverse impact to minority and low-income populations from loss of recreational space; negligible to minor beneficial and adverse impacts to child populations from removal of COVs. No impacts would be disproportionately high and adverse.	**Construction**: Similar impacts as Alternative 1. Impacts to environmental justice and child populations would be shorter duration than Alternative 1; however, air pollutants, traffic, and noise have greater intensity than Alternative 1. **Operations**: Similar impacts as Alternative 1. Alternative 2 Expansion Area is greater, so extent of impacts would be greater; additional loss of trails of Paseo de Las Americas Linear Park. **Alternatives 2a – 2d**: Potential impacts resulting from sub-alternatives already considered under Alternative 2 analysis. Impacts from sub-alternatives would be same as Alternatives 1a – 1d.	No impacts to environmental justice or child populations, although, potential beneficial impacts from removal of COVs through the city and from increased job opportunities would not occur.	Impact reduction measures for resources specific to environmental justice – i.e., air pollutants, traffic, and noise – are discussed in the respective resource areas (Air Quality and Greenhouse Gas Emissions; Transportation and Traffic; and Noise).

Alternative 1 – Sequential Construction	Alternative 2 – Concurrent Construction	No Action Alternative	Impact Reduction Measures
Alternatives 1a – 1d: Potential impacts resulting from sub-alternatives already considered under Alternative 1 analysis.			
Human Health and Safety			
Construction: At both LPOEs, short-term, negligible adverse impacts to worker safety from construction activities; short-term, negligible to minor adverse impacts from hazardous materials and waste handling. **Operations**: At proposed Commercial LPOE, long-term, negligible adverse effects on human health and safety and from hazardous materials and waste handling. At the RHC LPOE, long-term, minor to moderate beneficial impacts on human health and safety of CBP workers and the public from the relocation of COVs and reconfiguration of POV and pedestrian routing within the RHC LPOE. Negligible adverse effects on human health and safety and from hazardous materials and waste handling. **Alternatives 1a – 1d**: Potential impacts on human health and safety resulting from sub-alternatives considered under Alternative 1 analysis would be short-term, minor, and adverse during construction, and long-term, minor, and beneficial during operations.	**Construction**: At proposed Commercial LPOE, same impacts as Alternative 1. At the RHC LPOE, adverse impacts to human health and safety and from hazardous materials and waste handling would be similar, but would be greater due to greater acreage of expansion area and higher potential for encountering potentially contaminated soils and construction debris. There would also be increased risk of traffic accidents due to COVs remaining onsite at RHC LPOE. **Operations**: Same impacts as Alternative 1. **Alternatives 2a – 2d**: Potential impacts resulting from sub-alternatives already considered under Alternative 2 analysis. Impacts from sub-alternatives would be same as Alternatives 1a – 1d.	Negligible impacts from ongoing maintenance, resulting in use of hazardous materials and generation of hazardous waste. COV processing would not be relocated and hazardous materials would continue to be transported through downtown Douglas.	• If PCB-containing materials are identified onsite, appropriate abatement actions would be implemented in accordance with regulatory requirements. If present in underlying soils, appropriate abatement actions would be implemented in accordance with applicable regulatory requirements. • All spills or releases of POLs; hazardous materials; pollutants; or contaminants would be handled in accordance with measures outlined in a Spill Prevention and Response Plan prepared for construction. • As a BMP, a Soil Management Plan may be prepared to address the potential for encountering areas of environmental concern during subsurface disturbance. • Soil sampling or laboratory testing would be conducted in any areas with suspected contamination, construction, or demolition, followed by proper handling and disposal, as necessary. • All personnel would follow standard operating procedures for hazardous waste and material handling.

Alternative 1 – Sequential Construction	Alternative 2 – Concurrent Construction	No Action Alternative	Impact Reduction Measures
			• All potentially hazardous wastes generated would be properly characterized, segregated, and managed onsite prior to offsite disposal in accordance with associated regulatory requirements. • Any existing municipal, construction debris, and other waste materials would be removed from all project areas and disposed of in accordance with applicable regulations. • Construction workers would adhere to safety standards promulgated in 29 CFR Chapter 17 to protect against workplace hazards. Appropriate personal protective equipment would be worn.

BMP = best management practice; CFR = Code of Federal Regulations; CGP = Construction General Permit; COV = commercially owned vehicle; dBA = A-weighted decibel; FONPA = Finding of No Practicable Alternative; GHG = greenhouse gas; GSA = General Services Administration; LEED = Leadership in Energy and Environmental Design; LPOE = land port of entry; WCM = water conservation measure; PM = particulate matter; POV = personally owned vehicle; RHC = Raul Hector Castro; SR-80 = State Route 80; US-191 = U.S. Highway 191

This Page Intentionally Left Blank

TABLE FOF CONTENTS

LIST OF TABLES

LIST OF FIGURES

ACRONYMS

Acronym	Definition
ACHP	Advisory Council on Historic Preservation
ACM	asbestos-containing material
ADEQ	Arizona Department of Environmental Quality
ADOT	Arizona Department of Transportation
ADWR	Arizona Department of Water Resources
AMA	Active Management Area
APE	Area of Potential Effect
APS	Arizona Public Service Company
ATSDR	Agency for Toxic Substances and Disease Registry
AZPDES	Arizona Pollutant Discharge Elimination System
BGEPA	Bald and Golden Eagle Protection Act
BMP	best management practice
CAA	Clean Air Act
CBP	Customs and Border Protection
CEQ	Council on Environmental Quality
CGP	Construction General Permit
CFR	Code of Federal Regulations
CH_4	methane
CO	carbon monoxide
CO_2	carbon dioxide
$CO_{2\text{-eq}}$	carbon dioxide equivalent
COV	commercially owned vehicle
CWA	Clean Water Act
dB	decibels
dBA	A-weighted decibel
DEIS	Draft Environmental Impact Statement
EIS	Environmental Impact Statement
EISA	Energy Independence and Security Act
EO	Executive Order
EJSCREEN	Environmental Justice Screen
ESA	Endangered Species Act
FAMU	family unit
FEMA	Federal Emergency Management Agency
FMCSA	Federal Motor Carrier Safety Administration
GHG	greenhouse gas
GSA	General Services Administration
GWP	global warming potential
I-10	Interstate 10
IPaC	Information, Planning, and Consultation System
INA	Irrigation Non-Expansion Area

Acronym	Definition
LBP	lead-based paint
LEED	Leadership in Energy and Environmental Design
LOS	level of service
LPOE	Land Port of Entry
LUST	leaking underground storage tank
MCDOT	Maricopa County Department of Transportation
mg/kg	milligrams per kilogram
MGP	manufactured gas plant
MOU	Memorandum of Understanding
MS4	Municipal Separate Storm Sewer System
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
N_2O	nitrous oxide
NOI	Notice of Intent
NOx	nitrogen oxides
NPDES	National Pollutant Discharge Elimination System
NRHP	National Register of Historic Places
NSPS	New Source Performance Standards
O_3	ozone
OSHA	Occupational Health and Safety Act
PAH	polycyclic aromatic hydrocarbon
PCB	polychlorinated biphenyl
PM	particulate matter
$PM_{2.5}$	particulate matter 2.5 micrometers or smaller
PM_{10}	particulate matter 10 micrometers or smaller
POL	petroleum, oils, or lubricants
POV	privately owned vehicle
PPM	parts per millions
PSD	Prevention of Significant Deterioration
RCRA	Resource Conservation and Recovery Act
RHC LPOE	Raul Hector Castro Land Port of Entry
ROI	region of influence
ROW	right-of-way
SHPO	State Historic Preservation Officer
SO_2	sulfur dioxide
SITES	Sustainable Sites Initiative
SR-80	State Route 80
SWMP	stormwater management plan
O_3	ozone
SWPPP	Stormwater Pollution Prevention Plan
TPH	total petroleum hydrocarbons

Acronym	Definition
UAC	unaccompanied juvenile
U.S.	United States
USC	United States Code
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
UST	underground storage tank
V/C	volume-to-capacity
VOC	volatile organic compound
VRP	Voluntary Remediation Program
WOTUS	Waters of the U.S.
WWTP	Wastewater Treatment Plant

This Page Intentionally Left Blank

CHAPTER 1 PURPOSE OF AND NEED FOR THE PROJECT

The General Services Administration (GSA) has prepared this Environmental Impact Statement (EIS) for the purpose of analyzing the potential environmental impacts resulting from the Proposed Action to expand and modernize the Raul Hector Castro (RHC) Land Port of Entry (LPOE) and construct a new commercial LPOE in Douglas, Arizona. GSA has prepared this EIS in accordance with the National Environmental Policy Act (NEPA) of 1969 (42 United States Code [USC] 4321 *et seq.*), the Council on Environmental Quality (CEQ) regulations implementing National Environmental Policy Act (NEPA) (40 Code of Federal Regulations [CFR] 1500-1508), GSA Order ADM 1095.1F (Environmental Consideration in Decision Making), the GSA Public Building Service's *NEPA Desk Guide*, and other relevant federal and state laws and regulations. This EIS discloses the environmental impacts that would result from the Proposed Action and alternatives.

1.1 INTRODUCTION

GSA's mission includes the custody and control of federal buildings, including United States (U.S.) LPOEs. As part of this mission, GSA designs, constructs, manages, maintains, and retains custody and control of 122 of the 167 U.S. LPOEs, including the RHC LPOE. The RHC LPOE is a port of entry for vehicles and pedestrians crossing the U.S.-Mexico border, between Douglas, Arizona and Agua Prieta, Sonora in Mexico. The port is operated by the U.S. Department of Homeland Security's Customs and Border Protection (CBP), and is a full-service, multi-modal facility where CBP officers inspect commercially owned vehicles (COVs), privately owned vehicles (POVs), and pedestrians.

The RHC LPOE has operated since 1914, with existing facilities constructed in the 1930s. Historically, the regional economy was driven by the local mining industry in nearby Bisbee, Arizona (approximately 27 miles to the west of the City of Douglas), which employed both U.S. and Mexican citizens. The City of Douglas was founded as a smelter town to treat copper ore, with major copper smelters beginning operations in 1902, owned and operated by the Phelps Dodge Corporation.

While there is no longer an active smelting operation in the City of Douglas, and mining operations in Bisbee have been substantially reduced, heavy mining machinery is still regularly transported across the border to facilitate mining operations in Mexico.

In recent years, Agua Prieta has experienced growth in several economic sectors. It is home to the first integrated solar combined cycle power plant in Mexico and several large manufacturing operations. Agricultural trade is also an economic driver in the region. Generally, the shipment of goods and equipment from Agua Prieta to Douglas and beyond has a substantial economic impact on the region and the movement of trucks carrying oversized equipment and materials through the port is common. With respect to pedestrian traffic, a large portion of pedestrians from Mexico are shoppers taking advantage of the duty-free goods available at the shops just north of the RHC LPOE.

Due to steady increases in traffic, poor pedestrian infrastructure, lack of separations between traffic types (COV, POV, and pedestrian), and undersized facilities at the end of their functional lives, the facilities at the RHC LPOE no longer function adequately and pose safety and security risks for CBP officers and the general public (GSA 2019a). These issues include the following:

- Traffic volumes for all modalities at the RHC LPOE have seen a steady increase in recent years and are expected to continue rising (GSA 2018).
- Currently, all vehicular traffic crossing through the RHC LPOE must cross through the existing communities of Douglas and Agua Prieta. These high volumes create congestion and put a large demand on the existing road infrastructure in the cities, which were not constructed for heavy traffic. Additionally, the movement of oversized equipment and mining tools through the port requires specialized coordination to cross the border, often further backing up commercial and non-

commercial traffic. The City of Douglas has also expressed concerns with hazardous materials utilized in the mining industry being transported across the border in commercial trucks and passing through the urban core of their community.

- The commingling of commercial, non-commercial, and pedestrian traffic moving through the port also creates a safety and security risk for CBP officers and the general public. COV, POV, and pedestrian traffic moving through the port is highly intertwined. The current configuration requires pedestrians to cross both incoming and outgoing vehicle traffic at various points throughout the port, including areas without proper traffic signals. The current configuration of the RHC LPOE creates a burden on CBP officers as it requires them to dedicate a disproportionate amount of their time monitoring traffic flows around the port to ensure pedestrian safety.
- The influx of family units (FAMUs) and unaccompanied juveniles (UACs) have also put a strain on the port facilities. These large groups require special care, such as timely and convenient access to showers, food, and medical care. A large area of the CBP staff's space is now utilized for family holding, which does not contain the necessary segmentation for officer and detainees or proper processing, detention, or storage space. In order to properly process and supervise these groups, the RHC LPOE needs additional space in a segregated facility to ensure the safety and care of the detainees.

The existing RHC LPOE has limited opportunity for expansion within its current footprint. The existing facilities have limited interior space for offices and processing, and port operations are being negatively affected due to the lack of space. As a temporary solution, a standalone modular unit was recently constructed in the existing parking lot behind the historic Main Building.

To address these varied concerns, GSA is proposing to expand and modernize the existing RHC LPOE and construct a new Commercial LPOE to the west of the existing facilities. The proposed Commercial LPOE is proposed on land that is currently owned by the City of Douglas. In 2000, the city purchased land in this area as part of larger plans with Cochise County to develop the area and facilitate the development of a new LPOE, so to move commercial traffic away from downtown Douglas and revitalize the area be a more pedestrian-oriented community (City of Douglas et al. 2021). There are other ongoing planning efforts to redevelop this area that are outside the scope of GSA's control and not a part of the Proposed Action.

1.1.1 Description of the RHC LPOE and Proposed Commercial Port Area

The City of Douglas is the main urban border community encompassing the project area; it is located in southeastern Arizona, approximately 120 miles southeast of Tucson, in Cochise County. Douglas has a population of approximately 16,500. Agua Prieta, Sonora, Mexico is located south of the border, adjacent to the City of Douglas. It has a population of approximately 100,000 people. See Figure 1-1 for a regional figure of the project area.

The RHC LPOE is located at the intersection of First Street and Pan American Avenue (see Figure 1-2). Regional access to the port is by State Route 80 (SR-80) from the west and northeast and U.S. Highway 191 (US-191) from the north. The closest interstate is Interstate 10 (I-10), located approximately 63 miles northwest of Douglas. Adjacent land under consideration for acquisition includes a small city park, a cluster of small shops, and undeveloped land. Commercial and industrial warehouses exist along the eastern perimeter of the RHC LPOE, along Customs Avenue and 1st Street.

The planned site for the proposed Commercial LPOE is approximately 5 miles west of the existing RHC LPOE located off James Ranch Road (see Figure 1-1). The site is primarily undeveloped; the only major infrastructure consists of a U.S. Border Patrol Station built in 2003 at the intersection of SR-80 and Kings Highway.

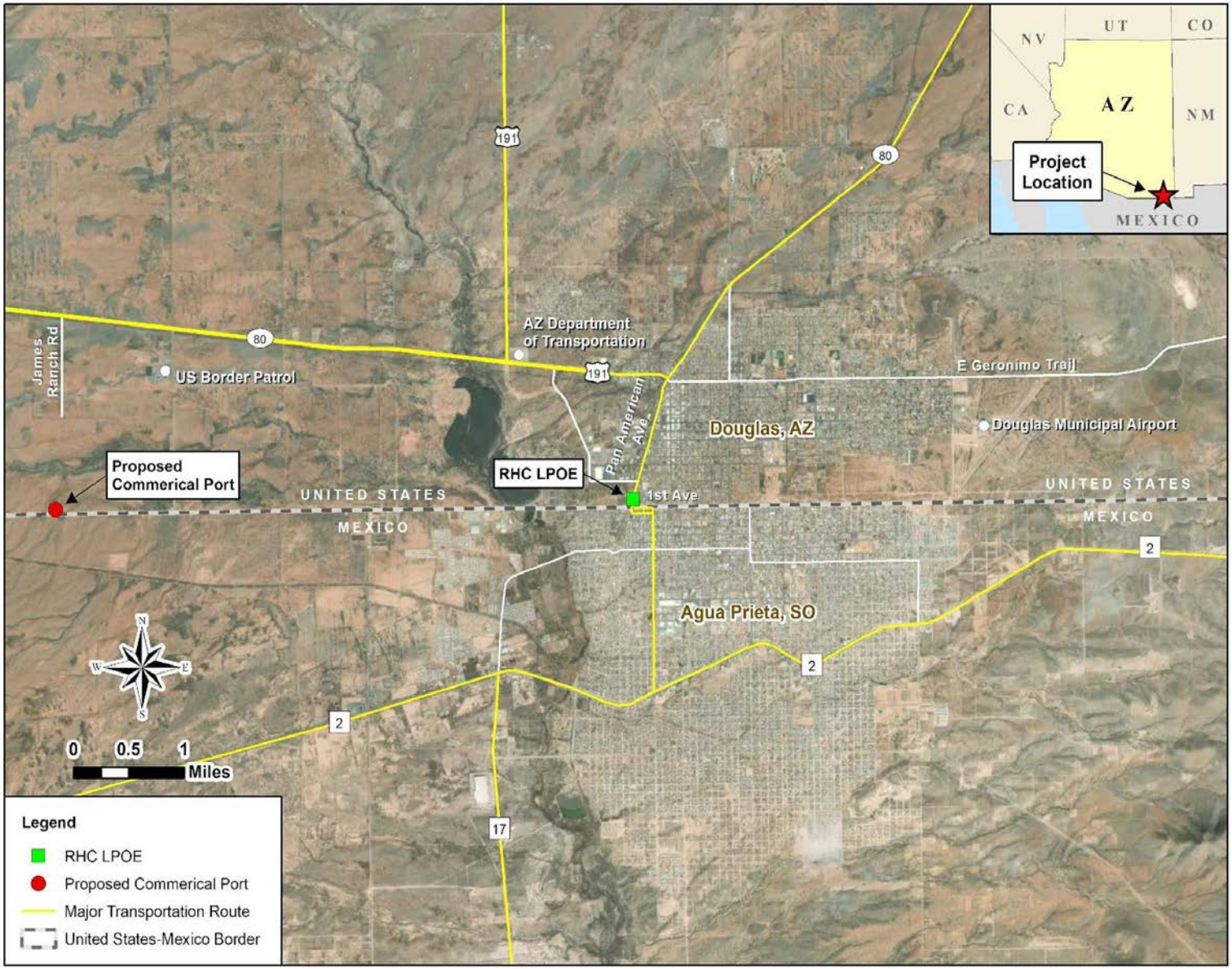


Figure 1-1. Regional Location of the RHC LPOE and Proposed Commercial LPOE

Figure 1-2. Approximate Property Boundary of the RHC LPOE

The existing RHC LPOE facilities consist of POV inspection processing facilities on the western side, pedestrian processing facilities through the center of the site, and commercial processing facilities on the eastern side (see Figure 1-3). The current facility includes seven lanes for POVs, one lane for COVs, and three stations for processing pedestrians (see Figure 1-4). Pedestrian processing activities occur in the central area of the port, mainly at the historic Main Building. The non-commercial vehicles processing facilities are located immediately west of the historic Main Building. Other non-commercial vehicular facilities include the Headhouse and Secondary Inspection facilities located directly north of the POV inspection lanes. The commercial portion of the port comprises an office building, two primary inspection booths, a storage warehouse, a secure storage facility, canine kennels, and a canopy structure over the booths and docks.

Pedestrian access from the south requires crossing traffic lanes where vehicles queue to enter the primary inspection area of the RHC LPOE. Once across traffic, pedestrians enter into an outdoor mall/queuing area and proceed to the historic Main Building pedestrian inspection area. Incoming commercial and non-commercial vehicle traffic queues along the border on the Mexico side, moving east to west on Calle Internacional, the street along the southern border in Mexico. The northernmost lane is dedicated to commercial traffic only.

Additional facilities within the RHC LPOE include a parking lot and the historic Garage, which is located just north of the historic Main Building and is used for office and storage space. A Federal Motor Carrier Safety Administration (FMCSA) facility is located to the northeast of the main processing areas but is not a part of the RHC LPOE. The City of Douglas donated a small parking lot across from the FMCSA facility for CBP to use.

The historic Main Building and Garage were built in 1933 and are listed on the National Register of Historic Places (NRHP). Due to the historic designation, any renovation work to the original 1933 buildings would require compliance with the National Historic Preservation Act (NHPA) of 1966 and the U.S. Secretary of the Interior's *Standards for Rehabilitation.* See Figure 1-5 for a representative photo of the Main Building.

1.2 PURPOSE OF AND NEED FOR THE PROPOSED ACTION

The purpose of this project is for GSA to support CBP's mission by bringing the RHC LPOE operations in line with current land port design standards and operational requirements of CBP while addressing existing deficiencies identified with the ongoing port operations.

In order to bring the RHC LPOE operations in line with CBP's design standards and operational requirements, the project is needed to:

- Improve the capacity and functionality of the LPOE to meet future demand, while maintaining the capability to meet border security initiatives;
- Ensure the safety and security for the employees and users of the RHC LPOE; and
- Improve traffic congestion and safety for the City of Douglas.

The existing RHC LPOE must remain operational in order to allow CBP to continue to meet its mission requirements. The existing footprint of the RHC LPOE must expand to allow for GSA to meet the above needs. After evaluating project design options and considering economic and market factors, GSA concluded that expansion areas must be contiguous to the existing RHC LPOE to provide for a cohesive, efficient final site plan.

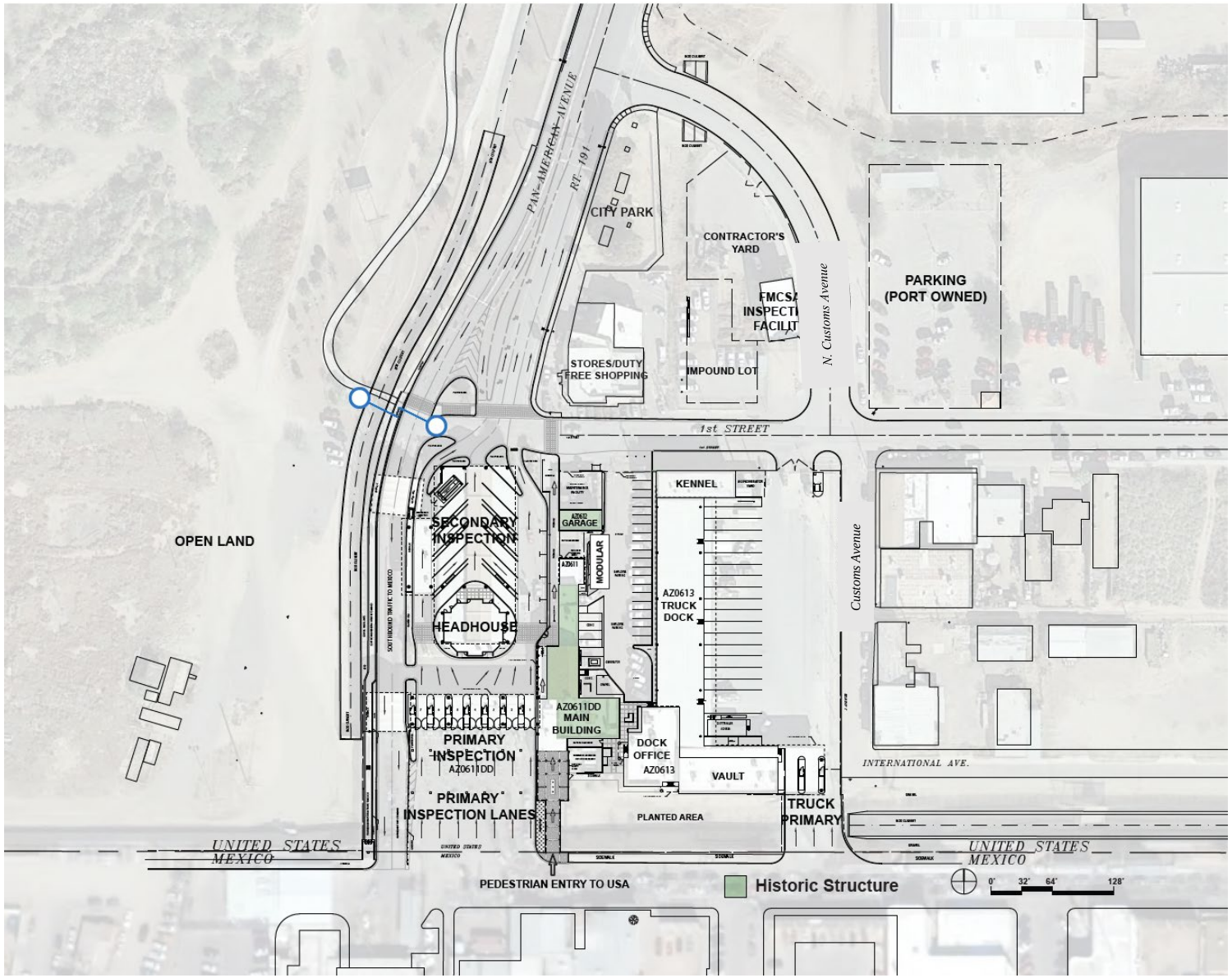


Figure 1-3. Existing Site Layout of the RHC LPOE

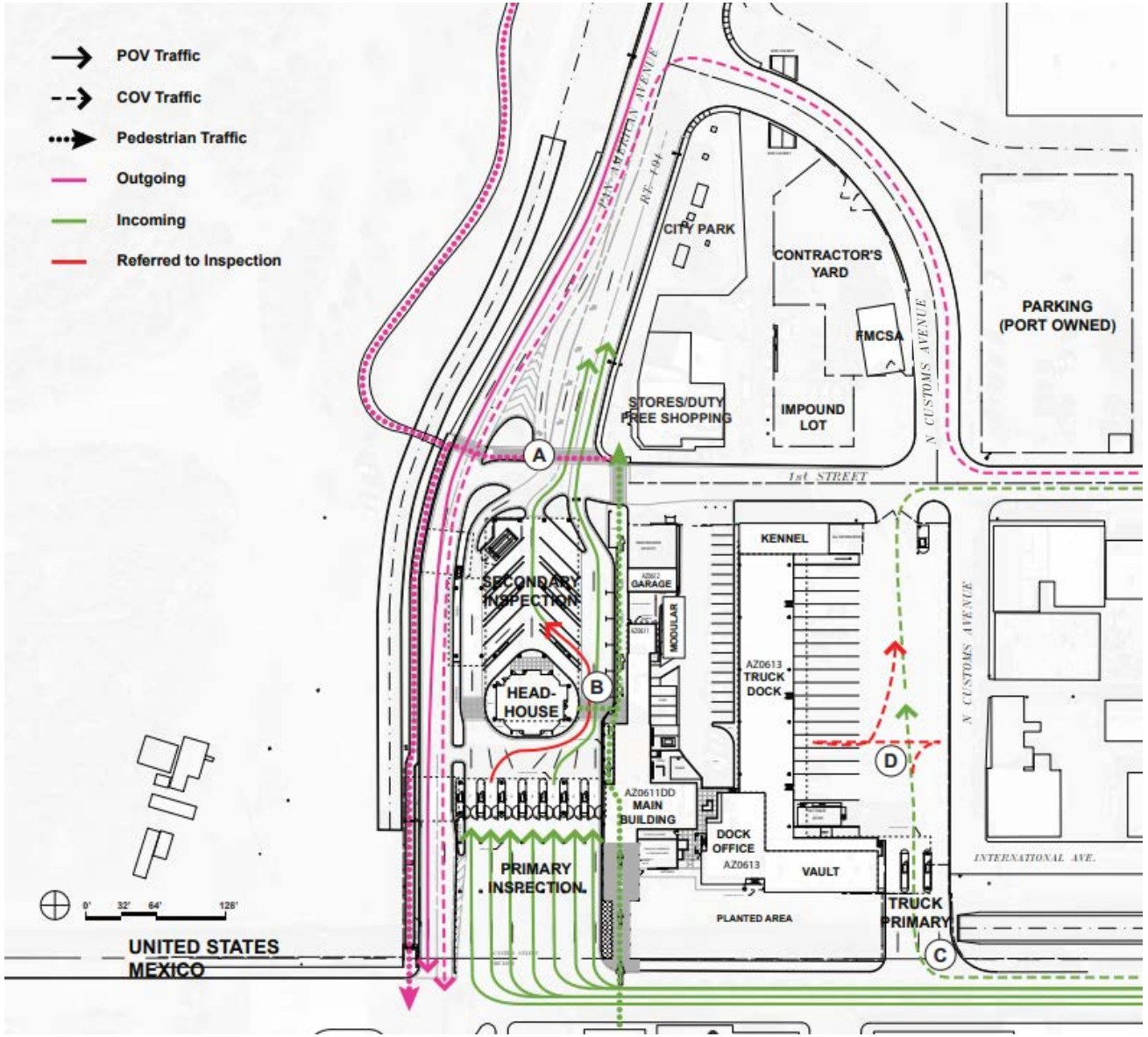


Figure 1-4. Existing Traffic Flow at RHC LPOE

Figure 1-5. Historic Main Building – West Facade

1.3 PUBLIC INVOLVEMENT AND AGENCY COORDINATION

The NEPA process provides several opportunities for public involvement. During these times, interested and affected parties (i.e., stakeholders) may express their concerns and provide their views about:

- The project and its possible impacts on the natural and human environment;
- What should be addressed in the analysis and evaluation of the Proposed Action; and
- The adequacy of the NEPA analysis and documentation of potential impacts in the EIS.

Public participation with respect to decision-making on the Proposed Action is guided by GSA's implementing procedures for compliance with NEPA (GSA Order ADM 1095.1F, *Environmental Considerations in Decision Making*).

1.3.1 Scoping Phase

1.3.1.1 *Notification of Public Scoping*

A Notice of Intent (NOI) for the EIS was published in the *Federal Register* on July 14, 2022. GSA also published advertisements in English and Spanish and social media posts in the weeks preceding the public scoping meeting. The advertisements were published in the *Herald Review* on July 20, August 3, and August 7, 2022. Announcements were posted on GSA's social media accounts on July 28, 2022. The City of Douglas also posted announcements of the meeting on the city's social media accounts on July 27 and 28 and August 4, 5, and 10, 2022. Additionally, GSA mailed scoping letters dated July 14, 2022 to federal agencies, state and local agencies, elected officials, and other interested parties.

GSA's advertisements, announcements, and letters indicated the agency's intent to prepare an EIS and conduct a scoping meeting; provided a brief description of the project; identified the public scoping meeting time and location; and included instructions on submitting a comment. GSA accepted comments through August 22, 2022.

1.3.1.2 *Public Scoping Meeting*

A public meeting was held on Thursday, August 11, 2022 from 4:00 p.m. to 6:00 p.m. at the Douglas Visitor Center located at 345 16th Street, Douglas, Arizona, 85607. Approximately 42 people attended the meeting. An open house format was used to encourage discussion and information sharing and to ensure that the public had opportunities to speak with representatives of GSA. Informational posters about the proposed alternatives, project background, purpose and need, and ways for submitting scoping comments were provided at the meeting. Additional materials available at the public scoping meeting included a sign-in sheet, a comment form, and a handout.

1.3.1.3 *Summary of Public Scoping Comments*

GSA invited written comments to be submitted via mail or email on this EIS. More specifically, GSA invited comments on the key topics that should be covered in the EIS; examples of potential adverse and beneficial impacts from the Proposed Action; and any other relevant information. Comments were submitted using comment forms and emails.

A total of 22 unique commenters provided input during the scoping period. Comments were provided on a range of topics as shown in Table 1-1, with the majority of comments received concerning potential truck traffic routes and the former Phelps Dodge smelter site located approximately 0.7 mile west of the RHC LPOE. GSA received a total of 46 comments.

Table 1-1. Commenters and Comments by Category

Category	Number of Commenters	Number of Comments
Purpose and Need	1	1
Public Scoping Process	1	4
Proposed Action	4	4
Alternatives	1	2
Cultural Resources	1	2
Air Quality and Greenhouse Gas Emissions	1	6
Water Resources	2	2
Biological Resources	2	4
Transportation and Traffic	7	7
Socioeconomics	1	1
Environmental Justice	1	3
Human Health and Safety	8	9
Cumulative Impacts	1	1

A Scoping Report was prepared for this EIS and includes a more detailed description of comments as well as meeting materials from the Public Scoping Meeting (see Appendix A).

1.3.2 Draft EIS Phase

1.3.2.1 *Notification of a Draft EIS Public Meeting*

GSA is soliciting comments from interested persons and stakeholders on this Draft EIS (DEIS) during a 45-day comment period. The public was notified of the DEIS public meeting through publication of a Notice of Availability in the *Federal Register*, as well as multiple other channels of communication,

including two newspaper ads, letters to interested parties, and social media posts. Comments received during the 45-day comment period will be considered in preparation of the Final EIS and will be made part of the Administrative Record.

1.3.2.2 *Draft EIS Public Meeting*

GSA invites public comment on the DEIS during a in person public meeting to be held during the DEIS public comment period. The meeting will be an open-house format where presentation boards will be provided and the public will have an opportunity to interface with GSA representatives, as well as have the opportunity to provide comments on the DEIS. Information on attending the public meeting can be found at the following website:

- **Proposed Commercial LPOE –** https://www.gsa.gov/about-us/regions/welcome-to-the-pacific-rim-region-9/land-ports-of-entry/douglas-commercial-land-port-of-entry
- **RHC LPOE –** https://www.gsa.gov/about-us/regions/welcome-to-the-pacific-rim-region-9/land-ports-of-entry/raul-hector-castro-land-port-of-entry

1.3.3 Agency Consultation

GSA has identified historic properties that could be adversely affected by the proposed project. The Section 106 process is currently underway to determine effects to these historic properties under the NHPA. An update on the status of the Section 106 process will be included in the Final EIS. Interested parties are invited to participate in the Section 106 process by contacting Natalie Loukianoff at natalie.loukianoff@gsa.gov or 628-224-5682. See Section 3.2, Cultural Resources for additional information on the NHPA and Section 106 process.

GSA has identified potential suitable dispersal habitat for a federally protected species approximately 100 feet north of the project area. Per Section 7 consultation to determine effects to federally protected species under the Endangered Species Act (ESA), GSA sent a technical assistance letter to the U.S. Fish and Wildlife Service (USFWS) Arizona Ecological Services Field Office dated November 22, 2022 and USFWS provided a response letter on December 16, 2022. See Section 3.7, Biological Resources for additional information on the ESA and the Section 7 process and for USFWS's comments on potential impacts to federally protected species from the project.

Consultation letters with the agencies are included in Appendix B.

1.3.4 Tribal Consultation

GSA is seeking tribal input to help inform the analysis of the project. Affiliated tribes were sent letters in January 2023, initiating government to government consultation and requesting input on the project (see Appendix B).

CHAPTER 2 DESCRIPTION OF THE PROPOSED ACTION AND ALTERNATIVES

GSA proposes to construct a new Commercial LPOE approximately 5 miles west of the existing RHC LPOE, and expand and modernize the existing RHC LPOE to address various operational, capacity, and safety issues associated with the existing LPOE. The Proposed Action is defined as the construction of a new Commercial LPOE and expansion and modernization of the existing RHC LPOE.

Two action alternatives are being considered. Alternative 1 would include construction of a new Commercial LPOE first, followed by a phased expansion and modernization of the existing RHC LPOE after the Commercial LPOE is operational. Alternative 2 would include construction of a new Commercial LPOE and phased expansion and modernization of the existing RHC LPOE at the same time. GSA has already entered into preliminary discussions and agreements with their Mexican counterparts on siting the proposed Commercial LPOE and it is anticipated that the new facility would align with new Mexican facilities in Agua Prieta.

Both alternatives would require the acquisition of land near the RHC LPOE and phased construction (1.6 acres for Alternative 1 Expansion Area and 18 acres for Alternative 2 Expansion Area); however, Alternative 2 would require additional land acquisition so as to allow for expansion and modernization activities to occur while the port remains operational. Figure 2-1 illustrates the potential expansion areas for both alternatives.

Under the No Action Alternative, GSA would not move forward with either alternative, as described in Section 2.3. The No Action Alternative serves as a baseline scenario for which potential environmental consequences can be compared to for this EIS.

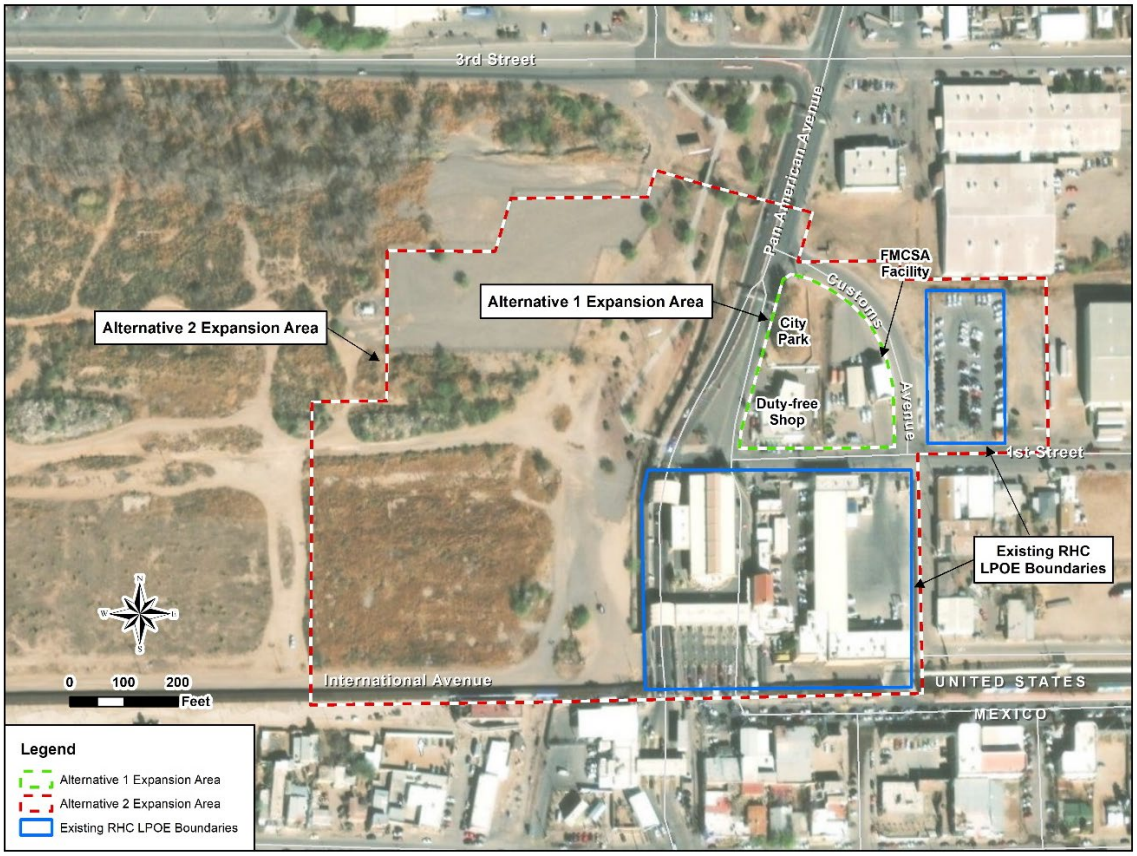


Figure 2-1. Expansion Areas for Alternative 1 and Alternative 2

2.1 ALTERNATIVE 1 – SEQUENTIAL CONSTRUCTION

Under Alternative 1, GSA proposes a two-port solution that would separate the processing of commercial and non-commercial traffic to alleviate the inadequacies of the existing RHC LPOE. This alternative would consist of two main components, which are described in greater detail below in Sections 2.1.1 and 2.1.2:

1) **Construction of a new Commercial LPOE** – A new, dedicated LPOE would be constructed to process only COVs. The first stage of this alternative would be to construct a new Commercial LPOE at a site located approximately 5 miles west of the RHC LPOE; and

2) **Expansion and Modernization of the Existing RHC LPOE to a Non-Commercial LPOE** – After construction of the proposed Commercial LPOE is complete, the existing RHC LPOE would be expanded and modernized. The expanded and modernized facility would be dedicated to processing only POVs and pedestrians.

All new and modernization construction would seek to achieve Leadership in Energy and Environmental Design (LEED) certification at the highest feasible level within reasonable cost, with Gold-level standards at a minimum. The new and modernized facilities would be "net zero ready." Renewable energy sources would be planned for future installation and provided with minimum infrastructure to accommodate the energy source (e.g., photovoltaics), if GSA decides to install such infrastructure. The new facilities would also comply with the Energy Independence and Security Act (EISA) of 2007. Between EISA 2007 and LEED, the project would adhere to whichever requirements are higher. Furthermore, the project would also adhere to the CEQ's *Guiding Principles for Sustainable Federal Buildings*. The design team would utilize GSA's Guiding Principles Checklist to track and report compliance.

2.1.1 Proposed Commercial LPOE

The proposed Commercial LPOE site is approximately 80.5 acres and is located south of the current terminus of James Ranch Road, accessed via SR-80 (see Figure 2-2). The only major infrastructure in the area consists of a U.S. Border Patrol Station at the intersection of SR-80 and Kings Highway. The land is currently owned by the City of Douglas; however, the land would be transferred to GSA prior to the implementation of Alternative 1.

The following siting criteria were considered when evaluating a proposed location for the proposed Commercial LPOE:

- **Proximity to roadways –** The proximity to major highways and transportation routes were considered for the accommodation of truck transport.
- **Availability of space –** The amount of square footage of a site was evaluated against the CBP requirements to process COVs.
- **Proximity to sensitive receptors –** Land use of adjacent properties were considered to evaluate potential land use conflicts and impacts to sensitive receptors.
- **Existing environmental constraints –** Natural environmental features, such as wetlands and floodplains, were considered to evaluate potential development issues.
- **Coordination with local governments** – Efforts to site the Commercial LPOE were coordinated with and supported by the City of Douglas and Cochise County.
- **Bi-national coordination** – Efforts to evaluate best siting locations were also coordinated with Mexico to ensure alignment of feasible sites and project schedules.

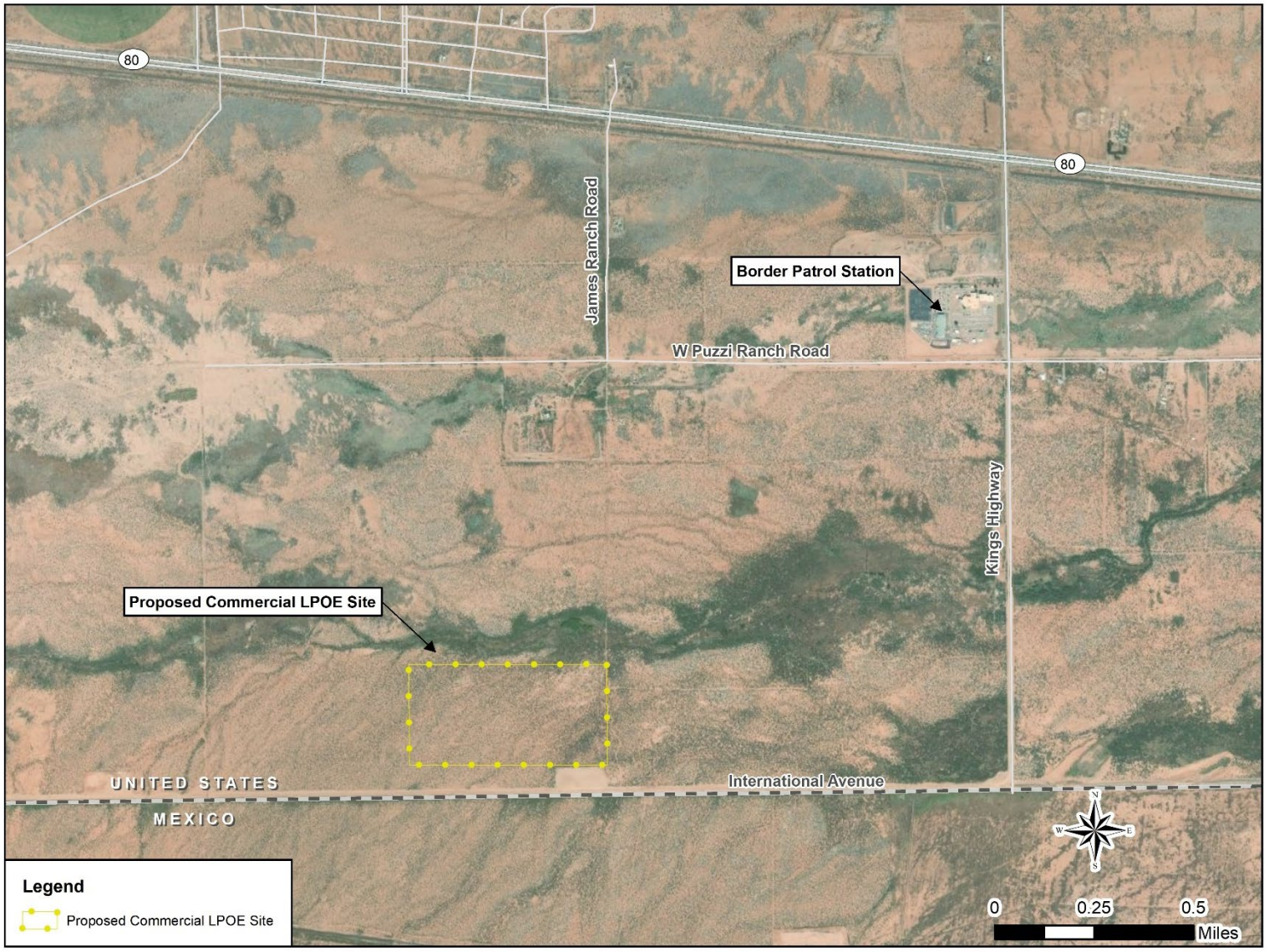


Figure 2-2. Site Location for the Proposed Commercial LPOE

Figure 2-3 provides a conceptual site layout of the proposed Commercial LPOE. This site layout is a theoretical representation used for discussion and environmental analysis. The exact layout of the Commercial LPOE would be determined by the construction contractor but would be similar in scope to what is described in the EIS. All new construction would obtain at a minimum LEED Gold certification. The main facilities of the Commercial LPOE would consist of the following:

- Main Building
- Commercial Vehicle Inspection (three lanes and bypass lane)
- Commercial Inspection/Staging
- Commercial Inspection Building
- Outbound Inspection
- Outbound Support Building
- Kennel
- Indoor Firing Range
- Vault
- FMCSA Facility
- Firearms Simulator Building
- Emergency Power
- Parking/Staging

Under a separate project not affiliated with GSA's Proposed Action, James Ranch Road would be improved (i.e., widened and resurfaced) and extended to the project area by the Arizona Department of Transportation (ADOT). This project is being planned by ADOT to support regional future planning efforts and would also support the proposed Commercial LPOE.

The extension of James Ranch Road is anticipated to provide existing right-of-way (ROW) for utility connections to the proposed Commercial LPOE. Currently, there are no established electric, sewer, or water utility systems in the project area. Electricity would be connected to the project area via the state's public utility, Arizona Public Service Company (APS), to a nearby power source along James Ranch Road. It is expected that electricity lines would be placed along James Ranch Road within the ROW as part of ADOT's road widening action. For water and wastewater utilities, GSA may tie into existing service lines via the James Ranch Road ROW, pending establishment of water and wastewater utility connections in the surrounding area. The extension of these utilities to the project area would be part of larger development planning efforts in the region by a consortium of partners (including Cochise County, the City of Douglas, etc.) that are not a part of GSA's action. The City of Douglas and Cochise County are in the planning stages for the construction of water, wastewater, and broadband infrastructure to support utility needs of the proposed Commercial LPOE, as well as for other potential users included in the planning area (Stantec 2022). The proposed infrastructure would ultimately be owned by the City of Douglas (refer to Chapter 4 for a discussion of cumulative impacts from the infrastructure utility connection project, as well as other development near the proposed Commercial LPOE).

ADOT's Mexican counterpart – Secretary of Infrastructure and Urban Development – is transferring land immediately adjacent the border at the proposed Commercial LPOE site, plus the easement from the border to Mexican Highway 2 to build the necessary inspection infrastructure and connector roads on the Mexican side of the proposed Commercial LPOE (City of Douglas 2018). GSA understands potential project risks if Mexico's plans change or are terminated; however, this scenario is considered highly unlikely. In such a scenario, GSA would revisit internal planning efforts, to include compliance with all applicable environmental laws and regulations.

Construction of the proposed Commercial LPOE is estimated to begin in 2025, with substantial completion anticipated in 2028. Construction would be expected to take place over an approximate 48- to 54-month period and construction activities would occur within hours that are in accordance with local noise ordinances. Peak construction (up to 2 years) would require a potential maximum of 100 construction workers and 150 trucks per day for deliveries and waste removal. During non-peak construction, approximately 50 workers would be onsite. All construction and demolition waste would be disposed and recycled at authorized facilities. Anticipated operating hours for the proposed Commercial LPOE would be from 6:00 a.m. to 10:00 p.m. It is expected CBP would hire approximately 100 positions to support the proposed Commercial LPOE.

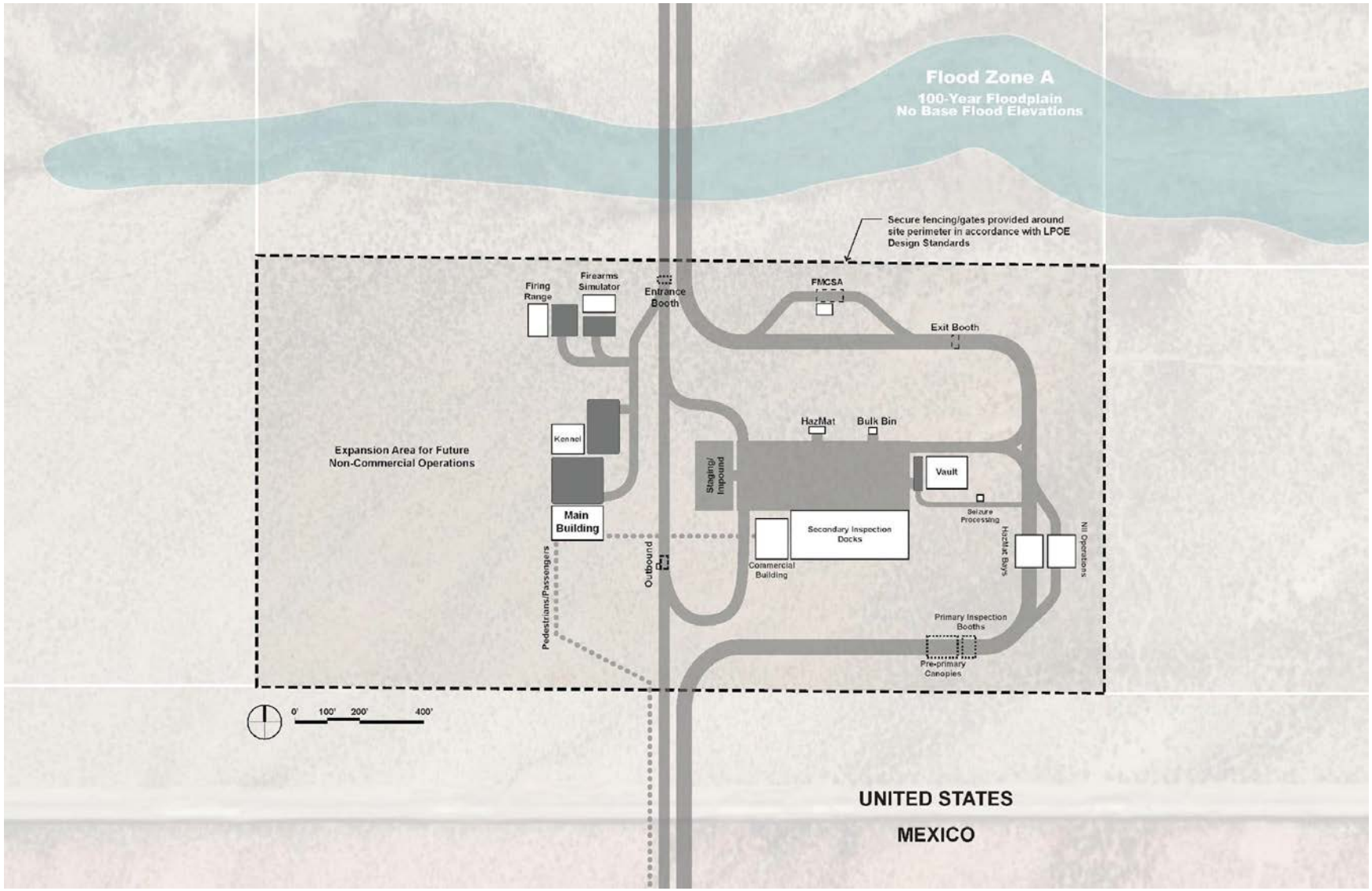


Figure 2-3. Conceptual Site Layout of the Proposed Commercial LPOE

Separating out commercial from non-commercial traffic would eliminate the commingling of trucks with pedestrians and POVs and, therefore, would improve congestion and the safety to workers and the public. Additionally, relocating truck routes away from the City of Douglas would minimize traffic congestion and hazards in the community.

2.1.2 Expansion and Modernization of the RHC LPOE into a Non-Commercial LPOE

Expansion and modernization of the existing RHC LPOE would begin after the proposed Commercial LPOE is complete. Following expansion and modernization, the existing RHC LPOE would be dedicated to processing only non-commercial vehicles (cars, vans, and buses) and pedestrians. Alternative 1 at the existing RHC LPOE would include construction of the following facilities:

- A new Main Building, to include 6 pedestrian inspection booths
- Non-Commercial Vehicle Inspection – includes 10 primary inspection lanes and 24 secondary inspection bays
- Headhouse
- Outbound Inspection
- Outbound Support Building
- Public-Facing/Trusted Traveler Enrollment Center
- Family/UAC Processing – includes an outdoor area
- Emergency Power
- Parking

To the extent practicable, Alternative 1 would be implemented using a phased construction approach to alleviate potential disruptions at the existing RHC LPOE. The exact construction phasing sequence and layout of the LPOE would be determined by the construction contractor. Generally, after construction of the proposed Commercial LPOE is complete, all commercial operations at the existing RHC LPOE would be transferred to the new facility, including an impound lot directly north of the RHC LPOE and the FMCSA facility. In the Alternative 1 Expansion Area, two parcels to the north of the existing RHC LPOE, one park owned by the City of Douglas and another privately owned with commercial facilities, would be acquired and vacated (refer to Figures 1-3 and 2-1). Existing RHC LPOE facilities, stores, the city park, and FMCSA facility would be demolished and new facilities would be constructed, similar to as shown in the conceptual layout illustrated in Figure 2-4 (refer to Section 2.1.2.1 for a discussion of management historic structures). It is assumed that the duty-free shopping would relocate to another nearby location. Similar to the Commercial LPOE, the site layout for the modernized existing LPOE is a theoretical representation used for discussion and environmental analysis. The exact layout of the LPOE would be determined by the construction contractor but would be similar in scope to what is described in the EIS. Following the transfer of all commercial activities to the proposed Commercial LPOE, all existing non-commercial operations, including the processing of POVs and pedestrians, would be transferred to the new non-commercial facilities. It is expected CBP would hire approximately 50 positions to support the expanded and modernized RHC LPOE.

Construction at the RHC LPOE is estimated to begin in 2028, with substantial completion anticipated in 2031. Construction would be expected to take place over an approximate 36- to 42-month period and demolition and construction activities would occur within hours that are in accordance with local noise ordinances. Peak construction (up to 2 years) would require a potential maximum of 100 construction workers and 150 trucks per day for deliveries and waste removal. During non-peak construction, approximately 50 workers would be onsite. All construction and demolition waste would be handled in accordance with federal, state, and local regulations and disposed or recycled at authorized facilities.

As portions of the project area fall within a floodplain, standard protocols for flood mitigation and stormwater management would be incorporated into the final design to mitigate against impacts from flooding. Measures may include minimizing the location of new facilities within the floodplain to the extent practicable, designing appropriate stormwater management structures, or raising buildings to an elevation above the floodplain.

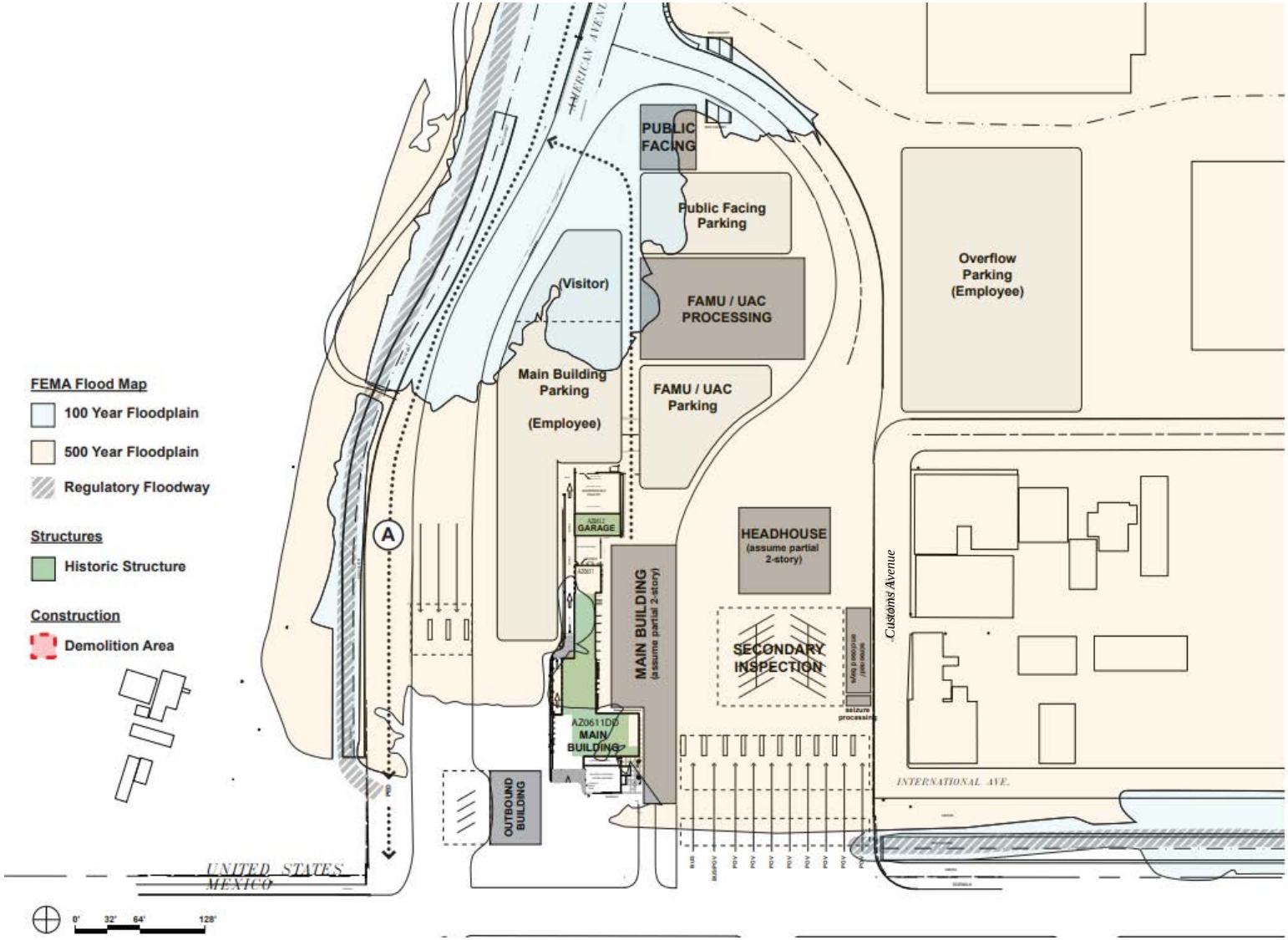


Figure 2-4. Conceptual Diagram for a Final Phase During Expansion and Modernization of RHC LPOE

2.1.2.1 *Alternatives 1a – 1d: Reuse, Relocate, or Demolish Historic Structures*

As discussed in Section 1.1.3, the existing historic Main Building and Garage are listed on the NRHP. Due to the designation, any modifications or potential demolition associated with the historic Main Building and Garage would be required to follow GSA *Procedures for Historic Properties*. Any changes to the buildings would also follow the Secretary of the Interior's *Standards for the Treatment of Historic Properties* and applicable guidelines.

GSA proposes the following sub-alternatives with respect to the historic Main Building and Garage, described below. Under these sub-alternatives, GSA would proceed with the remainder of Alternative 1 as described in Section 2.1.2, but would manage the historic structures through one of the following means, pending the outcome of ongoing Section 106 consultation with the State Historic Preservation Officer (SHPO) and consulting parties.

- **Alternative 1a: Adaptive Reuse of Historic Structures** – Under this sub-alternative, the historic Main Building and Garage would be carefully integrated into the modernization plans of the RHC LPOE and repurposed into a more current and useful structure. Any remodeling or renovation work would be done in a manner that preserves the cultural and historic significance of these structures.
- **Alternative 1b: Relocation of Historic Structures** – Under this sub-alternative, the historic Main Building and Garage would be relocated to another location within the project area. Relocating these structures would most likely require lifting the whole structure intact and transporting it to a new location. Careful planning would be required to help facilitate transport of the whole structure and site preparation for both the old and new locations.
- **Alternative 1c: Demolition of Historic Structures** – Under this sub-alternative, the historic Main Building and Garage would be demolished during the modernization of the RHC LPOE. GSA would consult the SHPO and additional consulting parties to develop an agreement document and appropriate mitigation measures, such as documentation of the structures prior to demolition.
- **Alternative 1d: Combination of Alternative 1a through 1c** – Under this sub-alternative, some combination of adaptive reuse, relocation, or demolition would be selected for the historic Main Building and Garage.

2.2 ALTERNATIVE 2 – CONCURRENT CONSTRUCTION

To expedite construction for the purpose of achieving cost and time efficiencies, GSA proposes to construct the commercial and non-commercial facilities concurrently. Under Alternative 2, the RHC LPOE would continue to operate as usual, while construction activities for the proposed Commercial LPOE and for the expansion and modernization of the RHC LPOE would occur at the same time, similar to as described in Section 2.1.1 and Section 2.1.2, respectively. As under Alternative 1, a multi-phase construction plan would be implemented to ensure minimal disruption to the port's daily operations as well as safety to employees and the public.

Because the existing RHC LPOE has limited opportunity for expansion within its current footprint, Alternative 2 includes acquisition of additional adjacent land parcels to facilitate concurrent construction. Under Alternative 2, GSA may acquire some or all of the land shown as the Alternative 2 Expansion Area in Figure 2-1. GSA may also consider acquiring temporary easements from the city for construction laydown areas for portions of this expansion area. Following construction, land may be returned to the city or previous owner. Final plans for land acquisition would be determined during the design process for the RHC LPOE. The area proposed for acquisition is primarily undeveloped land owned by a combination of other federal landowners, the City of Douglas, and private owners; and also includes roadways owned by the City of Douglas or State of Arizona. This expansion area includes the parcels directly north of the existing RHC LPOE that GSA proposes to acquire under Alternative 1.

The newly acquired land would be utilized for staging and / or phased construction of new facilities for the RHC LPOE, similar to as discussed in Section 2.1.2. Similarly, final phasing and configuration of the facilities, including traffic flow, would be determined by the construction contractor but would remain within the footprint as depicted in Figure 2-1 and would be similar to as described for Alternative 1. The increased expansion area under the concurrent alternative could allow for larger, more expanded level of operations at the RHC LPOE. As new facilities become operational, old facilities may be demolished or repurposed, as necessary. Future growth or development not considered in this analysis would be considered under future, separate NEPA analysis, where the public would have an opportunity to provide public comments and weigh in on the planning process at that time.

Under Alternative 2, construction of the proposed Commercial LPOE and at the RHC LPOE is estimated to begin in 2025, with substantial completion anticipated in 2028. Construction would be expected to take place over an approximate 48- to 54-month period and construction activities would occur within hours that are in accordance with local noise ordinances. Peak construction (up to 2 years) would require a potential maximum of 100 construction workers and 150 trucks per day, per site, for deliveries and waste removal (i.e., 200 construction workers and 300 trucks per day, at both the existing RHC LPOE and Commercial LPOE sites). During non-peak construction, approximately 50 workers would be onsite at each project location (i.e., 100 construction workers at both sites). All construction and demolition waste would be handled in accordance with federal, state, and local regulations and disposed or recycled at authorized facilities.

2.2.1 Alternatives 2a – 2d: Reuse, Relocate, or Demolish Historic Structures

Management of the historic Main Building and Garage would be handled similar to as described in Section 2.1.2 under the following sub-alternatives:

- **Alternative 2a** – Adaptive Reuse of Historic Structures
- **Alternative 2b** – Relocation of Historic Structures
- **Alternative 2c** – Demolition of Historic Structures
- **Alternative 2d** – Combination of Alternatives 2a through 2c

2.3 NO ACTION ALTERNATIVE

The No Action Alternative is included and analyzed to provide a baseline for comparison with impacts from the Proposed Action and also to satisfy federal requirements for analyzing “no action” under NEPA (40 CFR 1502.14(d)).

Under the No Action Alternative, there would be no construction of a new Commercial LPOE, and expansion and modernization of the RHC LPOE would not occur. Any type of modification to the existing port would be limited to minor repairs and maintenance, as needed. The operation of the RHC LPOE would generally remain as it currently does, but the capacity and efficiency of the port would likely degrade over time due to increased traffic demand as discussed in Chapter 1. Additionally, concerns with the commingling of COV, POV, and pedestrian traffic would remain. The City of Douglas would continue experiencing a steady stream of truck traffic, some of which would continue to haul hazardous materials. In general, this alternative would not meet the Purpose and Need for the Proposed Action, as identified in Chapter 1.

2.4 ALTERNATIVES CONSIDERED AND DISMISSED FROM DETAILED ANALYSIS

2.4.1 Modernization of RHC LPOE Only

A Modernization-Only Alternative for the RHC LPOE was also considered as a potential alternative during the project design process. This alternative would include modernization activities within the current RHC LPOE footprint only. The Modernization-Only Alternative was evaluated against the following factors:

- **Spatial constraints** – The existing footprint of the RHC LPOE is limited in size. The Modernization-Only Alternative would greatly limit options to improve capacity and functionality of the LPOE. Without expansion, increasing traffic demand would result in continued deficiencies in operational efficiency and safety. CBP staff would continue with inadequate space for operations, especially from the influx of FAMUs and UACs. Additionally, the existing Agua Prieta customs facilities directly across the RHC LPOE are restricted by infrastructure on all four sides and may not be able to accommodate expansion, thereby limiting potential relief from the increasing traffic demand.
- **Commingling of traffic** – The existing COV, POV, and pedestrian traffic is highly commingled at the RHC LPOE, causing safety and congestion issues for the workers and the general public. Although traffic flow could be improved under the Modernization-Only Alternative, the COV traffic would not be separated out and vehicle and pedestrian traffic would still intersect, resulting in traffic hazards similar to current conditions.
- **Truck routing** – Heavy trucks transporting equipment, supplies, and hazardous material travel through the downtown area and pose safety concerns for the City of Douglas. Under the Modernization-Only Alternative, COV processing would remain at the RHC LPOE and, therefore, truck travel through the city would also remain, maintaining the same safety concerns as current conditions.

Based on these factors, the Modernization-Only Alternative would not allow GSA to fully support CBP's mission by bringing the RHC LPOE operations in line with current land port design standards and operational requirements. As a result, the Modernization-Only Alternative would not meet GSA's Purpose and Need for the Proposed Action and, therefore, this alternative was not carried forward for further analysis in this EIS.

2.4.1.1 *Alternative Locations for the Commercial LPOE*

The following alternative locations for the proposed Commercial LPOE were considered but dismissed as they did not meet the purposed and need for the Proposed Action described in Section 1.2 or the siting criteria for the Commercial LPOE listed in Section 2.1.1:

- Two alternative locations for the proposed Commercial LPOE site were considered but dismissed during the project feasibility study development process. One proposed site was considered on Kings Highway adjacent to the U.S. Border Patrol Station. This location was considered but dismissed as it lacked consensus with local governments and bi-national coordination with the Mexican government. A second location was considered on the west side of Pan American Avenue, directly west of the existing RHC LPOE (near the current Alternative 2 Expansion Area). This location was considered but dismissed because it would not improve traffic congestion and safety for the City of Douglas, lacks sufficient space, and lacked bi-national consensus with the Mexican government and local government cooperation.
- During the scoping period, a commenter suggested GSA consider developing the Commercial LPOE to the east of the City of Douglas near the Douglas Municipal Airport. This location was considered but dismissed as it was determined to be significantly further from major highways and transportation routes, particularly the primary commercial transport route in the region, US-191.

Development of a commercial LPOE in this area would require substantially greater road improvements by ADOT to connect the Commercial LPOE with SR-80 (at least approximately 3.5 miles of road improvements) compared to the location under consideration near James Ranch Road, which would require only approximately 1.5 miles of road improvements. This location also lacks bi-national consensus with the Mexican government and local government cooperation.

- The same commenter also suggested development of a third LPOE for mining and hazardous materials transport near Cattleman Road. This location was considered but dismissed as it would result in significant inefficiencies for commercial inspection and processing by splitting mining and hazardous material transport from other commercial traffic, which would not meet the Purpose and Need of the Proposed Action to improve functionality of the LPOEs. This option for a third LPOE also would result in significant cost increases and lacks bi-national consensus with the Mexican government and local governments.

Table 2-1 summarizes the adherence of each of these alternative locations against the siting criteria for the Commercial LPOE.

Table 2-1. Alternative Locations Commercial LPOE Adherence to Siting Criteria

Siting Criteria	Kings Highway	West side of Pan American Ave	East of Douglas	Third LPOE on Cattleman Rd.
Proximity to roadways	x			x
Availability of space	x		x	x
Proximity to sensitive receptors	x		x	x
Existing environmental constraints	x	x	x	x
Coordination with local governments				
Bi-national coordination				

2.5 COMPARISON OF ALTERNATIVES

Table 2-2 compares the potential environmental impacts resulting from the alternatives. Potential impacts are summarized for each resource area affected by the alternatives. Chapter 3 of this EIS contains a detailed discussion of these potential impacts by resource area.

Table 2-2. Summary Comparison of Alternatives

Alternative 1 – Sequential Construction	Alternative 2 – Concurrent Construction	No Action Alternative
Cultural Resources		
Construction: For both LPOE sites, adverse effects under NHPA and direct, significant adverse impacts could occur under NEPA to cultural resources if unanticipated discoveries are encountered during ground-disturbing activities. Ground-disturbing activities would occur within undeveloped, vacant 80.5 acres at proposed Commercial LPOE and highly developed 1.6-acre expansion area for RHC LPOE. Implementation of archaeological monitoring plan and impact reduction measures would mitigate any potential adverse effects and reduce impacts to less-than-significant levels. Refer to Alternatives 1a – 1d for discussion of adverse effects to historic Main Building and Garage. **Operations**: No adverse effects under NHPA and no significant impacts to cultural resources during the operational phase would be expected. **Alternatives 1a – 1d**: Alternative 1a - no adverse effects under NHPA and direct, negligible, adverse impacts under NEPA; Alternative 1b - no adverse effects under NHPA and direct, negligible to minor, adverse impacts under NEPA; Alternative 1c - direct adverse effects under NHPA and direct, significant, adverse, and permanent impacts under NEPA; Alternative 1d - direct adverse effects under NHPA and direct, minor to significant, adverse, and permanent impacts under NEPA. For both Alternatives 1c and 1d, GSA would be required to develop measures to avoid, minimize, or mitigate adverse effects on these historic properties, which would result in less-than-significant impacts under NEPA and would resolve effects under NHPA.	**Construction**: At proposed Commercial LPOE, similar impacts as Alternative 1. At RHC LPOE expansion area, ground-disturbing activities would occur within an additional 16.4 acres of highly developed land. Refer to Alternatives 2a – 2d for discussion of adverse effects to historic Main Building and Garage. **Operations**: Similar to Alternative 1, no adverse effects under NHPA and no impacts to cultural resources during the operational phase would be expected. **Alternatives 2a – 2d**: Potential impacts from sub-alternatives would be same as Alternatives 1a – 1d.	No adverse effects to historic properties and no adverse impacts to cultural resources would be expected.
Air Quality and Greenhouse Gas Emissions		
Construction: For both LPOE sites, short-term, minor adverse impacts on regional air quality due to dust and emissions from construction equipment and vehicles; emissions would not exceed *de minimis* thresholds for any criteria pollutants. Negligible increases in GHGs. **Operation**: For both sites, long-term, minor adverse impact on air quality due to emissions from onsite equipment and increased commuter vehicles; long-term, minor beneficial impact to air quality from reduced POV wait times; long-term, minor indirect adverse air	**Construction**: Potential impacts similar to Alternative 1 but would occur over a shorter period and be greater in intensity. Impacts would be short-term, minor and adverse; emissions would not exceed *de minimis* thresholds for any criteria pollutants. Negligible increases in GHGs. **Operations**: Potential impacts would be same as Alternative 1.	Short-term, minor adverse impacts from ongoing maintenance at RHC LPOE. Long-term, minor adverse impacts due to degradation of capacity and efficiency of operations, resulting in longer wait times and congestion at the RHC LPOE and greater POV emissions.

Alternative 1 – Sequential Construction	Alternative 2 – Concurrent Construction	No Action Alternative
quality impact due to increased POVs from increased efficiency of the RHC LPOE. Long-term, minor adverse impacts to GHGs from onsite equipment and increased commuter traffic; however, adverse impacts offset by modernized, more sustainable facilities. Negligible air quality impacts at Commercial LPOE from operation of firing range. **Alternatives 1a – 1d**: Potential impacts resulting from sub-alternatives already considered under Alternative 1 analysis. Compared to Alternatives 1a and 1b, impacts under Alternatives 1c and 1d would be greater due to demolition activities and additional trucks hauling debris.	**Alternatives 2a – 2d**: Potential impacts resulting from sub-alternatives already considered under Alternative 2 analysis. Impacts from sub-alternatives would be same as Alternatives 1a – 1d.	
Land Use and Visual Resources		
Construction: For both LPOE sites, short-term, minor adverse impacts to adjacent land uses due to construction activities from dust, traffic, noise, road delays, and access limitation. At proposed Commercial LPOE, short-term, moderate adverse impacts to visual resources; at the RHC LPOE, short-term, minor adverse impacts to visual resources. **Operations**: Permanent, moderate beneficial impacts to land use from aligning with long-term land use planning goals at both LPOE sites; long-term, moderate, beneficial, indirect impacts to land use at the RHC LPOE from potential future repurposing of existing warehouse district by the city; and long-term, minor adverse impacts from permanent loss of a city park and temporary absence of a duty-free shop at the RHC LPOE. Permanent, minor to moderate adverse visual impacts from distinct visual change and from lighting at the proposed Commercial LPOE; permanent, minor beneficial visual impacts from newly constructed buildings at the RHC LPOE. **Alternatives 1a – 1d**: Potential impacts resulting from sub-alternatives already considered under Alternative 1 analysis. Long-term, negligible to moderate beneficial visual impact from potential remodeling or renovation work on the historic structures under Alternatives 1a and 1b.	**Construction**: At proposed Commercial LPOE, same impacts as Alternative 1. At RHC LPOE, similar impacts to land use and visual resources as Alternative 1, but to greater extent from larger expansion area. **Operations**: At proposed Commercial LPOE, same impacts as Alternative 1. At RHC LPOE, similar land use and visual impacts as Alternative 1, but to greater extent from larger expansion area, including loss of trails from Paseo de las Americas Linear Park (minor adverse impact) and conversion of land with illicit construction debris dumping (minor beneficial impact). **Alternatives 2a – 2d**: Potential impacts resulting from sub-alternatives already considered under Alternative 2 analysis. Impacts from sub-alternatives would be same as Alternatives 1a – 1d.	Long-term minor to moderate adverse land use impacts from COV traffic remaining in city and conflicting with city's long-term revitalization plans. Long-term, minor adverse visual resources impacts from continuation of deterioration of facilities at RHC LPOE and increasing traffic congestion.
Geology and Soils		
Construction: For both LPOE sites, minor adverse impacts on geology and negligible adverse impacts on topography. At proposed Commercial LPOE, permanent, moderate adverse impacts to soils	**Construction**: At proposed Commercial LPOE, same impacts as Alternative 1. At RHC LPOE, similar impacts to geology and soils as Alternative 1, but to greater extent from larger expansion area	No impacts to geology or topography would be expected. Negligible impacts to soils could occur due to land disturbance and

Alternative 1 – Sequential Construction	Alternative 2 – Concurrent Construction	No Action Alternative
from disturbing 80.5 acres; at RHC LPOE, permanent, minor adverse impacts to soils from disturbing 7.6 acres. **Operations**: No impacts to geology or topography. At proposed Commercial LPOE, long-term, minor, adverse, and indirect impacts to soils due to erosion. At the RHC LPOE, long-term, negligible, adverse, and indirect impacts due to soil erosion. **Alternatives 1a – 1d**: Potential impacts resulting from sub-alternatives already considered under Alternative 1 analysis.	(16.4 acreage difference), resulting in permanent, minor to moderate adverse soil impacts. **Operations**: At proposed Commercial LPOE, same impacts as Alternative 1. At RHC LPOE, similar impacts to geology and soils as Alternative 1, but to greater extent from larger expansion area, resulting in long-term, minor, adverse, and indirect impacts due to soil erosion. **Alternatives 2a – 2d**: Potential impacts resulting from sub-alternatives already considered under Alternative 2 analysis. Impacts from sub-alternatives would be same as Alternatives 1a – 1d.	soil erosion from ongoing maintenance activities.
Water Resources		
Construction: At proposed Commercial LPOE, short-term, minor, direct adverse, and indirect impacts to surface waters and groundwater from sedimentation and contamination, and from groundwater use of a water well planned by the city. At RHC LPOE, short-term, minor, adverse, and indirect impacts to surface waters and groundwater from sedimentation and contamination, and from groundwater used during construction; long-term, minor, adverse, direct and indirect impacts to floodplains from construction within floodplain (inside RHC LPOE boundary). Additional 1.03 acres within 500-year floodplain not currently occupied by existing RHC LPOE (see FONPA in Appendix D). **Operations**: At proposed Commercial LPOE, long-term, minor, adverse, and indirect impacts to water resources due to increases in stormwater runoff, decreases in groundwater recharge, potential sedimentation or contamination, and from groundwater usage. Impacts would be similar at RHC LPOE, although would be long-term, negligible to minor, and adverse. **Alternatives 1a – 1d**: Potential impacts resulting from sub-alternatives already considered under Alternative 1 analysis.	**Construction**: At proposed Commercial LPOE, same impacts as Alternative 1. At RHC LPOE, similar impacts to water resources as Alternative 1, but to greater extent from larger expansion area – short-term, minor, adverse, and indirect impacts from sedimentation and contamination, and construction near riverine feature (inside expansion area boundary); and long-term, minor, adverse, direct and indirect impacts from construction within floodplain (inside RHC LPOE and expansion area boundaries). Additional 3.89 acres within 500-year floodplain not currently occupied by existing RHC LPOE (see FONPA in Appendix D). **Operations**: At proposed Commercial LPOE, same impacts as Alternative 1. At RHC LPOE, similar water resources impacts as Alternative 1, but to greater extent from larger expansion area; long-term, minor, adverse, and indirect impacts to surface water from increase in runoff and downstream water quality degradation. **Alternatives 2a – 2d**: Potential impacts resulting from sub-alternatives already considered under Alternative 2 analysis. Impacts from sub-alternatives would be same as Alternatives 1a – 1d.	Long-term, negligible impacts to surface waters due to runoff during ongoing maintenance activities. No impacts to groundwater, floodplains, and wetlands.

Alternative 1 – Sequential Construction	Alternative 2 – Concurrent Construction	No Action Alternative
Biological Resources		
Construction: At proposed Commercial LPOE, permanent, moderate, adverse, and direct adverse impacts to biological resources from ground disturbance, grading/clearing activities, and conversion of undeveloped land to developed; and short-term, moderate, adverse, and indirect impacts from increased level of human activities. At RHC LPOE, short-term, minor, adverse and indirect impacts to biological resources from increased levels of human activities. **Operations**: At proposed Commercial LPOE, long-term, moderate, adverse, and indirect effects to species from noise, lighting, spread of non-native species, or accidental mortality of species. At RHC LPOE, long-term, negligible, beneficial, indirect impacts due to removal of COVs and associated noise and traffic. **Alternatives 1a – 1d**: Potential impacts resulting from sub-alternatives already considered under Alternative 1 analysis.	**Construction**: At proposed Commercial LPOE, same impacts as Alternative 1. At RHC LPOE, similar adverse impacts to biological resources as Alternative 1, but to greater extent from larger expansion area – permanent, moderate, adverse, and direct impacts from ground disturbance and grading/clearing activities. Indirect impacts would be greater under Alternative 2 due to concurrent construction – temporary, moderate, indirect adverse impacts from increased levels of human activities. **Operations**: At proposed Commercial LPOE, same impacts as Alternative 1. At RHC LPOE, long-term, minor, adverse, and indirect impacts from increased human presence west of the RHC LPOE. **Alternatives 2a – 2d**: Potential impacts resulting from sub-alternatives already considered under Alternative 2 analysis. Impacts from sub-alternatives would be same as Alternatives 1a – 1d.	Negligible, adverse, indirect impacts on biological resources due to ongoing maintenance activities.
Transportation and Traffic		
Construction: Overall, short-term, minor adverse impacts to transportation resources (SR-80, US-191, and Pan American Avenue) from increased construction-related traffic. At the RHC LPOE, temporary, minor adverse impacts to pedestrian facilities from walkway closures. **Operations**: Overall, long-term, minor adverse impacts to transportation resources (SR-80 and US-191). For the City of Douglas, long-term, beneficial direct impact from relocation of COVs; long-term, minor to moderate, adverse, and indirect impact from population growth and increased efficiency of the RHC LPOE. **Alternatives 1a – 1d**: Potential impacts resulting from sub-alternatives already considered under Alternative 1 analysis. Temporary, minor adverse impacts under Alternatives 1c and 1d from additional trucks hauling debris during construction.	**Construction**: Potential impacts similar to Alternative 1 but overlap of construction traffic from both LPOE sites would occur. Overall, short-term, minor to moderate adverse impacts to transportation resources (SR-80, US-191, and Pan American Avenue) from increased construction-related traffic. Similar adverse impacts to pedestrian facilities as Alternative 1 would occur at the RHC LPOE. **Operations**: Similar impacts as Alternative 1. **Alternatives 2a – 2d**: Potential impacts resulting from sub-alternatives already considered under Alternative 2 analysis. Impacts from sub-alternatives would be same as Alternatives 1a – 1d.	Long-term, minor to moderate adverse impacts to transportation and traffic from increased traffic volumes, COV traffic remaining through the City of Douglas, and inefficient operations at RHC LPOE.

Alternative 1 – Sequential Construction	Alternative 2 – Concurrent Construction	No Action Alternative
Noise		
Construction: At the proposed Commercial LPOE, short-term, minor adverse noise impacts from construction activities and from COVs along transportation routes (SR-80 and US-191); closest three residential properties to proposed site are approximately 2,500 feet (1 property) and 5,500 feet (two properties) to the north. At the RHC LPOE, short-term, minor adverse noise impacts from construction activities and from trucks along transportation routes (SR-80, US-191, and Pan American Avenue); outdoor intermittent noise levels at closest residences of 80 dBA (at 160 feet) and 67 dBA (at 80 700 feet) and inside intermittent noise levels of 65 dBA (at 160 feet) and 52 dBA (at 700 feet). **Operations**: At the proposed Commercial LPOE, permanent, moderate adverse noise impacts to closest receptors (three residences within 1 mile) and to receptors along SR-80 and US-191. At the RHC LPOE, long-term beneficial noise impacts for receptors in City of Douglas from removal of COVs; long-term, minor indirect adverse noise impact from increased POVs due to population growth and increased efficiency of the RHC LPOE. **Alternatives 1a – 1d**: Potential impacts resulting from sub-alternatives already considered under Alternative 1 analysis. Type and intensity of noise impact depends on sub-alternative but would range from temporary negligible to temporary, minor adverse impacts.	**Construction**: At proposed Commercial LPOE, same impacts as Alternative 1. At the RHC LPOE, types of noise sources similar to Alternative 1; however, intensity of noise levels greater due to COV processing remaining onsite while construction occurring at RHC LPOE, resulting in short-term, intermittent, moderate adverse noise impacts to same noise receptors identified under Alternative 1. **Operations**: Similar impacts as Alternative 1. **Alternatives 2a – 2d**: Potential impacts resulting from sub-alternatives already considered under Alternative 2 analysis. Impacts from sub-alternatives would be same as Alternatives 1a – 1d.	Long-term, minor to moderate adverse impacts to noise from ongoing maintenance activities at the RHC LPOE and from COV traffic remaining through the City of Douglas.
Infrastructure and Utilities		
Construction: At the proposed Commercial LPOE short-term, moderate adverse impacts to International Avenue from construction vehicles; and short-term, negligible adverse impacts to public utilities from increased demand. At the RHC LPOE, short-term, moderate adverse impacts on facilities and roadway network from construction activities; short-term, negligible adverse impacts to utilities from increased demand; and intermittent, minor adverse impacts from potential service disruptions. **Operations**: At the proposed Commercial LPOE, long-term, moderate beneficial impacts to facilities from new infrastructure and utilities; long-term negligible to minor adverse impacts to public utilities from increased demand. At the RHC LPOE, long-term moderate beneficial impacts from new, improved infrastructure and	**Construction**: Potential adverse impacts similar as Alternative 1 at both LPOEs, but slightly greater due to greater demand on utilities from concurrent construction and additional utility coordination due to natural gas utilities located in Alternative 2's Expansion Area, resulting in short-term, negligible adverse impacts to utilities. Impacts to facilities would be similar as Alternative 1, but only minor due to shorter construction period. **Operations**: Potential adverse impacts similar as Alternative 1. At the RHC LPOE, long-term, negligible to minor, adverse impacts to	Long-term, minor to moderate adverse impacts from ongoing demand on and degradation of infrastructure and utilities; increased need for maintenance as building systems continue to age.

Alternative 1 – Sequential Construction	Alternative 2 – Concurrent Construction	No Action Alternative
long-term, negligible to minor adverse impacts to utilities from increased demand. **Alternatives 1a – 1d**: Potential impacts resulting from sub-alternatives already considered under Alternative 1 analysis. Type and extent of impacts dependent on sub-alternative chosen; range of impacts includes temporary, negligible to minor adverse impacts on utilities from potential service disruption to users.	water/wastewater systems and stormwater system from increased demand and runoff, respectively. **Alternatives 2a – 2d**: Potential impacts resulting from sub-alternatives already considered under Alternative 2 analysis. Impacts from sub-alternatives would be same as Alternatives 1a – 1d.	
Socioeconomics		
Construction: Overall, short-term, negligible impacts on population and housing; up to 100 workers would be directly hired, but mostly not expected to relocate to area. Short-term, minor, beneficial, and direct impact on unemployment and income from job creation. Short-term, moderate to significant, beneficial, and indirect impact from materials and equipment purchases, as well as indirect and induced job creation from wages spent in local economy. Temporary, minor adverse impacts on local businesses adjacent to RHC LPOE as commercial operations relocate to proposed Commercial LPOE. Temporary, minor adverse impacts to nearby neighborhoods from decreased quality of life due to increased noise levels, air pollutants, and traffic associated with construction. **Operations**: Long-term, negligible to minor, beneficial, and direct impacts to population and housing from 150 workers hired. Long-term, moderate to significant, beneficial, and direct impacts to labor and earnings from additional $10.8 to $20 million to revenue per year to City of Douglas and Cochise County. Long-term minor to moderate, beneficial, direct and indirect impact on unemployment in all industries in Cochise County. Long-term, moderate to significant, beneficial, and indirect impacts from commercial and industrial business growth around the Commercial LPOE. Long-term, minor to moderate, beneficial impacts to quality of life in the City of Douglas from removal of COVs. Long-term, minor adverse impacts from increasing population and contributing to unfavorable student-to-teacher ratios. **Alternatives 1a – 1d**: Potential impacts resulting from sub-alternatives already considered under Alternative 1 analysis.	**Construction**: Overall, similar socioeconomic impacts as Alternative 1, except up to 200 workers would be hired at one time. Spending on labor and materials would be similar but likely less than under Alternative 1, due to decreased cost escalation and inflationary pressures as a result of the compressed project timeline. Impacts would be greater in the near term, but would occur for a shorter duration than under Alternative 1. **Operations**: Same impacts as Alternative 1. **Alternatives 2a – 2d**: Potential impacts resulting from sub-alternatives already considered under Alternative 2 analysis. Impacts from sub-alternatives would be same as Alternatives 1a – 1d.	Long-term, minor adverse socioeconomic impacts to businesses and regional economy from loss of RHC LPOE capacity and efficiency over time and from COVs remaining in the City of Douglas, hindering revitalization plans and economic growth. Potential short-term and long-term socioeconomic benefits from direct, indirect, and induced jobs from the Proposed Action would not occur.

Alternative 1 – Sequential Construction	Alternative 2 – Concurrent Construction	No Action Alternative
Environmental Justice and Protection of Children's Health and Safety		
Construction: At the proposed Commercial LPOE, disproportionate adverse impacts to minority populations from short-term, minor increases in air pollutants, traffic congestion, and noise and short-term, minor beneficial impacts from increased job opportunities. At the RHC LPOE, disproportionate adverse impacts to minority and low-income populations from short-term, minor increases in air pollutants, traffic congestion, and noise and short-term, minor beneficial impacts from increased job opportunities. No impacts would be disproportionately high and adverse and overall impacts to environmental justice populations would be short-term, minor, and adverse. Short-term, negligible to minor and short-term, minor to moderate adverse impacts to child populations at the proposed Commercial LPOE and RHC LPOE, respectively, due to increased air pollutants, traffic congestion, and noise. **Operations**: At the proposed Commercial LPOE site, disproportionate adverse impacts to minority populations from short-term, minor adverse impacts from increased air pollutants, COV traffic, and associated noise. Long-term, negligible to moderate beneficial impacts to low-income and minority populations from increased job opportunities. Overall negligible adverse impacts to child populations. At the RHC LPOE, long-term, minor beneficial impacts from removal of COVs (improved air quality, congestion and noise) and job opportunities; permanent, minor adverse impact to minority and low-income populations from loss of recreational space; negligible to minor beneficial and adverse impacts to child populations from removal of COVs. No impacts would be disproportionately high and adverse. **Alternatives 1a – 1d**: Potential impacts resulting from sub-alternatives already considered under Alternative 1 analysis.	**Construction**: Similar impacts as Alternative 1. Impacts to environmental justice and child populations would be shorter duration than Alternative 1; however, air pollutants, traffic, and noise have greater intensity than Alternative 1. **Operations**: Similar impacts as Alternative 1. Alternative 2 Expansion Area is greater, so extent of impacts would be greater; additional loss of trails of Paseo de Las Americas Linear Park. **Alternatives 2a – 2d**: Potential impacts resulting from sub-alternatives already considered under Alternative 2 analysis. Impacts from sub-alternatives would be same as Alternatives 1a – 1d.	No impacts to environmental justice or child populations, although, potential beneficial impacts from removal of COVs through the city and from increased job opportunities would not occur.

Alternative 1 – Sequential Construction	Alternative 2 – Concurrent Construction	No Action Alternative
Human Health and Safety		
Construction: At both LPOEs, short-term, negligible adverse impacts to worker safety from construction activities; short-term, negligible to minor adverse impacts from hazardous materials and waste handling. **Operations**: At proposed Commercial LPOE, long-term, negligible adverse effects on human health and safety and from hazardous materials and waste handling. At the RHC LPOE, long-term, minor to moderate beneficial impacts on human health and safety of CBP workers and the public from the relocation of COVs and reconfiguration of POV and pedestrian routing within the RHC LPOE. Negligible adverse effects on human health and safety and from hazardous materials and waste handling. **Alternatives 1a – 1d**: Potential impacts on human health and safety resulting from sub-alternatives considered under Alternative 1 analysis would be short-term, minor, and adverse during construction, and long-term, minor, and beneficial during operations.	**Construction**: At proposed Commercial LPOE, same impacts as Alternative 1. At the RHC LPOE, adverse impacts to human health and safety and from hazardous materials and waste handling would be similar, but would be greater due to greater acreage of expansion area and higher potential for encountering potentially contaminated soils and construction debris. There would also be increased risk of traffic accidents due to COVs remaining onsite at RHC LPOE. **Operations**: Same impacts as Alternative 1. **Alternatives 2a – 2d**: Potential impacts resulting from sub-alternatives already considered under Alternative 2 analysis. Impacts from sub-alternatives would be same as Alternatives 1a – 1d.	Negligible impacts from ongoing maintenance, resulting in use of hazardous materials and generation of hazardous waste. COV processing would not be relocated and hazardous materials would continue to be transported through downtown Douglas.

COV = commercially owned vehicle; dBA = A-weighted decibel; FONPA = Finding of No Practicable Alternative; GHG = greenhouse gas; LPOE = land port of entry; POV = personally owned vehicle; RHC = Raul Hector Castro; SR-80 = State Route 80; US-191 = U.S. Highway 191

This Page Intentionally Left Blank

CHAPTER 3 AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

Chapter 3 describes the existing environmental conditions within the region of influence (ROI) of the Proposed Action, to include near the RHC LPOE and proposed Commercial LPOE site. This chapter also identifies the potential environmental consequences of the Proposed Action, including Alternative 1, Alternative 2, and the No Action Alternative, as detailed in Chapter 2. Resource areas analyzed in this EIS include: cultural resources; air quality and greenhouse gas emissions; land use and visual resources; geology and soils; water resources; biological resources; transportation and traffic; noise; infrastructure and utilities; socioeconomics; environmental justice and protection of children's health and safety; and human health and safety.

3.1 METHODOLOGIES

3.1.1 Affected Environment Methodology

The affected environment summarizes the current physical, biological, social, and economic environments of the area within the ROI of the Proposed Action, to include near the RHC LPOE and proposed Commercial LPOE site, located about 5 miles west of the existing port. The ROI defines the extent of the area where direct effects from project-related construction and operation may be experienced and also encompasses the areas where indirect effects from the Proposed Action would most likely occur. As such, the extent of the ROI varies by environmental resource area depending upon the scope of potential impacts from the Proposed Action and alternatives (i.e., site-specific versus regional baseline conditions). For example, the geographic area of analysis for some environmental resources extends beyond the property line of the RHC LPOE to encompass a city- or county-level analysis (e.g., air quality); however, the ROI for the majority of the resource areas in this EIS are generally contained within the footprint of the project boundaries (e.g., geology and soils).

3.1.2 Environmental Consequences Methodology

The impacts analysis considers effects to a resource for each alternative and describes the types of impacts that would occur (Section 3.1.2.1) and assigns a significance criteria (Section 3.1.2.2).

3.1.2.1 *Types of Impacts*

The terms "impacts" and "effects" are used interchangeably in this chapter. According to the CEQ NEPA Regulations at 40 CFR 1500-1508, *direct* and *indirect* effects are defined as:

- **Direct effects –** Effects, *which are caused by the action and occur at the same time and place* (1508.1(g)(1)). In other words, direct impacts are those that are caused directly and immediately from project-related activities, such as excavation of land to construct the proposed Commercial LPOE that could cause soil erosion. Most direct effects are confined to the project footprint, but some may extend beyond the project boundary (e.g., noise).
- **Indirect effects –** Effects, *which are caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable*. Indirect effects may include growth inducing effects and other effects related to induced changes in the pattern of land use, population density or growth rate, and related effects on air and water and other natural systems, including ecosystems (1508.1(g)(2)). Indirect effects are spatially removed from project-related activities and/or occur later in time but are reasonably certain to occur. For example, soil erosion could lead to adverse impacts on water quality, such as causing turbidity and sedimentation in streams during rain events. These types of impacts tend to be diffuse, resource-specific, and less amenable to quantification or mapping than direct effects.

Identified impacts may be either *adverse* or *beneficial*. For the purposes of this EIS, the following definitions are used in the impacts analyses:

- **Adverse impacts** – Those impacts which, in the judgment of an expert resource area analyst, are regarded by the general population as having a negative and harmful effect on the analyzed resource area.
- **Beneficial impacts** – Those impacts which, in the judgment of an expert resource area analyst, are regarded by the general population as having a positive and supportive effect on the analyzed resource area.

3.1.2.2 *Significance Criteria*

Criteria were defined as a means of measuring the size of the impact and its significance. The significance of impacts was determined systematically by assessing the magnitude (how much) and duration (how long) of an impact. Table 3.1-1 summarizes how each parameter is categorized. Significance thresholds are further defined for each resource within the respective sections.

Table 3.1-1. Summary of Environmental Impact Parameters

Magnitude	
Significant	Substantial impact or change in a resource area that is easily defined, noticeable and measurable, or exceeds a standard.
Moderate	Noticeable change in a resource area occurs, but the integrity of the resource area remains intact.
Minor	Change in a resource area occurs, but no substantial resource area impact results.
Negligible	The impact is at the lowest levels of detection – barely measurable but with perceptible consequences.
None	The impact is below the threshold of detection with no perceptible consequences.
Duration	
Permanent	Impact would last indefinitely.
Long-term	Impact would likely last the lifetime of the project, or for as long as any new construction is in operation.
Short-term	Impact would last the duration of the construction phase.
Temporary	Impact would be continuous and last for a portion of the construction phase.
Intermittent	Impact would not be constant or continuous but rather recurring or periodic. Intermittent impacts could occur temporarily or in the short or long-term.

3.2 CULTURAL RESOURCES

This section describes the baseline conditions for cultural resources at or near the project areas and assesses historic and archaeological resources within the project areas to affect, or be affected by, implementing the Proposed Action, including the alternatives as discussed in Chapter 2. This EIS uses the following terms related to cultural resources:

- Historic properties are defined as: any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in, the NRHP maintained by the Secretary of the Interior. This term includes artifacts, records, and remains that are related to and located within such properties. This term also includes properties of traditional religious and cultural importance to an Indian tribe or Native Hawaiian organization and that meet the NRHP criteria.
- Traditional cultural properties are a type of historic property eligible for the NRHP because of their association with cultural practices or beliefs of a living community that: (1) are rooted in that community's history or (2) are important in maintaining the continuing cultural identity of the community.
- Cultural resources include the remains and sites associated with human activities, such as prehistoric and ethno-historic Indian archaeological sites, historic archaeological sites, historic buildings and structures, and elements or areas of the natural landscape. Cultural resources determined to be NRHP-eligible or potentially eligible are historic properties.

3.2.1 Affected Environment

3.2.1.1 *Region of Influence*

The ROI for cultural resources is referred to as the Area of Potential Effect (APE), which is the geographic area or areas within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties, if such properties exist. The APE for this project includes the area within the proposed site boundary of the Commercial LPOE (as shown in Figure 2-2) and the areas within the RHC LPOE property boundary and associated expansion area boundaries for Alternatives 1 and 2 (as shown in Figure 2-1). An undertaking means a project, activity, or program funded in whole, or in part, under the direct or indirect jurisdiction of a federal agency, including, among other things, processes requiring a federal permit, license, or approval. In this case, the undertaking includes any demolition, construction, and renovation activities within the APE.

Adverse effects to historic properties can include direct or indirect effects. Adverse effects to archaeological and paleontological resources are generally the result of direct impacts from ground-disturbing activities. The APE for such resources therefore coincides with those areas where direct impacts from the construction and operation of a proposed facility would occur (i.e., the project footprint). Adverse effects to architectural resources may occur through direct impacts that could change the character of a property's use or the physical features within a property's setting that contribute to its historic significance, or through impacts that could introduce visual, atmospheric, audible, or vibration elements that diminish the integrity of a property's significant historic features. Traditional cultural properties may be subject to both direct and indirect impacts. As such, the APE could also include areas outside of the project footprint. In this case, the APE does not include any areas outside of the project footprint, as there were no known historic properties adjacent to the project areas.

3.2.1.2 *Regulatory Setting and Requirements*

National Environmental Policy Act. NEPA establishes guidelines to "preserve important historic, cultural, and natural aspects of our national heritage, and to maintain, wherever possible, an environment that supports diversity and a variety of individual choice" [42 U.S.C. 4331 (b)(4)]. Impacts considered under NEPA include those on cultural and historic resources (40 CFR 1508.8).

National Historic Preservation Act. The NHPA (16 U.S.C. 470), as amended, establishes a program for the preservation of historic properties throughout the nation and sets forth guidelines to determine the eligibility of historic properties for inclusion in the NRHP. Under the law, federal agencies must approach historic properties in the spirit of stewardship and must appropriately involve the public. The two portions of the law most often applied to projects on GSA properties are: Section 110, which mandates proactive identification and management of cultural resources actions; and Section 106, which requires agencies to consider the effects of their actions on historic properties.

National Register of Historic Places. The NRHP is authorized by the NHPA and is the nation's official list of buildings, structures, objects, sites, and districts worthy of preservation because of their significance in American history, architecture, archeology, engineering, and culture. The NRHP recognizes resources of local, state, and national significance that have been documented and evaluated according to uniform standards and criteria. The NRHP is part of a national program managed by the National Park Service to coordinate and support public and private efforts to identify, evaluate, and protect America's historic and archaeological resources.

The following criteria is used to identify resources that qualify for listing in the NRHP. The quality of significance in American history, architecture, archaeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity and:

- Criterion A - Are associated with events that have made a significant contribution to the broad patterns of our history; or
- Criterion B - Are associated with the lives of persons significant in our past; or
- Criterion C - Embody distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
- Criterion D - Have yielded, or may be likely to yield, information important in prehistory or history.

Ordinarily cemeteries, birthplaces, or graves of historical figures, properties owned by religious institutions or used for religious purposes, structures that have been moved from their original locations, reconstructed historic buildings, properties primarily commemorative in nature, and properties that have achieved significance within the past 50 years are not considered eligible for the NRHP. However, such properties will qualify if they are integral parts of districts that do meet the criteria or if they fall within the following categories:

- A religious property deriving primary significance from architectural or artistic distinction or historical importance; or
- A building or structure removed from its original location but which is significant primarily for architectural value, or which is the surviving structure most importantly associated with a historic person or event; or
- A birthplace or grave of a historical figure of outstanding importance if there is no appropriate site or building directly associated with his productive life; or
- A cemetery which derives its primary significance from graves of persons of transcendent importance, from age, from distinctive design features, or from association with historic events; or
- A reconstructed building when accurately executed in a suitable environment and presented in a dignified manner as part of a restoration master plan, and when no other building or structure with the same association has survived; or

- A property primarily commemorative in intent, if design, age, tradition, or symbolic value has invested it with its own exceptional significance; or
- A property achieving significance within the past 50 years if it is of exceptional importance.

In order to be eligible for listing in the NRHP, a property must retain sufficient integrity to convey its significance. The NRHP publication *How to Apply the National Register Criteria for Evaluation* establishes how to evaluate the integrity of a property: "Integrity is the ability of a property to convey its significance" (NPS 1995). The evaluation of integrity must be grounded in an understanding of a property's physical features and how they relate to the concept of integrity. Determining which of these aspects are most important to a property requires knowing why, where, and when a property is significant. To retain historic integrity, a property must possess several, and usually most, aspects of integrity:

- **Location** is the place where the historic property was constructed or the place where the historic event occurred.
- **Design** is the combination of elements that create the form, plan, space, structure, and style of a property.
- **Setting** is the physical environment of a historic property and refers to the character of the site and the relationship to surrounding features and open space. Setting often refers to the basic physical conditions under which a property was built and the functions it was intended to serve. These features can be either natural or manmade, including vegetation, paths, fences, and relationships between other features or open space.
- **Materials** are the physical elements that were combined or deposited during a particular period or time, and in a particular pattern or configuration to form a historic property.
- **Workmanship** is the physical evidence of crafts of a particular culture or people during any given period of history or prehistory and can be applied to the property as a whole or to individual components.
- **Feeling** is a property's expression of the aesthetic or historic sense of a particular period of time. It results from the presence of physical features that, when taken together, convey the property's historic character.
- **Association** is the direct link between the important historic event or person and a historic property.

Section 106 Consultation. Section 106 of the NHPA requires that GSA seek concurrence with the SHPO on any finding involving effects or no effects on historic properties and allows the Advisory Council on Historic Preservation (ACHP) an opportunity to comment on any finding of effects on historic properties. If Native American properties have been identified, Section 106 also requires that GSA consult with interested tribes who might attach religious or cultural significance to such properties. In the state of Arizona, the SHPO is a division of Arizona State Parks. The role and function of the Arizona SHPO is defined in both the State Historic Preservation Act and NHPA.

Archaeological and Historic Preservation Act of 1974. The purpose of the Archaeological and Historic Preservation Act (54 U.S.C 312501-312508) is to preserve significant historical and archeological data which might otherwise be irreparably lost or destroyed as a result of a number of incidents or developments, including federal construction projects. These data may include sites, buildings, objects, and antiquities of national significance. Protection of these resources may include surveys and recovery efforts when deemed appropriate.

Archeological Resources Protection Act of 1979. The Archaeological Resources Protection Act (16 U.S.C. 470aa-mm) governs the excavation of archaeological sites on federal and tribal lands and the removal and

disposition of archaeological collections from those sites. This Act provides legal penalties and establishes a permitting system to authorize excavation or removal of archaeological resources by qualified applicants.

Native American Graves Protection and Repatriation Act of 1990. The Native American Graves Protection and Repatriation Act (NAGPRA) (25 U.S.C. 3001 et seq.) provides for ownership and control of Native American cultural items which are excavated or discovered on federal or tribal lands since the passage of the Act. The Act provides a process for museums and federal agencies to return certain Native American cultural items to lineal descendants and culturally affiliated Indian tribes.

3.2.1.3 *Existing Conditions*

In compliance with Section 106 of the NHPA a cultural resources study for this project was conducted to determine the presence or absence of potentially significant prehistoric and historical resources within the project APE and to determine the project's potential impacts on identified cultural resources. The study comprised a records search and field surveys conducted in September 2022, including archaeological and architectural surveys within the project APE (ASMA 2022). Findings from the study are used by GSA to assess the potential impacts to cultural resources and to provide data to aid in the consultation with the Arizona SHPO, ACHP, federally recognized Indian tribes, and other consulting parties.

Prior to the archaeological survey, a review was conducted of all relevant site records and reports available from the Arizona State Museum AZSITE database for the APE and a 1-mile search radius as part of the cultural resources study. Other records search activities included on-site archival research conducted at the Douglas Public Library and research from miscellaneous background materials, such as aerial photos and historic maps, and online newspaper archives.

The archaeological survey area consisted of pedestrian surveys at the proposed Commercial LPOE site and the undeveloped areas of the proposed expansion areas near the RHC LPOE. The architectural survey comprised areas at and adjacent to the RHC LPOE.

GSA did not identify any known or previously recorded traditional cultural properties during the archival records research. To date, the recognized Indian tribes have not identified any traditional cultural properties within the APE. GSA continues to formally consult with the federally recognized Indian tribes in compliance with NHPA requirements.

Commercial LPOE

An archaeological survey was conducted in September 2022 at the 80.5-acre proposed site for the Commercial LPOE. The site is generally an undeveloped, vacant site with clusters of dense desert vegetation, with a similar desert landscape surrounding the site on all sides. During the archaeological survey, tire tracks, most likely from CBP activity, were evident throughout the site. Additionally, evidence of human migration in the form of abandoned backpacks, clothing, and plastic bottles was present throughout the site. One new archaeological resource site and 16 isolated finds within the proposed Commercial LPOE site were identified and documented during the survey.

The one newly identified archaeological site was characterized as a historic refuse scatter, representing the remains of a short-term camp or a previously discrete domestic refuse site located at the northeast corner of the project site. The site may have been associated with past ranching activity likely related to cattle trade that occurred between Sonora, Mexico and the U.S. in the early and mid-20th century in and around Douglas. Based on the archaeological survey and background research, this newly identified archaeological site is recommended not eligible under any NRHP criteria.

The isolated finds were mainly historic period refuse comprising beverage containers, glass electrical insulator fragments, and other miscellaneous items. Based on their constituency and distribution, historic period isolated finds were likely spread across the project site by both natural wind and hydrological events, as well as by various human activities and disturbances such as historic period ranching, public recreational activity, CBP activity, and movement of migrants. Isolated finds are considered not NRHP-eligible.

RHC LPOE

An archaeological survey was conducted in September 2022 at all accessible areas of exposed ground surface within the APE for the RHC LPOE. The entirety of the survey area was found to be heavily modified over time, and no evidence of any original ground surfaces was observed within the survey area. The southern portion of the survey area, which was partially surrounded by a wooden and wire fence, was largely inaccessible and could not be surveyed due to extremely dense vegetation with virtually no ground surface visibility; however, it was observed that this area had also been heavily modified during the historic ranching period. Past aerial photographs show a series of troughs aligned north-south near the center of the fenced area, and a building, identified later in this section as the Cattle Operation Building, is located just west of the RHC LPOE, near the southeast corner of the survey area.

An architectural survey was conducted in September 2022 at the RHC LPOE and proposed expansion areas. Two previously identified architectural historic properties are located within the RHC LPOE property boundary — the historic Main Building and Garage. Additionally, two commercial buildings and one agricultural building that are more than 50 years old were identified in the area of the proposed expansion areas, north and west of the RHC LPOE. The buildings are discussed briefly below.

Historic Main Building (at the RHC LPOE). The historic Main Building was previously evaluated as a historic property in 2009 and listed individually in the NRHP in 2014 under Criterion A under the theme of Government as developed in the U.S. Border Inspection Stations Multiple Property Documentation Form, where a property must have been used by the U.S. government as a customs and immigration border inspection facility and must represent the government's response to the important chain of events related to customs, immigration law, and the increased use of motor vehicles at border crossings. The Main Building was constructed in 1933 along Railroad Avenue, now called Pan American Avenue, in an "L" shape. It features elements of the Spanish Colonial Revival design in its exterior details. Currently, a mural that is glazed onto porcelain tiles runs along the western wall of the Main Building. The mural consists of colorful artistic depictions of travelers walking into the United States. Pedestrian processing activities take place at the historic Main Building.

Southern entrance

Eastern façade

Figure 3.2-1. Images of the Historic Main Building at the RHC LPOE

Historic Garage (at the RHC LPOE). The historic Garage was previously evaluated as a historic property in 2009 and was listed in the NRHP as part of the U.S. Inspection Station - Douglas property in 2014 under Criterion A under the themes of Government as developed in the Multiple Property Documentation Form. The Garage was constructed simultaneously with the Historic Main Building in 1933. Its design in both

exterior color and detailing match the Main Building, also featuring elements of the Spanish Colonial Revival design. The historic Garage is currently used as office and storage space and as a tool shop.

Northern façade

Eastern façade

Figure 3.2-2. Images of the Historic Garage at the RHC LPOE

Commercial Store (100 Pan American Avenue). The commercial store on the corner of First Street and Pan American Avenue has not previously been evaluated. It is part of an irregularly shaped commercial block with multiple store fronts. Together, these store fronts are part of a strip mall called Gaytan Plaza. Assessor information from Cochise County listed the date of construction for the original building as 1926, 1927, and 1929, although on digitized information the accepted date of construction appears to be 1927. The layout of the original building includes the entirety of the southern façade, and half of the eastern and western façades. Because of the addition of the new commercial space to the north of the building, the original northern façade is no longer extant. The original building is clad in stylistic reference to the Spanish Colonial Revival style. A new building was constructed adjacent to 100 Pan American Avenue in the 1990s, though the two buildings are not interconnected. The exterior of 100 Pan American Avenue is currently in poor condition. Based on the architectural survey and background research, the cultural resources study concluded that 100 Pan American Avenue is recommended not eligible under any NRHP criteria (ASMA 2022).

Façade facing parking lot

Eastern façade

Figure 3.2-3. Images of Commercial Building (100 Pan American Avenue)

City Park Bathroom Building (Pan American Avenue/Customs Avenue). The bathroom building on the corner of Pan American Avenue and Customs Avenue has not previously been evaluated. It is located within a small city park with a gazebo picnic area and a park bathroom. The City of Douglas owns this parcel of land, and the structures constructed on it are city property. The bathroom building is a vernacular building void of stylistic references and is a common architectural form. Due to limited availability of data, it is estimated that the construction of the bathroom building occurred between 1969 and 1996 or possibly between 1984 and 1996. Based on the architectural survey and background research, the cultural resources study concluded that the bathroom building located at the corner of Pan American Avenue and Customs Avenue is recommended not eligible under any NRHP criteria (ASMA 2022).

Front and southern façade Rear and northern façade

Figure 3.2-4. Images of City Park Bathroom Building (Pan American Avenue/Customs Avenue)

Cattle Operation Building. The Cattle Operation Building is constructed in a shed form, with wooden roof planks, wood-framed windows, and a single wood recessed-panel door. The building is a vernacular building void of stylistic reference or design. It was constructed in 1961 as one of three buildings constructed to support a local cattle trade business. Cochise County Assessor's Information reveals that the brick that is visible along the interior and exterior is burnt adobe. In 1991, one of the buildings surrounding the Cattle Operation Building burned and was lost, and the other building was demolished in 1995. The land was sold in 1997, and it is likely that it was at this time that the Cattle Operation Building was fully abandoned. The exterior is surrounded by overgrown vegetation on all sides, contributing to its poor condition. A few feet from the entrance to the Cattle Operation Building are the remnants of metal fencing as well as a concrete water trough. Based on the architectural survey and background research, the cultural resources study concluded that the Cattle Operation Building is recommended not eligible under any NRHP criteria (ASMA 2022).

Northern façade | Interior of Cattle Operation Building

Figure 3.2-5. Images of the Cattle Operation Building

3.2.2 Environmental Consequences

3.2.2.1 *Methodology*

Per NEPA, the significance of an environmental impact considers both context and intensity. Context is the geographic, biophysical, and society within which project effects will occur. Intensity refers to the severity of the impact within that context. Impacts or effects can be direct or indirect and beneficial or adverse (40 CFR 1508.8).

Per NHPA and 36 CFR 800 of its implementing regulations, adverse effects to historic properties occur when an undertaking may alter, directly or indirectly, any of the characteristics of a historic property that qualify the property for inclusion in the NRHP in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association. Consideration shall be given to all qualifying characteristics of a historic property, including those that may have been identified subsequent to the original evaluation of the property's eligibility for the NRHP.

Adverse effects on historic properties include, but are not limited to:

> (i) Physical destruction of or damage to all or part of the property;
>
> (ii) Alteration of a property, including restoration, rehabilitation, repair, maintenance, stabilization, hazardous material remediation and provision of handicapped access, that is not consistent with the Secretary's *Standards for the Treatment of Historic Properties* (36 CFR 68) and applicable guidelines;
>
> (iii) Removal of the property from its historic location;
>
> (iv) Change of the character of the property's use or of physical features within the property's setting that contribute to its historic significance;
>
> (v) Introduction of visual, atmospheric or audible elements that diminish the integrity of the property's significant historic features;
>
> (vi) Neglect of a property which causes its deterioration, except where such neglect and deterioration are recognized qualities of a property of religious and cultural significance to an Indian tribe or Native Hawaiian organization; and

(vii) Transfer, lease, or sale of property out of federal ownership or control without adequate and legally enforceable restrictions or conditions to ensure long-term preservation of the property's historic significance.

For purposes of distinguishing between effects under NEPA and NHPA, references to "impacts" and "architectural cultural resources" in Sections 3.2.2.3 through 3.2.2.4 refer to effects under NEPA; references to "effects" and "architectural historic properties" refer to effects under the NHPA.

3.2.2.2 *No Action Alternative*

Under the No Action Alternative, GSA would not construct a new Commercial LPOE or expand and modernize the RHC LPOE. GSA would retain the historic Main Building and Garage without alterations and would be responsible for continued stewardship of the structures' exteriors. Therefore, there would be no adverse effects to historic properties under NHPA and no adverse impacts to cultural resources under NEPA.

3.2.2.3 *Alternative 1 – Sequential Construction*

Alternative 1 could result in overall adverse effects under NHPA and direct, significant adverse impacts under NEPA to cultural resources if unanticipated discoveries are encountered during ground-disturbing activities at either the proposed Commercial LPOE or the RHC LPOE project sites. Alternatives 1a and 1b would result in no adverse effects under NHPA to architectural historic properties and negligible to minor adverse impacts under NEPA to architectural cultural resources. Alternatives 1c and 1d would result in adverse effects under NHPA to architectural historic properties and direct, minor to significant, adverse, and permanent impacts to architectural cultural resources under NEPA.

Operations of Alternative 1 would not result in adverse effects or significant impacts to cultural resources at either the proposed Commercial LPOE or RHC LPOE.

GSA is in the process of conducting formal consultation with the SHPO and consulting parties under Section 106 of the NHPA and is seeking concurrence with the below effect determinations. Results of this consultation process, as well as any applicable impact reduction measures, will be included in the Final EIS.

Construction

Commercial LPOE

Under Alternative 1, proposed construction activities would result in ground disturbance at the Commercial LPOE site, which is largely vacant and undeveloped. One newly discovered archaeological site was identified during the archaeological survey as previously discussed; however, based on findings from the cultural study, this site is recommended not eligible under any NRHP criteria (ASMA 2022). Potential direct adverse effects under NHPA and direct, significant, adverse impacts under NEPA to cultural resources could occur during construction if previously unknown archaeological resources are encountered. To reduce the risk of damage to known and unknown archaeological sites, GSA would implement an archaeological monitoring plan in consultation with SHPO and federally recognized Indian tribes. If unanticipated discoveries are encountered during ground-disturbing activities, such as excavating and grading, all earth-moving activity within and around the immediate discovery area would be avoided until a qualified archaeologist can assess the nature and significance of the find. Implementation of these measures would mitigate any potential adverse effects under NHPA and would reduce impacts to less-than-significant under NEPA.

RHC LPOE

Under Alternative 1, proposed construction activities would result in ground disturbance at the Alternative 1 Expansion Area (1.6 acres) and within the RHC LPOE footprint; these are highly developed areas, and no archaeological resources were identified during the archaeological survey previously discussed in

Section 3.2.1.3. Regardless, the potential for adverse effects to previously unknown archaeological resources (i.e., unanticipated discoveries) would be similar to that described for the Commercial LPOE site; therefore, GSA would implement an archaeological monitoring plan, similar to that described for the Commercial LPOE site.

With respect to architectural properties, two buildings located within the Alternative 1 Expansion Area were identified in the cultural study as being more than 50 years old – a commercial store (at 100 Pan American Avenue) and a bathroom building (located in the city park at the corner of Pan American Avenue and Customs Avenue). However, these buildings are recommended not eligible under any NRHP criteria and, Alternative 1 would result in no adverse effects to architectural historic properties under NHPA and no adverse impacts under NEPA to architectural cultural resources.

Historic properties located within the RHC LPOE (i.e., the historic Main Building and Garage) are discussed under the section Alternatives 1a – 1d: Reuse, Relocate, or Demolish Structures.

Operations

During operations of the Commercial LPOE and RHC LPOE, there would be no additional subsurface disturbance, other than for occasional repair and maintenance activities, which would limit the potential to disturb or harm buried cultural resources. Therefore, no adverse effects under NHPA and less-than-significant impacts to cultural resources during the operational phase would be expected. Impact reduction measures would be implemented as necessary during maintenance activities, including inadvertent discovery procedures.

Alternatives 1a – 1d: Reuse, Relocate, or Demolish Historic Structures

Alternatives 1a through 1d relate to the sub-alternatives for the management of the historic Main Building and Garage, as described in Section 2.1.2.1. Under these sub-alternatives, GSA would manage the historic structures through one of the following means, pending the outcome of ongoing Section 106 consultation with the SHPO and consulting parties. The type and intensity of adverse effects and impacts to cultural resources would depend on the sub-alternative chosen:

- **Alternative 1a** would involve reusing the existing historic structures and mainly entail renovation work. This sub-alternative would involve maintaining the structural integrity and preserving the façade of the historic Main Building and Garage. Any remodeling or renovation work would be done in a manner that preserves the cultural and historic significance of these structures. Under this sub-alternative, rehabilitation of the historic properties would follow the Secretary of the Interior's *Standards for the Treatment of Historic Properties* and GSA's *Procedures for Historic Properties.* Therefore, no adverse effects under NHPA to architectural historic properties and direct, negligible, adverse impacts under NEPA to architectural cultural resources would be expected.
- **Alternative 1b** would involve the relocation of the historic structures and preparation and construction of a new foundation and new utility connections. Relocating these structures would most likely require lifting the whole structure intact and transporting it to a new location. Careful planning would be required to help facilitate transport of these structures and site preparation for both the old and new locations. Under this sub-alternative, relocation of the historic properties would follow the Secretary of the Interior's *Standards for the Treatment of Historic Properties*, GSA's *Procedures for Historic Properties*, and guidance on moving buildings from the NPS and American Association for State and Local History to ensure that the buildings and their character-defining features are minimally impacted before, during, and after the move. Therefore, no adverse effects under NHPA to architectural historic properties and direct, negligible to minor, adverse impacts under NEPA to architectural cultural resources would be expected.
- **Alternative 1c** would involve the demolition of the historic Main Building and Garage. This sub-alternative would result in loss of NRHP eligibility for the RHC LPOE's historic properties. Under

this sub-alternative, demolition of the historic Main Building and Garage would not follow the Secretary of the Interior's *Standards for the Treatment of Historic Properties*. Therefore, adverse effects under NHPA to architectural historic properties and direct, significant, adverse, and permanent impacts under NEPA on architectural cultural resources would occur. Consistent with the requirements under Section 106 of NHPA, GSA would be required to develop measures to avoid, minimize, or mitigate adverse effects on these historic properties, which would result in less-than-significant impacts under NEPA and would resolve effects under NHPA. GSA is in the process of formal consultation with the SHPO and consulting parties to follow coordination procedures as required under Section 106 of the NHPA and would consult with the Arizona SHPO to develop an agreement document under this sub-alternative to reduce potential adverse cultural resources impacts.

- **Alternative 1d** would involve a combination of Alternatives 1a through 1c. The type and extent of adverse impacts depends on the combination of sub-alternatives chosen to manage the historic Main Building and Garage. Partial demolition of one or both of the historic buildings and/or full demolition of one of the historic buildings could occur. Under this sub-alternative, any demolition of historic properties would not follow the Secretary of the Interior's *Standards for the Treatment of Historic Properties*, resulting in the loss of NRHP eligibility. Therefore, adverse effects under NHPA to architectural historic properties and direct, minor to significant, adverse, and permanent impacts under NEPA on architectural cultural resources would occur. Consistent with the requirements under Section 106 of NHPA, GSA would be required to develop measures to avoid, minimize, or mitigate adverse effects on these historic properties, which would result in less-than-significant impacts under NEPA and would resolve effects under NHPA. GSA is in the process of formal consultation with the SHPO and consulting parties to follow coordination procedures as required under Section 106 of the NHPA and would consult with the Arizona SHPO to develop an agreement document under this sub-alternative to reduce potential adverse cultural resources impacts.

3.2.2.4 *Alternative 2 – Concurrent Construction*

Alternative 2 could have adverse effects under NHPA and direct, significant adverse impacts under NEPA to cultural resources if unanticipated discoveries are encountered during ground-disturbing activities at either the proposed Commercial LPOE or the RHC LPOE project sites. Alternatives 2a and 2b would result in no adverse effects under NHPA to architectural historic properties and negligible to minor adverse impacts under NEPA to architectural cultural resources; Alternatives 2c and 2d would result in adverse effects under NHPA to architectural historic properties and direct, minor to significant, adverse, and permanent impacts to architectural cultural resources under NEPA.

Operations of Alternative 2 would not result in adverse effects or significant impacts to cultural resources at either the proposed Commercial LPOE and RHC LPOE.

Construction

Under Alternative 2, effects and impacts to cultural resources during construction of the Commercial LPOE would be the same as those discussed under Alternative 1.

Under Alternative 2, construction at the RHC LPOE would result in similar effects and impacts to archaeological resources as described under Alternative 1. However, the Alternative 2 Expansion Area encompasses a larger land area (an additional 16.4 acres) than the Alternative 1 Expansion Area. This area, although mostly undeveloped and vacant, was heavily disturbed over time and no evidence of any original ground surfaces was observed during the archaeological survey. No archaeological resources were identified during the archaeological survey (ASMA 2022). GSA would implement similar impact reduction measures under Alternative 2 as described for Alternative 1.

With respect to architectural historic properties, a building located within the Alternative 2 Expansion Area just west of the RHC LPOE was identified in the cultural study as being more than 50 years old (referred to as the Cattle Operation Building in the cultural study). However, this building is recommended not eligible under any NRHP criteria and, therefore, Alternative 2 would result in no adverse effects to historic properties under NHPA and no direct adverse impacts under NEPA to architectural cultural resources.

Operations

Under Alternative 2, effects and impacts to cultural resources during operation of the Commercial LPOE and the RHC LPOE would be the same as those discussed under Alternative 1.

Alternatives 2a – 2d: Reuse, Relocate, or Demolish Historic Structures

Under Alternatives 2a through 2d, effects and impacts to the management of the historic properties at the RHC LPOE (i.e., the historic Main Building and Garage) would be the same as those discussed under Alternatives 1a through 1d.

3.2.2.5 *Impact Reduction Measures*

To reduce the risk of damage to known and unknown archaeological sites, GSA would develop an archaeological monitoring plan in consultation with SHPO, ACHP, federally recognized Indian tribes, and other consulting parties.

GSA is in consultation with SHPO, ACHP, federally recognized Indian tribes, and other consulting parties and would identify and develop appropriate mitigation measures to avoid, minimize or mitigate adverse effects on historic properties prior to publication of the Final EIS. At a minimum, Historic American Buildings Survey documentation for the historic Main Building and Garage would be considered. Additional mitigation could include architectural artifact salvage. Appropriate mitigation would be determined in consultation between GSA, SHPO, and consulting parties.

3.3 AIR QUALITY AND GREENHOUSE GAS EMISSIONS

This section describes the baseline conditions for air quality and greenhouse gas (GHG) emissions within the region and assesses the potential for local and regional air quality or climate change to affect, or be affected by, implementing the Proposed Action, including the alternatives as discussed in Chapter 2.

Air quality is the measure of the atmospheric concentration of defined pollutants in a specific area. An air pollutant is any substance in the air that can cause harm to humans or the environment. Pollutants may be natural or human-made and may take the form of solid particles, liquid droplets, or gases. Natural sources of air pollution include smoke from wildfires, dust, and wind erosion. Human-made sources of air pollution include emissions from vehicles; dust from unpaved roads, agriculture, or construction sites; and smoke from human-caused fires. Air quality is affected by pollutant emission sources, as well as the movement of pollutants in the air via wind and other weather patterns.

GHG emissions released into the atmosphere as a result of human-induced fossil fuel combustion are widely believed to be contributing to changes in global climate. GHGs, which include carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), water vapor, and several trace gases, trap radiant heat reflected from the Earth in the atmosphere, causing the Earth's average surface temperature to rise. The predominant GHGs are CO_2, CH_4, N_2O, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. In the U.S., anthropogenic GHG emissions come primarily from burning fossil fuels. Although GHG levels have varied for millennia (along with corresponding variations in climate conditions), increases driven by human activity have contributed significantly to recent climatic changes.

3.3.1 Affected Environment

3.3.1.1 *Region of Influence*

Air Quality. Because air quality is measured and regulated on a regional level, the air quality analysis in this EIS utilizes air quality data from the Arizona Department of Environmental Quality (ADEQ). The Proposed Action would take place within Cochise County. For purposes of this analysis, and because air pollution dissipates throughout the atmosphere, the ROI for air quality is defined as Cochise County.

Greenhouse Gases. The ROI for GHGs differs from other resource areas considered in this EIS since the concerns about GHG emissions are primarily related to climate change, which is global and cumulative in nature. Therefore, the affected environment is discussed broadly using a global, national, and regional framework to provide context for the analysis of potential GHG impacts from the Proposed Action. Recent scientific evidence indicates a correlation between increasing global temperatures over the past century and the worldwide increase in anthropogenic (human) GHG emissions (IPCC 2018). Climate change associated with global warming is predicted to produce negative environmental, economic, and social consequences across the globe in the coming years.

3.3.1.2 *Regulatory Setting and Requirements*

Air Quality

The Clean Air Act (CAA), as amended in 1990, mandates that states develop a State Implementation Plan that explains how the state will comply with the CAA and achieve and maintain attainment of the National Ambient Air Quality Standards (NAAQS). The Arizona State Implementation Plan was initially approved in 1972 and is revised as needed to comply with new federal or state requirements when new data improves modeling techniques, when a specific area's attainment status changes, or when an area fails to reach attainment (ADEQ 2022a). The Arizona State Implementation Plan applies to industrial sources, commercial facilities, and residential development activities. Regulation occurs primarily through a process of reviewing engineering documents and other technical information, applying emission standards and regulations in the issuance of permits, performing field inspections, and assisting industries in determining their compliance status.

ADEQ has the authority to issue permits for the construction and operation of new or modified stationary source air emissions in Arizona. ADEQ air permits are required for any facility that will emit or currently emits regulated pollutants and must comply with the following regulations of the CAA: New Source Review, Prevention of Significant Deterioration, Title V Permitting, National Emission Standards for Hazardous Air Pollutants, and New Source Performance Standards. These regulations typically apply to major sources, i.e., sources that have the potential to emit more than 100 tons per year of any criteria pollutant, more than 10 tons per year of any hazardous air pollutant, or more than 25 tons per year of all hazardous air pollutants combined.

There are also Arizona state regulations that could potentially apply to activities that could occur during construction. These regulations are outlined in Arizona Administrative Code Title 18, Chapter 2 and include the following:

- Emissions from Open Areas, Dry Washes, or Riverbeds (Title 18.2.604);
- Open Burning Permits (Title 18.2.602);
- Air Pollution from Motor Vehicle (Title 18.2.1001); and
- Classes of Air Permits for Construction Projects (Title 18.2.302).

Greenhouse Gases

GHGs are regulated under the CAA, via regulations discussed above for air quality. New sources or modifications to existing sources that have the potential to increase GHG emissions by more than 100,000 tons CO_2 equivalent per year may be subject to New Source Review or Prevention of Significant Deterioration requirements, as well as Title V requirements for operational permits, provided they are also otherwise subject to these requirements. Additionally, the U.S. Environmental Protection Agency's (USEPA) Mandatory Greenhouse Gas Reporting Rule (40 CFR 98) requires sources in specific industrial sectors to report their GHG emissions, if they emit more than 25,000 metric tons CO_2 equivalent per year. The Proposed Action would not likely be subject to these permitting and reporting requirements.

Several Executive Orders (EO) also require federal agencies to estimate and report their GHG emissions and set goals to reducing these emissions. These EOs include:

- EO 13990, *Protecting Public Health and the Environment and Restoring Science to Tackle the Climate Crisis*
- EO 14008, *Tackling the Climate Crisis at Home and Abroad*
- EO 14030, *Climate-Related Financial Risk*

3.3.1.3 *Existing Conditions*

Due to the proximity of the proposed Commercial LPOE and the RHC LPOE and the physical nature of air quality, the ROI is defined as Cochise County. As such, this section discusses the general affected environment for Cochise County. Where there are differences between the sites requiring distinction between the two project areas, these are highlighted in the text as appropriate.

Air Quality

USEPA Region 9 and the ADEQ regulate air quality in Arizona. The CAA (42 U.S.C. 7401-7671q), as amended, gives USEPA the responsibility to establish the primary and secondary NAAQS (40 CFR 50) that set acceptable concentration levels for six criteria pollutants, compounds that cause or contribute to air pollution and which could endanger public health and the environment. The six criteria pollutants are particulate matter (fine particulate matter [10 micrometers or smaller, PM_{10}] and very fine particulate matter [2.5 micrometers or smaller, $PM_{2.5}$]), sulfur dioxide (SO_2), carbon monoxide (CO), nitrogen oxides (NO_x), ozone (O_3), and lead. O_3 is a strong photochemical oxidant that is formed when nitric oxide reacts with

volatile organic compounds (VOCs) and oxygen in the presence of sunlight. O_3 is considered a secondary pollutant because it is not directly emitted from pollution sources but is formed in the ambient air.

Short-term standards (1-, 8-, and 24-hour periods) have been established for criteria pollutants that contribute to acute health effects, while long-term standards (annual averages) have been established for pollutants that contribute to chronic health effects. Areas that exceed the NAAQS are designated as nonattainment areas, and those in accordance with the standards are designated as attainment areas. Air quality control regions that have been redesignated from nonattainment to attainment are called maintenance areas.

USEPA has designated the Paul Spur/Douglas Planning Area, part of Cochise County, as a nonattainment area for PM_{10} (USEPA 2022a). Additionally, Douglas is an USEPA-designated maintenance area for SO_2. Because the Proposed Action would take place within in a nonattainment area, the General Conformity Rule requirements apply. The General Conformity Rule states that, if a project would result in a total net increase in direct and indirect emissions of nonattainment or maintenance pollutants that are less than the applicable *de minimis* (i.e., negligible) thresholds established in 40 CFR 93.153(b), detailed conformity analyses are not required pursuant to 40 CFR 93.153(c).

The USEPA and the ADEQ monitor levels of criteria pollutants at representative sites throughout the U.S. Within Cochise County, ambient air quality monitoring data are available for PM_{10} and O_3. Cochise County does not have a monitoring station for other criteria pollutants (USEPA 2022b). Therefore, $PM_{2.5}$, CO, and NO_2 data were taken from monitoring stations located in Pima County and lead monitoring data were taken from Pinal County. Table 3.3-1 shows the NAAQS, monitored concentrations, and air monitor location for each criteria pollutant. As shown in Table 3.3-1, the Paul Spur/Douglas Planning Area met the PM_{10} 24-hour standard in 2022. Figure 3.3-1 shows the location of the Proposed Action in relation to the Paul Spur/Douglas Planning Area.

Table 3.3-1. Ambient Air Quality Standards and Measured Criteria Pollutant Concentrations

Pollutant	Averaging Time	NAAQS	Monitoring Data (2022)	Monitor Location
CO	1-hour	35 ppm	1.4	Tucson, AZ (Pima County)
	8-hour	9 ppm	0.8	Tucson, AZ (Pima County)
NO_2	1-hour	100 ppb	38	Tucson, AZ (Pima County)
	Annual arithmetic mean	53 ppb	8	Tucson, AZ (Pima County)
O_3	8-hour	0.070 ppm	0.065	Chiricahua National Monument (Cochise County)
SO_2	1-hour	75 ppb	3.5	Tucson, AZ (Pima County)
$PM_{2.5}$	24-hour	35 µg/m^3	28	Nogales, AZ (Santa Cruz County)
	Annual arithmetic mean	12 µg/m^3	10	Nogales, AZ (Santa Cruz County)
PM_{10}	24-hour	150 µg/m^3	130	Douglas, AZ (Cochise County)
Pb[2]	3-month average	0.15 µg/m^3	--	--

Source: USEPA 2022b; USEPA 2022c
µg = micrograms; CO = carbon monoxide; m^3 = cubic meter; NO_2 = nitrogen dioxide; O_3 = ozone; Pb = lead; $PM_{2.5}$ = particulate matter of diameter 2.5 microns or less; PM_{10} = particulate matter of diameter 10 microns or less; ppb = parts per billion; SO_2 = sulfur trioxide
Notes: 1 – Only the primary NAAQS are listed.
2 – If multiple monitors are present in a county, the monitor with the highest recorded pollutant concentrations is listed.
3 – Lead is not considered further in this analysis because none of the project activities would generate lead emissions.

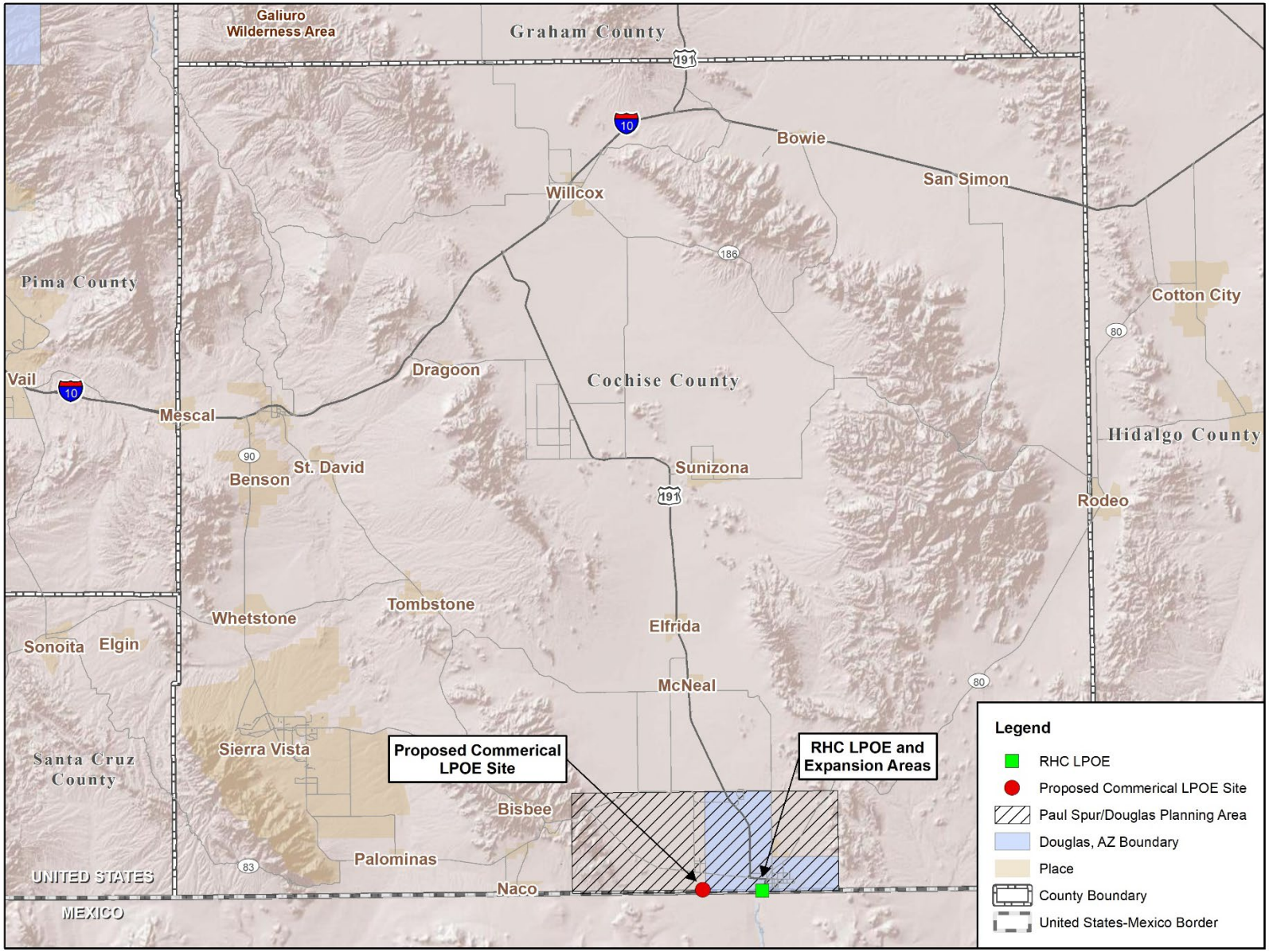


Figure 3.3-1. Location of the Proposed Action Relative to the Paul Spur/Douglas Planning Area

Populations that are more susceptible to the adverse effects of air pollution include children, elderly, and asthmatics. The locations where these sensitive receptors congregate are considered sensitive receptor location for air pollutants. As such, sensitive receptor locations for air impacts analyses typically include schools, daycares, hospitals, elderly housing and convalescent facilities. Sensitive receptor locations for air pollutants and their distance from the RHC LPOE are listed in Table 3.3-2.

Table 3.3-2. Sensitive Receptor Locations for Air Pollutants Within 1 Mile of the RHC LPOE

Receptor Type	Receptor	Direction from RHC LPOE	Distance (feet)
Hospital	Copper Queen Community Hospital Rural Health Clinic	North	1,100
Hospital	Copper Queen Community Hospital	Northwest	1,500
School	Center for Academic Success	Northeast	1,800
Preschool	Headstart Douglas	Northeast	1,900
School	Sara Marley Elementary School	Northeast	3,100
School	Center for Academic Success	Northeast	3,500
Hospital	Pima Heart	Northeast	4,000
Daycare	Coqui Children's Center	Northeast	4,100
Assisted Living Facility	Cypress Inn Assisted Living Facility	Northeast	4,500
School	Ray Borane Middle School	Northeast	4,800
School	Clawson Elementary School	Northeast	4,900
School	Center for Academic Success	Northeast	5,000

RHC LPOE = Raul Hector Castro Land Port of Entry

The proposed Commercial LPOE site is located within a largely undeveloped portion of Cochise County. No sensitive receptors were identified within one mile of the proposed Commercial LPOE site.

Greenhouse Gases and Climate Change

GHGs are gases that trap heat in the atmosphere by absorbing outgoing infrared radiation (USEPA 2022d). GHG emissions occur from both natural processes as well as human activities. Water vapor is the most important and abundant GHG in the atmosphere; however, human activities produce only a small amount of the total atmospheric water vapor. The most common GHGs emitted from natural processes and human activities include CO_2, CH_4, and N_2O. The main source of GHGs from human activities is the combustion of fossil fuels such as oil, coal, and natural gas. Other examples of GHGs created and emitted primarily through human activities include fluorinated gases (e.g., perfluorocarbons) and sulfur hexafluoride. The main sources of these man-made GHGs are refrigerants and electrical transformers.

Numerous studies document the recent trend of rising atmospheric concentrations of CO_2. The longest continuous record of atmospheric carbon dioxide monitoring extends back to 1958 (Keeling 1960; Scripps 2020). These data show that atmospheric CO_2 levels have risen an average of 1.5 parts per million (ppm) per year over the last 60 years, with the growth rate accelerating from around 1 ppm per year in the 1960s to 2 ppm per year in the 2000s (NOAA 2020). The global atmospheric CO_2 concentration has now passed 400 ppm, a level that last occurred about 3 million years ago when both global average temperature and sea level were significantly higher than today (USGCRP 2017). Rising atmospheric concentrations of CO_2 and other GHGs have been identified as the primary driver behind significant changes to global climate patterns. Observed changes to global climate include rising average temperatures, shrinking glaciers and sea ice, rising sea levels, increased drought and wildfires, increased flooding and other severe weather events, thawing permafrost, a lengthened growing season, and shifts in plant and animal ranges. International and national organizations independently confirm these findings and predict that these trends are likely to

continue into the foreseeable future unless action is taken to reduce global GHG emissions (IPCC 2018; USGCRP 2017).

Each GHG has been assigned a global warming potential (GWP) by the USEPA (USEPA 2022d). The GWP is the ability of a gas or aerosol to trap heat in the atmosphere. The GWP rating system is standardized to CO_2, which is given a value of one. For example, CH_4 has a GWP of 25, which means that it has a global warming effect 25 times greater than CO_2 on an equal-mass basis. To simplify GHG analyses, total GHG emissions from a source are often expressed as a CO_2 equivalent, which is calculated by multiplying the emissions of each GHG by its GWP and adding the results together to produce a single, combined emission rate representing all GHGs. While CH_4 and N_2O have much higher GWPs than CO_2, CO_2 is emitted in such large quantities that it is the predominant contributor to global CO_2 equivalent emissions from both natural processes and human activities.

Increasing GHG concentrations in the atmosphere have been linked to a range of ongoing and potential changes to global climate including rising surface temperatures, changes in precipitation, rising sea levels and an increase in extreme weather events. However, these changes are not geographically uniform across the planet, and some regions are likely to experience greater change than others (IPCC 2018). Further, projections of future climate change are strongly related to predicted trends in GHG emissions, which in turn depend on policy and other actions to reduce GHG emissions.

The Southwest region of the U.S. has already experienced a number of climate change-related impacts and these trends are likely to continue in the foreseeable future, as described below (USGCRP 2018):

- Increased temperatures have significantly altered the water cycle in the Southwest region. These changes include decreases in snowpack and its water content, earlier peak of snow-fed streamflow, and increases in the proportion of rain to snow. These changes, attributed mainly to climate change, exacerbate conditions of drought. With continued GHG emissions, higher temperatures are likely to cause more frequent and severe droughts in the Southwest.
- Climate change has impacted ecosystems across the Southwest. In addition to rising temperatures and drought, wildfires have significantly expanded. Studies estimate that the area burned by wildfires between 1984 and 2015 nearly doubled because of climate change. Climate change is also leading to increase forest pest and disease infestations and geographic shifts in the historical ranges of several plant and animal species.
- Indigenous communities have been significantly impacted by climate change, including effects on the availability of traditional foods, natural resource-based livelihoods, and cultural resources. These impacts are being worsened by drought, wildfires, and other aspects of climate change.
- Rising temperatures and increasing drought are adversely affecting the ability to generate electricity from hydropower and fossil energy resources. Years of drought have lowered water levels in reservoirs used to generate hydroelectricity to historic lows. Fossil fuel power generation is also affected by climate change. These power plants are typically water-cooled, and their efficiency depends on ambient temperatures. Rising temperatures could reduce energy efficiency by up to 15 percent across the Southwest, while simultaneously increasing transmission losses. At the same time, water demand for power generation is projected to increase as temperatures rise, potentially conflicting with other demands for limited water resources.
- Food production across the Southwest is vulnerable to drought and rising temperatures. As surface water supplies decline, increased reliance on groundwater can lead to higher energy costs for pumping the water. Farmers may need to shift to more drought-tolerant crops and may experience reduced yields or quality in some cases. Higher winter temperatures also have the potential to adversely affect the cultivation of many fruits and nuts currently grown in the Southwest.

- Finally, climate change has the potential to adversely affect human health. Higher temperatures increase the risk of illnesses related to heat exposure, especially during episodes of extreme heat. Other environmental factors that contribute to adverse health outcomes, such as ground-level ozone, particulate pollution, airborne allergens, and decreasing water availability, are likely to be exacerbated by the higher temperatures and dry conditions projected to become more common in the future as a result of climate change.

3.3.2 Environmental Consequences

3.3.2.1 *Methodology*

To evaluate air quality impacts and GHG emissions, GSA reviewed the project alternatives to determine whether any activities have the potential to cause the following within the ROI:

- Increase in direct or indirect emissions from fixed and mobile sources such as stationary fuel combustion, construction equipment, and employee vehicles; or
- Increase in indirect offsite GHG emissions associated with electricity generation.

A significant adverse impact to air quality or GHG emissions would occur if the Proposed Action would result in:

- Result in emissions of criteria pollutants or HAPs that would exceed relevant air quality or health standards including the NAAQS;
- Violate any federal or state permits; or
- Conflict with local or regional air quality management plans to attain or maintain compliance with the federal and state air quality regulations.

When assessing significance, GSA also considered the potential for best management practice (BMP) to reduce the severity or extent of these impacts. Applicable BMPs are described below, and in Section 3.3.2.4.

3.3.2.2 *No Action Alternative*

Under the No Action Alternative, GSA would not construct a new Commercial LPOE or expand and modernize the RHC LPOE. Ongoing maintenance at the RHC LPOE would occur, which could generate minor, short-term air emissions depending on the activity. Inspection of COVs would remain at the RHC LPOE and elevated air emissions associated with COVs entering and exiting the port and traveling through the City of Douglas on Pan American Avenue would continue. The capacity and efficiency of operations at the RHC LPOE would degrade over time, resulting in longer delays and traffic congestion. POVs idling while awaiting inspection would continue to contribute to air emissions in the region.

3.3.2.3 *Alternative 1 – Sequential Construction*

Alternative 1 would have overall short-term, minor adverse impacts on air quality and GHGs during construction of the proposed Commercial LPOE and expansion of the RHC LPOE. Alternative 1 would have long-term, minor adverse and long-term, minor beneficial impacts on air quality and GHGs from operations of the proposed facilities.

Construction (Commercial and RHC LPOEs)

Air Quality

As explained in Section 3.3.1.1, the USEPA's General Conformity Rule under the CAA ensures that the actions taken by federal agencies do not interfere with a state's plans to attain and maintain the NAAQS (40 CFR 93.153(b)). Because the Proposed Action would be located within the Paul Spur/Douglas Planning Area, a designated nonattainment area for PM_{10} and a maintenance area for SO_2, the General Conformity

Rule requirements apply. Therefore, Alternative 1 is subject to review under the General Conformity Rule and a general conformity analysis is required (see Appendix C). For completeness, direct and indirect emissions of all applicable criteria pollutants (i.e., CO, VOCs [as a precursor for O_3], NO_2, SO_2, PM_{10}, and $PM_{2.5}$) were estimated for the construction phase of Alternative 1. These estimated values were then compared to the General Conformity Rule's *de minimis* emissions thresholds to determine whether implementation of Alternative 1 would impact air quality in the region.

Construction emissions were estimated for on-road vehicles and non-road construction equipment. Since a detailed construction plan has not yet been developed for the project, the number and types of construction equipment needed were estimated based on available data for other, similar projects, and in coordination with appropriate GSA staff. Emissions rates from on-road vehicles such as privately owned vehicles were estimated using industry standard emission rates (Argonne National Laboratory 2013). Emission rates for non-road vehicles such as excavators, cranes, graders, backhoes, and bulldozers were estimated using the USEPA's MOVES (Motor Vehicle Emissions Simulator) model. Fugitive dust emissions factors for PM_{10} and $PM_{2.5}$ were derived from USEPA's AP-42.

For purposes of analysis and to provide a conservative estimate of potential air emissions, the following assumptions were made:

- During construction, all non-road equipment would be operated 8 hours per day. This leads to a conservatively high estimate, since in practice equipment would not be operated for eight hours each day.
- Fugitive dust emissions were primarily assumed to occur during demolition, grading, and site preparation activities.
- On-road vehicles would travel various distances. Worker vehicles were assumed to travel 20 miles per day, while vendor and waste trucks were assumed to travel 50 miles per day.

The results of the conformity analysis for construction of the Commercial LPOE and the expansion and modernization of the RHC LPOE are presented in Table 3.3-3 and Table 3.3-4, respectively. Air conformity analysis results for the Commercial LPOE and the RHC LPOE are presented separately because these activities would occur sequentially under Alternative 1. Full documentation of the methodology used to estimate the air emissions is presented in Appendix C.

Table 3.3-3. Estimated Construction Air Emissions for the Commercial LPOE

Source	Criteria Pollutant Emissions (tons)					
	CO	**NO_2**	**PM_{10}**	**$PM_{2.5}$**	**SO_2**	**VOCs**
Construction Equipment	0.80	1.45	0.11	0.11	0.00	0.14
Worker Vehicles	9.59	0.53	0.11	0.06	0.02	0.55
Delivery and Waste Trucks	6.30	6.20	0.65	0.33	0.05	0.48
Fugitive Dust			59.11	31.70		
Total	**16.69**	**8.18**	**59.98**	**32.20**	**0.06**	**1.18**
De minimis Threshold	*100*	*100*	*100*	*70*	*100*	*10*

Source: USEPA 2020e

Note: Individual numbers may not sum to totals due to rounding.

CO = carbon monoxide; NO_2 = nitrogen dioxide; $PM_{2.5}$ = particulate matter of diameter 2.5 microns or less; PM_{10} = particulate matter of diameter 10 microns or less; SO_2 = sulfur dioxide; VOC = volatile organic compounds

Table 3.3-4. Estimated Construction Air Emissions for RHC LPOE Expansion and Modernization

Source	Criteria Pollutant Emissions (tons)					
	CO	**NO_2**	**PM_{10}**	**$PM_{2.5}$**	**SO_2**	**VOCs**
Construction Equipment	0.44	0.81	0.06	0.06	0.00	0.44
Worker Vehicles	7.99	0.44	0.09	0.05	0.01	7.99
Delivery and Waste Trucks	6.30	6.20	0.65	0.33	0.05	6.30
Fugitive Dust			12.00	6.44		
Total	**14.74**	**7.45**	**12.80**	**6.88**	**0.06**	**14.74**
De minimis Threshold	*100*	*100*	*100*	*70*	*100*	*10*

Source: USEPA 2020e

Note: Individual numbers may not sum to totals due to rounding.

CO = carbon monoxide; NO_2 = nitrogen dioxide; $PM_{2.5}$ = particulate matter of diameter 2.5 microns or less; PM_{10} = particulate matter of diameter 10 microns or less; SO_2 = sulfur dioxide; VOC = volatile organic compounds

As shown in Tables 3.3-3 and 3.3-4, the total annual direct and indirect emissions associated with the construction of Alternative 1 would not exceed the *de minimis* threshold rate for any of the criteria pollutants analyzed per the thresholds identified in Section 3.3.1. Also note that the emissions presented in Table 3.3-3 would occur over the full 48- to 54-month construction period and emissions shown in Table 3.3-4 would occur over a 36- to 42-month period; emissions during any single year within the full Alternative 1 construction period would be lower. Therefore, further analysis under the General Conformity Rule is not required. In addition, the PM_{10} emissions estimates presented in Table 3.3-4 assume uncontrolled emissions of fugitive dust; in practice, PM_{10} emissions would likely be lower because GSA would take steps to minimize fugitive dust, as discussed in Section 3.3.2.6.

Overall, the construction/demolition activities would cause short-term, minor adverse impacts to air quality. Individuals living or working in close proximity to the Commercial LPOE or RHC LPOE sites would be most affected. These impacts would occur during the estimated 48 to 54 months of construction at the Commercial LPOE and 36 to 42 months at the RHC LPOE and would end once construction is completed.

Activities under Alternative 1 would comply with all applicable federal, state, and local regulations relating to air quality, including any permitting and registration requirements. Table 3.3-5 provides an overview of the applicability of the federal CAA air regulations to Alternative 1.

Table 3.3-5. CAA Regulatory Review for Alternative 1

CAA Regulation	Description of the Regulation	Applicability to Alternative 1
New Source Review	New Source Review permitting protects air quality when air emissions sources are built or modified.	If new emergency generators are installed under Alternative 1, they would need to undergo the New Source Review permitting process.
PSD	PSD applies to new major sources or modifications at existing sources of air pollutants where the area the source is located is in *attainment* or unclassifiable.	PSD review would be required if new emergency generators are installed under Alternative 1.
Title V permitting requirements	A Title V Permit requires sources of air pollutants to obtain and operate in compliance with an operating permit. A permit is required if a source has actual or potential emissions greater than or equal to 100 tons per year.	A Title V Permit would likely not be required because any new emergency generators installed under Alternative 1 would be below the 100 tons per year threshold.
NESHAP	NESHAP are stationary source standards for HAPs. HAPs are those pollutants that are known or suspected to cause cancer or other serious health effects.	The use of Maximum Available Control Technology would not be required because the potential HAP emissions would likely not exceed NESHAP thresholds under Alternative 1.
NSPS	NSPS are technology-based emission standards which apply to new, modified, and reconstructed facilities in specific source categories such as manufacturers of glass, cement, rubber tires, and wool fiberglass.	The project would be exempt from NSPS permitting requirements because Alternative 1 would not involve construction or operation of any of these types of facilities.

Source: USEPA 2020f
CAA = Clean Air Act; HAP = Hazardous Air Pollutants; NESHAP = National Emission Standards for Hazardous Air Pollutants; NSPS = New Source Performance Standards; PSD = Prevention of Significant Deterioration

Greenhouse Gas Emissions

Alternative 1 would generate GHG emissions during construction activities, and would represent a negligible, incremental contribution to global GHG emissions and climate change. Short-term GHG emissions associated with Alternative 1 would primarily result from the use of fuel in construction equipment, worker vehicles, and delivery and refuse trucks. GHG emissions were estimated using USEPA emission factors (USEPA 2021) and are presented in Table 3.3-6. Even though Commercial LPOE and RHC LPOE construction would occur sequentially under this alternative, GHG emissions remain in the atmosphere for long periods of time and have a cumulative effect on climate change; therefore, these emissions are presented as totals under Alternative 1. Overall impacts from increased GHGs would be negligible.

Table 3.3-6. Estimated Construction GHG Emissions under Alternative 1

Source	GHG Emissions (metric tons)			
	CO_2	CH_4	N_2O	CO_2-eq
Commercial LPOE				
Construction Equipment	659.82	0.04	0.02	665.75
Worker Vehicles	953.12	0.04	0.01	957.37
Delivery and Waste Trucks	7,554.02	0.18	0.07	7,580.44
Total - Commercial LPOE	**9,166.96**	**0.26**	**0.10**	**9,203.56**
RHC Expansion and Modernization				
Construction Equipment	407.65	0.02	0.01	411.31
Worker Vehicles	794.27	0.04	0.01	798.52
Delivery and Waste Trucks	7,554.02	0.18	0.07	7,580.44
Total - RHC LPOE	**8,755.94**	**0.24**	**0.09**	**8,790.27**
Total – Alternative 1	**17,922.90**	**0.50**	**0.20**	**17,993.83**

CH_4 = methane, CO_2 = carbon dioxide; CO_2-eq = carbon dioxide equivalent; N_2O = nitrous oxide

Operations (Commercial and RHC LPOEs)

Air Quality

Even though the Commercial LPOE would begin operations before the expanded RHC LPOE, once the RHC LPOE is operational air emissions from both facilities would occur concurrently. Therefore, operational impacts to air quality are discussed together for the two facilities to present a conservative assessment of impacts.

Under Alternative 1, operations of the proposed Commercial LPOE and the expanded RHC LPOE would have a long-term, minor adverse impact on air quality. Direct (onsite) source of air emissions would include:

- Onsite emergency generators, which would likely be fired by diesel or natural gas. The RHC LPOE currently has two emergency generators onsite. Per the 2019 Feasibility Study, the proposed Commercial LPOE would likely have one emergency generator for the Main Building, and a second emergency generator for the Commercial Inspection/Staging area (GSA 2019a). The expanded RHC LPOE would include an Emergency Generator Yard with likely two generators onsite to provide backup power. The increase in number of emergency generators across the two facilities under Alternative 1 would likely contribute to a negligible increase in air emissions, both during emergency situations as well as from periodic testing and maintenance.
- Boilers for building heat and domestic hot water, either oil or gas fired depending on final design. The new facilities taken together, including the Commercial LPOE and the expanded RHC LPOE, would consist of approximately 306,000 gross square feet of building space, which is considerably larger than the existing RHC LPOE. Therefore, fuel use and air emissions from onsite boilers would likely increase. However, GSA intends to design the new facilities to meet sustainable building standards including a minimum of LEED Gold; therefore, some of the increase in fuel use for heating would be offset by improved building efficiency. The LEED rating system allows for flexibility in how projects choose to meet the number of points required to obtain a given certification level. Therefore, the actual energy performance of the new building would likely not be known until building design is substantially completed.

Some air emissions associated with operations of the Commercial LPOE and the expanded RHC LPOE would occur offsite. Sources of indirect air emissions include:

- Offsite generation of electricity used at the Commercial LPOE and the expanded RHC LPOE, would likely be higher than the emissions associated with the existing RHC LPOE facility due to increased facility size. As discussed above, some of this increase would likely be offset by improved building efficiency. Further, GSA intends to design the building to be "net zero" ready. While renewable energy is not currently proposed at either facility, both facilities would be designed to accommodate future renewable energy projects with minimum changes to onsite infrastructure.
- Employee commuting would result in tailpipe emissions from employee POVs. GSA anticipates that approximately 150 additional employees may be needed to operate the Commercial LPOE and the expanded RHC LPOE. To present a conservative analysis in the event additional staff are hired, this analysis assumes up to 180 additional employees could be hired. Table 3.3-7 presents the estimated increase in air emissions that would occur as a result of employee commuting.

Table 3.3-7. Estimated Annual Air Emissions from Employee Commuting

Source	Criteria Pollutant Emissions (tons per year)					
	CO	NO_2	PM_{10}	$PM_{2.5}$	SO_2	VOCs
Commercial LPOE	6.65	0.37	0.07	0.04	0.01	0.38
RHC LPOE	5.12	0.28	0.06	0.03	0.01	0.29
Total	**11.77**	**0.65**	**0.13**	**0.08**	**0.02**	**0.68**

CO = carbon monoxide; NO_2 = nitrogen dioxide; $PM_{2.5}$ = particulate matter of diameter 2.5 microns or less; PM_{10} = particulate matter of diameter 10 microns or less; SO_2 = sulfur dioxide; VOC = volatile organic compounds

Operations under Alternative 1 would also likely have some beneficial impacts on air quality from a reduction in the wait time for POVs to be processed by a CBP officer. Currently, POV wait times can be as high as 34 minutes or more during peak hours. The expanded RHC LPOE would be designed to reduce average wait times during peak hours to 30 minutes or less (Stantec 2018), which would lead to lower idling emissions from POVs. For purposes of this analysis, it is assumed that the average wait time would decrease by an amount similar to the reduction in peak wait times, i.e., approximately 5 minutes. The estimated reduction in idling emissions is presented in Table 3.3-8 and would more than offset any increase in emissions from employee commuting.

Table 3.3-8. Estimated Annual Reduction in POV Idling Air Emissions

Source	Criteria Pollutant Emissions (tons per year)					
	CO	NO_2	PM_{10}	$PM_{2.5}$	SO_2	VOCs
Current Conditions (34 minute wait time)	869.32	43.16	14.65	13.17	-	-
Alternative 1 (30 minutes or lower wait time)	767.05	38.08	12.92	11.62	-	-
Total	102.27	5.08	1.72	1.55	**-**	**-**

Note: Emissions factors for SO_2 and VOCs were not available.
CO = carbon monoxide; NO_2 = nitrogen dioxide; $PM_{2.5}$ = particulate matter of diameter 2.5 microns or less; PM_{10} = particulate matter of diameter 10 microns or less; SO_2 = sulfur dioxide; VOC = volatile organic compounds

In addition, routing truck traffic away from the city of Douglas would reduce air pollution exposure to city residents. Although overall emissions within the ROI would not change, there would be a minor benefit to air quality in the vicinity of the RHC LPOE. As shown in Table 3.3-2, there are several sensitive receptors

located within 1 mile of the RHC LPOE, as compared to the Commercial LPOE which has no sensitive receptors located within a 1-mile radius.

There would be negligible impacts to air quality from operations of a new indoor small arms range to be constructed as part of the Commercial LPOE facility. CBP officials and others would be able to use the new range to complete required firearms qualifications. Many common munitions include lead rounds and lead primer; the firing of these munitions contributes to lead emissions. The indoor range would mitigate the environmental impacts of range operations; lead emissions would be captured by the indoor range's air filtration system instead of being directly vented to the atmosphere.

Greenhouse Gases

Under Alternative 1, operations of the Commercial LPOE and the expanded RHC LPOE would have long-term, minor adverse impacts on GHG emissions. Similar to air emissions, onsite sources of GHGs include fuel use for building operations and emergency generators. Compared to the existing RHC LPOE, the new buildings would likely result in increased fossil fuel related GHG emissions due to their larger footprint. Additional sources of GHGs include fugitive leaks of refrigerants from cooling and refrigeration equipment. Because of their larger size, the new buildings would likely require a larger-sized cooling system; therefore, fugitive GHG emissions could increase.

Operations of the new building would also require more purchased electricity since there would be considerably more gross square feet of building space. Therefore, offsite GHG emissions are likely to increase compared to current conditions. GHG emissions would also likely increase as a result of employee commuting, due to an increase in the number of onsite personnel, as shown in Table 3.3-9. All of these increases would be offset to some extent by increased energy efficiency of the new facilities.

Table 3.3-9. Estimated Annual GHG Emissions from Employee Commuting

Source	GHG Emissions (metric tons per year)			
	CO_2	CH_4	N_2O	CO_2-eq
Commercial LPOE	660.83	0.03	0.01	663.78
RHC LPOE	508.33	0.03	0.01	511.28
Total	**1,169.16**	**0.05**	**0.02**	**1,175.05**

CH_4 = methane; CO_2 = carbon dioxide; CO_2-eq = carbon dioxide equivalent; N_2O = nitrous oxide

Similar to air emissions, a decrease in POV idling times at the RHC LPOE would also lead to lower GHG emissions, as shown in Table 3.3-9.

Alternatives 1a – 1d: Reuse, Relocate, or Demolish Historic Structures

Alternatives 1a through 1d relate to the sub-alternatives for the management of the historic Main Building and Garage, as described in Section 2.1.2.1. The potential impacts to air quality from each of these sub-alternatives would be similar, and would not differ significantly from the impacts discussed above. The prior discussion of impacts includes air emissions and GHG emissions associated with demolition of existing structures at the RHC LPOE; impacts from the other sub-alternatives would likely be lower.

3.3.2.4 *Alternative 2 – Concurrent Construction*

Alternative 2 would have overall short-term, minor adverse impacts on air quality and GHGs during construction of the proposed Commercial LPOE and expansion of the RHC LPOE. Alternative 2 would have long-term, minor adverse and long-term, minor beneficial impacts on air quality and GHGs from operations of the proposed facilities.

Construction (Commercial and RHC LPOEs)

Air Quality

Under Alternative 2, impacts from construction of the Commercial LPOE and expansion and modernization of the RHC LPOE would individually be similar as those discussed under Alternative 1. However, because construction activities would occur simultaneously, the overall period of impact would be shortened but air emissions during the period of construction would potentially be higher. Table 3.3-10 summarizes potential impacts to air quality from construction activities under Alternative 2.

Table 3.3-10. Estimated Construction Air Emissions under Alternative 2

Source	Criteria Pollutant Emissions (tons)					
	CO	**NO_2**	**PM_{10}**	**$PM_{2.5}$**	**SO_2**	**VOCs**
Commercial LPOE	16.69	8.18	59.98	32.20	0.06	1.18
RHC LPOE	14.74	7.45	12.80	6.88	0.06	14.74
Total	**31.43**	**15.63**	**72.78**	**39.09**	**0.13**	**1.17**
De minimis Threshold	*100*	*100*	*100*	*70*	*100*	*10*

Source: USEPA 2020e
CO = carbon monoxide; NO_2 = nitrogen dioxide; $PM_{2.5}$ = particulate matter of diameter 2.5 microns or less; PM_{10} = particulate matter of diameter 10 microns or less; SO_2 = sulfur dioxide; VOC = volatile organic compounds

As shown in Table 3.3-10, the total annual direct and indirect emissions associated with the construction of Alternative 2 would not exceed the *de minimis* threshold rate for any of the criteria pollutants analyzed per the thresholds identified in Section 3.3.1.1. Also note that the emissions presented in Table 3.3-10 would occur over the full 48- to 54-month construction period; emissions during any single year within the construction period would be lower. Therefore, further analysis under the General Conformity Rule is not required.

Overall, the construction and demolition activities would cause short-term, minor adverse impacts to air quality and could affect individuals living or working in close proximity to the Commercial LPOE and RHC LPOE. These impacts would end once construction is completed. In addition, the PM_{10} emissions estimates presented in Table 3.3-10 assume uncontrolled emissions of fugitive dust; in practice, PM_{10} emissions would likely be lower because GSA would take steps to minimize fugitive dust, as discussed in Section 3.3.2.6.

Activities under Alternative 2 would comply with all applicable federal, state, and local regulations relating to air quality, including any permitting and registration requirements. The applicability of federal CAA air regulations to Alternative 2 would be similar to that presented in Table 3.3-5 for Alternative 1.

Greenhouse Gases

Alternative 2 would generate GHG emissions during construction activities, and would represent a negligible, incremental contribution to global GHG emissions and climate change. Short-term GHG emissions associated with construction activities under Alternative 2 would be similar to those under Alternative 1.

Operations (Commercial and RHC LPOEs)

Air Quality

Under Alternative 2, impacts to air quality during operations of the Commercial LPOE and the RHC LPOE would be the same as those discussed under Alternative 1.

Greenhouse Gases

Under Alternative 2, GHG emissions during operations of the Commercial LPOE and the RHC LPOE would be the same as those discussed under Alternative 1.

Alternatives 2a – 2d: Reuse, Relocate, or Demolish Historic Structures

Alternatives 2a through 2d relate to the sub-alternatives for the management of the historic Main Building and Garage, as described in Section 2.1.2.1. The potential impacts to air quality from each of these sub-alternatives would be similar, and would not differ significantly from the impacts discussed above. The prior discussion of impacts includes air emissions and GHG emissions associated with demolition of existing structures at the RHC LPOE; impacts from the other sub-alternatives would likely be lower.

3.3.2.5 *Impacts of Climate Change on the Proposed Action*

CEQ requires federal agencies to consider the potential impacts of climate change on proposed projects as part of NEPA analysis (CEQ 2016). Accordingly, this section discusses the potential for projected climate change impacts to affect Commercial LPOE and the expanded RHC LPOE operations over the next several decades. Section 3.3.1.3 discusses the potential impacts of climate change in the Southwest. Of those impacts, the ones that have a reasonably foreseeable potential to affect operations at the Commercial LPOE and the expanded RHC LPOE are discussed below in Table 3.3-11. Proposed mitigation measures to reduce these impacts are discussed under Section 3.3.2.6.

Table 3.3-11. Potential Impacts of Climate Change on the Proposed Action

Climate Change Impact	Description of Impact
Human Health and Safety	Climate change has the potential to adversely affect human health, through increased risk of exposure to extreme heat and by contributing to an increase in ground-level ozone, particulate pollution, airborne allergens. Personnel working at the Commercial LPOE and the RHC LPOE, as well as with individuals crossing the border, would be exposed to these conditions. Individuals crossing through the RHC LPOE on foot may be more exposed to higher temperatures and other adverse conditions, when compared to individuals inside vehicles and LPOE personnel working primarily within buildings.
Water Resources	Climate change is likely to lead to decreasing water availability and makes droughts more likely in the future. Drought conditions could affect the availability of water for personnel (domestic) uses and for building operations.
Energy	Rising temperatures and increasing drought are adversely affecting the ability to generate electricity from hydropower and decreasing the efficiency of fossil fuel energy generation.
Wildfires	Climate change has likely led to an increase in the area burned by wildfires in the Southwest, and this trend is projected to continue. However, the proposed facilities are located in areas that are currently rated either Low or Very Low for wildfire risk by the Arizona Department of Forestry and Fire Management.

Source: USGCRP 2018; Arizona Department of Forestry and Fire Management 2022

3.3.2.6 *Impact Reduction Measures*

Air Quality

Construction activities at the proposed Commercial LPOE and RHC LPOE would generate fugitive dust (non-toxic particulate matter) emissions. Emissions from Open Areas, Dry Washes, or Riverbeds (Title 18.2.604) requires reasonable precautions to prevent PM from becoming airborne. Such precautions can include:

- using water for dust control when grading roads or clearing land
- applying water on dirt roads, materials stockpiles, and other surfaces that could create airborne dust

- paving roadways and maintaining them in a clean condition
- covering open equipment when conveying or transporting material likely to create objectionable air pollution when airborne, and
- promptly removing spilled or tracked dirt or other materials from paved streets.

Additional measures to control fugitive dust would include the following:

- Stabilize open storage piles and disturbed areas by covering and/or applying water or chemical/organic dust palliative where appropriate. This applies to both active and inactive sites during workdays, weekends, holidays, and windy conditions.
- Install wind fencing and phase grading operations where appropriate and operate water trucks for stabilization of surfaces under windy conditions.
- When hauling material and operating non-earthmoving equipment, prevent spillage and limit speeds to 15 miles per hour (mph). Limit speed of earth-moving equipment to 10 mph.

The following source-specific controls would be implemented to minimize emissions during construction activities:

- Reduce unnecessary idling from heavy equipment.
- Prohibit engine tampering to increase horsepower, except when meeting manufacturer's recommendations.
- Lease or buy newer, cleaner equipment using the best available emissions control technologies.
    - Use lower-emitting engines and fuels, including electric, liquified gas, hydrogen fuel cells, and/or alternative diesel formulations, if feasible.
    - On-Highway Vehicles - On-highway vehicles would meet, or exceed, the USEPA exhaust emissions standards for model year 2010 and newer heavy-duty on-highway compression-ignition engines (e.g., drayage trucks, long haul trucks, refuse haulers, shuttle buses, etc.).
    - Nonroad Vehicles & Equipment - Nonroad vehicles and equipment would meet, or exceed, the USEPA Tier 4 exhaust emissions standards for heavy-duty nonroad compression-ignition engines (e.g., nonroad trucks, construction equipment, cargo handlers, etc.).

Finally, the following administrative controls would be implemented during construction:

- Coordinate with appropriate air quality agencies to identify a construction schedule that minimizes cumulative impacts from other planned projects in the region, if feasible.
- Locate diesel engines, motors, and equipment staging areas as far as possible from residential areas and other sensitive receptors (e.g., schools, daycare centers, hospitals, senior centers, etc.).
- Avoid routing truck traffic near sensitive land uses to the fullest extent feasible.
- Prepare an inventory of all equipment prior to construction and identify the suitability of add-on emission controls for each piece of equipment before groundbreaking.
- Reduce construction-related trips of workers and equipment, including trucks.
- Develop a construction traffic and parking management plan that minimizes traffic interference and maintains traffic flow.

To minimize operational emissions from the Commercial LPOE, GSA would consider the addition of electrical connections to power commercial vehicles such as refrigeration trucks, to prevent spoilage while discouraging engine idling during secondary inspections of commercially owned vehicles.

Greenhouse Gases

Many of the mitigation measures for air quality identified above would also serve to reduce greenhouse gas emissions. GSA would take the following additional steps to minimize greenhouse gases:

- Design both the Commercial LPOE and the RHC LPOE to be energy-efficient facilities, including achieving a minimum of LEED Gold certification, which would reduce energy use and the associated greenhouse gas emissions.
- Construct both the Commercial LPOE and the expanded RHC LPOE to be net-zero ready, to accommodate future onsite renewable energy generation.
- Continue to evaluate options for on-site renewable energy generation (e.g., solar photovoltaic) for both the Commercial and the RHC LPOE, and install such systems if feasible and depending on funding availability.
- Use cement blended with the maximum feasible amount of fly ash or other materials that reduce GHG emissions from cement production.
- Recycle construction debris to the maximum extent feasible.

Climate Change Adaptation Measures

To minimize impacts of climate change on human health and safety, GSA would:

- Incorporate shaded areas wherever possible, particularly along pedestrian routes through the RHC LPOE.
- Provide indoor cooling stations or waiting areas where pedestrians passing through the RHC LPOE can seek relief from heat and other adverse conditions such as poor air quality.
- Provide indoor areas where individuals can wait, if required, while they are being processed by CBP officials.
- Provide hydration stations that are readily accessible to pedestrians and individuals traveling in POVs and COVs, at both the Commercial and RHC LPOEs.
- Implement design strategies to reduce urban heat islands, including using lighter-colored pavement where feasible, planting trees, and maintaining green spaces with native vegetation.

To minimize impacts of climate change on energy resources, GSA would:

- Seek a minimum of LEED Gold certification for the proposed facilities, which would include energy conservation and efficiency measures.
- Implement measures to maximize energy efficiency where possible, such as through automated building controls and the use of energy-efficient equipment.
- Construct both the Commercial LPOE and the expanded RHC LPOE to be “net-zero” ready, to accommodate future onsite renewable energy generation.
- Evaluate options for on-site renewable energy generation (e.g., solar photovoltaic) for both the Commercial and the RHC LPOE, and install such systems if feasible and depending on funding availability.

To minimize impacts of climate change on water resources, GSA would seek a minimum of LEED Gold certification for the proposed facilities, which would incorporate water conservation and efficiency measures. GSA would implement measures to maximize water efficiency where possible, such as through xeriscaping and the use of water-efficient fixtures and appliances.

No specific mitigation measures are currently proposed to reduce potential wildfire impacts to the facility.

3.4 LAND USE AND VISUAL RESOURCES

This section describes the baseline conditions for land use and visual resources surrounding the project areas and assesses the potential for existing land use patterns and development trends within the project area to affect, or be affected by, implementing the Proposed Action, including the alternatives as discussed in Chapter 2. Land use is described by land activities, ownership, and the governing entities' management plans. Local zoning defines land use types and regulates development patterns. This section also describes the visual landscape within the project area ROI. Visual resources consist of all visible features – natural and man-made, moving, and stationary –that give a particular environment its aesthetic characteristics and can influence the visual appeal of that landscape for a viewer.

3.4.1 Affected Environment

3.4.1.1 *Region of Influence*

The ROI for land use and visual resources focuses on the RHC LPOE, the proposed Commercial LPOE site, and adjacent areas surrounding both sites, including the Alternative 1 and 2 Expansion Areas at the RHC LPOE.

3.4.1.2 *Regulatory Setting and Requirements*

City and County Zoning. Arizona's state laws require that all cities prepare a General Plan, which is a document that provides a policy framework for land development and for the refinement of existing implementation tools such as zoning regulations (The Planning Center 2002). As such, the City of Douglas's *General Plan 2002* outlines the goals, objectives, and policies that pertain to land development and infrastructure projects in Douglas, including development projects at the existing RHC LPOE. The city's Planning and Zoning Division is responsible for implementing the *General Plan 2002*, zoning ordinances, and subdivision regulations.

Additionally, under Arizona law, counties are required to adopt a comprehensive plan that provides guidance for where and how development should occur. *The Cochise County Comprehensive Plan* and its accompanying land use map set forth policies that guide growth, including the protection of scenic viewsheds, outside of incorporated cities (Cochise County 2015) and, thus, pertains to the proposed Commercial LPOE site. The county's zoning regulations, subdivision regulations, light pollution code and building codes are the tools for implementation of the policies outlined in the comprehensive plan. The entire area of Cochise County, with the exception of incorporated cities, is divided into the following four categories of growth areas, based on each area's existing or foreseeable infrastructure, character and capacity for growth (Cochise County 2015):

- **Category A –** Urban Growth Areas: This category includes those areas adjacent to or surrounded by incorporated cities and having the necessary facilities and services to support it.
- **Category B –** Community Growth Areas: This category includes those areas adjacent to Category A Urban Growth Areas, as well as the larger unincorporated communities of the county, which are experiencing growth. These are areas in transition from a traditional rural environment to something more urbanized.
- **Category C –** Rural Community Areas: This category includes less populated rural communities that are characterized by a slow rate of growth and the desire to maintain the existing neighborhood or rural atmosphere.
- **Category D –** Rural Areas: This category includes the outlying rural areas between cities and unincorporated communities and characterized by a low rate of growth; unimproved roads; low density, large lot rural residential development; agricultural production; and large tracts of undeveloped private and public lands.

Within these four growth categories, there are seven potential plan designations. These designations more specifically identify the existing character of smaller areas within each growth area. The plan designations include: Neighborhood Conservation; Enterprise; Developing; Neighborhood Rehabilitation; Enterprise Redevelopment; Rural Residential; and Rural (Cochise County 2015).

Clean Air Act. In 1977, Congress amended the CAA to include provisions to protect the scenic vistas of Class I federal lands, including national parks, national wilderness areas, and national monuments. These areas are granted special air quality protections under Section 162(a) of the CAA (ADEQ 2022b) to protect visibility. As such, states are required to implement a regional haze plan to address visibility impairment resulting from manmade pollution, including vehicle emissions.

National Scenic Byways Program. The Federal National Scenic Byways Program establishes All-American Roads and National Scenic Byways. Additionally, Arizona enacted state laws to provide for the establishment of parkways and scenic roads. ADOT is the agency responsible to implement these laws. In Arizona, "scenic road" is a general term that is often used to identify state- and federally designated scenic roads (ADOT 2022a).

GSA Facilities Standard. GSA has a series of policy guides that address a variety of planning issues for federal facilities, including site security, site selection, project planning, and facility design standards. This includes GSA's mandatory facilities standard, *Public Building Service P100 Facility Standards* (P100 Standards), which applies to the design and construction of new federal facilities (as well as major repairs and alterations of existing buildings) (GSA 2021), the *Whole Building Design Guide* (GSA 2022a), and the LPOE Design Guide, which applies to LPOE design specifically. In addition, GSA has programs in place related to community planning to help create federal facilities that are consistent with good neighbor principles and that support positive community development and neighborhood urban design goals. Key principles of GSA's *Urban Development/Good Neighbor Program* (GSA 2020) include:

- Locate new owned and leased federal facilities in places that support public plans;
- Design new facilities to create outstanding federal workplaces and support neighborhood urban design goals;
- Renovate existing federal properties to improve their public spaces, create positive first impressions, and encourage stakeholders to improve neighborhood conditions;
- Manage federal properties to encourage public use and openness; and
- Participate in neighborhood physical and management improvement efforts around federal properties.

3.4.1.3 *Existing Conditions*

Commercial LPOE

The proposed Commercial LPOE site is owned by the City of Douglas and is located about 5 miles west of the RHC LPOE. The site consists of approximately 80.5 acres of undeveloped, vacant land with no paved access road or associated utility infrastructure (see Figure 2-2).

James Ranch Road is a dirt road that connects the site to SR-80, located approximately a mile north of the site. As shown in Figure 3.4-1, the site can be characterized as rural, desert land with clusters of desert vegetation. The surrounding areas also consist of a similar open, undeveloped landscape, although some buildings, structures, and debris exist on nearby parcels, and three residential properties are located approximately 2,500 feet (1 property) and 5,500 feet (two properties) to the north of the project area along James Ranch Road. The only major infrastructure in the area consists of a U.S. Border Patrol Station built in 2003, located approximately 1.5 miles northeast of the site.

Figure 3.4-1. Site Photos of the Proposed Commercial LPOE Site

With respect to the natural environment surrounding the City of Douglas and the proposed Commercial LPOE site, the region's semi-arid climate and mountainous vistas draw tourists and outdoor recreation enthusiasts to the region, especially during the winter season. Regional natural features include the neighboring mountains to the west (the Dragoon and Mule Mountains), to the east (the Chiricahua, Swisshelm, Pedrogosa, and Perilla Mountains), and to the southeast (the Sierra Madre Occidental in Mexico). Regional parks managed by federal or state entities near the proposed Commercial LPOE site include the Leslie Canyon National Wildlife Refuge (18 miles), San Bernardino National Wildlife Refuge (23 miles), Coronado National Memorial (35 miles), and Chiricahua National Monument (48 miles) (UA 2008).

Class I areas located within the county and protected by the Regional Haze Program include Chiricahua Wilderness and Chiricahua National Monument Wilderness Area, located 40 miles and 47 miles from the proposed Commercial LPOE site, respectively. There are no federally or state-designated scenic roads located in Cochise County (ADOT 2022).

In response to the proposed Commercial LPOE and RHC LPOE projects, Cochise County anticipates a potential increase in truck freight along US-191 and an opportunity to provide goods and services for an emerging international trading hub (Cochise County 2015). As such, the county has designated land use areas along SR-80 as a Category B Growth Area to help facilitate future development in anticipation of the LPOE projects.

In 2021, Cochise County and the City of Douglas entered into a Memorandum of Understanding (MOU) agreement that details the services and activities each entity will provide to support potential construction of a new Commercial LPOE (Cochise County and City of Douglas 2020). Under this MOU various roles and responsibilities are defined, including the analysis of infrastructure by Cochise County and updates to the city water and wastewater master plans and zone planning areas by the city.

In 2022, Cochise County amended the land use designation for the proposed Commercial LPOE site and surrounding 45 parcels in its comprehensive land map (Cochise County 2022a). The land use designations for these parcels were changed from Rural to Developing, Category B Community Growth Area (see Section 3.4.1.2 for designation descriptions). The project area and immediate parcels do not border any properties zoned for residences. The amended land use areas are shown in Figure 3.4-2. These amended areas extend east along SR-80, towards the City of Douglas. As detailed in the MOU, studies are currently underway to evaluate the improvements necessary to serve the SR-80 corridor for future development.

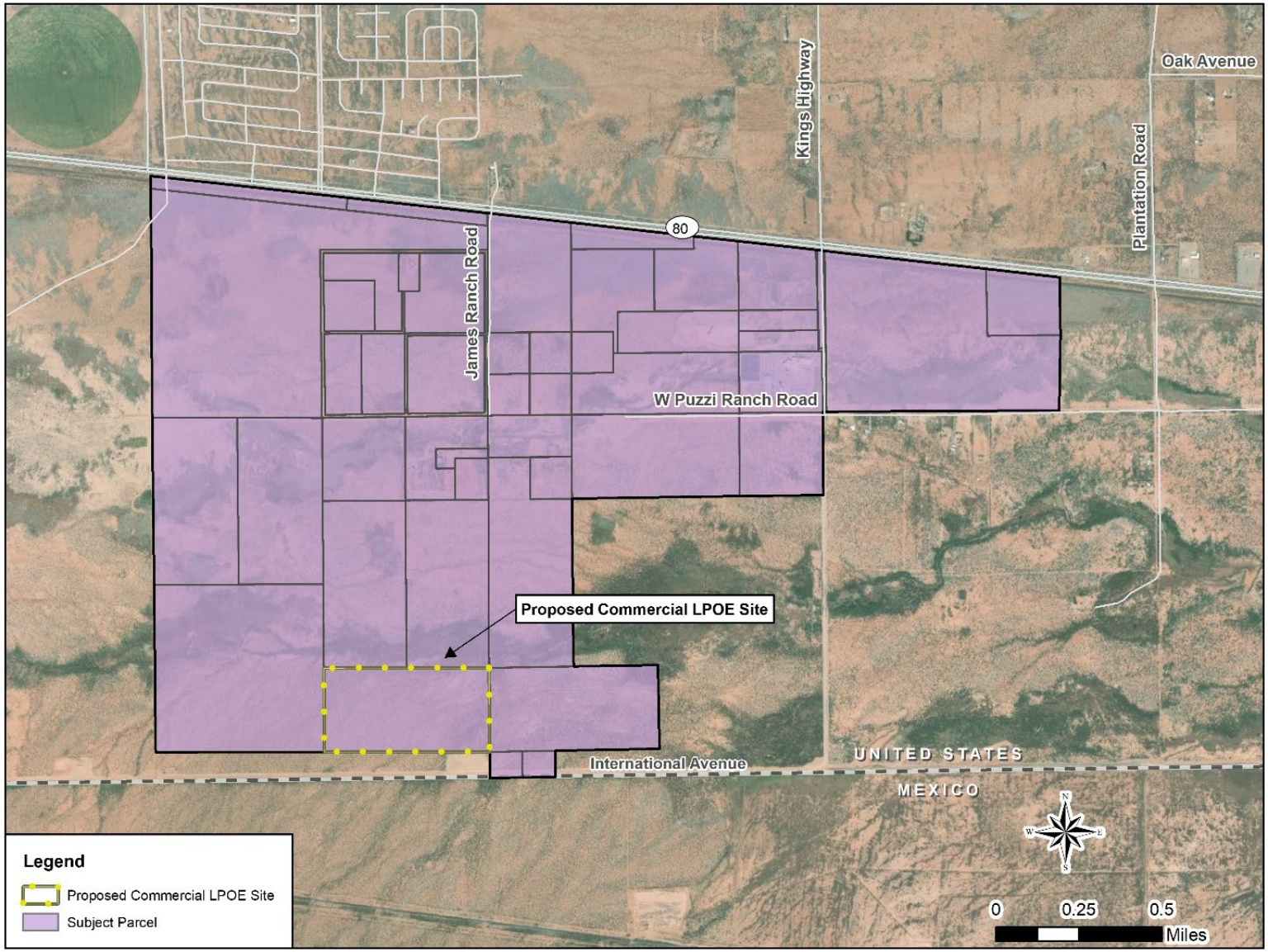


Figure 3.4-2. Land Use Amendment at the Proposed Commercial LPOE Site and Surrounding Areas

RHC LPOE

The City of Douglas is located in Cochise County in southeastern Arizona on the U.S.-Mexico border. The City of Agua Prieta is located directly south of Douglas in the northeastern region of the state of Sonora, Mexico. The border crossing is in an urban setting near the downtowns of both cities. Due to the proximity of these sister cities, industrial development and population growth in Agua Prieta influences the economy of Douglas (USEPA 2001). Many of the manufacturing plants in Agua Prieta operate under the twin-plant (maquiladoras) concept in which Douglas serves as the warehouse distribution center and Agua Prieta the manufacturing epicenter (AZ Border Roadmap 2013). Agua Prieta has manufacturing plants with multiple warehouse operations in Douglas, some of them located just east of the RHC LPOE on 1st Street. The major regional and local roadways serving these ports include US-191, Pan American Avenue, and SR-80 for the RHC LPOE; and Federal Highway 2 and Federal Highway 17 in Mexico for the Agua Prieta LPOE.

The RHC LPOE is located at 1st Street and Pan American Avenue. Pan American Avenue is a major thoroughfare for the city as it connects the existing port to SR-80 and continues north as US-191. Pan American Avenue separates downtown Douglas from shopping and commercial complexes on the east side of the city. The city has expressed pedestrian safety concerns regarding the traffic on US-191. Downtown Douglas is located approximately eight city blocks north of the RHC LPOE.

The RHC LPOE is located on approximately 5 acres with facilities owned and managed by GSA and operated by CBP. The existing port is bounded by Customs Avenue to the east, 1st Street to the north, Pan American Avenue to the west, and the U.S.-Mexico border to the south. In 2019, the City of Douglas donated a 1-acre lot for the RHC LPOE operations, and it has served as a parking area for port employees since. The RHC LPOE has been operating since 1914, while the construction of the current facility began in the 1930s, including the historic Main Building and Garage. As illustrated in Figure 1-3, the RHC LPOE consists of multiple buildings and structures and paved lots. The last facility renovations took place in 1993, which included construction of the commercial building and docks. Many of the facilities and structures are undersized, at the end of their functional lives, and no longer meet CBP's mission requirements. Figure 3.4-3 provides an aerial image of the existing port and adjacent areas (GSA 2019a).

Figure 3.4-3. RHC LPOE – Aerial Image Looking South

The visual landscape surrounding the northern and eastern borders of the RHC LPOE could be characterized as generally industrial or commercial. The property adjacent to the existing port's eastern boundary is occupied by commercial buildings, warehouses, and small storefronts, some of them vacant and/or for sale. An industrial and commercial park complex is located to the north and east of the port-owned parking lot. Though adjacent areas east of the RHC LPOE are zoned as commercial and industrial, there are a couple of residential properties located on 1st Street, less than 200 feet from the port's main facilities and directly across the port-owned parking lot. Warehouses are located along 1st Street that are accessed by trucks entering and exiting the RHC LPOE. Figures 3.4-4 and 3.4-5 illustrate the zoning map for the City of Douglas and a land ownership map for the RHC LPOE and adjacent properties, respectively.

Figure 3.4-4. Zoning Map of City of Douglas

Source: Stantec 2020

Figure 3.4-5. Land Ownership Map of RHC LPOE and Expansion Areas

Table 3.4-1 lists the parcels shown in Figure 3.4-5 and provides details on landowners and current land uses for each parcel.

Table 3.4-1. Land Use and Ownership of Areas Surrounding the RHC LPOE

Parcel Number[a, b]	Owner	Zoning	Current Land Use
40909007	Federal	N/A	RHC LPOE
40909060D	Federal	N/A	RHC LPOE
40909071B	Federal	N/A	RHC LPOE; portion of Pan American Avenue; stormwater drainage feature
40909013B	Federal	Light Industrial	Port-owned parking lot (donated by city); unpaved lot used by adjacent businesses
40909009	Federal	General Commercial	FMCSA facility; parking lot; stormwater drainage feature; Customs Avenue
40909011B	Federal	General Commercial	Paved lot; unpaved lot; stormwater drainage feature; portion of Customs Avenue
40909010	Private	General Commercial	Developed site, including shops and paved lot
40909011A	City of Douglas	General Commercial	City park (includes a washroom facility)
40909012B	City of Douglas	Light Industrial	Paved lot; portion of Customs Avenue; bus stop
40909013A	City of Douglas	Light Industrial	Paved lot; unpaved lot
40937008	Federal	N/A (not within city limits)	Unpaved road; vacant land
40909071G	City of Douglas	Light Industrial; portions not within city limits	Unpaved road/lot; park; paved sidewalk; landscaping; former site of railroad tracks; stream feature
40909070A	City of Douglas	Light Industrial; portions not within city limit	Unpaved road/lot; park; paved sidewalk; landscaping; former site of railroad tracks
40909069A	Private	N/A (not within city limits)	Vacant, unpaved roads, vegetation; former site of cattle pens
40909069B	Private	Light Industrial	Vacant, unpaved roads, vegetation; former site of cattle pens
40909067	City of Douglas	Light Industrial	Vacant, unpaved roads, vegetation; former site of APS manufactured gas plant
40909068B	City of Douglas	Light Industrial	Vacant, unpaved roads, vegetation; former site of APS manufactured gas plant

Source: GSA 2022b

APS = Arizona Public Service; BLM = Bureau of Land Management; FMCSA = Federal Motor Carrier Safety Administration; N/A = not applicable; RHC LPOE = Raul Hector Castro Land Port of Entry

[a] Refer to Figure 3.4-5 for parcel locations.

[b] Records for unmarked parcels are unavailable; these parcels are primarily roadways owned by either the City or State.

The Alternative 1 Expansion Area (see Figure 2-1) is an approximately 1.6-acre block of land located directly north of the existing port and contains a FMCSA facility, a small park (with a washroom facility) and a cluster of small commercial businesses, including a duty-free store. The Alternative 1 Expansion Area is zoned as General Commercial.

The Alternative 2 Expansion Area (see Figure 2-1) includes all of the Alternative 1 Expansion Area as described above. The Alternative 2 Expansion Area west of Pan American Avenue is mostly open, undeveloped land located directly west of the existing port. As shown in Figure 3.4-5 and described in Table 3.4-1, this area encompasses several parcels of various sizes and ownerships, and primarily includes unpaved areas, vegetation, piles of construction debris, paved sidewalks, a stream feature, and miscellaneous man-made structures, including a stormwater drainage feature. The Paseo de las Americas Linear Park is partially located within the Alternative 2 Expansion Area and provides a trail connection to the RHC LPOE that extends approximately a mile north, along Pan American Avenue. The expansion area also includes a parcel that previously was the site of a manufactured gas plant (MGP) from 1905 to 1947 and was recently remediated by APS in 2019 (see Section 3.13.1.3). One of the parcels was historically a cattle pen area but is now vacant. The areas west of Pan American Avenue within the Alternative 2 Expansion Area are mainly zoned as industrial. The Alternative 2 Expansion Area located along Customs Avenue mainly consists of developed land, including Customs Avenue, and a bus stop. These areas are zoned as industrial or commercial.

The Douglas Wastewater Treatment Plant (WWTP) and the former Phelps Dodge smelter site are located approximately 2,600 feet and 3,500 feet from the western edge of the Alternative 2 Expansion Area, respectively, and outside of the city limits.

GSA partnered with USEPA's Office of Community Revitalization to provide planning assistance to the City of Douglas and technical support specifically in anticipation for the LPOE projects. This collaboration with the city led to the development of the *Douglas Infill and Downtown Revitalization Strategy*, a planning document that outlines the city's strategies for leveraging the LPOE projects for economic development consistent with the city's vision for future growth (City of Douglas et al. 2021).

3.4.2 Environmental Consequences

3.4.2.1 *Methodology*

To evaluate the impacts to land use and visual resources, GSA reviewed the project alternatives to determine whether any activities have the potential to cause the following within the ROI:

- Changes in land use and zoning;
- Changes in land ownership;
- Changes in public use of recreational areas or special interest areas;
- Changes in the scenic view or character of the landscape; or
- Changes in the amount of open space in an undeveloped area.

A significant adverse impact to land use would occur if the Proposed Action would result in:

- A conflict with land use or a land use restriction on adjacent properties, including the expansion areas for Alternative 1 and Alternative 2;
- Conflicts with regional or local land use plans and zoning;
- A major alteration of the aesthetic character and use of the land in relation to surrounding uses;
- Degradation of the visual appeal of an area, especially an area that most observers would consider a scenic view; or
- Elimination of a large area of undeveloped open space.

3.4.2.2 *No Action Alternative*

Under the No Action Alternative, GSA would not construct a new Commercial LPOE or expand and modernize the RHC LPOE. Therefore, land acquisition would not be needed and the processing of COVs would be retained at the existing RHC LPOE. COVs would continue to drive through the city, which would inhibit land development that promotes safe pedestrian, bicycle, and automobile access in the city and would conflict with the city's long-term land use goals of revitalizing the city, especially its downtown district, thus, resulting in long-term, minor to moderate adverse impacts to land use throughout the city's urban center. Long-term, minor adverse impacts on visual resources would be expected as the existing buildings would continue to deteriorate and traffic congestion related to the RHC LPOE would continue to degrade the aesthetic quality of the city.

3.4.2.3 *Alternative 1 – Sequential Construction*

Alternative 1 would have overall short-term, minor adverse impacts on land use during construction of the proposed Commercial LPOE and expansion of the RHC LPOE. There would be short-term, moderate adverse impacts to visual resources at the Commercial LPOE; and short-term, minor adverse impacts at the RHC LPOE during construction.

Operations of Alternative 1 would result in overall permanent, moderate beneficial impacts on land use at the proposed Commercial LPOE. Operational impacts at the RHC LPOE would range from long-term, minor, and adverse to permanent, moderate and beneficial at the RHC LPOE.

Operations of Alternative 1 would result in permanent, minor to moderate adverse impacts to visual resources at the proposed Commercial LPOE. There would be permanent, minor beneficial impacts to visual resources at the RHC LPOE.

Construction

Commercial LPOE

Under Alternative 1, the City of Douglas would donate the site for the proposed Commercial LPOE to GSA for development. As stated in Section 3.4.1.3, Cochise County amended the land use designation of the project area and surrounding properties from Rural to Developing, Category B, in preparation for this project. Therefore, no land use zoning conflicts would occur, and the Commercial LPOE would be consistent with Cochise County's and City of Douglas's land use plans.

Construction at the proposed Commercial LPOE site could cause temporary disturbances to adjacent land uses and users, such as from increased fugitive dust, traffic, or noise from construction activities (see Sections 3.3, Air Quality and Greenhouse Gas Emissions; 3.8, Transportation and Traffic; and 3.9, Noise). Construction is estimated to occur over a period of approximately 48 to 54 months. The closest residential properties are located approximately 2,500 feet (1 property) and 5,500 feet (two properties) to the north of the project area along James Ranch Road. Vehicles traveling and residences and local businesses located on SR-80, between James Ranch Road and US-191, could notice additional truck and commuter traffic along this corridor. The intensity of any adverse impact would depend on the extent and duration of the access limitation or extent of detour but would be expected to be intermittent and minor. Overall, adverse impacts to land uses would be short-term and minor.

Construction at the proposed Commercial LPOE site would result in a distinct visual contrast with its natural surroundings. The three residential properties located north of the project area on James Ranch Road would likely be able to detect construction activities and detect the additional construction-related traffic. The closest state and federal parks include Leslie Canyon National Wildlife Refuge (18 miles), San Bernardino National Wildlife Refuge (23 miles), Coronado National Memorial (35 miles), and Chiricahua National Monument (48 miles). Due to the flat topography of the area near the proposed Commercial LPOE site, visitors at these parks could potentially detect construction activities, depending on their viewpoint within the parks and visibility conditions. Adverse visual impacts are expected to be short-term and moderate during the construction phase.

RHC LPOE

Under Alternative 1, existing buildings and structures at the RHC LPOE and the expansion area would be demolished and replaced with new buildings and structures. After the proposed Commercial LPOE opens and COV operations relocate to the new facility, construction at the RHC LPOE is estimated to occur over a period of approximately 36 to 42 months. Construction at the RHC LPOE could cause temporary disturbances to adjacent land uses and users, such as from increased fugitive dust, traffic, or noise from construction activities (see Sections 3.3, Air Quality and Greenhouse Gas Emissions; 3.8, Transportation and Traffic; and 3.9, Noise). Additionally, access to adjacent commercial businesses and warehouses on Pan American Avenue, Customs Avenue, and 1st Street could be impeded from construction activities and/or from traffic congestion related to the project. The intensity of any adverse impact would depend on the extent and duration of the access limitation or extent of potential traffic detours but is expected to be intermittent and minor. Overall, adverse impacts to adjacent land uses would be short-term and minor.

The properties to the north and east of the RHC LPOE and Alternative 1 Expansion Area have the features of typical commercial- and industrial-type facilities and, therefore, construction activities would not result in a substantial contrast to the surrounding viewshed. Users of the Paseo de las Americas Linear Park and residences on 1st Street could notice adverse visual impacts from the visual contrast during construction. Adverse impacts to visual resources would be short-term and minor during construction at the RHC LPOE.

Operations

Commercial LPOE

Operation of the Commercial LPOE would not result in any land use conflict because the land use designation of the surrounding region is the same as the Commercial LPOE site (i.e., Developing, Category B) and is in line with Cochise County's and City of Douglas's long-term goal of economic growth along SR-80, extending west from the city. The city and county envision this corridor becoming an industrial and commercial hub, filled with land uses that are more appropriate and function more efficiently outside of the city's downtown district (City of Douglas et al. 2021). The Commercial LPOE would also be consistent with the City of Douglas's long-term vision of revitalizing its downtown district and making the city more pedestrian- and biker-friendly. Development of the Commercial LPOE would result in permanent, moderate beneficial impacts to land use.

Operation of the proposed Commercial LPOE would result in a distinct visual contrast with its natural surroundings. The three residential properties located approximately 2,500 feet (1 property) and 5,500 feet (two properties) to the north of the proposed site would be able to detect the new facility and would detect the new traffic resulting from the COVs and commuter traffic from the CBP workers. This would result in a permanent, moderate adverse visual impact.

Although the site is relatively isolated, recreational users of regional federal and state parks could potentially detect the new facilities, especially during nighttime hours when exterior lighting at the LPOE would be more noticeable. The closest state and federal parks include Leslie Canyon National Wildlife Refuge (18 miles), San Bernardino National Wildlife Refuge (23 miles), Coronado National Memorial (35 miles), and Chiricahua National Monument (48 miles). Adverse visual impacts are expected to be permanent and minor during operation of the Commercial LPOE. Although the design of the Commercial LPOE is in its conceptual stage, outdoor lighting design would follow the LPOE Design Guide for federal inspection facilities. Outdoor lighting would conform to lighting requirements as stipulated in Cochise County's zoning regulations and light pollution code to the extent possible to minimize visual impacts.

RHC LPOE

Under Alternative 1, the replacement of the current buildings and structures would continue as the current land use at the RHC LPOE. The land use conversion of the 1.6-acre expansion area would represent a permanent loss of a city park and temporary absence of a duty-free shop (see Figure 2-1). This would result

in long-term, minor adverse land use impacts in the city, as there are other park spaces throughout the city, including Paseo de las Americas Linear Park and the 3rd Street Park (including a public washroom facility), which are both located within 0.1 mile of the RHC LPOE. Further, it is anticipated that the duty-free shop would relocate elsewhere in the city. Development of the Alternative 1 Expansion Area would be consistent with the City of Douglas's long-term vision of revitalizing its downtown district.

The relocation of trucks to the proposed Commercial LPOE would potentially result in permanent, moderate beneficial impacts to land use as the removal of COVs traveling through the middle of the city would support the city's revitalization plans to make Douglas more pedestrian- and bike-friendly, and facilitate the city's objective to increase economic development and foot-traffic downtown.

Warehouses are located near the existing port that are sometimes accessed by COVs going to/from the port. It is possible that in the long term, owners of these warehouses may consider relocating as processing of COVs would move to the proposed Commercial LPOE. This could result in a long term, moderate, indirect beneficial impact on the local land use as potential opportunities for a new warehouse district or repurposed facilities would be consistent with the City of Douglas's long-term vision of revitalizing its city.

At the RHC LPOE, new building and structure heights would not vary greatly from the current buildings, and the newly constructed buildings would be aligned with the general style of buildings in the immediate vicinity of the LPOE. Older buildings and structures would be replaced with new buildings and structures and, therefore, permanent, minor beneficial impacts on visual resources would be expected.

Alternatives 1a – 1d: Reuse, Relocate, or Demolish Historic Structures

Alternatives 1a through 1d relate to the sub-alternatives for the management of the historic Main Building and Garage, as described in Section 2.1.2.1. As these sub-alternatives would take place within the footprint of the RHC LPOE, the potential impacts to land use as already identified under Alternative 1 would not change. Negligible to moderate beneficial impacts to the viewshed may occur under these sub-alternatives, depending on the extent of any potential remodeling and renovation work for these historic structures. Warehouses could be re-purposed to align with the city's revitalization plans

3.4.2.4 *Alternative 2 – Concurrent Construction*

Alternative 2 would have overall short-term, minor adverse impacts on land use during construction of the proposed Commercial LPOE and expansion of the RHC LPOE. There would be short-term, moderate adverse impacts to visual resources at the Commercial LPOE; and short-term, minor adverse impacts to visual resources at the RHC LPOE during construction.

Operations of Alternative 2 would result in overall permanent, moderate beneficial impacts on land use at the proposed Commercial LPOE. Operational impacts at the RHC LPOE would range from long-term, minor, and adverse to permanent, moderate, and beneficial at the RHC LPOE.

Operations of Alternative 2 would result in permanent, minor to moderate adverse impacts to visual resources at the proposed Commercial LPOE. There would be permanent, minor beneficial impacts to visual resources at the RHC LPOE during operations.

Construction

Under Alternative 2, impacts to land use and visual resources during construction of the Commercial LPOE would be the same as those discussed under Alternative 1.

Under Alternative 2, construction at the RHC LPOE would result in similar land use and visual impacts to those described under Alternative 1. However, the Alternative 2 Expansion Area encompasses a larger land area than the Alternative 1 Expansion Area and primarily includes undeveloped, open land area. The Alternative 2 Expansion Area represents the maximum build-out that GSA would consider. GSA may, instead, acquire temporary easements from the city for construction laydown areas. Following construction, land may be returned to the city or previous owner. Final plans for land acquisition would be determined during the design process for the RHC LPOE.

The Alternative 2 Expansion Area includes a local bus stop on Customs Avenue, which may be temporarily relocated if construction were to occur at this location. In addition to land uses adjacent to the Alternative 1 Expansion Area, the Alternative 2 Expansion Area's neighboring properties also include the shopping areas located on 3rd Street and Chiricahua Road. Access to these areas could be impeded from construction activities and/or from traffic congestion related to the project. The intensity of any adverse impact would depend on the extent and duration of the access limitation or extent of potential traffic detours but is expected to be intermittent and minor. Overall, the extent of impacts to land use and visual resources would be greater under Alternative 2 but is expected to be short-term, minor and adverse during construction.

Operations

Under Alternative 2, impacts to land use and visual resources during operation of the Commercial LPOE would be the same as those discussed under Alternative 1.

Under Alternative 2, impacts to land use and visual resources during operations of the modernized RHC LPOE would be similar to those described under Alternative 1; however, because the Alternative 2 Expansion Area is greater than under Alternative 1, the extent of these impacts would be greater. The Alternative 2 Expansion Area to the west of Pan American Avenue would extend west and north to properties along 3rd Street and Chiricahua Road but would be consistent with the commercial and industrial land uses in this area.

In addition to the loss of the city park, a public washroom facility, and duty-free shop (also discussed in the Alternative 1 Expansion Area), there could potentially be the loss of trails of Paseo de las Americas Linear Park. Loss of park area in this western portion would be partially offset by development of the Alternative 2 Expansion Area to a beneficial use, as the area is largely underutilized and has been the site of illicit dumping of construction debris. This would result in net long-term, minor adverse land use impacts.

The relocation of trucks to the proposed Commercial LPOE would also occur under this alternative and permanent, moderate beneficial impacts from the removal of COVs would be expected as this would be consistent with the city's revitalization plans for the downtown district and to support the plan for a pedestrian-friendly community, similar as discussed under Alternative 1.

Alternatives 2a – 2d: Reuse, Relocate, or Demolish Historic Structures

Alternatives 2a through 2d relate to the sub-alternatives for the management of the historic Main Building and Garage, as described in Section 2.2.1. As these sub-alternatives would take place within the footprint of the RHC LPOE, the potential impacts to land use as already identified under Alternative 2 would not change. Negligible to moderate beneficial impacts to the viewshed may occur under these sub-alternatives, depending on the extent of any potential remodeling and renovation work for these historic structures.

3.4.2.5 *Impact Reduction Measures*

Measures to reduce construction impacts on land use-related concerns, such as fugitive dust, traffic, or noise from construction activities are discussed in Sections 3.3, Air Quality and Greenhouse Gas Emissions; 3.8, Transportation and Traffic; and 3.9, Noise, respectively.

Although local governments cannot regulate or permit activities of the federal government on federally owned land, GSA would consider local zoning laws for construction and operation of the new and modernized LPOEs and all design requirements of state and local governments to the extent practicable (GSA 2021). This would include both the incorporation of exterior design elements to reflect the unique character of the area and the emphasis on pedestrian circulation and amenities, such as landscaped plazas and walkways, to the extent practicable and consistent with GSA design standards.

GSA would implement the following measures to minimize impacts to visual resources:

- Consult with local officials, consider local requirements for new building construction, and comply with state and local building codes to the maximum extent practicable.

- Integrate its programs of design/architecture and construction excellence into the new facility in order to optimize building performance and aesthetics, including adherence to P100 Standard which establishes design criteria and standards for new government buildings.
- Design exterior lighting to meet physical security requirements but controlled to minimize light trespass (e.g., direct light downward and minimize glare). Fixtures for the security fence would be a similar style. Exterior lighting would be consistent with the local ordinance code for outdoor lighting to the extent possible.
- Incorporate landscaping and screening (trees and vegetation) into the exterior design to provide aesthetic benefits to the surrounding community, consistent with GSA's *Urban Development/Good Neighbor Program*.

3.5 GEOLOGY AND SOILS

This section describes the baseline conditions for geological resources in the project area and potential geological impacts that could result from implementing the Proposed Action, including the alternatives as discussed in Chapter 2. Geological resources consist of the Earth's surface and subsurface materials, and are typically described in terms of geology, topography, soils, and geologic hazards. Geology is the study of the Earth's physical structure and composition, as well as the configuration of the surface and subsurface features. Topography describes the general shape and arrangement of the natural and artificial physical features of a land surface. Soils are the unconsolidated material overlying bedrock, and are typically described in terms of type, slope, and physical characteristics such as permeability, strength, and erosion potential. Geologic hazards are natural geologic events that can endanger human lives and threaten property such as seismicity. The conditions described in the affected environment focus on geology, topography, and soils. Seismicity is not addressed in this section as the project area is not considered as high risk for seismic activity.

3.5.1 Affected Environment

3.5.1.1 *Region of Influence*

The ROI for geology and soils focuses on the RHC LPOE, the proposed Commercial LPOE site, and adjacent areas surrounding both sites, including the expansion areas for Alternatives 1 and 2.

3.5.1.2 *Regulatory Setting and Requirements*

Operators of construction sites disturbing one or more acres of land are required to obtain Arizona Pollutant Discharge Elimination System (AZPDES) permit coverage for stormwater discharges under a stormwater Construction General Permit (CGP). CGPs authorize stormwater discharges to protected surfaces of water associated with construction activities as defined in Appendix A of 40 CFR 122.26(b)(15)(ii). As of December 2005, the Arizona Department of Environmental Quality (ADEQ) is the authorized entity for administering the AZPDES program in Arizona. Under the CGP operators must implement a range of pollution prevention measures, erosion and sediments controls, and site stabilization controls to limit or prevent discharges of pollutants, including those from dry weather discharges as well as wet weather as described in 40 CFR 450.21 (ADEQ 2020).

3.5.1.3 *Existing Conditions*

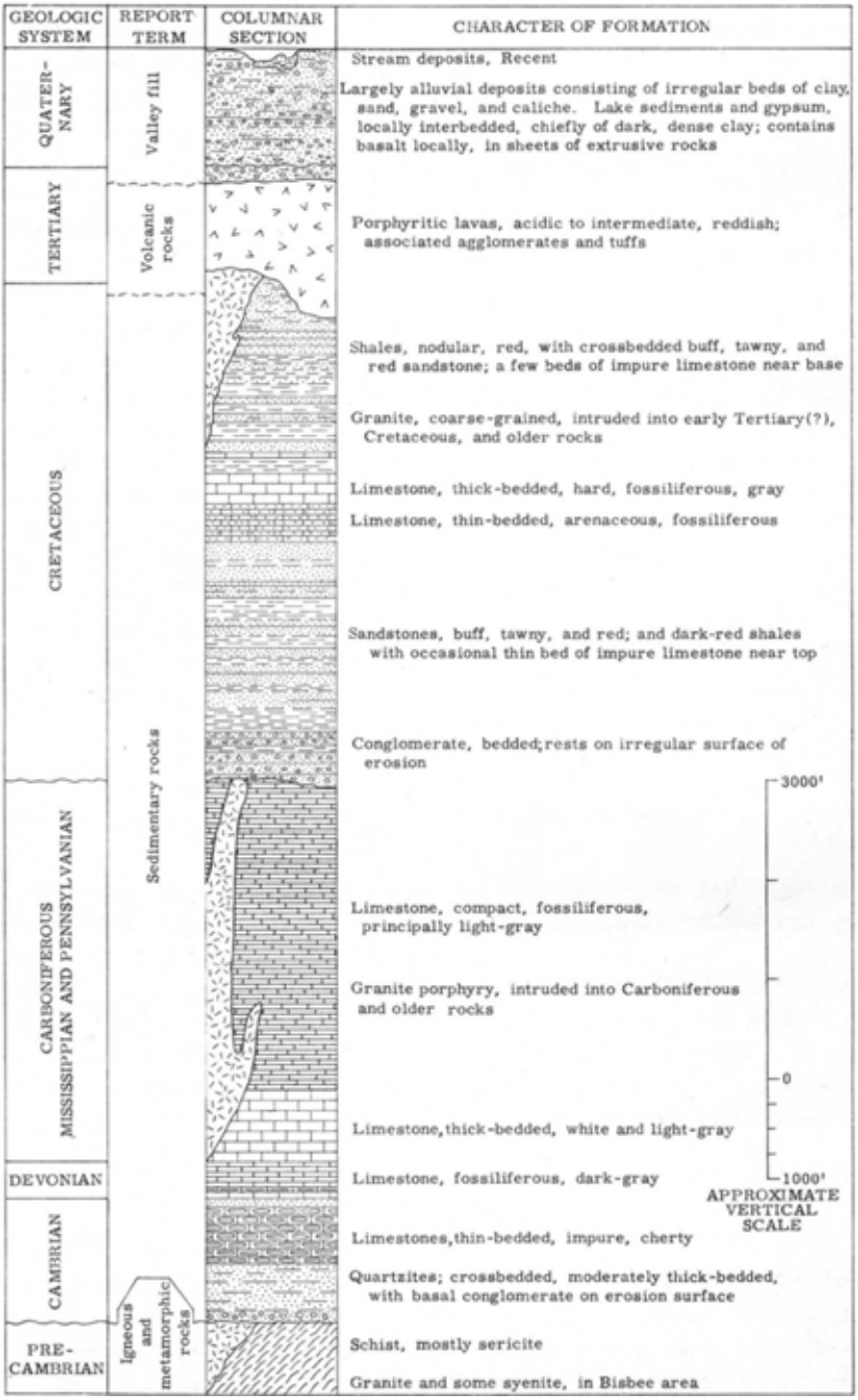
Commercial LPOE

The proposed Commercial LPOE is located approximately 5 miles to the west of the existing LPOE along the U.S.-Mexico border. The site consists of an 80.5-acre tract of completely undisturbed and undeveloped native desert covered with native grass and plants.

Geology and Topography

The geology of the region consists of isolated and dissected fault-block mountains separated by a debris-filled dessert valleys known as the Douglas Basin, a part of a large northwest-trending Sulphur Spring Valley. The valley slopes are gentle and concave upward from the axis to defined mountain fronts on the east and west, where mature sedimentary mountains rise abruptly, uplifted from long alluvial slopes to peaks 3,000 to 4,000 feet above the valley floor along northwest-trending fault zones. Bedrock in the mountain areas confines drainage on the east and west, and an arc of low hills to the north separates the Douglas Basin from the Willcox basin. The ROI lies at the central part of the valley in its southern most extent of the U.S (Coates and Cushman 1955). The proposed Commercial LPOE site ranges in elevation from approximately 4,040 to 4,060 above mean sea level. Topography generally slopes downward from west to east. The entirety of the site has been mostly undisturbed and is on relatively flat terrain. The local groundwater and hydrogeologic gradient primarily flow to the east (Terracon 2019). Physiographic

features of the valley have resulted through erosion of the mountain blocks and deposition of more than 2,800 feet of unconsolidated rock debris (Coates and Cushman 1955). The sequence of rock units in the Douglas Basin is shown in the geologic column depicted in Figure 3.5-1.



Source: Coates and Cushman 1955

Figure 3.5-1. Douglas Basin Geologic Column

Soils

Soil is a collective term for the inorganic and organic substrate covering bedrock in which vegetation grows and a multitude of organisms reside. Soils are surveyed nationwide by county. Soil resources provide a foundation for both plant and animal communities by establishing a substrate for plant growth and vegetative cover for animal habitat and feeding.

Soil associations at any given site are determined by five factors: 1) physical and mineralogical composition of the parent material; 2) climate under which the soil material accumulated and has existed since accumulation; 3) plant and animal life atop and within the soil; 4) topography, or the "lay of the land"; and 5) length of time that these forces of soil formation have acted on the parent material (NRCS 2019).

Based on Natural Resource Conservation Service soil survey data, there are four soil associations historically associated with the proposed Commercial LPOE site (NRCS 2021a). The majority of the site, about 77 percent, is mapped as Libby-Gulch complex, 0 to 10 percent slopes[1]. A small section, 21 percent, of the project area is mapped as Guest-Riveroad association, 0 to 1 percent slopes. The soils mapped within the proposed Commercial LPOE site are described below and shown in Figure 3.5-2:

- **Libby, 0 to 10 percent slopes –** Well drained soils with a medium runoff class, belonging to Hydrologic Soil Group C. The parent material for Libby soils is mixed alluvium. A typical Libby soil profile consists of a top 0 to 1 inch layer of very gravelly sandy loam, followed by 1 to 13 inches of clay, 13 to 25 inches of gravelly clay, and 25 to 60 inches of very gravelly clay loam. These soils are typically found on basin floors.
- **Gulch, 0 to 10 percent slopes –** Well drained soils with a medium runoff class, belonging to Hydrologic Soil Group C. The parent material for Gulch soils is mixed calcareous alluvium. A typical Gulch soil profile consists of a 0 to 1 inch layer of gravelly fine sandy loam, followed by 1 to 3 inches of sandy loam, 3 to 10 inches of sandy clay loam, 10 to 24 inches of clay loam, 24 to 60 inches of gravelly clay loam. These soils are typically found on basin floors.
- **Guest, 0 to 1 percent slopes –** Well drained soils with a low runoff class, belonging to Hydrologic Soil Group C. The parent material for Guest is mixed alluvium. A typical Guest soil profile consists of a top 0 to 1 inch layer of clay loam, followed by 1 to 60 inches of clay separated into 3 different profile sections. These soils are typically found in floodplains.
- **Riveroad, 0 to 1 percent slopes –** Well drained soils with a low runoff class, belonging to Hydrologic Soil Group C. The parent material for Riveroad is mixed stream alluvium. A typical Riveroad soil profile consists of a top 0 to 14 inches of fine sandy loam, followed by 14 to 22 inches of silt loam, 22 to 33 inches of silty clay loam, 33 to 53 inches of silty clay, and 53 to 60 inches of sandy loam. These soils are typically found in alluvial fans or floodplains.

[1] The slope range for each soil type is expressed as a percentage of the distance between two points. A higher slope range can increase erosion potential in a particular area. A 0 to 2 percent slope gradient is considered nearly level, a 2 to 9 percent is considered nearly level to moderately sloping, and a 50 to 75 percent slope gradient is considered a very steep slope.

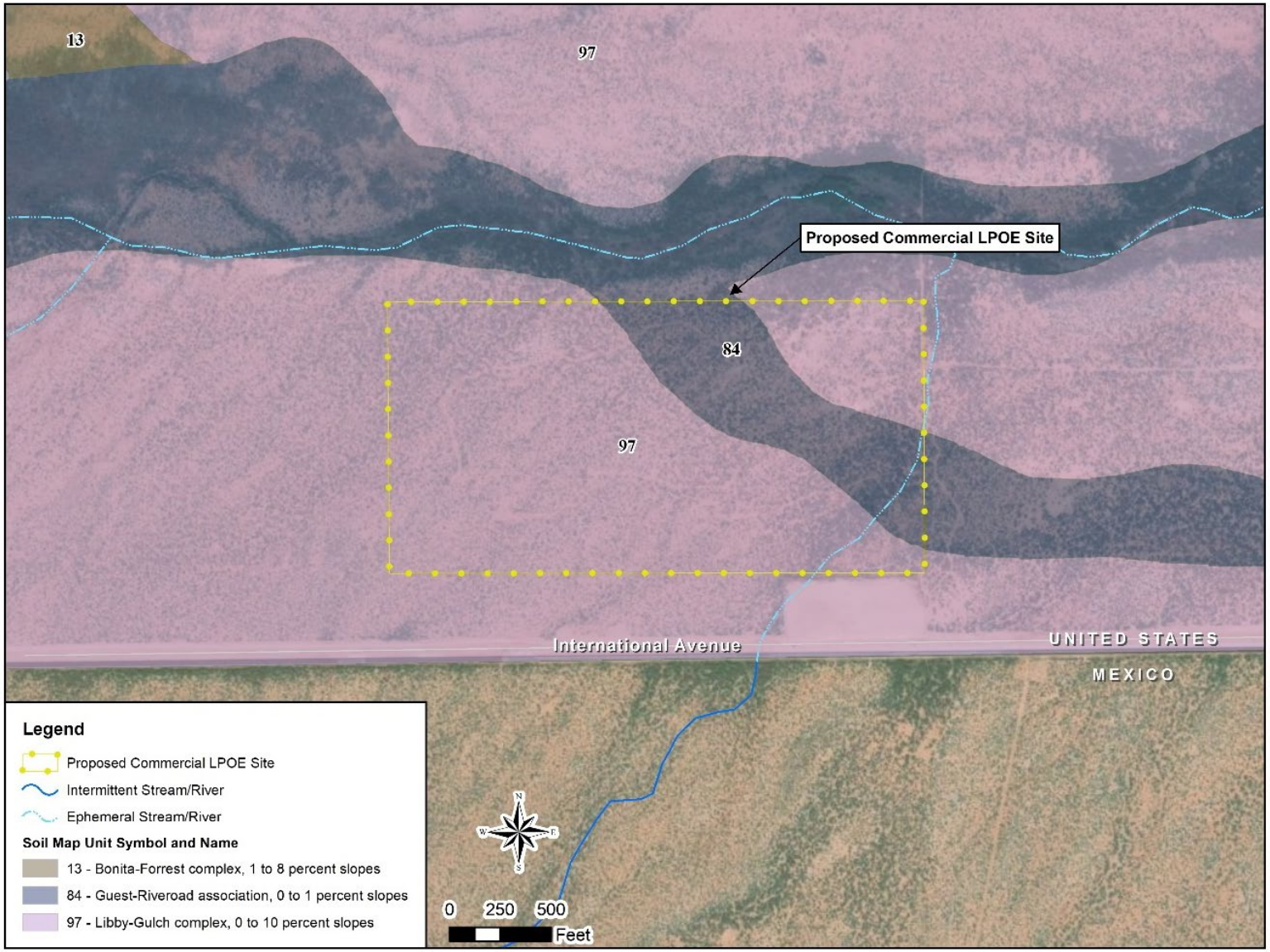


Figure 3.5-2. Soils at Proposed Commercial LPOE Site

RHC LPOE

The RHC LPOE site is a previously disturbed and developed 5-acre area containing mostly paved surfaces located at the southern border of Douglas, Arizona. The expansion areas are located directly north and west and encompass a total additional area of about 19 acres. The expansion areas consist of previously disturbed and developed land to the north and undeveloped, but previously disturbed surfaces to the west.

Geology and Topography

Due to the proximity of the proposed Commercial LPOE, the RHC LPOE and expansion areas share the same geological features and similar topography as the proposed Commercial LPOE discussed above. The project area ranges in elevation from approximately 3,950 to 4,000 above mean sea level. Topography generally slopes downward from east southeast to west northwest (EDR 2022). The majority of the site has been graded and is on relatively flat terrain. The local groundwater flow trends northwest (EAI 2006).

Soils

Based on Natural Resource Conservation Service soil survey data, there are four soil associations historically associated with the RHC LPOE and expansion areas (NRCS 2021b and 2021c). The southern 68 percent of the site is mapped as Libby-Gulch complex, 0 to 10 percent slopes, and the northern 32 percent appears as Riveroad and Ubik soils, 0 to 5 percent slopes. The soils mapped within the RHC LPOE and expansion areas are described below and shown in Figure 3.5-3:

- **Libby, 0 to 10 percent slopes –** Well drained soils with a medium runoff class, belonging to Hydrologic Soil Group C. The parent material for Libby soils is mixed alluvium. A typical Libby soil profile consists of a top 0 to 1 inch layer of very gravelly sandy loam, followed by 1 to 13 inches of clay, 13 to 25 inches of gravelly clay, and 25 to 60 inches of very gravelly clay loam. These soils are typically found on basin floors.
- **Gulch, 0 to 10 percent slopes –** Well drained soils with a medium runoff class, belonging to Hydrologic Soil Group C. The parent material for Gulch soils is mixed calcareous alluvium. A typical Gulch soil profile consists of a 0 to 1 inch layer of gravelly fine sandy loam, followed by 1 to 3 inches of sandy loam, 3 to 10 inches of sandy clay loam, 10 to 24 inches of clay loam, 24 to 60 inches of gravelly clay loam. These soils are typically found on basin floors.
- **Riveroad, 0 to 5 percent slopes –** Well drained soils with a low runoff class, belonging to Hydrologic Soil Group C. The parent material of Riveroad soils is mixed stream alluvium. A typical Riveroad soil profile consists of a top layer of 0 to 1 inches of silt loam, followed by 1 to 21 inches of more silt loam, and 21 to 60 inches of silty clay loam. These soils are typically found in floodplains and alluvial fans.
- **Ubik, 0 to 5 percent slopes –** Well drained soils with a low runoff class, belonging to Hydrologic Soil Group A. The parent material of Ubik soils is mixed alluvium. A typical Ubik soil profile consists of a top layer of 0 to 5 inches of loam, followed by 5 to 16 inches of silt loam, and 16 to 60 inches of fine sandy loam. These soils are typically found in floodplains and alluvial fans.

As shown in Figure 2-1, the majority of the site consists of developed areas and has been previously disturbed from past development. Of the 24-acre site, approximately 10 acres are developed or paved (i.e., buildings, roads, or parking areas) and approximately 2 acres are landscaped. Approximately 12 acres on the western portions of the site consists of undeveloped open land.

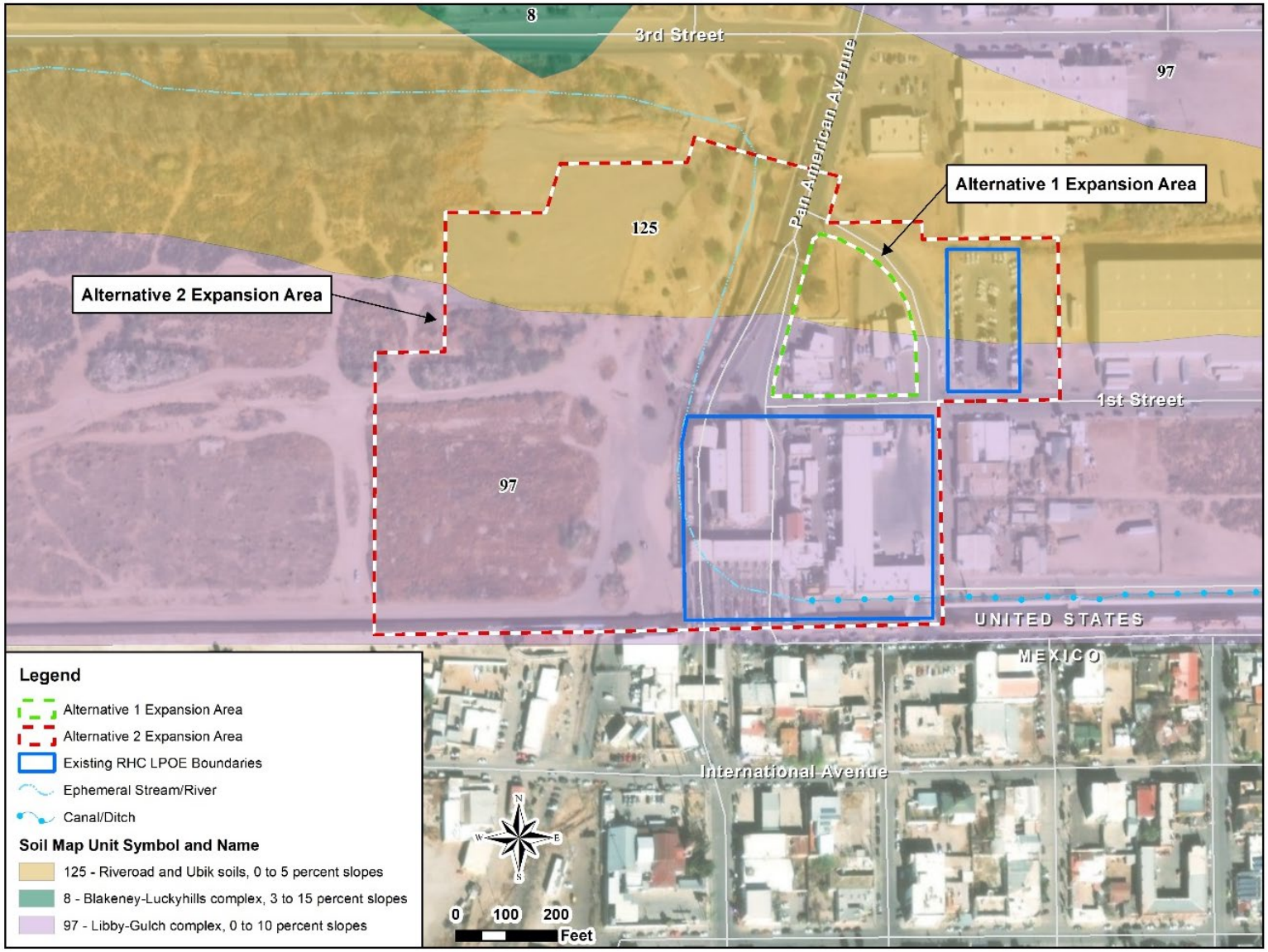


Figure 3.5-3. Soils at RHC LPOE and Expansion Areas

3.5.2 Environmental Consequences

3.5.2.1 *Methodology*

To evaluate the impacts on geological and soil resources, GSA reviewed the project alternatives to determine whether any activities have the potential to cause the following within the ROI:

- Modify or otherwise affect geologic features
- Alter the topography or grade of terrain
- Disturb or displace soils

A significant adverse impact to geological resources would occur if the Proposed Action would result in:

- altered geological structures that control groundwater quality;
- exposure of people or structures to potential substantial adverse effects from a geologic hazard (i.e., on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse);
- soil erosion that produces substantial gullying, extensive damage to vegetation, or a sustained increase in sedimentation in streams;
- substantial loss of soil, and/or a substantial decrease in soil stability and permeability; or
- substantial disruption, displacement, compaction, or covering of soils.

Except when installing impermeable surfaces, generally adverse impacts on geological resources can be avoided or minimized if proper construction techniques and erosion-control measures are incorporated into project development.

3.5.2.2 *No Action Alternative*

Under the No Action Alternative, GSA would not construct a new Commercial LPOE or expand and modernize the RHC LPOE. Therefore, there would be no land surface or subsurface disturbance associated with construction activities of new facility structures. Ongoing maintenance to the RHC LPOE would occur, which would generate negligible amounts of land disturbance and soil erosion from ongoing maintenance activities. No impacts to geology or topography would occur.

3.5.2.3 *Alternative 1 – Sequential Construction*

Alternative 1 would have short-term, minor, adverse impacts on geology and negligible impacts on topography during construction of the proposed Commercial LPOE and expansion of RHC LPOE. There would be permanent, moderate adverse impacts to soils at the proposed Commercial LPOE and permanent, minor adverse impacts to soils at the RHC LPOE from construction.

Operations of Alternative 1 would result in long-term, minor, adverse, and indirect impacts to soils at the proposed Commercial LPOE. There would be long-term, negligible, adverse, and indirect impacts to soils at the RHC LPOE during operations.

Construction

Commercial LPOE

Geology

Alternative 1 would have short-term, minor adverse impacts on geology during construction within the 80.5-acre parcel to be retained. Construction of a new commercial LPOE facility would require excavation; however, the depth of excavation is currently unknown and would depend on the results of the geotechnical investigation and engineering report to be prepared for the development in accordance with P100 Standards

and current Arizona Building Code. This could involve some disturbance or modification of the surficial geology, but impacts are anticipated to be within a depth comparable to the past construction of the existing RHC LPOE facilities. See Section 3.6, Water Resources for a discussion on groundwater.

Topography

Alternative 1 would have negligible impacts on topography. Within the 80.5-acre parcel to be retained, existing vegetation would be removed, and the site would be graded as necessary. As this portion of the site is relatively flat, the grading of soils would be minimal, and topography would not change substantially from current conditions.

Soils

Alternative 1 would have permanent, moderate adverse impacts on soils. A total 80.5 acres of previously undisturbed soils would be impacted during construction of the Commercial LPOE. The use of heavy equipment for site preparation and construction of buildings, roads/walkways, parking areas and other infrastructure under Alternative 1 would require removal of vegetation, grading, excavation, and filling. If any natural soil horizons exist, they would likely be lost during construction. Heavy equipment may compact or loosen and destroy the structure and function of organic and mineral soils over the long term, reducing soil moisture and most likely resulting in increased runoff and erosion. Soil erosion from use of heavy equipment could also occur as a result of ground disturbance, leading to detachment of soils and transport of freshly disturbed surfaces in wind and stormwater runoff. Soil productivity (i.e., the capacity of the soil to produce vegetative biomass), would be permanently impacted as the surface soils would be replaced with mostly paved development.

The project would be subject to the Arizona Stormwater CGP, which specifies measures for stabilizing soils at the proposed Commercial LPOE site and minimizing soil loss during construction (see Section 3.6, Water Resources). Compliance with the terms of this permit would limit impacts from soil erosion during construction.

RHC LPOE

Geology

Alternative 1 would have short-term, minor adverse impacts on geology during construction within the 6.4-acre parcel to be developed. Impacts would be similar to as described for the Commercial LPOE. Depth of excavation is currently unknown and would depend on the results of the geotechnical investigation and engineering report to be prepared for the project.

Topography

Alternative 1 would have negligible impacts on topography. Impacts would be similar to as described for the Commercial LPOE as this portion of the site is relatively flat, the grading of soils would be minimal, and topography would not change substantially from current conditions.

Soils

Alternative 1 would have permanent, minor adverse impacts on soils. A total 7.6 acres of previously disturbed soils would be impacted during construction and renovation of the new RHC LPOE facilities. Of the 7.6 acres, 7.2 acres are existing paved areas (i.e., roadways), and 0.4 acres are existing landscaped areas (city park). Impacts would be similar to as described for the Commercial LPOE but would be less adverse, as a smaller area would be impacted, and the project area is previously disturbed.

Construction at the RHC LPOE would also be subject to the Arizona Stormwater CGP, similar to as described for the Commercial LPOE.

Operations

Commercial LPOE

No impacts to geology or topography are anticipated during operations of Alternative 1. The increase in impervious surfaces (80.5 acres) could contribute to increased potential for water runoff and soil erosion, leading to long-term, minor, adverse, and indirect impacts to soils. Selection of stormwater management facilities is subject to final design but based on other similar LPOE projects may include street drainage connected to storm drains which lead to a bioretention basin system where stormwater would percolate into the ground. Specific design requirements would meet approval under the Arizona Stormwater CGP Stormwater Management Program (Cochise County 2018a).

RHC LPOE

No impacts to geology or topography would occur during operations of Alternative 1. The majority of the site is already disturbed or impervious, and new construction would represent a negligible increase (0.4 acres) in impervious surfaces that could contribute to increased potential for water runoff and soil erosion. Selection and use of stormwater management facilities would be similar to as described for the Commercial LPOE.

Alternatives 1a – 1d: Reuse, Relocate, or Demolish Historic Structures

Alternatives 1a through 1d relate to the sub-alternatives for the management of the historic Main Building and Garage, as described in Section 2.1.2.1. As these sub-alternatives would take place within the footprint of the RHC LPOE, the potential impacts to geology, topography, and soil as already identified under Alternative 1 would not change.

3.5.2.4 *Alternative 2 – Concurrent Construction*

Alternative 2 would have short-term, minor, adverse impacts on geology and negligible impacts on topography during construction of the proposed Commercial LPOE and expansion of RHC LPOE. There would be permanent, moderate adverse impacts to soils at the proposed Commercial LPOE, and permanent, minor to moderate adverse impacts to soils at the RHC LPOE from construction.

Operations of Alternative 2 would result in long-term, minor, adverse, and indirect impacts to soils at the proposed Commercial LPOE and RHC LPOE during operations.

Construction

Under Alternative 2, concurrent construction at the RHC LPOE and the proposed Commercial LPOE site would result in similar impacts to geology and soils to those described under Alternative 1. The Alternative 2 Expansion Area at the RHC LPOE encompasses a larger land area than the Alternative 1 Expansion Area (up to 16.4 acres difference) and primarily includes undeveloped, open land area. Therefore, the extent of impacts to geology and soils would be greater under Alternative 2 at the RHC LPOE. The Alternative 2 Expansion Area represents the maximum build-out that GSA would consider. Soil resources would have a permanent, minor to moderate adverse impact depending on the extent of the construction build-out (i.e., up to 16.4 acres). GSA may, instead, acquire temporary easements from the city for construction laydown areas, which would result in similar short-term, minor adverse impacts to disturbed surface soils, as described in Alternative 1, due to staging and use of heavy construction equipment. Disturbed areas would be returned to existing conditions post construction activities. Final plans for land acquisition would be determined during the design process for the RHC LPOE.

Operations

Under Alternative 2, impacts to geology and soil resources during operations would be similar to those described under Alternative 1. However, because the Alternative 2 Expansion Area is greater than the Alternative 1 Expansion Area (up to 16.4 acres difference), the extent of these impacts would also be

greater. New construction would increase the amount of impervious surfaces that could contribute to increased potential for water runoff and soil erosion, resulting in long-term, minor, adverse, and indirect impacts to soils. Selection and use of stormwater management facilities would be similar to as described for the Commercial LPOE.

Alternatives 2a – 2d: Reuse, Relocate, or Demolish Historic Structures

Alternatives 2a through 2d relate to the sub-alternatives for the management of the historic Main Building and Garage, as described in Section 2.2.1. As these sub-alternatives would take place within the footprint of the RHC LPOE, the potential impacts to geology and soil resources as already identified under Alternative 2 would not change.

3.5.2.5 *Impact Reduction Measures*

Measures to reduce construction impacts on geology and soil-related concerns such as soil erosion, loss, and stability would be addressed in project design plans and through erosion and sediment controls as well as site stabilization controls per the Arizona Stormwater CGP requirements. Refer to Section 3.6, Water Resources for a discussion of measures that would limit impacts from soil loss as a result of erosion during construction and operations.

3.6 WATER RESOURCES

This section describes the baseline conditions for water resources in the project area and potential impacts that could result from implementing the Proposed Action, including the alternatives discussed in Chapter 2. Water resources may be grouped into five different areas that characterize the spectrum of potential impacts to this resource, including water quality, groundwater and water supply, surface water, floodplains, and wetlands.

3.6.1 Affected Environment

3.6.1.1 *Region of Influence*

The ROI for surface water, floodplains, and wetlands includes those resources that exist within the project areas for the construction and operation of the proposed Commercial LPOE or the expanded and modernized RHC LPOE, including the expansion areas for Alternatives 1 and 2. It also includes the surface waters that would receive stormwater and wastewater discharges from the construction and operation of the Proposed Action.

The ROI for groundwater resources includes any drinking water aquifer that underlies the project areas, as well as any aquifers that would be used as a source of water to support construction and operations.

3.6.1.2 *Regulatory Setting and Requirements*

Water Quality

Water quality is regulated within the context of meeting standards established for compliance with the Federal Clean Water Act (CWA). The ADEQ is the agency responsible for regulating water quality in Arizona. ADEQ implements several CWA and Arizona Surface Water Protection Program (SWPP) programs to maintain surface water quality. CWA requirements potentially relevant to this project include:

- **Integrated CWA Sections 303(d) and 305(b)** – The integrated Sections 303(d) and 305(b) reporting process of the CWA requires that states identify water quality segments that fail to meet water quality standards. Section 303(d) lists impaired waters (i.e., surface waters for which water quality standards for at least one designated use are not met). Section 305(b) is the water quality assessment portion of that process.
- **CWA Section 402** – Section 402 establishes the National Pollutant Discharge Elimination System (NPDES) program, which is administered as the AZPDES program in the state of Arizona. This program requires government-owned areas, such as the City of Douglas, to obtain a Municipal Separate Storm Sewer System (MS4) permit for stormwater discharges. MS4 permits require preparation and implementation of a stormwater management plan (SWMP), a comprehensive planning tool to reduce the discharge of pollutants to and from the MS4 to the maximum extent practical, thus protecting the quality of water in the receiving water bodies. Additionally, construction activities that disturb 1 or more acres of land and result in stormwater discharges that enter Arizona surface waters or an MS4 leading to Arizona surface waters are required to obtain a CGP (ADEQ 2022e). A Stormwater Pollution Prevention Plan (SWPPP) is required prior to submitting an NOI for a CGP permit under the AZPDES program.

Because an estimated 300,000 or more residents in Arizona draw their drinking water from private wells, ADEQ administers its Groundwater Protection Program to characterize groundwater quality in each of its 51 basins (ADEQ 2021). The groundwater basin studies under this program are valuable resources in meeting water quality standards set by the Federal Safe Drinking Water Act.

GSA would maintain compliance with stormwater runoff requirements under Section 438 of the EISA of 2007. The intent of Section 438 of the EISA is to require federal agencies to develop and redevelop applicable facilities in a manner that maintains or restores stormwater runoff to the maximum extent

technically feasible. Development or redevelopment projects involving federal facilities with a footprint that exceeds 5,000 square feet are required to use site planning, design, construction, and maintenance strategies for the property to maintain or restore, to the maximum extent technically feasible, the predevelopment hydrology of the property with regard to the temperature, rate, volume, and duration of flow.

GSA would also manage stormwater runoff in compliance with the Cochise County Stormwater Ordinance (Ordinance No. 049-18). This ordinance regulates non-stormwater discharges to the storm drainage system and includes requirements for a SWPPP and applicable stormwater treatment measures or BMPs for every construction project, with few exceptions. Inspections by the county or state may occur to determine compliance with the SWPPP. This ordinance requires that no construction-related disturbance may occur "until the Stormwater letter of acceptance along with the drainage analysis, the construction plans, the Stormwater Site Plan (SWPPP and NOI) and Operations and Maintenance plans have been reviewed and accepted by the Department [ADEQ]" (Cochise County 2018b).

Groundwater and Water Supply

Groundwater usage and water supply in Arizona are regulated by the Arizona Department of Water Resources (ADWR). In 1980, the Groundwater Management Act was enacted in Arizona to manage areas where groundwater pumping was heaviest, which were designated as Active Management Areas (AMAs). The Groundwater Management Act generally does not regulate groundwater use in areas outside of AMAs but instead requires only that groundwater be put to reasonable and beneficial use. However, due to concerns over dropping groundwater levels, the Groundwater Management Act designated three areas outside of the AMAs as Irrigation Non-Expansion Areas (INA), where the irrigation of new lands is prohibited (ADWR 2022c and 2022d).

In all areas of the state, the Groundwater Management Act requires wells to be registered with ADWR and new wells to be constructed in compliance with ADWR's well construction standards.

Due to the increasing strain on water supply in the area, Cochise County outlines guidance and policies in the latest comprehensive plan for water conservation. These BMPs emphasize water use efficiency, reuse, and conservation wherever possible and include, for example, the encouragement of the use of drought tolerant landscaping, low-flow fixtures, and other conservation measures (Cochise County 2015).

Floodplains

Floodplains are areas of land adjacent to rivers and streams that convey overflows during flood events. The Federal Emergency Management Agency (FEMA) defines a floodplain as being any land area susceptible to being inundated by water from any source (FEMA 2022a). FEMA prepares Flood Insurance Rate Maps that delineate flood hazard areas, such as floodplains, for communities. These maps are used to administer floodplain regulations and to reduce flood damage. Typically, these maps indicate the locations of 100-year floodplains, which are areas with a 1 percent chance of flooding occurring in any single year; and 500-year floodplain, which are areas are defined as having a 0.2 percent annual chance flood hazard or areas of 1 percent annual chance flood with average depth less than 1 foot or with drainage areas of less than 1 square mile.

Federal activities within floodplains must comply with EO 11988, *Floodplain Management*. Per EO 11988, federal agencies are required to avoid long- and short-term adverse effects associated with the occupancy and modification of floodplains to the extent possible wherever there is a practicable alternative, thereby minimizing flood risk and risks to human safety. An eight-step decision-making process for floodplain management is outlined in 44 CFR 9.6.

Wetlands and Waters of the U.S.

EO 11990, *Protection of Wetlands*, requires that federal agencies take measures to not only minimize the destruction, loss, or degradation of wetlands, but also to enhance wetland habitats. Wetlands are regulated by ADEQ and water quality standards are in place to protect designated uses of wetlands.

The U.S. Army Corps of Engineers (USACE) regulates and permits the discharge of fill material into waters of the U.S. (WOTUS) in Arizona under Section 404 of the CWA. WOTUS are defined in 33 CFR 328.4(c) as those that compose the area of a watercourse that extends up to the ordinary high-water mark in the absence of wetlands. WOTUS include recognized surface waters, but also wetlands, ephemeral streams, and other types of water that have a significant nexus to traditionally navigable waters.

3.6.1.3 *Existing Conditions*

Due to the interconnected nature of water resources within the ROI, this section discusses the general affected environment for both the RHC LPOE and the proposed Commercial LPOE. Where there are differences between the sites requiring distinction between the two locations, these are described in the text as appropriate.

Geographic and Hydrologic Setting

The project area is located in the Douglas Groundwater Basin (also referred to as the Douglas-Agua Prieta Groundwater Basin), which encompasses approximately 950 square miles in the southeastern corner of Cochise County and extends from the U.S.-Mexico border northward to the southern end of the Dragoon Mountains (USEPA 2014). Due to the arid climate in the region, most of the drainage channels are ephemeral or intermittent waterways. Ephemeral waterways are defined as rivers and streams that flow only as a response to storm events. Intermittent waterways flow only during a portion of the year. Due to the flash flood tendency of the washes, sediment loads are high when water is present. Natural and human-induced factors determine the quality of these resources (INS 2002). Figure 3.6-1 illustrates the primary hydrologic features surrounding the project areas.

Average runoff varies within the basin from 0.2 inch per year in the middle portion of the basin to 2 inches per year at the northern boundary of the basin (USEPA 2014). The region receives approximately 10 to 20 inches of rain per year with most of the rainfall occurring during the monsoon season between June and August (NOAA 2022).

Since the Douglas Groundwater Basin extends into Mexico, managing both groundwater and surface water is of international concern. The U.S. International Boundary and Water Commission is the federal agency responsible for applying boundary and water treaties concerning water issues between the U.S. and Mexico (IBWC 2022).

Groundwater and Water Supply

Groundwater in the Douglas Groundwater Basin generally flows toward the center of the valley then south towards Mexico (ADEQ 2000). Groundwater from this basin is primarily used for irrigation followed by domestic use. The aquifer in the Douglas Basin generally comprises alluvial basin-fill sediments consisting of semi-consolidated to poorly consolidated sand, silt, clay, gravel and conglomerate. The saturated thickness of the aquifer in the project area is approximately 1,600 to 2,000 feet (ADWR 2016). Groundwater levels have generally been declining in the Douglas Groundwater Basin by an average of 1.3 feet per year; groundwater levels in the City of Douglas declined between about 15 and 30 feet over the years 2005 to 2015 (ADWR 2016).

Groundwater depth-to-water levels within the ROI range from 10 feet below ground surface near the Whitewater Draw to 360 feet below ground surface below the City of Douglas. Depth to bedrock estimates in the project area ranges from approximately 1,600 to 2,000 feet, while existing well depths range from 24 to 1,100 feet (ADWR 2016).

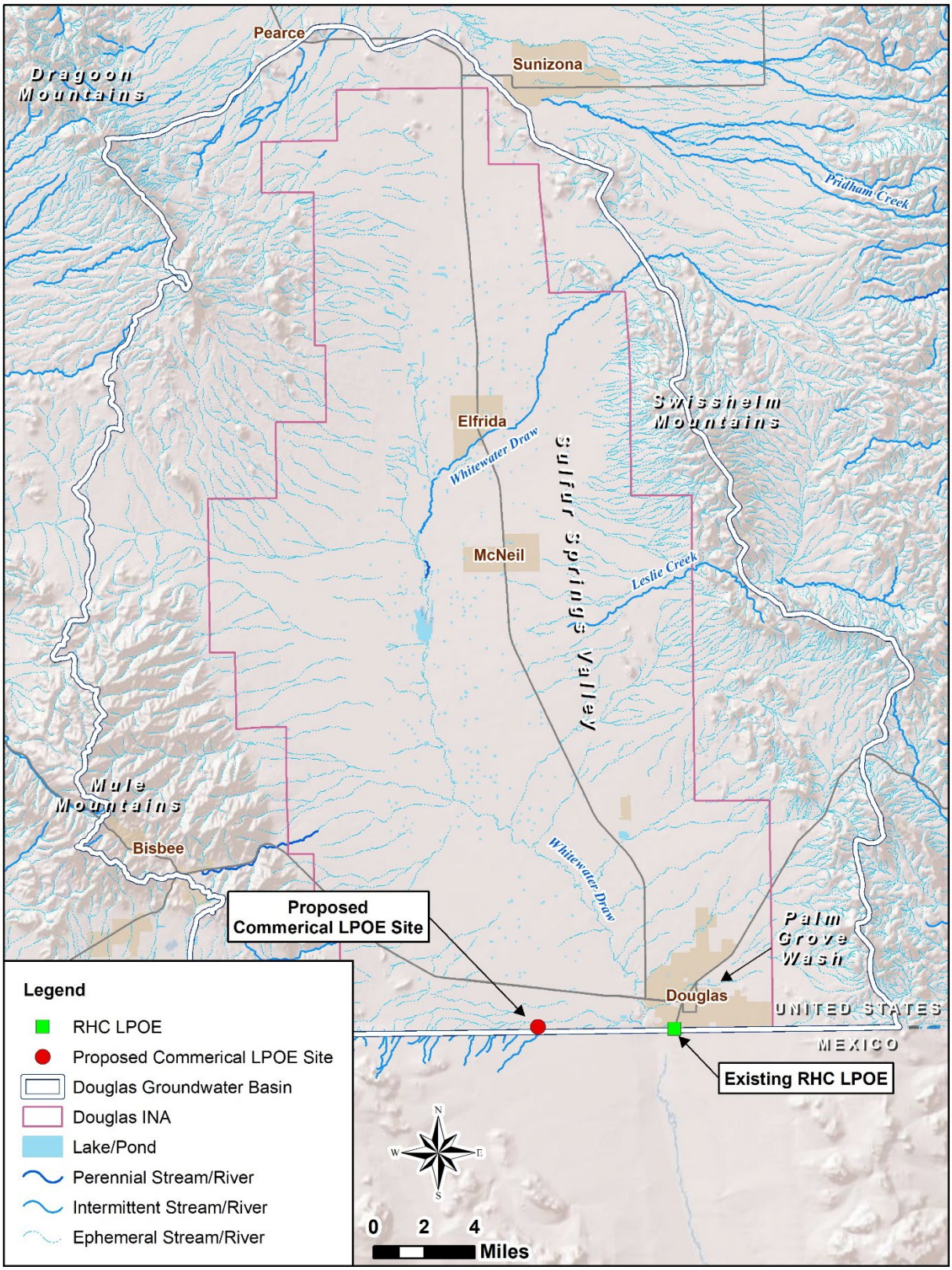


Figure 3.6-1. Hydrologic Features within the ROI

A Preliminary Geotechnical Engineering investigation prepared for the Commercial LPOE site did not indicate the presence of groundwater in any test borings conducted at the time of field exploration nor when checked immediately upon completion of drilling (GSA 2019a). These observations represent groundwater conditions at the time of the field exploration and may not be indicative of other times, or at other locations. Groundwater conditions can change with varying seasonal and weather conditions, among other factors. Based on information obtained from the Arizona Department of Water Resources (ADWR 2022b), the groundwater well most proximate to the proposed Commercial LPOE is located approximately 1,934 feet to the northwest and in 1992 had a depth to groundwater measured as 122.3 feet. In 2021, a well located 4,816 feet north of the Commercial LPOE site had a depth to groundwater of 107.9 feet (ADWR 2022b).

The groundwater well identified as being closest to the RHC LPOE project area is located approximately 1,827 feet northeast of the Alternative 2 Expansion Area (ADWR 2022b). The depth to groundwater measured at this well was last measure in 1992 to be approximately 45.6 feet below the ground. For a more recent measurement, the second most proximate groundwater well to RHC LPOE project area is located approximately 3,353 feet northwest and had an observed depth to groundwater of 248 feet in 2021.

Generally, groundwater use in the Douglas Basin has been increasing steadily. Estimated groundwater consumption in the Douglas Basin in 1991 was 36,500 acre-feet, and in 2014 increased to 45,500 acre-feet (ADWR 2016). The 2021 Douglas Consumer Confidence Report states that the City of Douglas's total domestic water use ranges from 2,800 to 4,800 acre-feet per year. Based on recent water use reports for the RHC LPOE, the existing port's current annual water demand is approximately 2.8 acre-feet (900,000 gallons) (GSA 2022c). The City of Douglas gets all of its water supply from six wells that pump from the Douglas Groundwater Basin (City of Douglas 2021a). There are no wells within the project areas; however, there are five total wells and three active groundwater wells north of the U.S.-Mexico border within 1 mile of the existing RHC LPOE; one additional active groundwater well is located approximately 0.5 mile north of the proposed Commercial LPOE. Most of these wells are privately owned and utilize groundwater for domestic or industrial use except for one well owned by the City of Douglas that is used to produce municipal water (ADWR 2022).

The project areas are included within the boundaries of the Douglas INA, which means that domestic and municipal water uses are subject to restrictions imposed by the INA classification. In 2021, a petition was filed to change the status of the Douglas Groundwater Basin from an INA to an Active Management Area (AMA) which would subject groundwater withdrawal to certain regulations (ADWR 2022c).

Surface Water

The Douglas Groundwater Basin is drained by one ephemeral stream, the Whitewater Draw, which is the primary surface water drainage for both project areas. The stream begins in the Chiricahua Mountains and drains the basin in a southerly direction, continuing across the U.S.-Mexico border. The Whitewater Draw is stagnant much of the year but has registered flows of up to a maximum daily flowrate of 493 cubic feet per second at the USGS stream gauging station near Douglas. Standards are in place to regulate aquatic and wildlife, full body contact, fish consumption, agricultural livestock watering, and partial body contact in this stream (AZSoS 2016).

Two unnamed branches of the Whitewater Draw flow near the two project areas (see Figures 3.6-2 and 3.6-3). A stream runs west to east approximately 211 feet north of the proposed Commercial LPOE west of the City of Douglas. This stream discharges into the Whitewater Draw about 1 mile west of the City of Douglas. A second, ephemeral stream is mapped across the southeast corner and along the eastern edge of the proposed Commercial LPOE site. As the topography of the site slopes gently to the east, this ephemeral stream collects runoff from the property and flows north to join the larger stream and then to the Whitewater Draw.

.

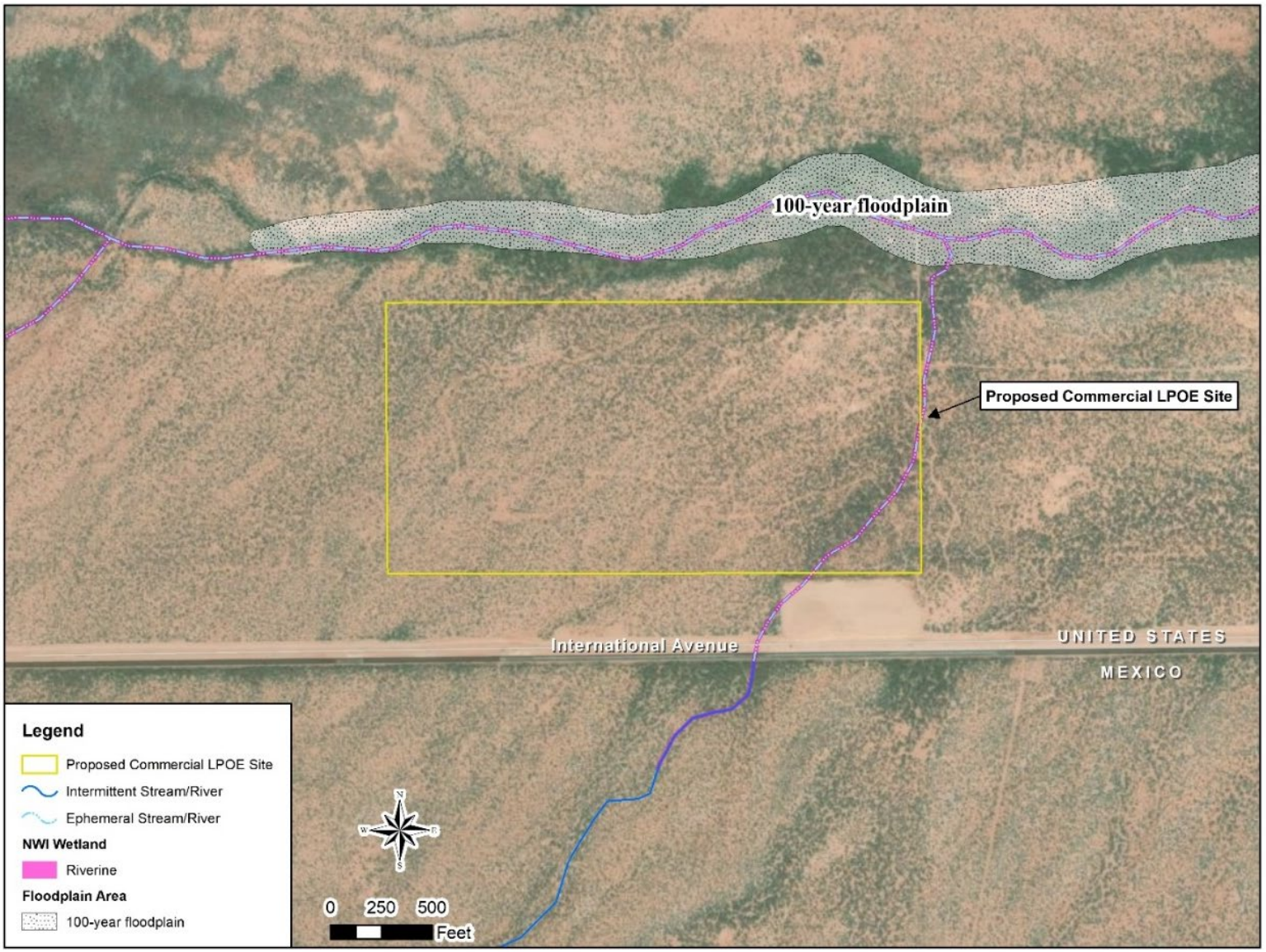


Figure 3.6-2. Water Resources at the Commercial Site

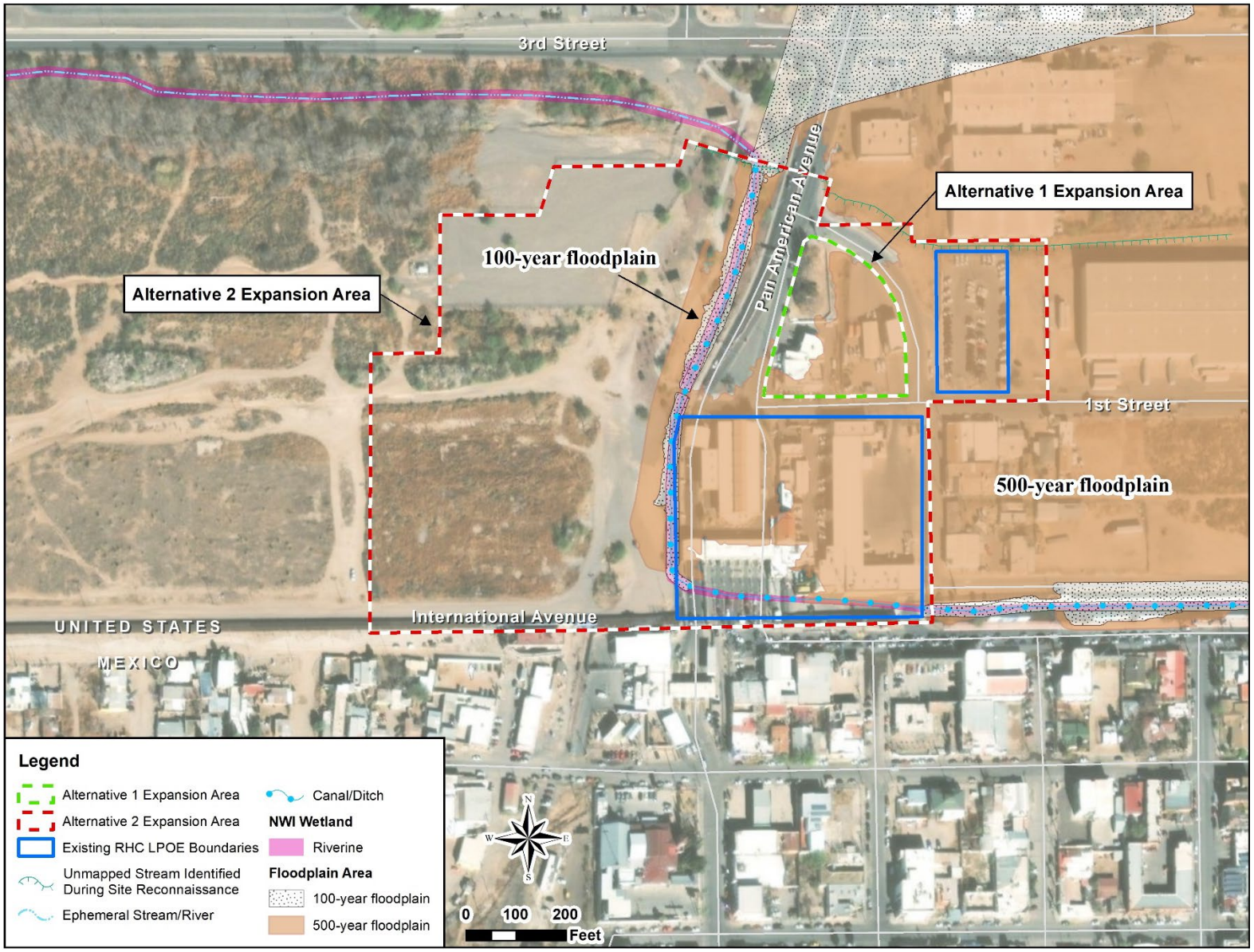


Figure 3.6-3. Water Resources at the RHC LPOE

Near the RHC LPOE, another small stream runs east to west directly on the northern edge of the Alternative 2 Expansion Area. Stormwater runoff from the RHC LPOE drains to this unnamed branch via a concrete-lined channel that runs through the Alternative 2 Expansion Area, parallel to Pan American Avenue directly west of the RHC LPOE. The stream flows west just south of 3rd Street then turns south before crossing the border into in Mexico and draining into the Whitewater Draw.

The City of Douglas is authorized under the AZPDES permit program to discharge its stormwater through an MS4 outfall to Palm Grove Wash, which drains untreated to Whitewater Draw. Cochise County's Stormwater Management Program (Cochise County 2018a) and the city's SWMP (City of Douglas 2018a) identify measures to mitigate the impact of urban activities, including construction projects, to receiving waters. According to the county's program document, Palm Grove Wash is not listed as an impaired stream (Cochise County 2018a). The City of Douglas was previously home to the Phelps Dodge copper smelter, which has since closed, but a large slag pile remains in place. This facility is located between the two project areas, approximately 0.7 mile west of the existing RHC LPOE and 3.5 miles east of the proposed Commercial LPOE. The Whitewater Draw runs through the center of the former Phelps Dodge smelter site, and concerns have been raised about storm flows carrying contaminants from the site south to Agua Prieta (Sonora, Mexico). Specifically, lead and arsenic have been found in the Whitewater Draw and in local wells below action levels (UA 2008). The City of Douglas and Agua Prieta (Sonora, Mexico) have historically approached the issues of stormwater as a regional issue, in part due to the natural gradient of the land (City of Douglas 2018b). Currently, the smelter site is not on the National Priorities List based on an USEPA Comprehensive Environmental Response, Compensation, and Liability Act determination (USEPA 2022). The site also does not have any active remediation under ADEQ's Voluntary Remediation Program (VRP). Neither the Whitewater Draw nor any of its tributary streams within the ROI are currently identified as impaired per the ADEQ 303(d) List of Impaired Waters (ADEQ 2022d and 2022c) or per the Arizona Assessment of Intermittent Streams (ADEQ 2018).

Floodplains

Based on a review of FEMA mapping, the proposed Commercial LPOE site is not within the 100- or 500-year floodplain (FEMA 2022b). A 100-year floodplain is located to the north of the proposed Commercial LPOE site and is associated with an unnamed branch of Whitewater Draw that flows from west to east towards downtown Douglas. Designated 100-year floodplains are considered high risk, as they have a 1 percent probability of flooding every year and are where predicted flood water elevations have not been established.

The RHC LPOE site is relatively flat and located on an alluvial plain. The existing port and much of the City of Douglas sits on the low point of a regional drainage field and almost completely within areas designated as 100- or 500-year floodplains. An existing regulatory floodway, handled by a box culvert and designated as a 100-year floodplain in Figure 3.6-3, lies directly to the west of the existing port along Pan American Avenue. Per FEMA (2022), a regulatory floodway is defined as, "the channel of a river or other watercourse and the adjacent land areas that must be reserved in order to discharge the base flood without cumulatively increasing the water surface elevation more than a designated height." In the past, areas along 1st Street and the entry to the Cargo Lot from Mexico have been particularly vulnerable to flooding (GSA 2019a); however, a drainage correction project at the RHC LPOE was implemented within the last 5 years and has since resolved flooding issues (Luttrell 2022).

Wetlands and Waters of the U.S.

Per the USFWS National Wetlands Inventory, an unnamed riverine feature classified as Riverine Surface Flooding Seasonal (R4SBC) is mapped within the proposed Commercial LPOE site (approximately 944 feet; see Figure 3.6-2). No actual signs of hydrology including bed or bank features or wetlands were observed to be associated with this riverine feature during a biological reconnaissance conducted for the project (EcoPlan Associates, Inc. 2022).

At the RHC LPOE, there are mapped riverine features near the RHC LPOE along the west of Pan American Avenue (approximately 1,118 feet; classified as Riverine Surface Flooding Seasonal [R4SBC]) and east of Pan American Avenue bordering the southern part of the RHC LPOE site (approximately 275 feet; classified as Riverine, Unknown Perennial, Unconsolidated Bottom, Semi-permanently Flooded, Excavated [R5UBFx]). Both of these features are associated with a concrete-lined stormwater runoff channel, including the regulatory floodway discussed above under Floodplains, that discharges to another riverine feature directly north of the RHC LPOE. Approximately 518 feet of this riverine feature are located within the Alternative 2 Expansion Area. This feature may be considered a WOTUS within the bed and bank sections, as it appears to drain ultimately to the Whitewater Draw (EcoPlan Associates, Inc. 2022).

3.6.2 Environmental Consequences

3.6.2.1 *Methodology*

To evaluate the impacts on water resources, GSA reviewed the project alternatives to determine whether any activities have the potential to cause the following within the ROI:

- Alteration of stormwater discharges or infiltration rates
- Alteration of groundwater recharge rates
- Discharge to or modification of surface waters or groundwater
- Use of surface water or groundwater
- Disturbance to wetlands
- Disturbance to floodplains

A significant adverse impact to water resources would occur if the Proposed Action would result in:

- Substantial alteration of stormwater discharges or infiltration rates, which could adversely affect drainage patterns, flooding, erosion, and sedimentation;
- Substantial alteration of groundwater recharge rates, which could adversely affect availability of groundwater;
- Violation of any federal, state, or regional water quality standards or discharge limitations;
- Modification of surface waters such that water quality no longer meets water quality criteria or standards established in accordance with the CWA, state regulations, or permits (including downgrades of surface water use classification or listing on the Nationwide Rivers Inventory);
- Changes to the availability of surface water or groundwater resources for current or future uses;
- Change in stream channel morphology (i.e., slope and stability);
- Loss of wetlands from the placement of dredge or fill material;
- Alteration or conversion of wetland function caused by the removal of vegetation or contamination from an accidental release of petroleum, oils, or lubricants (POL) or hazardous materials; or
- Increased flooding (flooding risk to nearby properties) through altered land uses (e.g., development in floodplain areas) that change current flooding levels or patterns.

3.6.2.2 *No Action Alternative*

Under the No Action Alternative, GSA would not construct a new Commercial LPOE or expand and modernize the RHC LPOE. Therefore, there would be negligible impacts on surface waters due to runoff during ongoing maintenance activities. No impacts to groundwater, floodplains, or wetlands would occur. Since no new GSA building construction or renovation would occur, there would be no water conservation management technology implemented, and water consumption would remain at or near current levels.

3.6.2.3 *Alternative 1 – Sequential Construction*

Construction of the proposed Commercial LPOE and RHC LPOE under Alternative 1 would result in short-term, minor, adverse, and indirect impacts to surface waters; and short-term, minor adverse and direct impacts to groundwater. Construction at the RHC LPOE would also result in long-term, minor, adverse, direct and indirect impacts to floodplains.

Operations of Alternative 1 would result in long-term, minor, adverse, and indirect impacts to surface waters and groundwater at the proposed Commercial LPOE. There would be similar impacts at the RHC LPOE, but overall impacts would be negligible to minor.

Construction

Commercial LPOE

Although NWI mapping indicates 944 feet of seasonally flooded riverine feature located along the southeast portion of the Commercial LPOE site, a site reconnaissance determined this feature is not perennial in nature and no evidence of hydrology (e.g., bed and bank features) was observed at the site. Therefore, construction of the Commercial LPOE would not have direct impacts to surface waters. Short-term, minor, adverse, and indirect impacts to downstream surface waters could occur due to increased potential for sedimentation and contamination from construction site runoff, as well as increased potential for spills of petroleum products or other hazardous materials stored onsite during construction. Sediments potentially contaminated by such spills could travel offsite and adversely affect water quality in offsite surface waters, including the unnamed ephemeral stream that flows north of the proposed Commercial LPOE site. Contaminants would ultimately travel to the Whitewater Draw or percolate to the groundwater.

Because the project would disturb more than 1 acre of land, implementation of Alternative 1 would include adherence to the terms of Arizona Stormwater CGP and City of Douglas Permit. Conditions of these permits require development of appropriate documentation (i.e., Notice of Intent, site map, SWPPP, signed certification statement, post-construction documentation, and payment of fees). A SWPPP is required to be developed prior to construction to address control of pollutant discharges using BMPs selected for the specific project and to address stormwater monitoring. These BMPs include, but are not limited to, the measures summarized in Section 3.8.2.4. New development would also be required to comply with the terms of the City of Douglas new development stormwater requirements, which require all development and redevelopment projects, where applicable and feasible, to include oil/water separators prior to retention ponds, utilize low water use/drought-tolerant planting, and on-site retention (City of Douglas 2018a). Additional sustainable stormwater management practices would be reviewed and applied as applicable, including management of surface water runoff previously conveyed by existing seasonally flooded riverine features. The permit also ensures conformance with stormwater, erosion, sediment control, and land use requirements. The project is required to have the City of Douglas permit, AZPDES permit, and an NOI on site at all times. Following construction, the site must meet the conditions for Notice of Termination by certifying the site has been stabilized and there is no potential for construction-related stormwater discharges. Post-construction BMPs and long-term maintenance plans must also be in place in order to apply for Notice of Termination. With adherence to these conditions, overall impacts to surface waters from potential spills, erosion, and sedimentation during construction would remain minor.

Short-term, minor adverse impacts to groundwater could occur depending on groundwater depth-to-water at the Commercial LPOE site since construction could affect groundwater flow or degrade existing groundwater quality. GSA would implement appropriate measures to prevent any groundwater contamination, such as that arising from hazardous materials used during construction or accidental releases of petroleum from construction equipment (see Section 3.13, Human Health and Safety). Groundwater is not anticipated to be encountered, based on historical levels of groundwater at nearby wells (i.e., 45.6 feet). Should dewatering be required during construction, GSA would obtain appropriate permits as needed for groundwater dewatering discharge (i.e., Application for Permit to Withdraw Groundwater for Temporary Dewatering Purposes within an Active Management Area in accordance with A.R.S. § 45-518).

Under a separate action, the City of Douglas plans to drill a groundwater well to support potential development in the area near the proposed Commercial LPOE, to include potential construction of the Commercial LPOE. Water use from construction activities (e.g., for making concrete and dust control) is expected to be minimal and would have short-term, minor and direct adverse impacts to the regional water supply, and indirect adverse impacts as it contributes to the overall declining trend of water levels in local groundwater wells.

RHC LPOE

Similar to the Commercial LPOE, short-term, minor, adverse, and indirect impacts would occur to surface waters and groundwater from increased potential for erosion and spills during construction activities related to the expansion and modernization of the RHC LPOE. Construction at the RHC LPOE would also adhere to the terms of the Arizona Stormwater CGP and City of Douglas Permit, similar as described for the Commercial LPOE. Groundwater is not anticipated to be encountered during construction based on historical levels of groundwater at nearby wells (i.e., 122.3 feet measured at the most proximate well). Overall impacts at the RHC LPOE would be comparatively lower than the Commercial LPOE as there would be fewer acres disturbed (i.e., approximately 7 acres at the RHC LPOE under Alternative 1 compared to 80.5 acres at the Commercial LPOE).

Long-term, minor, adverse, direct and indirect impacts could arise due to construction within a designated 100- or 500-year floodplain. Existing and proposed facilities at the RHC LPOE would be located within the 100- and 500-year floodplain; approximately 0.07 acre in the 100-year floodplain and 5.5 acres in the 500-year floodplain. However, of this acreage, only 1.03 acres of 500-year floodplain would represent areas not currently occupied by RHC LPOE facilities. The short- and long-term additions of new structures or impervious surfaces in such areas could reduce the floodplain's capacity to store water, depending on final design and configuration of the RHC LPOE, or may result in the potential to expand the floodplain, thus increasing the spread or intensity of a flood event. Final design of the RHC LPOE would incorporate standard measures, including those specified in P100 Standards, to reduce or manage stormwater flows and thus impacts to the floodplain and from flooding on the facility's buildings. This would include reviewing plans for the structure to be in compliance with FEMA National Flood Insurance Program's Building Standards requirements for nonresidential structures, which require elevating the lowest floor to or above the base flood level. In accordance with EO 11988, *Floodplain Management*, GSA would follow the eight-step decision making process for floodplain management outlined in 44 CFR 9.6. As a result, GSA prepared a Finding of No Practicable Alternative (see Appendix D). Per the GSA Floodplain Desk Guide, the Proposed Action would qualify as a "critical" action, meaning that a local flooding event could lead to regional or national catastrophic impacts (GSA 2019b). As such, the minimum floodplain of concern for critical actions is the 500-year floodplain (also known as the critical action floodplain). In addition, GSA would obtain any necessary development permits through the Arizona Stormwater CGP regarding construction within a 100-year floodplain. There is a low probability of a flood event occurring in the 500-year floodplain; such areas are defined as having a 0.2 percent annual chance flood hazard or areas of 1 percent annual chance flood with average depth less than 1 foot or with drainage areas of less than 1 square mile.

In accordance with Section 438 of the EISA, GSA would use site planning, design, construction, and maintenance strategies for the property to maintain or restore, to the maximum extent technically feasible, the predevelopment hydrology of the property with regard to the temperature, rate, volume, and duration of flow. Such measures would be incorporated into design of the expanded RHC LPOE.

Water used for construction would be either be trucked in or hooked up to nearby connections. If nearby connections are utilized, this would be accommodated by the existing capacity of the city's potable water system, which is supplied via groundwater. This would result in short-term, minor, direct adverse impacts to the regional water supply and indirect impacts as it contributes to the overall declining trend of water levels in local groundwater wells. Refer to Section 3.10, Infrastructure and Utilities and Chapter 4 for more discussion.

Mapped riverine features are located on the southern end of the existing RHC LPOE; however, these features are associated with a concrete lined stormwater channel and are not anticipated to be WOTUS.

Operations

Commercial LPOE

Alternative 1 would result in long-term, minor, adverse, indirect impacts to water resources due to long-term increases in stormwater runoff and long-term decreases in groundwater recharge. Under Alternative 1, there would be an increase of up to 80.5 acres of impervious surfaces at the Commercial LPOE site. This could increase the volume of stormwater runoff from the site and associated sedimentation that enters surrounding waterways, including the Whitewater Draw. Stormwater management measures are subject to final design but may include use of drain inlets to storm drains, which would lead to a bioretention basin system where stormwater would percolate into the ground. See Section 3.6.2.5 for a discussion of measures that could further reduce or avoid potential impacts.

Operation of the Commercial LPOE would also introduce the potential for spills of POL or hazardous materials from operations at the new port and COV traffic routed through new areas. Spill control measures would be utilized when necessary, and spill control kits would be readily available for use at all locations where heavy equipment would be utilized (see Section 3.13, Human Health and Safety for further discussion of potential releases of POL and hazardous materials).

Under a separate action, the City of Douglas plans to drill a groundwater well and construct a storage tank and water lines to support potential development in the area near the proposed Commercial LPOE, to include potential construction of the Commercial LPOE (refer to Chapter 4, Cumulative Impacts). During operations, the Commercial LPOE would utilize water drawn from the new groundwater well. The demand for potable water during operations of the Commercial LPOE would increase overall usage in the regional water supply, but it is expected that this demand would be accommodated by the capacity of the new groundwater well (Stantec 2022). It is estimated that the overall project would result in approximately 200 additional new workers (of which 100 workers would be located at the proposed Commercial LPOE) and could result in an incremental increase of 3 acre-feet per year in water demand based on recent usage rates at the existing RHC LPOE. This represents less than 0.01 percent of the total demand on the Douglas Groundwater Basin (last recorded in 2014). The projected water demand could be reduced from the current usage rate as the proposed Commercial LPOE would be constructed to achieve LEED certification with Gold-level standards at a minimum and may integrate Water Conservation Measures (WCMs), such as low-flow fixtures inside its facilities and designing a stormwater collection system that could be used for irrigation. These features would potentially reduce the water supply requirements of the project. The direct adverse impact of the Commercial LPOE withdrawing additional volumes of groundwater from the aquifer is expected to be minor but would contribute to the overall declining trend of water levels in local groundwater wells. Refer to Chapter 4 for more discussion on cumulative impacts on the regional water supply.

RHC LPOE

Operations at the RHC LPOE under Alternative 1 would result in long-term, negligible to minor, adverse, and indirect impacts to water resources since operations would be generally consistent with current activities. There would be a slight increase in impervious surfaces of up to 0.4 acre with the conversion of existing city park land in the Alternative 1 Expansion Area, which could result in a slight increase in stormwater runoff from the site. Indirect impacts from sedimentation or potential contamination from spills would be similar to as described for the proposed Commercial LPOE. Similar to the Commercial LPOE, stormwater management measures are subject to final design but may include use of drain inlets to storm drains, which would lead to a bioretention basin system where stormwater would percolate into the ground.

The proposed increase in personnel operating the RHC LPOE would result in increased demand for potable water from the City of Douglas. It is estimated that the overall project would result in approximately 200 additional new workers (of which 100 workers would be located at the RHC LPOE) and could result in an incremental increase of 3 acre-feet per year in water demand based on recent usage rates at the existing RHC LPOE. This represents less than 0.01 percent of the total demand on the Douglas Groundwater Basin (last recorded in 2014). The projected water demand could be reduced from current rates as the new facilities at the RHC LPOE would be constructed to achieve LEED certification with Gold-level standards at a minimum and may integrate WCMs. These features would potentially reduce the water supply requirements of the project. The water demand at the RHC LPOE, drawn from groundwater, would be accommodated by the existing capacity of the city's potable water system but would result in a minor adverse impact to the regional water supply as it contributes to the overall declining trend of water levels in local groundwater wells. Refer to Section 3.10, Infrastructure and Utilities and Chapter 4 for more discussion on the potential impacts to the City of Douglas's existing water utility system and the regional water supply, respectively.

Alternatives 1a – 1d: Reuse, Relocate, or Demolish Historic Structures

Alternatives 1a through 1d relate to the sub-alternatives for the management of the historic Main Building and Garage, as described in Section 2.1.2.1. As these sub-alternatives would take place within the footprint of the RHC LPOE, the potential impacts to water resources as already identified under Alternative 1 would not change.

3.6.2.4 *Alternative 2 – Concurrent Construction*

Construction of the proposed Commercial LPOE and RHC LPOE under Alternative 2 would result in short-term, minor, adverse, and indirect impacts to surface waters; and short-term, minor adverse impacts to groundwater. Construction at the RHC LPOE would also result in long-term, minor, adverse, direct and indirect impacts to floodplains.

Operations of Alternative 2 would result in long-term, minor, adverse, and indirect impacts to surface waters and groundwater at both the proposed Commercial LPOE and RHC LPOE.

Construction

Impacts during construction of Alternative 2 would be similar to as described for Alternative 1 for both the proposed Commercial LPOE and RHC LPOE. There would be short-term, minor, adverse, and indirect impacts similar to as discussed in Alternative 1, although impacts would be slightly larger in magnitude and more short-term as construction at both locations would occur at the same time.

At the existing RHC LPOE, the new facility footprint would expand to the property to the west of Pan American Avenue, which would result in up to an additional 16.4 acres of ground disturbance, to potentially include construction staging areas. Approximately 0.7 acre of 100-year floodplain occurs within the project area and follows the regulatory floodway flowing west of Pan American Avenue and across the southern portion of the RHC LPOE site (see Figure 3.6-3). This total includes approximately 0.07 acre within the existing RHC LPOE property and approximately 0.63 acre within the Alternative 2 Expansion Area. An additional 8.31 acres of 500-year floodplain is located within the project area, although only 3.89 acres of 500-year floodplain would represent areas not currently occupied by RHC LPOE facilities. The addition of any impervious surfaces and land use change could cause changes to the existing floodplains and exacerbate flooding issues. Stormwater measures and standard measures to reduce or minimize the impacts to the floodplain and from flooding would be implemented, similar to Alternative 1. GSA would also be subject to the same requirements as described for Alternative 1 for development in the floodplain (see Appendix D for the FONPA). Similar to Alternative 1, impacts would be long-term, minor, adverse, direct and indirect.

As stated in Section 3.6.1, approximately 518 feet of seasonally flooded riverine features occur within the Alternative 2 Expansion Area which may be considered a WOTUS in the bed and bank sections, as it appears to drain ultimately to the Whitewater Draw. This feature, however, would be avoided during

construction and no placement of fill material or disturbance to WOTUS is anticipated. Additional riverine features located within the project area are associated with a concrete lined stormwater channel and are not anticipated to be WOTUS. In the event of any encroachment resulting in fill of any WOTUS, coordination with the USACE would be required, to include any subsequent permitting or at a minimum, a pre-construction notification. Generally, for disturbances of less than 0.1 acre of WOTUS, only pre-construction notification is required. Similar to Alternative 1, short-term, minor, adverse, and indirect impacts to downstream surface waters could occur due to increased potential for sedimentation and contamination from construction site runoff, as well as increased potential for spills of petroleum products or other hazardous materials stored onsite during construction.

GSA may, instead, acquire temporary easements from the city for construction laydown areas for staging of heavy construction equipment. The use of temporary easements could result in fewer impacts to surrounding waterways within the and RHC LPOE if the temporary easements are located away from existing surface water features. Any newly disturbed areas used for construction laydown would be returned to existing conditions post construction activities. Final plans for land acquisition and any use of temporary easements would be determined during the design process for the RHC LPOE.

Operations

Impacts during operations of the Commercial LPOE and RHC LPOE under Alternative 2 would be similar as described for Alternative 1; however, because the Alternative 2 Expansion Area is greater in acreage, the extent and intensity of potential adverse impacts would be greater. Alternative 2 could result in up to 16.4 acres more in impervious surface area, in the event the entire Alternative 2 Expansion Area is developed. An increase in impervious area would result in greater runoff and potential for water quality degradation due to erosion and sedimentation downstream, resulting in long-term, minor, adverse, and indirect impacts to surface waters.

Alternatives 2a – 2d: Reuse, Relocate, or Demolish Historic Structures

Alternatives 2a through 2d relate to the sub-alternatives for the management of the historic Main Building and Garage, as described in Section 2.2.1. As these sub-alternatives would take place within the footprint of the RHC LPOE, the potential impacts to water resources as already identified under Alternative 2 would not change.

3.6.2.5 *Impact Reduction Measures*

GSA requires that new construction and substantial renovation of its facilities obtain a LEED Gold certification (GSA 2021). The LEED certification for the project is based on an accumulation of several scored green building features that may include WCMs such as low-flow fixtures (interior) and installing a retention system to collect stormwater outflow for irrigation (exterior). These features potentially reduce the water supply requirements of the Project and improve the surface water quality for any water that leaves the property. In addition, GSA requires a minimum Sustainable Sites Initiative (SITES) silver rating. Regarding water, all major capital projects with a scope of site work exceeding 5,000 square feet such meet the equivalent of the following SITES certification credits (GSA 2021):

- SITES credit 3.3, "Manage Precipitation Beyond Baseline" with the goal to capture and manage the equivalent of the 95th percentile precipitation event.
- SITES credit 3.2, "Reduce Water Use for Landscape Irrigation" with the goal of protecting and conserving water.

GSA would follow the impact reduction measures and BMPs outlined within the Arizona Stormwater CGP and the Cochise County Stormwater Ordinance (Ordinance No. 049-18) (Cochise County 2018b). The latter requires the submittal of a post-construction stormwater management plan and an Operation and Maintenance Plan simultaneously with a Stormwater Site Plan. The Cochise County Flood Control District may require on-site stormwater retention/detention and off-site stormwater drainage.

3.7 BIOLOGICAL RESOURCES

This section describes the baseline conditions for biological resources in the project area and potential impacts that could result from implementing the Proposed Action, including the alternatives as discussed in Chapter 2. The biological resources that have been identified for consideration in this EIS are vegetation, wildlife, special status species (including federally listed endangered and threatened species and species of greatest conservation need as identified in the Arizona State Wildlife Action Plan [2012]), and migratory birds.

3.7.1 Affected Environment

3.7.1.1 *Region of Influence*

The ROI for biological resources includes vegetation, wildlife, and special status species within 1,000 feet of the current RHC LPOE, the expansion areas, and the proposed Commercial LPOE site.

3.7.1.2 *Regulatory Setting and Requirements*

Endangered Species Act. The ESA (16 USC 1531 *et seq.*) establishes a national policy for conserving threatened and endangered species of fish, wildlife, and plants, and the habitat on which they depend. Under Section 3 of the ESA:

- An endangered species is defined as any species in danger of extinction throughout all or a significant portion of its range.
- A threatened species is any species likely to become an endangered species within the near future throughout all or a significant portion of its range.
- A proposed species is a species found to warrant listing as either threatened or endangered, and for which listing has been officially proposed in the *Federal Register*.
- A candidate species is any species that has been announced in the *Federal Register* as undergoing a status review but has not yet been listed. Candidate species do not receive federal protection under the ESA until officially listed as a threatened or endangered species.

Critical habitat for federally listed threatened and endangered species is a specific geographic area (or areas) that contain physical or biological features essential to the conservation of the threatened or endangered species and may require management or protection.

Under Section 7 of the ESA, federal agencies must consult with the USFWS when any action the agency carries out, funds, or authorizes may affect either a species listed as threatened or endangered under the ESA, or any critical habitat designated for it.

The Arizona Game and Fish Department identifies species of greatest conservation concern within the Arizona State Wildlife Action Plan (2012). The species designated as Tier 1A species under this plan reflect the department's highest commitments and priorities and include those ranked as "vulnerable" in at least one of eight categories and that are protected under or a candidate for the ESA; covered under a signed conservation agreement meeting; or designated as a closed season species (i.e., no take permitted) by an Arizona Game and Fish Commission Order.

Bald and Golden Eagle Protection Act. The Bald and Golden Eagle Protection Act (BGEPA) prohibits taking without a permit, or taking with wanton disregard any bald or golden eagle or their body parts, nests, chicks, or eggs, which includes collection, molestation, disturbance, or killing. The BGEPA protections include provisions such as the protection of unoccupied nests and prohibition on disturbing eagles. The BGEPA includes limited exceptions to its prohibitions through a permitting process, including exceptions to take bald or golden eagle nests that interfere with resource development or recovery operations.

Coordination with USFWS would be required to assess impact and develop avoidance and minimization measures to limit adverse impacts on eagles.

Migratory Bird Treaty Act. The Migratory Bird Treaty Act (16 USC 703 *et seq*.) protects birds that have common migration patterns between the U.S. and Canada, Mexico, Japan, and Russia. The Migratory Bird Treaty Act makes it unlawful to pursue, hunt, take, capture, kill, or sell birds (including any parts, dead or alive, feathers, eggs, and nests) that are listed in the statute. Currently there are over 800 species on the list nationwide.

3.7.1.3 *Existing Conditions*

Due to the proximity of the two project areas and similarity in habitat within the overall landscape, this section discusses general affected environment for both the RHC LPOE and the proposed Commercial LPOE. Where there are differences between the sites requiring distinction between the two locations, these are highlighted in the text as appropriate.

Vegetation

The ROI is located in the Madrean Archipelago ecoregion, which is characterized by areas of desert scrub and semi-desert grasslands that form a desert "sea" around mountains known as "sky islands" (Griffith et al. 2014). This region is also known as the Apache Highlands (Marshall et al. 2004). Figure 3.7-1 and Figure 3.7-2 present representative photographs of the existing desert scrub and grassland vegetation within the ROI; these photographs were taken at the two project areas during a site reconnaissance conducted in August 2022 (EcoPlan Associates, Inc. 2022). Vegetation communities are typical of the semidesert grasslands and scrub consisting of short grasses intermingled with a variety of large, well-spaced scrub-shrub perennials. Perennial grasses commonly found include black grama (*Bouteloua eriopoda*) and other grama species (*Bouteloua* spp.). Sotols (*Dasylirion* spp.), agaves (*Agave* spp.), yuccas (*Yucca* spp.), and beargrasses (*Nolina* spp.) may also be found. Dominant scrub-shrub species can include mesquite (*Prosopis* spp.), one seed juniper (*Juniperus monosperma*), grayhorn (*Zizyphus obtusifolia*, *Condalia pathulate*), and Mormon or Mexican tea (*Ephedra trifurca*, *E. antisyphilitica*). Various cactus species are common. Important species include barrel cactus (*Ferocacutus wislizenii*), cane cholla and prickly pears (*Opuntia* spp.), and pincushions (*Mammillaria* spp.) (USEPA 2014).

Invasive plants were identified within the ROI during a site reconnaissance conducted in August 2022. These included Russian thistle (*Salsola* spp.), Johnson grass (*Sorghum halapense*), tree of heaven (*Ailanthus altissima*), Bermuda grass (*Cynodon dactylon*), and puncture vine (*Tribulus terrestris*) (EcoPlan Associates, Inc. 2022).

Wildlife

Typical wildlife species found in the semidesert grassland include small mammals such as black-tailed jack rabbit (*Lepus californicus*); spotted ground squirrel (*Spermophilus spilosoma*); Ords, banner-tailed, and Merriam's kangaroo rats (*Dipodomys ordii*, *D. spectabilis*, *D. merriami*); badger (*Taxidea taxus*); and coyote (*Canis latrans*). Common birds of the semidesert grassland include Swainson's hawk (*Buteo swainsoni*); prairie falcon (*Falco mexicanus*); mourning dove (*Zenaida macroura*); scaled quail (*Callipepla squamata*); road runner (*Geococcyx californianus*); loggerhead shrike (*Lanius ludovicianus*); and meadow lark (*Sturnella magna*) (USEPA 2014).

Herpetofauna are more prevalent than mammals in the Chihuahuan desert scrub community bordering the semidesert grassland. Typical species include the Texas banded gecko (*Coleonyx brevis*); roundtail horned lizard (*Phrynosoma modestum*); spiny lizards (*Sceloporus* sp.); trans-Pecos ratsnake (*Elaphe subocularis*); western hooknose snake (*Ficimia cana*); and Mohave rattlesnake (*Crotalus scrutulatus*) (USEPA 2014).

Figure 3.7-1. Representative Photograph of Vegetation at RHC LPOE Expansion Area

Figure 3.7-2. Representative Photograph of Vegetation at Proposed Commercial LPOE

Special Status Species

The Information, Planning, and Consultation System (IPaC), maintained by the USFWS, was queried for federally listed threatened and endangered species and designated critical habitats potentially occurring within the ROI. The species list generated by the database search includes a total of six federally threatened or endangered species (as shown in Table 3.7-1): one mammal, one bird, one reptile, one amphibian, and two fish (USFWS 2022a). USFWS has designated critical habitat for all six of these species; however, no critical habitat for any of these listed species occurs within the ROI. Table 3.7-1 also includes a brief assessment of each species' likelihood of occurrence in the ROI based on the species' range/distribution and habitat requirements. Table 3.7-2 lists the Tier 1A species of greatest conservation need identified in the Arizona State Wildlife Action Plan (2012) that have potential to be found within the ROI, summary of general habitat requirements, and brief assessment of each species' likelihood of occurrence in the ROI based on the species' range/distribution and habitat requirements. Species with the potential to occur with the ROI are discussed in Section 3.7.2.

A team of local biological resources specialists also surveyed the project areas in August 2022 but did not observe any of the federally protected species listed on the IPaC report for the ROI (EcoPlan Associates, Inc. 2022).

Migratory Birds

A site reconnaissance identified native and landscape trees near the RHC LPOE that could support nesting migratory birds. Per the USFWS IPaC results (2022), no migratory birds of conservation concern are expected to occur within the ROI. It is more likely that migrating species may pass through the area on the way to other stopover, foraging, or breeding habitat.

3.7.2 Environmental Consequences

3.7.2.1 *Methodology*

To evaluate the impacts on biological resources, GSA reviewed the project alternatives to determine whether any activities have the potential to cause the following within the ROI:

- Displacement of terrestrial or aquatic communities or loss of habitat;
- Diminished value of habitat for wildlife, plants, or aquatic species;
- Interference with the movement of native resident or migratory wildlife species;
- Conflict with management plans for terrestrial, avian, and aquatic species and their habitat;
- Introduction of noxious or invasive plant species;
- Decline in native fish populations;
- Impacts on or displacement of endangered, threatened, or other protected status species; or
- Encroachment or impacts on designated critical habitat for a federally listed species.

A significant adverse impact to biological resources would occur if the Proposed Action would result in:

- Long-term loss, degradation, or loss of diversity within unique or high-quality plant communities;
- Unpermitted "take" of federally listed species;
- Local extirpation of rare or sensitive species not currently listed under the ESA;
- Unacceptable loss of critical habitat, as determined by the USFWS; or
- Violation of the Migratory Bird Treaty Act or BGEPA.

Table 3.7-1. Federally Threatened and Endangered Species with Potential to Occur within ROI

Species	Federal Status	Habitat	Expected to Occur Within?	
			RHC LPOE	Commercial LPOE
Jaguar (*Panthera onca*)	Endangered	Ranges from tropical forests, lowland scrub and woodland, thorn scrub, desert, swampy savanna, mangrove swamps and marshland. Feeds on large and small mammals, reptiles, and ground nesting birds.	Unlikely. Jaguars can occupy a variety of habitats and are known to pass through areas close to the U.S.-Mexico border on rare occasions. However, the border fence between the U.S. and Mexico impedes movement of this species, and jaguars are much more likely to be found in secluded areas with cover away from human activity. The proximity of the town of Douglas, human activity, and associated development make it unlikely to encounter a jaguar within the ROI.	
Yellow-billed cuckoo (*Coccyzus americanus*)	Threatened	Migratory species; Arizona within breeding range. Nests in deciduous woodlands, moist tickets, orchards, and overgrown pastures.	Unlikely. Species may migrate through ROI, but this location is not expected to support suitable nesting habitat.	
Northern Mexican gartersnake (*Thamnophis eques magalops*)	Threatened	Species strongly associated with permanent water with vegetation (e.g., stock tanks, ponds, lakes, riparian woods, etc.).	No. The ROI only contains unnamed ephemeral streams that are dry most of the year.	
Chiricahua leopard frog (*Rana chiricahuensis*)	Threatened	Springs, pools, lakes, reservoirs, streams, and rivers.	No. Per consultation with the USFWS, the most proximate known location for this species is located 2 miles from the proposed Commercial LPOE site. While this is located within potential dispersal distance, there is no suitable dispersal habitat to connect the known location to the project site, and this species has not been recently detected within the ROI. The connecting habitat is occupied by invasive bullfrogs and therefore unusable by Chiricahua leopard frogs. There is no potential for these frogs to be present during project activities. A copy of USFWS correspondence with these findings is included in Appendix B.	
Yaqui catfish (*Ictalurus pricei*)	Threatened	Small to medium rivers with medium to slow currents over gravel/sand substrates.	No. The ROI only contains unnamed ephemeral streams that are dry most of the year.	
Yaqui chub (*Gila purpurea*)	Endangered	Deep pools in creeks, springheads, and other stream-associated quiet waters.	No. The ROI only contains unnamed ephemeral streams that are dry most of the year.	

Source: USFWS 2022a; EcoPlan Associates, Inc. 2022

LPOE = Land Point of Entry; RHC LPOE = Raul Hector Castro Land Point of Entry; ROI = Region of Influence; USFWS = United States Fish and Wildlife Service

Note: IPaC identified two additional species within the ROI: northern Aplomado falcon (*Falco femoralis septentrionalis*; experimental or non-essential), and Wright's marsh thistle (*Cirsium wrightii*; proposed threatened). However, species do not receive full protection under the Endangered Species Act until officially listed as threatened or endangered. Candidate, proposed, or experimental populations are not considered further within this EIS.

Table 3.7-2. Arizona Species of Greatest Conservation Need with the Potential to Occur within the ROI

Species	Habitat	Expected to Occur Within?	
		RHC LPOE	Commercial LPOE
Jaguar (*Panthera onca*)	Ranges from tropical forests, lowland scrub and woodland, thorn scrub, desert, swampy savanna, mangrove swamps and marshland. Feeds on large and small mammals, reptiles, and ground-nesting birds.	Unlikely. Jaguars can occupy a variety of habitats and are known to pass through areas close to the U.S.-Mexico border on rare occasions. However, the border fence between the U.S. and Mexico impedes movement of this species, and jaguars are much more likely to be found in secluded areas with cover away from human activity. The proximity of the town of Douglas, human activity, and associated development make it unlikely to encounter a jaguar within the ROI.	
Lesser long-nosed bat (*Leptonycteris yerbabuenae*)	Roosts in old mines and caves at the base of mountains near alluvial fans vegetated with agave, yucca, saguaro, and organ pipe cactus.	Unlikely. This species may forage on the nectar and pollen of agave, saguaro, and organ pipe cactus. While the semidesert grassland habitat found within the ROI does support agaves and some cactus species; saguaro and organ pipe cactus are not listed as being primary species of this habitat. Therefore, the ROI is not expected to represent a high-quality foraging area.	
Mexican gray wolf (*Canis lupus baileyi*)	Not associated with a particular habitat, but species occurs where human population density and persecution level are low and prey densities are high.	Unlikely. While the ROI exists within this species' range, wolves tend to avoid areas of increased human activity.	
American peregrine falcon (*Falco peregrinus anatum*)	Various open habitats. Nests in places with a wide view and near water.	Possible. ROI is within species range.	
Mexican spotted owl (*Strix occidentalis lucida*)	Most commonly found in mixed conifer, pine-oak, and evergreen oak forest. Also occur in ponderosa pine forest and rocky canyonlands.	Unlikely. While the ROI exists within this species' range, it does not support the species' preferred forest habitat.	
Northern Aplomado falcon (*Falco femoralis septentrionalis*)	Coastal prairies along sand ridges, woodlands along desert streams, and desert grasslands with scattered mesquite and yucca.	Possible. Potentially suitable grassland habitat may exist within the ROI.	
Sprague's pipit (*Anthus spragueii*)	Pastures and weedy fields, including grasslands with dense herbaceous vegetation or grassy agricultural fields.	Possible. Potentially suitable grassland habitat may exist within the ROI.	

Table 3.7-2. Arizona Species of Greatest Conservation Need with the Potential to Occur within the ROI

Species	Habitat	Expected to Occur Within?	
		RHC LPOE	Commercial LPOE
Western yellow-billed cuckoo (*Coccyzus americanus occidentalis*)	Breeding habitat generally found in deciduous riparian woodland, especially with dense stands of cottonwood and willow.	Unlikely. While the ROI exists within this species' range, no suitable breeding habitat occurs within the project area. This species may forage in the vicinity of the ROI, but construction is not expected to substantially reduce overall availability of foraging habitat.	
Gila monster (*Heloderma suspectum*)	Desert grassland, desert scrub, and thorn scrub. Also found in canyon bottoms, arroyos, and rocky slopes. In southern Arizona, more abundant in wetter and rockier areas than drier and sandier areas. May spend 98% of the year underground.	Possible. Potentially suitable grassland habitat may exist within the ROI.	
Massasauga (*Sistrurus catenatus tergeminus*)	Grassland areas, on the edge of open woodland, or on rocky hillsides.	Possible. Potentially suitable grassland habitat may exist within the ROI.	
Milksnake (*Lampropeltis triangulum gentilis*)	Wide range of habitats from semiarid to wet, lowland valleys to mountains, grasslands and shrublands to wooded areas, sand dunes to rocky areas, and wilderness to semiagricultural and suburban.	Possible. Potentially suitable grassland habitat may exist within the ROI.	
Rock rattlesnake (*Crotalus lepidus*)	Rocky mountainous areas, often in arid or semiarid areas vegetated with pine-oak, oak-juniper, pinyon pine, ponderosa pine, or agave-shrub. Also inhabits mesquite grasslands and rocky desert flats and canyons.	Possible. Potentially suitable grassland habitat may exist within the ROI.	
Twin-spotted rattlesnake (*Crotalus pricei*)	Pine-oak woodland, grassy and brushy areas, and open coniferous forest, usually on well-lit rocky slopes.	Possible. Potentially suitable grassland habitat may exist within the ROI.	

Source: Arizona Game and Fish Department 2012; Arizona Game and Fish Department 2022; NatureServe 2022a; USFWS 2022a

ROI = Region of Influence

Notes: 1 – Refer to Table 3.7-3 for discussion of impacts to species with potential to occur within the ROI.

2 – This table lists the Tier 1A Arizona species of greatest conservation need with the potential to occur within the ROI. Species for which no suitable habitat exists within the ROI were excluded from consideration within this EIS. For example, Tier 1A fish species are not listed in this table because there are no surface waters present within the ROI. Other species have ranges that overlap the ROI, but specific habitat requirements are not present within the ROI were similarly dismissed from consideration.

3 – The Hualapai Mexican vole (*Microtus mexicanus hualpaiensis*) has been removed from this table as it was found to have no genetic difference from other vole subspecies in Arizona. The populations previously identified as this subspecies are now recognized as Mexican voles (*Microtus mexicanus*); this species has not been identified as a species of greatest conservation need in the state of Arizona.

3.7.2.2 *No Action Alternative*

Under the No Action Alternative, GSA would not construct a new Commercial LPOE or expand and modernize the RHC LPOE. Therefore, there would be negligible, indirect adverse impacts on biological resources from ongoing operations of the RHC LPOE. Land and vegetation disturbance would not occur.

3.7.2.3 *Alternatives 1 and 2 – Special Status Species*

A biological reconnaissance of the project areas was conducted by a qualified biologist on August 18 and 19, 2022 in support of this project. The biological reconnaissance did not identify any potential habitat for any of the six federally protected species listed in Table 3.7-1 with potential to occur in the project area.

Table 3.7-2 identifies the potential for several Arizona species of greatest conservation concern to occur within the ROI based on extent of species range and available of potentially suitable habitat. Table 3.7-3 summarizes the potential direct and indirect effects to each of these species that may be expected during construction and operation of the Proposed Action under either Alternative 1 or 2.

Table 3.7-3. Potential Effects to Special Status Species

Species	Status	Potential Impact Rating	Potential Impact Summary
American peregrine falcon (*Falco peregrinus anatum*)	Arizona species of greatest conservation need	Negligible	The Proposed Action is unlikely to adversely affect this species. While the ROI exists within this species' range, proposed construction activities would not reduce the overall amount of available nesting habitat or substantially reduce available foraging habitat. No direct impacts are anticipated. Negligible indirect impacts expected from noise, disturbance of existing vegetation, or displacement of prey species during construction.
Northern Aplomado falcon (*Falco femoralis septentrionalis*)	Arizona species of greatest conservation need	Negligible to minor	The Proposed Action may affect, but is unlikely to adversely affect this species. Suitable habitat exists within ROI. Species may experience indirect effects from increased human activity, noise, disturbance of vegetation, or displacement of prey species, especially in the expansion area or the proposed Commercial LPOE site. However, impacts would not substantially reduce overall available habitat or cause population-level effects.
Sprague's pipit (*Anthus spragueii*)	Arizona species of greatest conservation need	Negligible to minor	The Proposed Action may affect, but is unlikely to adversely affect this species. Potentially suitable grassland habitat may exist within the ROI. Species may experience indirect effects from increased human activity, noise, disturbance of vegetation, or displacement of prey species, especially in the expansion area or the proposed Commercial LPOE site. However, impacts would not substantially reduce overall available habitat or cause population-level effects.
Gila monster (*Heloderma suspectum*)	Arizona species of greatest conservation need	Negligible to minor	The Proposed Action may affect, but is unlikely to adversely affect this species. Suitable habitat exists within ROI. Species

Table 3.7-3. Potential Effects to Special Status Species

Species	Status	Potential Impact Rating	Potential Impact Summary
			mostly lives underground and if present may experience direct effects from introduction of heavy machinery and commercial traffic in previously undisturbed areas resulting in soil compaction and disturbance of burrows and potential mortality. However, impacts would not substantially reduce overall habitat regionally available or cause population-level effects.
Massasauga (*Sistrurus catenatus tergeminus*)	Arizona species of greatest conservation need	Negligible to minor	The Proposed Action may affect, but is unlikely to adversely affect this species. Potentially suitable grassland habitat may exist within the ROI. This less-mobile species, if present, may experience accidental mortality from introduction of heavy machinery and commercial traffic in previously undisturbed areas. Species may experience indirect effects from increased human activity, noise, disturbance of vegetation, or displacement of prey species, especially in the expansion area or the proposed Commercial LPOE site. However, impacts would not substantially reduce overall habitat regionally available or cause population-level effects.
Milksnake (*Lampropeltis triangulum gentilis*)	Arizona species of greatest conservation need	Negligible to minor	The Proposed Action may affect, but is unlikely to adversely affect this species. Potentially suitable grassland habitat may exist within the ROI. This less-mobile species, if present, may experience accidental mortality from introduction of heavy machinery and commercial traffic in previously undisturbed areas. Species may experience indirect effects from increased human activity, noise, disturbance of vegetation, or displacement of prey species, especially in the expansion area or the proposed Commercial LPOE site. However, impacts would not substantially reduce overall habitat regionally available or cause population-level effects.
Rock rattlesnake (*Crotalus lepidus*)	Arizona species of greatest conservation need	Negligible to minor	The Proposed Action may affect, but is unlikely to adversely affect this species. Potentially suitable grassland habitat may exist within the ROI. This less-mobile species, if present, may experience accidental mortality from introduction of heavy machinery and commercial traffic in previously undisturbed areas. Species may experience indirect effects from increased human activity, noise, disturbance of vegetation, or displacement of prey species, especially in the expansion area or the proposed Commercial LPOE site. However, impacts would not substantially reduce

Table 3.7-3. Potential Effects to Special Status Species

Species	Status	Potential Impact Rating	Potential Impact Summary
			overall habitat regionally available or cause population-level effects.
Twin-spotted rattlesnake (*Crotalus pricei*)	Arizona species of greatest conservation need	Negligible to minor	The Proposed Action may affect, but is unlikely to adversely affect this species. Potentially suitable grassland habitat may exist within the ROI. This less-mobile species, if present, may experience accidental mortality from introduction of heavy machinery and commercial traffic in previously undisturbed areas. Species may experience indirect effects from increased human activity, noise, disturbance of vegetation, or displacement of prey species, especially in the expansion area or the proposed Commercial LPOE site. However, impacts would not substantially reduce overall habitat regionally available or cause population-level effects.

Source: Arizona Game and Fish Department 2012; Arizona Game and Fish Department 2022; NatureServe 2022; USFWS 2022a
LPOE = Land Point of Entry; ROI = Region of Influence

3.7.2.4 *Alternative 1 – Sequential Construction*

Alternative 1 would have permanent, moderate, adverse, and direct impacts; as well as short-term, moderate, adverse, and indirect impacts on biological resources during construction at the proposed Commercial LPOE. There would be short-term, minor, adverse, and indirect impacts at the RHC LPOE during construction.

Operations of Alternative 1 would result in long-term, moderate, adverse, and indirect impacts to biological resources at the proposed Commercial LPOE; and long-term, negligible, beneficial, and indirect impacts to biological resources at the RHC LPOE.

Construction

Commercial LPOE

Construction activities at the proposed Commercial LPOE could result in permanent, moderate, adverse, and direct impacts on biological resources. Construction activities would require ground disturbance and potential grading and clearing activities across the entire 80.5-acre site. Such activities would remove existing vegetation and therefore result in the alteration of the existing ecological community. This includes disturbing approximately 12.6 acres of the Apacherian-Chichuahuan Mesquite Upland Scrub community and approximately 67.9 acres of Chihuahuan Creosotebrush, Mixed Desert and Thorn Scrub community. Development of the site would further contribute to habitat fragmentation as the location near the U.S. border wall and the presence of existing roads and security infrastructure has already fragmented wildlife habitat and disturbed native vegetation communities. While the existing tract proposed for the development of the new Commercial LPOE is currently undeveloped, it does not represent high-quality native habitat for local species. Therefore, the potential impacts resulting from construction of Alternative 1 would be expected to be moderate but would not cause any direct species-level effects.

Construction of roads and buildings would introduce new levels of human activity. The resulting noise and human presence during construction activities could cause displacement of local wildlife, including migratory birds, from the surrounding area, and the introduction of cars, trucks, and heavy machinery could result in the mortality of a limited number of less-mobile animals. Section 3.9.2 discusses the temporary

increase in noise generated during construction; this includes increased noise levels of 54 to 59 A-weighted sound level in decibels (dBA) 1,000 feet away from the construction site. Therefore, short-term, moderate, adverse, indirect impacts at the Commercial LPOE from noise during construction could occur to wildlife at distances of up to 1,000 feet away from the construction equipment.

RHC LPOE

Due to the disturbed nature of the site and its current use as a LPOE, construction at the existing RHC LPOE is not expected to introduce additional direct impacts to biological resources within the project area.

Indirect effects to biological resources arising from construction of Alternative 1 would be short-term, minor, and adverse. There would be temporary increases in traffic, general human activity, noise, and fugitive dust in the area, which could deter wildlife that commonly utilize the surrounding area, particularly the area immediately west of the RHC LPOE. Construction would occur in previously disturbed or currently developed areas which frequent human activity; therefore, impacts to wildlife including migratory birds, would be minor, as most species that inhabit areas near the existing RHC LPOE either are tolerant of humans and vehicle traffic or are able to relocate to nearby areas of suitable habitat.

Operations

Commercial LPOE

Operation of the proposed Commercial LPOE would introduce commercial vehicular traffic with the potential for long-term, moderate, adverse, and indirect effects to species in the surrounding undeveloped areas through noise disturbance, lighting, human presence, accidental mortality from vehicle strikes, or the introduction or spread of non-native, invasive species by vehicle traffic. Such impacts would be similar to those discussed under construction and are unlikely to result in permanent displacement of large numbers of wildlife or substantial reduction of available, high-quality habitat for native plant species.

RHC LPOE

Operations at the existing RHC LPOE would result in long-term, negligible, beneficial, and indirect impacts to biological resources. Pedestrians and POVs would continue to utilize the existing facility in the manner currently conducted, but COVs would be directed toward the new Commercial LPOE, thereby reducing overall traffic and avoiding most of the heavy vehicle traffic in the area. This would result in a slight reduction in noise and an associated beneficial impact to wildlife, including migratory birds.

Alternatives 1a – 1d: Reuse, Relocate, or Demolish Historic Structures

Alternatives 1a through 1d relate to the sub-alternatives for the management of the historic Main Building and Garage, as described in Section 2.1.2.1. As these sub-alternatives would take place within the footprint of the RHC LPOE, the potential impacts to biological resources as already identified under Alternative 1 would not change.

3.7.2.5 *Alternative 2 – Concurrent Construction*

Alternative 2 would have permanent, moderate, adverse, and direct impacts; as well as short-term, moderate, adverse, and indirect impacts on biological resources during construction at the proposed Commercial LPOE. At the RHC LPOE, there would be permanent, moderate, adverse, and direct impacts; as well as short-term, moderate, adverse, and indirect impacts on biological resources during construction.

Operations of Alternative 2 would result in long-term, moderate, adverse, and indirect impacts to biological resources at the proposed Commercial LPOE; and long-term, minor, adverse, and indirect impacts to biological resources at the RHC LPOE.

Construction

Under Alternative 2, concurrent construction at the RHC LPOE and the proposed new Commercial LPOE site would result in permanent, moderate, direct adverse impacts to biological resources similar to those

described under Alternative 1 for the proposed Commercial LPOE. At the RHC LPOE, the Alternative 2 Expansion Area encompasses a larger land area than the Alternative 1 Expansion Area (up to 16.4 acres difference) and primarily includes undeveloped, open land area. Therefore, the extent of impacts to biological resources would be greater under Alternative 2 at the RHC LPOE due to the greater area of disturbance. Direct impacts to biological resources at the RHC LPOE would be permanent, moderate, and adverse. The intensity of indirect impacts from construction noise and human activity during construction would also be greater regionally under this alternative as construction would occur simultaneously at two sites within a compressed timeframe (i.e., approximately 36 to 42 months at the RHC LPOE and 48 to 54 months at the Commercial LPOE). These effects are expected to be temporary, moderate, and adverse during construction.

GSA may, instead, acquire temporary easements from the city for construction laydown areas for staging of heavy construction equipment. The use of temporary easements could result in fewer impacts to existing biological resources within the Alternative 2 Expansion Area if the temporary easements are within existing disturbed locations (e.g., the site of the former MGP). Any newly disturbed areas used for construction laydown would be returned to existing conditions post construction activities. Final plans for land acquisition and any use of temporary easements would be determined during the design process for the RHC LPOE.

Operations

Under Alternative 2, impacts to biological resources during operations would be similar to those described under Alternative 1 for the proposed Commercial LPOE. Development of the expanded RHC LPOE under Alternative 2 would represent development of up to 16.4 acres of mostly undeveloped (although previously disturbed) land. Long-term, minor, adverse, and indirect impacts to biological resources could occur during operations of Alternative 2, from noise disturbance or general human presence; however, the undeveloped areas directly west of the Alternative 2 Expansion Area are mostly disturbed and do not represent high-quality native habitat for local species.

Alternatives 2a – 2d: Reuse, Relocate, or Demolish Historic Structures

Alternatives 2a through 2d relate to the sub-alternatives for the management of the historic Main Building and Garage, as described in Section 2.2.1. As these sub-alternatives would take place within the footprint of the RHC LPOE, the potential impacts to biological resources as already identified under Alternative 2 would not change.

3.7.2.6 *Impact Reduction Measures*

In order to avoid or minimize impacts to vegetation, only approved, native species would be used for revegetation. These plant species would not be invasive or noxious species, and disturbed areas would restored or revegetated to the extent practicable following construction. Construction equipment would be washed before and after coming to the site to the extent practicable to limit the transport of invasive species.

3.8 TRANSPORTATION AND TRAFFIC

This section describes the baseline conditions for transportation resources in the project area and potential roadway and traffic impacts that could result from implementing the Proposed Action, including the alternatives as discussed in Chapter 2.

3.8.1 Affected Environment

3.8.1.1 *Region of Influence*

The RHC LPOE is located in Douglas, Arizona. As illustrated in Figure 1-2, the RHC LPOE is directly served by Pan American Avenue, although several routes in the greater vicinity are used by passenger vehicles and trucks to reach Pan American Avenue and the RHC LPOE. If the proposed improvements to the existing port are fully constructed and a new Commercial LPOE on James Ranch Road is developed, a larger roadway network would serve the traffic related to both LPOEs, as shown in Figure 1-1. Thus, the following roadway segments are analyzed to assess the potential impacts of vehicle and truck traffic:

- Pan American Avenue
- State Route 80 (east) (SR-80 [east]; for the purposes of the traffic analysis, SR-80 (east) refers to the segment that is located between US-191 and Pan American Avenue)
- U.S. Highway 191 (US-191)
- State Route 80 (SR-80)
- James Ranch Road
- State Route 80 (west) (SR-80 [west]; for the purposes of the traffic analysis, SR-80 refers to SR-80 that is located west of James Ranch Road)

3.8.1.2 *Regulatory Setting and Requirements*

The Proposed Action would take place within Cochise County, Arizona. The ADOT is responsible for planning, designing, constructing, operating, and maintaining all state-owned roadways which include interstate highways, U.S. highways, and state highways. State routes in the project vicinity would utilize ADOT guidelines. The City of Douglas standards would be referenced for all locally maintained roadways, such as Pan American Avenue.

3.8.1.3 *Existing Conditions*

Roadway Network

The primary transportation corridors in Cochise County are I-10 and Highways 80, 82, 90, 92, 181, 186, and 191. These corridors are ADOT-maintained roadways that link communities, travelers, and freight to neighboring counties, New Mexico to the east, and the country of Mexico to the south (Jacobs 2015). I-10 is located approximately 63 miles from the RHC LPOE via US-191. The I-10 acts as a major gateway between the City of Douglas, Metropolitan Phoenix, Metropolitan Tucson, and California.

Transportation Network

Pan American Avenue is a major thoroughfare in the City of Douglas and has a major arterial classification by the *City of Douglas Small Area Transportation Study* (TransCore et al. 2007). The roadway provides two lanes in each direction separated by a center two-way left-turn lane and has a north-south orientation in the immediate project vicinity. Pan American Avenue also provides curb, gutter, sidewalk, and roadway lighting on both sides of the roadway. The posted speed limit on Pan American Avenue near the RHC LPOE is 35 mph. In addition to providing direct access to the RHC LPOE to the south, the roadway connects to US-191 and SR-80 further north.

U.S. Highway 191 (US-191) is a north-south-aligned roadway with a minor arterial classification by the *ADOT Federal Functional Classification Map* (ADOT 2022b). The highway spans across several states before terminating at its intersection with SR-80. Although various lane configurations are present throughout its span, US-191 typically offers a two-lane undivided cross-section (one lane in each direction separated by dashed yellow pavement markings) with paved shoulders. The posted speed limit on US-191 in the project vicinity is 45 mph.

State Route 80 (SR-80) is a major thoroughfare in southern Arizona that spans between Bisbee, Arizona and the New Mexico border. The roadway has a principal arterial classification by the *ADOT Federal Functional Classification Map* (ADOT 2022b) and a posted speed limit of 55 mph. SR-80 typically provides a four-lane divided cross section (two through lanes in each direction separated by a recessed median) and paved shoulders.

James Ranch Road is an unpaved dirt road approximately 5.5 miles west of Pan American Avenue. The roadway is unclassified by the *City of Douglas Small Area Transportation Study* (TransCore et al. 2007) and is assumed to have a local road designation. Sufficient width is offered for bidirectional travel, and the assumed speed limit is 25 mph. In support for the proposed Commercial LPOE and future regional planning efforts, ADOT would be extending and improving this road under a separate project. Further details are provided in Chapter 4, Cumulative Impacts.

International Avenue (alternately named Border Road) is an unpaved dirt road that parallels the U.S.-Mexico border. International Avenue is currently unrestricted and open to all users, although it is primarily used as an access road for maintenance and operations with low, intermittent volumes. The roadway is not expected to facilitate ingress or egress for the Commercial LPOE and is not considered further in the traffic analysis.

Traffic Volumes

Historical traffic counts referenced from the ADOT Traffic Data Management System database were used to establish baseline traffic volumes for analysis (ADOT 2022c). ADOT Traffic Data Management System historical counts provided volumes from 2021; as the majority of Arizona traffic volumes had returned to COVID-19 pre-pandemic levels by the end of 2020, the volumes from 2021 are considered to be a reliable resource. A background growth rate was used to adjust historic volumes to existing (2022) conditions.

Furthermore, throughput volumes at the LPOE were not collected as part of this study and were instead referenced from a traffic study (GSA 2018) conducted for this project. Throughput volumes were collected in 2017, prior to any pandemic effects, and were provided by the CBP. To be consistent with the traffic volumes, a background growth rate was applied to the 2017 throughput volumes for POVs and COVs to adjust these volumes to 2022 existing conditions.

It should be noted that traffic volumes were not provided on James Ranch Road. As the roadway only serves a few properties, volumes are assumed to be low.

Figure 3.8-1 provides a diagram of the project study segments and the 2022 existing volumes.

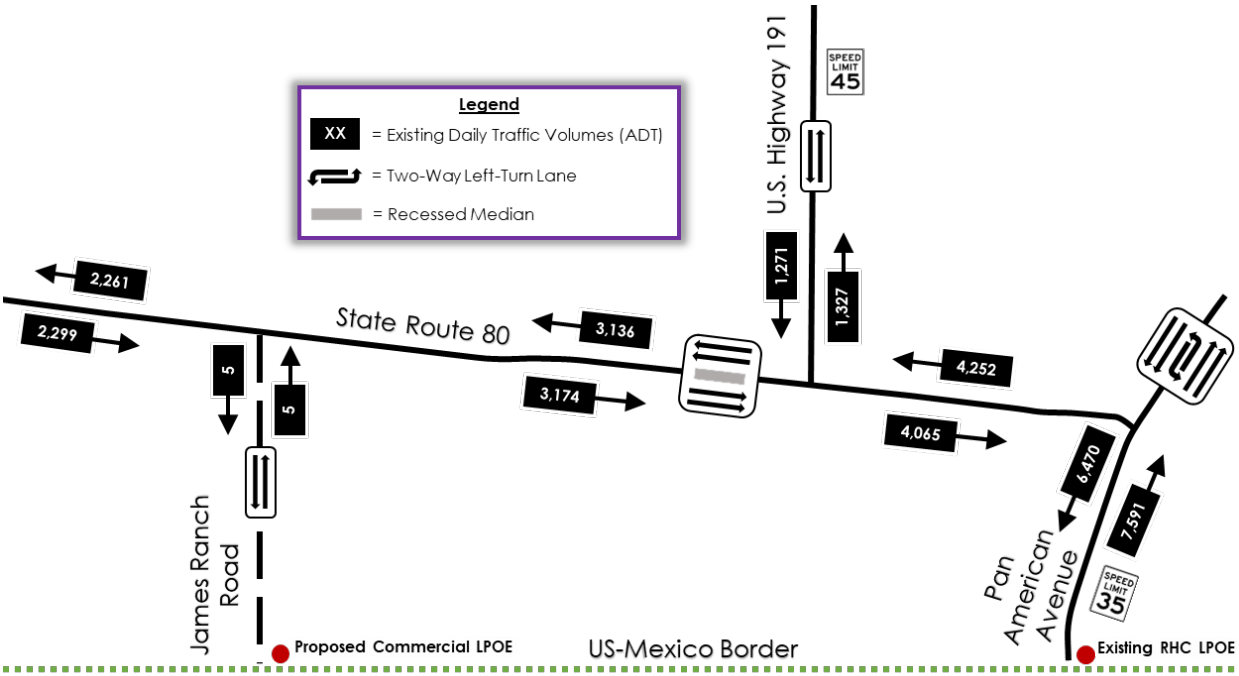


Figure 3.8-1. 2022 Existing Traffic Volumes

Growth Rates

Several resources were referenced to determine an appropriate growth rate for potential future traffic conditions. Historical ADOT Traffic Data Management System volumes showed fluctuating traffic volumes in the area over the past 20 years. The *City of Douglas Small Area Transportation Study* (TransCore et al. 2007) noted the population growth from 1990 to 2005 yielded a compounded annual growth rate of approximately 1.02%. The traffic study conducted for this project calculated a 1.1% growth rate from historical throughput data at the RHC LPOE (GSA 2018). As the vehicular traffic must traverse through the Douglas area before reaching an intended destination (such as California, Phoenix, or New Mexico), the growth from the throughput is assumed to have a direct correlation to the volumes in the Douglas area. Based on the available growth indices, a 1.1% compounded annual growth rate was selected to grow historical counts to 2022 existing conditions.

To analyze the future 2028 and 2033 study years, two different growth scenarios were evaluated. The first evaluation maintains an anticipated 1.1% growth, including both the background population/POV growth and COV growth. This is assumed to reflect realistic growth over the next 10 years. A second, more conservative growth estimate was evaluated to assess a worst-case scenario of increased traffic as a direct result of increasing efficiency at the LPOE. This conservative growth estimate assumed the Douglas population and POV growth would increase at 2% per year (this is a typical growth rate used by ADOT for other projects in the state of Arizona) and the COV growth would increase approximately 8.6% per year (which is consistent with COV growth levels experienced since 2021) (PHE 2022).

In addition to documenting the volume of POVs and COVs at the RHC LPOE, the City of Douglas traffic study (TransCore et al. 2007) also documented the volume of pedestrians crossing the border. The majority of pedestrians were noted to be students attending local schools and colleges, and would regularly cross the border each day. Once in the Douglas area, pedestrians would potentially continue to walk to their destination or take a vehicle (such as a single-passenger vehicle or a ride-share/van) to arrive at their destination. While it is challenging to document exactly how an increase in pedestrian activity at the RHC

LPOE with the proposed enhancements would affect the roadway volumes and congestion within the ROI, the assumed background population growth in the Douglas area would be expected to account for this.

Traffic Distribution

As the Proposed Action would relocate COV processing to the proposed Commercial LPOE location 5.5 miles west of the RHC LPOE, the general commercial traffic is assumed to shift as well. As such, commercial traffic volumes were subtracted from Pan American Avenue and added to James Ranch Road for purposes of analysis. The traffic volumes generated by the COV traffic were then added to segments based on the following distribution (and based on the assumed growth rate of either 1.1% or 8.6%, depending on the growth scenario analyzed).

- Because SR-80 restricts most large vehicles and trailers near Bisbee, Arizona (due to tight turns and large grades), it is assumed that all COVs leaving the Commercial LPOE would head east on SR-80, with the majority heading north on US-191 before heading west (towards California) or north (towards Tucson or Phoenix). For the purposes of the traffic analysis, 95% of COVs are assumed to use SR-80 (between James Ranch Road and US-191) and US-191. The distribution of this traffic is assumed to be as follows:
    - 45% of truck traffic would head west towards California
    - 50% of truck traffic would head north to Metropolitan Tucson or Phoenix
- The remaining approximately 5% of truck traffic is assumed to continue east and remain on SR-80 towards New Mexico.

Evaluation Scenarios

The Proposed Action is anticipated to be constructed in multiple phases. In order to estimate the impact to traffic volumes and assess any adverse effects to roadway segments for the project alternatives, traffic analyses were conducted for the year 2028 (expected substantial completion of construction for the proposed Commercial LPOE under Alternative 1 and for both LPOE sites under Alternative 2) and for the year 2033 (to provide a 5-year projection from the year 2028). Although GSA anticipates that substantial construction completion for the RHC LPOE would occur in Fall of 2031 under Alternative 1, the traffic analysis extends the analysis to the year 2033 in order to capture a 5-year growth horizon, which would also ensure operation conditions are fully captured for both LPOEs. The 2022 existing conditions and projected baseline conditions (for the years 2028 and 2033) were also evaluated to establish a baseline for comparison (i.e., traffic conditions under the No Action Alternative).

As the conservative analysis of 2% growth for population and POVs and 8.6% growth for COVs is largely dependent on increasing efficiency at the port and connectivity to the City of Agua Prieta in Mexico, along with the assumption that COV growth currently experienced since 2021 would remain consistent for the next 10 years with the help of the proposed Commercial LPOE, the conservative worst-case scenario was analyzed in the Proposed Action conditions.

Thresholds

The roadway segments were evaluated for operational deficiencies without and with the proposed LPOE enhancements. First, growth calculations were conducted to determine the average daily traffic anticipated on each roadway segment (volume, V) and the roadway segments were categorized by their professional classification and number of through lanes to determine the maximum capacity (capacity, C). Using this volume-to-capacity (V/C) ratio, the segments were then classified by their level of service (LOS) as a measurement of congestion and operation. LOS for a roadway segment is graded from A to F, with LOS A through D representing adequate operating conditions and LOS E or F representing unacceptable operating conditions.

Several agencies were referenced to find a suitable measurement of capacity on the roadways (and, therefore, to determine the LOS). Neither the City of Douglas, Cochise County or ADOT provide guidelines for the maximum capacity for a roadway by classification type, or a metric to calculate LOS for a roadway segment. Only the City of Yuma and Maricopa County Department of Transportation (MCDOT) provide relevant information. The City of Yuma's *2010 – 2033 Regional Transportation Plan* (Ayres et al. 2010) provides guidelines on the maximum capacity of a roadway by the number of through lanes and classification type, and a conversion factor to LOS. The *MCDOT Roadway Design Manual* (MCDOT 2021) provides similar guidelines, although with lower thresholds and more conservative capacities. Because the MCDOT data was more conservative overall and provided thresholds for both urban and rural settings (the rural data is most applicable for this analysis, and it provides an even more conservative evaluation than urban), MCDOT guidelines were selected for this analysis. However, MCDOT does not provide a conversion between the V/C ratio and LOS; due to this, nationally published LOS thresholds were referenced (Arfin and Yado 2020). National data specifies the following LOS tolerances shown in Table 3.8-1.

Table 3.8-1. Operating Conditions for Levels of Service (LOS) and Volume-to-Capacity (V/C) Ratios

LOS	Traffic Condition	V/C Ratio
A	Free Flow	<0.60
B	Light congestion	0.61-0.70
C	Stable flow with lower speeds	0.71-0.80
D	High density with stable flow	0.81-0.90
E	Severe congestion	0.91-1.00
F	Total breakdown	>1.00

The existing (2022) average daily traffic volumes on the roadways were assessed using the methodology discussed above. All historical data was grown using a 1.1% growth rate. The results are summarized in Table 3.8-2 below.

As shown in Table 3.8-2, all roadway segments currently operate at LOS B or better.

Table 3.8-2. 2022 Existing LOS Results

Roadway	# Thru Lanes	Classification	Max Capacity	ADT	V/C Ratio	LOS
Pan American Avenue	4	Major Arterial	22,900	14,216	0.62	B
SR-80 E (east of US-191)	4	Principle Arterial	22,900	8,409	0.37	A
US-191	2	Minor Arterial	20,700	2,627	0.13	A
SR-80 (between James Ranch Road and US-191)	4	Principle Arterial	22,900	6,379	0.28	A
James Ranch Road	2	Local	700	10	0.01	A
SR-80 W (west of James Ranch Road)	4	Principle Arterial	22,900	4,610	0.20	A

Source: ADOT 2022c

3.8.2 Environmental Consequences

3.8.2.1 *Methodology*

To evaluate the impacts on transportation resources, GSA reviewed the project alternatives to determine whether any activities have the potential to cause the following within the ROI:

- Change in vehicular traffic congestion, delays, or safety risks on roadways;
- Change in the LOS on roadways;
- Change in the operating capacity of the RHC LPOE; and
- Change in pedestrian and bicycle activity.

A significant adverse impact to transportation facilities would occur if the Proposed Action would result in:

- Increase in traffic volumes that would exceed the capacity of local roadways and intersections within the study area (i.e., significant degradation of LOS);
- Increase in traffic volumes resulting in deficient operations at the RHC LPOE;
- Increase in traffic resulting in traffic hazards to workers and users at the RHC LPOE; and
- Disruption or interference with existing pedestrian and bicycle facilities.

3.8.2.2 *No Action Alternative*

Under the No Action Alternative, GSA would not construct a new Commercial LPOE or expand and modernize the RHC LPOE. Therefore, vehicular trip generation and distribution of traffic on the local and regional roadways would remain unchanged from baseline conditions. In addition, there would be no construction activity on site and, as such, there would be no construction-related impacts.

Future traffic conditions under projected baseline conditions (i.e., the No Action Alternative) were calculated to provide a baseline comparison of the impacts for the Alternative 1 and Alternative 2 scenarios. The 1.1% compounded annual growth rate (reflecting anticipated growth conditions) was applied to the 2022 existing traffic volumes to estimate the future 2028 and 2033 traffic volumes under the projected baseline conditions. The average daily traffic summaries for the 2028 and 2033 projected baseline conditions are provided in Table 3.8-3 and Table 3.8-4, respectively.

Table 3.8-3. 2028 Projected Baseline Conditions LOS Results

Roadway	# Thru Lanes	Classification	Max Capacity	ADT	V/C Ratio	LOS
Pan American Avenue	4	Major Arterial	22,900	15,180	0.66	B
SR-80 (east)	4	Principle Arterial	22,900	8,979	0.39	A
US-191	2	Minor Arterial	20,700	2,805	0.14	A
SR-80 (between James Ranch Road and US-191)	4	Principle Arterial	22,900	6,813	0.30	A
James Ranch Road	2	Local	700	10	0.01	A
SR-80 (west)	4	Principle Arterial	22,900	4,923	0.21	A

ADT = average daily traffic, LOS = level of service, V/C = volume-to-capacity

Table 3.8-4. 2033 Projected Baseline Conditions LOS Results

Roadway	# Thru Lanes	Classification	Max Capacity	ADT	V/C Ratio	LOS
Pan American Avenue	4	Major Arterial	22,900	16,034	0.70	B
SR-80 (east)	4	Principle Arterial	22,900	9,483	0.41	A
US-191	2	Minor Arterial	20,700	2,962	0.14	A
SR-80 (between James Ranch Road and US-191)	4	Principle Arterial	22,900	7,195	0.31	A
James Ranch Road	2	Local	700	12	0.02	A
SR-80 (west)	4	Principle Arterial	22,900	5,200	0.23	A

ADT = average daily traffic, LOS = level of service, V/C = volume-to-capacity

Under the No Action Alternative, roadway segments within the ROI are anticipated to continue operating at acceptable LOS levels in 2028 and 2033, as summarized in Tables 3.8-3 and 3.8-4. Although LOS of the roadways would not substantially degrade during the years analyzed, the average daily traffic volumes are projected to increase and the LOS levels would be expected to decline in the future as surrounding population growth and travel at the border increases. Since COV processing would remain onsite, trucks and associated congestion and safety issues would remain in the City of Douglas and would hinder the city's revitalization plans for the downtown district. Furthermore, the capacity and efficiency of operations at the RHC LPOE would degrade over time, leading to longer delays and congestion. Overall, long-term, minor to moderate adverse impacts to transportation and traffic would be expected under the No Action Alternative.

3.8.2.3 *Alternative 1 – Sequential Construction*

Under Alternative 1, construction of the proposed Commercial LPOE and RHC LPOE would result in short-term, minor, adverse impacts to transportation resources and traffic levels, and temporary minor adverse impacts to pedestrian facilities. Operations would result in overall long-term, minor adverse impacts to transportation resources and traffic levels. In the City of Douglas, there would be long-term, beneficial direct impacts from relocation of COVs, but there could also be long-term, minor to moderate, adverse, and indirect impacts from population growth and increased efficiency of the RHC LPOE.

Construction (Commercial and RHC LPOEs)

Due to the interconnected nature of traffic impacts from construction and operations of the proposed Commercial LPOE and the expanded and modernized RHC LPOE, the traffic analysis for impacts at both the Commercial LPOE and RHC LPOE are combined.

Under Alternative 1, construction traffic is anticipated to result in short-term, intermittent and minor adverse impacts to roadways within the ROI at the proposed Commercial LPOE and RHC LPOE. Alternative 1 proposes to construct the project sequentially: the proposed Commercial LPOE would initially be constructed and substantially completed by 2028; and construction of the RHC LPOE would begin after COV processing moves to the new Commercial LPOE, and then be substantially completed by 2031. Due to the COVs being removed from the existing RHC LPOE location around 2028, the COV traffic is expected to decrease on Pan American Avenue and is expected to increase on James Ranch Road and SR-80 (between James Ranch Road and Pan American Avenue). The RHC LPOE is still expected to be open and operational during construction, though is not expected to have a significant impact on the overall daily throughput at the border due to careful phasing of the construction.

Construction traffic under Alternative 1 is expected to cause increases in daily volumes on the roadways in the ROI, first at the proposed Commercial LPOE and then at the RHC LPOE. During peak construction conditions (up to 2 years), approximately 100 construction workers and 150 construction-related trucks are

anticipated, effectively creating 500 new daily vehicle trips on the major surrounding roadways (i.e., 250 entering and exiting the area).

The major roadways in the area, such as Pan American Avenue, US-191, SR-80, and eventually James Ranch Road, have a relatively high maximum capacity (as shown in Table 3.8-2). An increase of 500 vehicles per day on these roadways is expected to have a temporary minor impact to the V/C ratios and the LOS. Furthermore, commuter traffic would be limited to the peak a.m. and p.m. commuting hours, near the start and end of the workday, respectively.

James Ranch Road is anticipated to have a maximum capacity of 5,000 vehicles per day once improved to a minor collector classification. The addition of 500 construction-related vehicle trips per day would have the largest impact to its V/C ratio. However, the LOS would still remain at an LOS A even with construction traffic added.

Construction would involve temporary pedestrian sidewalk closures, as some pedestrian sidewalks in the vicinity of the RHC LPOE would be closed during the construction period. Pedestrians would still be permitted at the RHC LPOE; however, they may be re-directed to use alternate sides of the roadway or alternate areas of the LPOE permitted to maintain connectivity per the Americans with Disabilities Act. Thus, temporary, minor adverse impacts would occur on pedestrian facilities along the project frontage during construction.

Operations (Commercial and RHC LPOEs)

The 2028 and 2033 operational evaluation combines the growth of the existing traffic volumes and the anticipated changes to COV traffic on the surrounding roadway network. As discussed under "Evaluation Scenarios" in Section 3.8.1.3, two scenarios are considered for the impacts analysis, an "anticipated growth" scenario where a 1.1% growth rate would occur for population/POV and COV growth, and "worst-case" scenario where a 2% population/POVs growth and an 8.6% COV growth would occur. The results of the 2028 and 2033 operational evaluation are summarized in Table 3.8-5 and Table 3.8-, respectively.

Under Alternative 1, adverse impacts to traffic and transportation resources would be long-term and minor overall; the City of Douglas would experience a long-term, beneficial impact from the relocation of COV traffic from the city to the new Commercial LPOE. In 2028 and 2033 with implementation of Alternative 1, all roadway segments are anticipated to be operating at acceptable LOS C or better.

Table 3.8-5. 2028 Proposed Action LOS Results

Roadway	# Thru Lanes	Classification	Max Capacity	Anticipated Growth			Worst-Case Scenario		
				ADT	V/C Ratio	LOS	ADT	V/C Ratio	LOS
Pan American Avenue	4	Major Arterial	22,900	14,890	0.64	B	15,692	0.67	B
SR-80 (east)	4	Principle Arterial	22,900	8,703	0.38	A	9,335	0.40	A
US-191	2	Minor Arterial	20,700	2,791	0.13	A	2,960	0.14	A
SR-80 (between James Ranch Road and US-191)	4	Principle Arterial	22,900	7,103	0.31	A	7,708	0.33	A
James Ranch Road	2	Minor Collector	5,000	300	0.01	A	472	0.01	A
SR-80 (west)	4	Principle Arterial	22,900	4,923	0.21	A	5,238	0.22	A

ADT = average daily traffic, LOS = level of service, V/C = volume-to-capacity

Table 3.8-6. 2033 Proposed Action LOS Results

Roadway	# Thru Lanes	Classification	Max Capacity	Anticipated Growth			Worst-Case Scenario		
				ADT	V/C Ratio	LOS	ADT	V/C Ratio	LOS
Pan American Avenue	4	Major Arterial	22,900	15,726	0.69	B	17,139	0.75	C
SR-80 (east)	4	Principle Arterial	22,900	9,191	0.40	A	9,888	0.43	A
US-191	2	Minor Arterial	20,700	2,946	0.14	A	3,261	0.16	A
SR-80 (between James Ranch Road and US-191)	4	Principle Arterial	22,900	7,503	0.33	A	8,696	0.38	A
James Ranch Road	2	Minor Collector	5,000	320	0.06	A	706	0.14	A
SR-80 (west)	4	Principle Arterial	22,900	5,200	0.23	A	5,783	0.25	A

ADT = average daily traffic, LOS = level of service, V/C = volume-to-capacity

James Ranch Road is anticipated to have a maximum capacity of 5,000 vehicles per day once improved to a minor collector classification. As shown in Table 3.8-6, even under the worst-case scenario, the projected traffic volume on this road would still be well under its maximum capacity and its LOS level would still remain at an LOS A, even with COV and commuting worker traffic added.

Removing commercial traffic away from the existing RHC LPOE to a new location on James Ranch Road is anticipated to have a long-term, beneficial impact to traffic and transportation resources in the City of Douglas. Local roadways (which are not designed to experience daily loads of heavy-duty trucks) are expected to experience less wear on the asphalt from fewer trucks with multiple axles, and the noise, air emissions, and congestion associated with large and slow COVs would also be substantially reduced.

Based on the traffic analysis summarized in Table 3.8-2, the major roadways affected by travel to and from the RHC LPOE currently operate with minimal traffic volumes and provide acceptable operational characteristics. Under Alternative 1, roadways within the ROI are anticipated to continue operating with sufficient capacities and acceptable LOS levels for the years analyzed, as summarized in Tables 3.8-5 and 3.8-6.

Although vehicular traffic volumes in the city would initially experience a net decrease because of the removal of the COVs, it is uncertain how the increased efficiency of the modernized port would impact future traffic volumes. Because the RHC LPOE would be upgraded, there would be more POVs passing through per hour as processing times would decrease. Additionally, the traffic analysis assumed a conservative growth rate of 2% to estimate the increase in POV traffic volumes. As such, vehicular traffic volumes at the RHC LPOE could increase beyond the analysis year 2033, thus leading to more traffic volumes and long-term, minor to moderate indirect adverse impacts to transportation resources

Alternatives 1a – 1d: Reuse, Relocate, or Demolish Historic Structures

Alternatives 1a through 1d relate to the sub-alternatives for the management of the historic Main Building and Garage, as described in Section 2.1.2.1. As these sub-alternatives would take place within the footprint of the RHC LPOE, the potential impacts to traffic and transportation resources as already identified under Alternative 1 would be similar. Additional temporary, minor adverse impacts to traffic would occur under Alternatives 1c and 1d from additional trucks transporting debris during construction.

3.8.2.4 *Alternative 2 – Concurrent Construction*

Under Alternative 2, construction of the proposed Commercial LPOE and RHC LPOE would result in short-term, minor to moderate, adverse impacts to transportation resources and traffic levels, and temporary minor adverse impacts to pedestrian facilities. Operations would result in overall long-term, minor adverse impacts to transportation resources and traffic levels. In the City of Douglas, there would be long-term, beneficial direct impacts from relocation of COVs, but there could also be long-term, minor to moderate, adverse, and indirect impacts from population growth and increased efficiency of the RHC LPOE.

Construction (Commercial and RHC LPOEs)

Under Alternative 2, construction traffic is anticipated to result in temporary, minor to moderate adverse impacts to roadways and traffic conditions within the ROI at the proposed Commercial LPOE and RHC LPOE. Alternative 2 proposes to construct the project concurrently, where the proposed Commercial LPOE and the enhancements to the RHC LPOE would both be substantially complete by 2028. The RHC LPOE is still expected to be open and operational during construction, though is not expected to have a significant impact on the overall daily throughput at the border due to careful phasing of the construction.

Similar to Alternative 1, construction traffic under Alternative 2 is expected to cause an increase in daily traffic volumes on the roadways within the ROI. During peak construction conditions (up to 2 years), approximately 100 construction workers and 150 construction-related trucks are anticipated, effectively creating 500 new daily vehicle trips on the major surrounding roadways (i.e., 250 entering and exiting the area). However, because construction of the proposed Commercial LPOE and at the RHC LPOE would occur simultaneously, some of the roadways would experience an overlap of construction traffic for both LPOE sites. Furthermore, COV processing would remain onsite at the existing port throughout the construction phase at the RHC LPOE. As such, Pan American Avenue, SR-80 (east), and US-191 would likely experience greater traffic volumes than those that would occur under Alternative 1.

For comparison, Pan American Avenue, SR-80 (east), and US-191 is expected to have a relatively high maximum capacity under baseline conditions in 2028, as shown in Table 3.8-3. An increase of 500 vehicles per day on these roadways is expected to have a temporary minor to moderate impact to the V/C ratios, even considering potential overlapping traffic volumes. Pan American Avenue could potentially degrade to an LOS of C, though the operating conditions at this level still represents acceptable traffic conditions. Furthermore, the majority of traffic volumes results from commuting traffic which would be limited to peak a.m. and p.m. commuting hours during the workday.

Similar to Alternative 1, construction would involve temporary pedestrian sidewalk closures, and pedestrians may be re-directed to use alternate sides of the roadway or alternate areas of the LPOE. Thus, temporary, minor adverse impacts would occur on pedestrian facilities along the project frontage during construction.

Operations (Commercial and RHC LPOEs)

Potential impacts to transportation and traffic under Alternative 2 would be similar to those discussed under Alternative 1. Under Alternative 2, adverse impacts to transportation and traffic would be long-term and minor overall; the City of Douglas would experience a long-term, beneficial impact from the relocation of COV traffic from the city to the new Commercial LPOE.

Similar to Alternative 1, the COV traffic is expected to decrease on Pan American Avenue and SR-80 (east) and increase on James Ranch Road and SR-80 (between James Ranch Road and Pan American Avenue). However, because construction would be substantially completed for both LPOE sites by 2028, the traffic scenario presented in Table 3.8-5 (Proposed Action LOS in 2028) would likely be the traffic conditions on the roadways by the time both facilities are in operations. Under Alternative 2, roadways within the ROI are anticipated to continue operating with sufficient capacities and acceptable LOS levels, as summarized in Tables 3.8-5 and 3.8-6.

Alternatives 2a – 2d: Reuse, Relocate, or Demolish Historic Structures

Alternatives 2a through 2d relate to the sub-alternatives for the management of the historic Main Building and Garage, as described in Section 2.2.1. Under Alternatives 2a through 2d, transportation and traffic impacts during construction would be similar to those described under Alternatives 1a through 1d.

3.8.2.5 *Impact Reduction Measures*

Measures that would reduce impacts related to transportation during construction and operations are discussed below.

- Minimize construction vehicle movement during peak traffic hours;
- Place construction staging areas where they would least interfere with local traffic and parking;
- Minimize detours and impacts to pedestrians during construction activities, to include by providing appropriate information and signage to pedestrians and motorists who are traveling throughout the area;
- Develop a construction traffic and parking management plan that minimizes traffic interference and maintains traffic flow and safety.
- Develop and implement Transportation Demand Management strategies to reduce single occupancy vehicles and encourage carpooling and implementing a shuttle bus for commuting to/from construction sites;
- Implement traffic signal coordination on arterial streets where practical to maximize the efficiency of the intersections and roadway network;
- Coordinate with local, state, and federal transportation authorities when planning access to the RHC LPOE site; and
- Follow all local, state, and federal planning guidelines and regulations when maintaining or upgrading roadway infrastructure.

3.9 NOISE

This section describes the baseline conditions for noise levels in the project areas and potential noise impacts that could result from implementing the Proposed Action, including the alternatives as discussed in Chapter 2. Sensitive noise receptors identified include nearby residences, schools, libraries, hospitals, nursing home facilities, and recreational areas.

3.9.1 Affected Environment

3.9.1.1 *Region of Influence*

The ROI for the noise analysis includes areas within 0.5 mile (2,640 feet) of the proposed Commercial LPOE, the existing RHC LPOE and expansion areas, and areas along either side of regional major roadways that would experience potential increases in project-related traffic (see Section 3.8, Transportation and Traffic), including: James Ranch Road, SR-80 (between James Ranch Road and US-191; and between US-191 and Pan American Avenue), US-191, and Pan American Avenue.

3.9.1.2 *Regulatory Setting and Requirements*

Noise Principles. Noise is defined as any sound that is undesirable to a receptor because it interferes with communication, is intense enough to damage hearing, or is otherwise intrusive and degrades quality of life. Noise can also be detrimental if it disturbs an organism's normal behavior (USEPA 1981).

The human ear experiences sound because of pressure variations in the air. The physical intensity or loudness level of noise sources is expressed quantitatively as the sound pressure level. Sound pressure levels are defined in terms of decibels (dB), which are measured on a logarithmic scale. Sound can be quantified in terms of its amplitude (loudness) and frequency (pitch). Since the human ear cannot perceive all pitches or frequencies equally, measured noise levels in dB will not reflect the actual human perception of the loudness of the noise. Thus, the sound measures can be adjusted or weighted to correspond to a scale appropriate for human hearing. This adjusted scale, known as the A-weighted sound level in decibels (dBA), is useful for gauging and comparing the subjective loudness of sounds to humans.

Table 3.9-1 presents sounds encountered in daily life, their dBA levels, and how they affect hearing. For example, a whisper is usually 30 dBA and is considered to be very quiet, an air conditioning unit is considered an intrusive noise at 60 dBA, and the sound of a refrigerator at 55 dBA is considered at the level of ambient sound levels. Noise levels can become annoying at 80 dBA and very annoying at 90 dBA (USEPA 1981).

The two most common types of noise are point sources and line sources. Point source noise is usually associated with a source that remains generally in one place for extended periods of time, for example most construction activities. Line source noise is generated by moving objects along a linear corridor, for example highway traffic noise. Noise generated by point and line sources have the potential to impact sensitive noise receptors, such as residences, hospitals, and schools. Persistent and escalating sources of sound are often considered annoyances and can interfere with normal activities, such as sleeping or conversation, such that these sounds could disrupt or diminish quality of life.

Potential noise levels at sensitive receptor locations resulting from stationary sources is usually evaluated for construction and normal operations by identifying sound levels from dominant noise-producing equipment, summing (using a logarithmic scale) anticipated equipment noise contributions, and applying fundamental noise attenuation principles. The standard reduction for point source noise is 6 dB per doubling of distance from the source.

Table 3.9-1. Sound Levels and Human Response

Sound Level (dBA)	Effect	Outdoor	Indoor
30	Very quiet	Rustling leaves	Soft whisper (15 feet)
40	Quiet	Quiet residential area	Library
55	Ambient	Rainfall or light auto traffic (100 feet)	Refrigerator
60	Intrusive	Normal Conversation	Air conditioning unit (20 feet)
70	Telephone use difficult	Freeway traffic	Noisy restaurant or TV audio
80	Annoying	Downtown (large city)	Alarm clock (2 feet) or ringing telephone
90	Very annoying; hearing damage (8 hours)	Tractor, bulldozer, excavator	Garbage disposal
100	Very annoying	Garbage truck, motorcycle	Subway train
110	Strained vocal effort	Pile drivers	Power saw at 3 feet
120	Maximum vocal effort	Jet takeoff (200 feet) or auto horn (3 feet)	Rock concert
140	Painfully loud	Carrier deck jet operation	--

Source: USEPA 1981
dBA = A-weighted decibel

Generally, the level of traffic noise is increased by heavier traffic volumes, inclined roads, higher speeds, and greater numbers of trucks. In addition, there are other, more complicated factors that affect the loudness or attenuation of traffic noise, such as distance, terrain, and vegetation. Barriers, both manmade (e.g., sound walls) and natural (e.g., forested areas, hills, etc.), as well as other natural factors such as temperature and climate, may reduce noise levels. The standard reduction for line source noise is 3 dB per doubling of distance from the source (compared to 6 dB for construction point source noise) (USDOT 2018).

Standard buildings typically provide approximately 15 dB of noise reduction between exterior and interior noise levels (USEPA 1978).

Noise Regulatory Framework. The Occupational Health and Safety Act (OSHA's) noise standard (29 CFR 1910.95) established workplace standards for noise. The minimum requirement states that constant noise exposure must not exceed 90 dBA over an 8-hour period. The highest allowable sound level to which workers can be constantly exposed is 115 dBA; exposure to this level must not exceed 15 minutes within an 8-hour period. 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 reduces sound levels to acceptable limits (OSHA 2019).

The Noise Control Act of 1972 (PL 92-574) directs federal agencies to comply with applicable federal, state, interstate, and local noise control regulations. In 1974, the USEPA provided information suggesting that a DNL of 55 dBA outdoors and 45 dBA indoors is the threshold above which noise could cause interference or annoyance. However, in 1982, the USEPA transferred the primary responsibility of regulating noise to state and local governments.

Chapter 8.28, "Noise," under Title 8 ("Health and Safety") of the City of Douglas's Municipal Code regulates the control of unnecessary, excessive, and annoying sounds emanating from the city. The city's noise regulations define noise sensitive zones as areas immediately surrounding schools, institutions of learning, libraries, places of religious worship, hospitals, nursing homes, and courts which conspicuously display signs indicating that those areas are so designated. Typically, the applicability of the city's noise restrictions are based on the type of activity and its noise impact on noise sensitive zones and locations that are zoned or developed for residential use. The city's noise regulations do not identify specific noise level thresholds, though generally states activities are prohibited if they produce: 1) excessive or disruptive noise; and 2) are continuous or intermittent for at least 15 minutes; or occur after 10:00 p.m. but before 6:00 a.m.; and 3) are plainly audible beyond the property line of the property on which conducted; and 4) disturbs the peace and quiet of a neighborhood or a reasonable person of normal sensibilities or special event. Construction work is exempt from these general provisions. Furthermore, the city can grant temporary exemptions for certain activities upon evaluating factors, such as the level of the sound to be generated by the activity, proximity to sensitive zones, and time the activity would take place (City of Douglas 2020).

For unincorporated areas in Cochise County, noise regulations are defined in the county's zoning regulations and applicability of the regulations is based on the type of zoning of a property. Cochise County's noise regulations do not identify specific noise level thresholds, except for noise due to wind energy turbines. Relevant noise regulations generally state that no noise, except for normal vehicular traffic, is allowed that is discernible on neighboring residential sites to the unaided human senses for three minutes or more duration in any one-hour of the day between the hours of 7:00 a.m. and 7:00 p.m. or 30-seconds or more duration in any one hour between the hours of 7:00 p.m. and 7:00 a.m. (Cochise County 2022b).

3.9.1.3 *Existing Conditions*

Commercial LPOE

The proposed Commercial LPOE site and surrounding properties can be characterized as undeveloped, desert land on both the U.S. and Mexico sides. Primary noise sources in the region include vehicles traveling on SR-80, aircraft from nearby airports, and natural sources, such as wind. SR-80 is located approximately 1 mile north of the project area. An additional noise source near the project area is from intermittent vehicular noise as vehicles occasionally drive along International Avenue. The closest noise receptor to the proposed Commercial LPOE are three residential properties located 2,500 feet (1 property) and 5,500 feet (two properties) to the north of the project area along James Ranch Road. There are no other human sensitive receptors within 1 mile of the project area.

The project area can be accessed from James Ranch Road via SR-80 or from International Avenue via Kings Highway. James Ranch Road is primarily undeveloped with three residences located just south of its intersection with SR-80. Another residential property is located on James Ranch Road directly north of its intersection with SR-80. International Avenue is a dirt road located along the border fence and largely accessed by the U.S. Border Patrol.

As described in Section 3.8, Transportation and Traffic, SR-80 is a major 4-lane, thoroughfare in Cochise County and connects the proposed Commercial LPOE site to US-191 and the City of Douglas to the east and Cochise College and Bisbee to the west. US-191 is primarily a 2-lane highway that intersects SR-80 approximately 4 miles east of James Ranch Road. As US-191 extends north, it passes through the small towns of McNeal and Elfrida and then connects to Interstate 10.

Sensitive receptors located along SR-80, between James Ranch Road and US-191, include several residential properties. Sensitive receptors located along SR-80, between US-191 and Pan American Avenue, include a church, motel, city park, and several blocks of residential homes intermingled with commercial businesses. Sensitive receptors located along US-191 include a campground and a few residential properties.

RHC LPOE

Land uses immediately surrounding the RHC LPOE consist of commercial and industrial uses. On the Mexico side, adjacent properties include commercial and industrial buildings, parking lots, and a government building. The main contributor of noise in the vicinity of the existing port is vehicular traffic.

Vehicles entering and exiting the port often travel on Pan American Avenue, which is a major thoroughfare providing access to many commercial and industrial facilities in the city. Near the existing port, many shopping and commercial businesses are located directly west of Pan American Avenue. G Avenue travels through the city's downtown district, which is located 0.5 mile northeast from the RHC LPOE. Thus, traffic along these corridors are major sources of elevated sound levels in the city. Additionally, trucks processed at the port sometimes travel on 1st Street to industrial warehouses located along this road. These trucks contribute to loud, intermittent sound levels along these corridors, mainly during the port's operating hours for commercial vehicles (9:00 a.m. to 5:00 p.m., Monday through Friday).

The closest noise-sensitive receptors would be users of the Paseo de las Americas Linear Park located adjacent the western boundary of the port, which extends over 1 mile north along Pan American Avenue. Other nearby sensitive receptors include residential properties on 1st Street, approximately 160 feet east of the RHC LPOE (and directly 60 feet south of the port-owned parking lot on 1st Street); and the 3rd Street Park, approximately 600 feet from the port's eastern boundary. As the ROI expands out to the northeast from the existing port, it is generally dominated by residential neighborhoods. Other nearby sensitive receptors within the ROI include a hospital, church, park, and a school. Table 3.9-2 lists the sensitive receptors within the RHC LPOE ROI.

Table 3.9-2. Noise-Sensitive Receptors Within 0.5 mile of the RHC LPOE

Receptor Type	Receptor	Direction from RHC LPOE	Distance (feet)
Park	Paseo de las Americas Linear Park	West to North	0 to > 5,280
Residence	Residential Areas	East[a]	160
Residence	Residential Areas	Northeast	600
Park	3rd Street Park	Northeast	700
Residence	Residential Areas	Northeast	750
Church	Templo Bethel	Northeast	750
Residence	Residential Areas	North, Northeast	800
Residence	Residential Areas	North, Northeast	850
Residence	Residential Areas	North, Northeast, East	900
Residence	Residential Areas	North, Northeast, East	950
Residence	Residential Areas	North, Northeast, East	1,000
Residence	Residential Areas	North, Northeast	>1,000[b]
Hospital	Copper Queen Community Hospital – Rural Clinic	North	1,100
Hospital	Copper Queen Community Hospital	Northwest	1,500
Residence	Best Western Douglas Inn & Suites	North	1,600
Church	Church of God	Northeast	1,600
School	Center for Academic Success	Northeast	1,800
Church	Maranatha Church	Northeast	1,900
Preschool	Headstart Douglas	Northeast	1,900

RHC LPOE = Raul Hector Castro Land Port of Entry; ROI = region of influence
[a] Properties are directly 60 feet south of the port-owned parking lot on 1st Street.
[b] Between 1,000 feet and 0.5 mile, land use is predominantly residential.

3.9.2 Environmental Consequences

3.9.2.1 *Methodology*

To evaluate the potential impacts from noise, GSA reviewed the project alternatives to determine whether any activities have the potential to cause the following within the ROI:

- Addition of new mobile and stationary noise sources;
- Conflict with any federal, state, or local noise ordinances; or
- Long-term perceptible increase in ambient noise levels above regulatory thresholds at sensitive receptors during operations.

A significant adverse impact resulting from projected-related noise would occur if the Proposed Action would result in:

- Harm or injury to adjacent communities or sensitive receptors (i.e., residences, schools, hospitals, etc.); or
- Exceed applicable environmental noise limit guidelines.

3.9.2.2 *No Action Alternative*

Under the No Action Alternative, GSA would not construct a new Commercial LPOE or expand and modernize the RHC LPOE. Ongoing maintenance at the RHC LPOE would occur, which could generate intermittent increases in noise levels depending on the activity. Inspection of COVs would remain at the RHC LPOE and elevated, intermittent noise levels associated with COVs entering and existing the existing port would continue to occur at the RHC LPOE and through the City of Douglas, resulting in overall long-term, minor to moderate adverse noise impacts.

3.9.2.3 *Alternative 1 – Sequential Construction*

Under Alternative 1, construction of the proposed Commercial LPOE and RHC LPOE would result in short-term, minor, adverse noise impacts. Operations would result in permanent, moderate adverse impacts at the proposed Commercial LPOE and receptors along SR-80 and US-191. There would be long term beneficial noise impacts; as well as long-term, minor, adverse, and indirect noise impacts near the RHC LPOE.

Construction

Commercial LPOE

Under Alternative 1, ambient noise levels within the vicinity of the proposed Commercial LPOE site would temporarily increase due to construction of the new facility. Noise levels would be elevated throughout the duration of construction, which is estimated to occur over a period of approximately 48 to 54 months. Construction activities would occur within hours that are in accordance with county noise ordinance. Construction activities would involve site preparation, excavation, grading, hauling of debris and materials, and building construction. The specific types of construction equipment and methods are not yet known, although are anticipated to be typical of standard building construction activities. Table 3.9-3 presents typical construction equipment (mobile and stationary) and the corresponding noise levels.

Table 3.9-3. Estimated Noise Levels from Construction Activities

Equipment	Typical Noise Level at 50 feet (dBA)	Typical Noise Level at 500 feet (dBA)	Typical Noise Level at 1,000 feet (dBA)	Typical Noise Level at 1,500 feet (dBA)
Front Loader	80	60	54	50
Backhoe, excavator	80	60	54	50
Roller	85	65	59	55
Grader	85	65	59	55
Scraper	85	65	59	55
Truck	84	64	58	54
Concrete mixer	85	65	59	55

Source: Lamancusa 2009; USDOT 2018
dBA = A-weighted decibel

Depending on the phase of construction, equipment listed in Table 3.9-3 could be operated simultaneously. Table 3.9-4 presents typical noise levels during various construction activities and range from 78 to 89 dBA (at 50 feet), which would dissipate with distance. To estimate noise levels at nearby receptors, a conservative estimate of 90 dBA (at 50 feet) was used for the analysis by combining the noise levels of several pieces of construction equipment.

Table 3.9-4. Noise Levels Associated with Outdoor Construction

Construction Phase	dBA L_{eq} at 50 feet from Source
Ground Clearing	84
Excavation, Grading	89
Foundations	78
Structural	85
Finishing	89

Source: USEPA 1974; Bolt et al. 1971
dBA = A-weighted decibels; L_{eq} = Equivalent Sound Level

The closest sensitive receptors to the construction site would be three residential properties located approximately 2,500 and 5,500 feet to the north. The estimated noise level resulting from construction activities would be approximately 56 dBA at the closest property line of these properties, which is considered below "intrusive" as listed in Table 3.9-1. Additionally, this sound level would be attenuated further when indoors, as standard buildings with windows and doors shut can reduce noise levels by approximately 15 dBA (USEPA 1978). OSHA regulations (i.e., wearing hearing protection and limiting exposure) would be followed to reduce the impact of noise on construction workers. Overall, construction of facilities at the proposed Commercial LPOE site is expected to have a minor adverse noise impact and would be short-term and intermittent.

Ambient noise levels along SR-80, US-191, and James Ranch Road would increase as a result of construction-related vehicles, as well as from construction workers commuting to and from the construction site. Short-term, minor adverse effects on sensitive noise receptors along these roadway corridors would be expected from the construction traffic as the truck transport would be intermittent, would be restricted to typical business hours, and commuter traffic would be limited to daily construction start and end times.

RHC LPOE

Under Alternative 1, ambient noise levels within the vicinity of the RHC LPOE would increase due to construction activities resulting from the expansion and modernization of the existing port. Construction at the RHC LPOE is estimated to occur over a period of approximately 36 to 42 months, after the COV operations relocate to the new Commercial LPOE. Construction activities would occur within hours that are in accordance with the city's noise ordinance. Construction activities would involve demolition, site preparation, excavation, grading, hauling of debris and materials, and building construction. The specific types of construction equipment and methods are not yet known, although are anticipated to be typical of standard building construction activities, as shown in Table 3.9-3. As with construction at the Commercial LPOE, equipment listed in Table 3.9-3 could be operated simultaneously depending on the phase of construction (refer to Table 3.9-4 for typical noise levels during various construction activities). As with construction at the Commercial LPOE, a conservative estimate of 90 dBA (at 50 feet) was used for analysis to estimate noise levels at nearby receptors by combining the noise levels of several pieces of construction equipment.

The closest sensitive receptor to the RHC LPOE would be the users at the Paseo de las Americas Linear Park adjacent to the western boundary of the existing port. Users of the trail could experience intermittent construction noise as the trail gets closer to the RHC LPOE and may cause annoyance to the users. Additional nearby residential properties are located east of the port on 1st Street, at a distance of 160 feet; and residential properties and 3rd Street Park located northeast of the port on 3rd Street, at a distance of 700 feet. Estimated noise levels at these sites during construction are approximately 80 dBA to 67 dBA, respectively. However, standard buildings with windows and doors shut would further reduce noise levels by approximately 15 dBA (USEPA 1978). Therefore, the estimated noise level from the combined construction equipment within 50 feet would reduce to 75 dBA and could result in 65 dBA (at 160 feet) and 52 dBA (at 700 feet) indoors.

Construction noises could have minor noise impacts on the few nearby residences; however, due to the nature of construction, the noise would be short-term and intermittent until the construction phase is over. Furthermore, increases in noise levels during construction at the RHC LPOE would be offset because of the relocation of COV operations to the new facility. As with construction at the Commercial LPOE, OSHA regulations (i.e., wearing hearing protection and limiting exposure) would be followed to reduce the impact of noise on construction workers.

Although construction would be temporary, potential noise impacts would be minimized to the extent possible by standard noise control measures, such as project scheduling, noise barriers, and using noise controls on equipment (e.g., mufflers). Activities would be consistent with normal construction activities and would be conducted in accordance with the City of Douglas's noise ordinance.

Ambient noise levels along Pan American Avenue, SR-80, and US-191 would increase as a result of an increase in construction-related vehicles and construction workers commuting to and from the construction site. Minor adverse effects on sensitive noise receptors along these roadway corridors would be expected from the construction traffic as truck transport would be intermittent, would generally occur during typical business hours, and commuter traffic would be limited to daily construction start and end times. Also, any additional increase in noise levels from construction-related traffic would be offset from the relocation of COVs to the new Commercial LPOE.

Operations

Commercial LPOE

Under Alternative 1, the proposed Commercial LPOE would be a new, permanent source of noise for the area due to vehicular traffic as COVs would enter and exit through this facility. It is anticipated that operations would occur within the hours of 6:00 a.m. and 10:00 p.m., Monday through Friday. Additionally, intermittent, elevated noise levels could potentially be heard from the onsite firing range

facility; however, this would generally be limited to the immediate area of the range, as the facility would be enclosed and resulting noise impacts to the closest residence would be minimal. Ambient noise levels in the project area would permanently increase as a result of operations at the new Commercial LPOE and would be detectable to the three residential properties located on James Ranch Road. SR-80 (between James Ranch Road and US-191) and US-191 would experience an increase in intermittent noise levels from the COVs during operating hours. Adverse noise impacts resulting from the operation of the Commercial LPOE are expected to be moderate and permanent.

RHC LPOE

Under Alternative 1, ambient noise levels at the RHC LPOE, Pan American Avenue, and SR-80 (between US-191 and Pan American Avenue) are initially expected to decrease as a result of the relocation of COVs to the new Commercial LPOE which would result in a long-term beneficial noise impact to sensitive receptors along these roadway corridors.

Although vehicular traffic volumes would initially experience a net decrease because of the removal of the COVs, it is uncertain how the increased efficiency of the modernized port would impact future traffic volumes. Because the LPOE would be upgraded, there would be more POVs passing through per hour as processing times would decrease. For purposes of the traffic analysis, a conservative growth rate of 2% was used to estimate the increase in POV traffic volumes (see Section 3.8.1.3). This increase in vehicles passing through would likely generate more noise than current POV levels with many vehicles idling while waiting to be processed. Over the long term, as the City of Douglas continues to grow, the number of POVs on roadways could increase; thus, overall POV traffic passing through the LPOE could also increase, along with the increased noise that would come with increased traffic resulting in long-term, minor, adverse and indirect noise impacts.

Alternatives 1a – 1d: Reuse, Relocate, or Demolish Historic Structures

Alternatives 1a through 1d relate to the sub-alternatives for the management of the historic Main Building and Garage, as described in Section 2.1.2.1. Type and intensity of adverse noise impacts are associated with construction activities and would depend on the sub-alternative chosen:

- Alternative 1a would involve reusing the existing historic structures and noise impacts would result from some construction activities outdoors, but mostly taking place indoors with renovation work. Temporary, negligible adverse impacts would be expected and would be limited mainly to construction workers.
- Alternative 1b would involve the relocation of the historic structures and noise impacts would mainly result from heavy-duty machinery used to lift and move the structures and from typical construction activities and equipment, such as excavators, used to prepare and construct a building foundation. Temporary, intermittent minor adverse noise impacts would be expected and would be limited to construction workers and facility employees.
- Alternative 1c would involve the demolition of the historic structures and noise impacts would be greatest under this sub-alternative in comparison to Alternatives 1a and 1b. Major noise sources would include heavy-duty equipment, such as excavators, and trucks hauling debris from the demolition site. Temporary, intermittent minor adverse noise impacts would be expected and would affect construction workers, facility employees, and a couple of residential properties located less than 200 feet east of the RHC LPOE.
- Alternative 1d would involve a combination of Alternatives 1a through 1c and the type of noise impacts would be similar to those previously discussed under each sub-alternative; the extent would occur within the range of noise levels that would result from Alternatives 1a, 1b, or 1c.

3.9.2.4 *Alternative 2 – Concurrent Construction*

Under Alternative 2, construction of the proposed Commercial LPOE would result in short-term, minor, adverse noise impacts. Construction at the RHC LPOE would result in short-term, moderate, adverse noise impacts. Operations would result in permanent, moderate adverse noise impacts at the proposed Commercial LPOE and receptors along SR-80 and US-191. There would be long term beneficial noise impacts; as well as long-term, minor, adverse, and indirect noise impacts near the RHC LPOE.

Construction

Under Alternative 2, impacts to ambient noise levels during construction of the Commercial LPOE would be the same as those discussed under Alternative 1.

At the RHC LPOE, adverse noise impacts from construction would occur within the vicinity of the port, similar to those discussed under Alternative 1. However, because construction of the Commercial LPOE and RHC LPOE would occur simultaneously under Alternative 2, COV processing at the RHC LPOE would not be relocated until approximately 48 to 54 months after construction begins; construction at the RHC LPOE would occur while COV still remained onsite for processing. Therefore, ambient noise levels under Alternative 2 construction would be higher than those discussed under Alternative 1 as it includes the COV traffic noise. Intermittent elevated noise levels from the COVs would occur in addition to the construction noise at the RHC LPOE and would result in short-term, intermittent, moderate adverse impacts to workers at the facility and to sensitive noise receptors as identified in Alternative 1. Although construction would be temporary, potential noise impacts at the RHC LPOE would be minimized to the extent possible by standard noise control measures, similar to those discussed under Alternative 1.

Similar to Alternative 1, ambient noise levels along Pan American Avenue, SR-80, and US-191 would increase from construction-related vehicles, as well as commuting construction workers under Alternative 2. However, since the processing of COVs would remain at the existing port under Alternative 2 until the Commercial LPOE is open, these roads would continue to experience the COV traffic, in addition to construction-related trucks and commuter cars for the construction at the RHC LPOE. As such, noise levels on these roadways during RHC LPOE construction as discussed for Alternative 1 would be greater under Alternative 2 for the initial 36 to 42 months of construction, after which construction at the RHC LPOE would be complete. Impacts from increased noise levels on roadways would be short-term, minor to moderate, and adverse.

Operations

Under Alternative 2, impacts to ambient noise levels during operations of the Commercial LPOE would be the same as those discussed under Alternative 1.

Potential noise impacts at the modernized RHC LPOE under Alternative 2 would be similar to those discussed under Alternative 1. Ambient noise levels at the RHC LPOE and Pan American Avenue are expected to initially decrease as a result of the relocation of COVs to the new Commercial LPOE and represents a long-term beneficial noise impact to sensitive receptors along these roadways and within the City of Douglas. This benefit would occur after construction of the Commercial LPOE is completed. However, there could be a long-term, minor to moderate, adverse, and indirect noise impact from population growth and increased efficiency of the RHC LPOE leading to increased traffic.

Alternatives 2a – 2d: Reuse, Relocate, or Demolish Historic Structures

Alternatives 2a through 2d relate to the sub-alternatives for the management of the historic Main Building and Garage, as described in Section 2.2.1. Under Alternatives 2a through 2d, noise impacts during construction would be similar to those described under Alternatives 1a through 1d.

3.9.2.5 *Impact Reduction Measures*

Noise impacts would be minimized to the extent possible through various measures, including:

- Implementation of noise control measures, such as project scheduling, noise barriers, and using noise controls on equipment (e.g., mufflers).
- Conducting construction activities within hours that are in accordance with local noise ordinances.
- If a variation from normal construction hours is required, a variance permit from the City of Douglas or Cochise County would be obtained.
- All construction activities would comply with the City of Douglas's and Cochise County's noise ordinance.

3.10 INFRASTRUCTURE AND UTILITIES

This section assesses the potential for existing utilities and support infrastructure within the vicinity of the RHC LPOE site and the proposed Commercial LPOE site to affect, or be affected by, implementation of the Proposed Action, including the alternatives as discussed in Chapter 2. Infrastructure refers to the roadway network and facilities at the RHC LPOE; utilities refer to the water and sewer, natural gas, electricity, stormwater systems, and communication systems at or near the RHC LPOE and proposed Commercial LPOE site.

3.10.1 Affected Environment

3.10.1.1 *Region of Influence*

For purposes of this analysis, it is assumed that the ROI includes utilities utilized by the RHC LPOE and any other utilities located on or adjacent to the RHC LPOE site and the proposed Commercial LPOE site. Existing utilities and support infrastructure located in the ROI, primarily within local roadways and the existing RHC LPOE site, include water and sewer, natural gas, electricity, communications and stormwater, and are discussed below.

3.10.1.2 *Regulatory Setting and Requirements*

GSA's P100 Standards outline criteria for the following: general requirements; urban development and landscape design; architecture and interior design; structural and civil engineering; mechanical engineering; electrical engineering; fire protection; and design standards for specialty spaces. The proposed Commercial LPOE and RHC LPOE would be subject to a building code, either one adopted by the City of Douglas, or one adopted by GSA.

Section 438 of the EISA of 2007 specifies that federal agencies are required to reduce stormwater runoff from federal development and redevelopment projects to protect water resources. Federal agencies can comply using a variety of stormwater management practices often referred to as "green infrastructure" or "low impact development" practices, including reducing impervious surfaces and using vegetative practices, porous pavements, cisterns and green roofs.

LEED certification is a third-party green building certification program and the globally recognized standard for the design, construction and operation of high-performance green buildings and neighborhoods. LEED Gold certification requires at least 60 points across any combinations of carbon, energy, water, waste, transportation, materials, health and indoor environmental quality credits in the LEED Green Building Rating System for New Construction & Major Renovations (LEED-NC), Version 4.

CEQ's *Guiding Principles for Sustainable Federal Building* provides guidance for federal building construction to ensure federal buildings:

- Employ Integrated Design Principles;
- Optimize Energy Performance;
- Protect and Conserve Water;
- Enhance the Indoor Environment;
- Reduce the Environmental Impact of Materials; and
- Assess and Consider Building Resilience.

3.10.1.3 *Existing Conditions*

Commercial LPOE

The proposed Commercial LPOE site is located on rural, undeveloped land. The project area is relatively flat with gentle drainage to the north. There are no established utility connections in the area for sewer, water, natural gas, electric, or communications. The only major infrastructure in the area includes that associated with a U.S. Border Patrol Station built in 2003 at the intersection of SR-80 and Kings Highway. The city and county currently have plans for utility improvements near the proposed Commercial LPOE to support development of the new port as well as other adjacent areas, as discussed in Chapter 4, Cumulative Impacts.

Roads in the vicinity of the proposed Commercial LPOE include James Ranch Road to the north, which is mostly unimproved and connects to SR-80, and International Ave, which is an unimproved road that runs adjacent to the border fence and connects with Kings Highway, a mile west of the project area. There are plans for James Ranch Road to be improved and extended to the project area by ADOT, as discussed in Chapter 4, Cumulative Impacts.

RHC LPOE

Facilities

The RHC LPOE consists of a commercial processing facility, POV and pedestrian processing facility, and historic Garage, which serves as a maintenance building. The commercial processing facility includes an office building, two primary inspection booths, a storage warehouse, a secure storage facility, canine kennels, and a canopy structure over the booths and docks. The POV and pedestrian processing facility includes the Main Building; primary pedestrian inspection area; headhouse and Secondary Inspection facilities.

The Main Building and Garage were constructed in 1933. The Main Building includes is a two-story structure with a basement, containing single-story north and south annexes. Renovations were made to the RHC LPOE in 1993 to include commercial processing, as well as pedestrian inspection. Updates to the pedestrian processing area began in 2018, which included upgrades to pedestrian booths, and the addition of a permanent third lane. Additional renovation work in the pedestrian processing area included polished concrete floors, wooden door replacement, painting, and other minor improvements.

A Feasibility Study was completed in 2019 to evaluate the condition of the RHC LPOE and to identify the needs and deficiencies in anticipation of its modernization (GSA 2019a). The study showed that the RHC LPOE has outdated facilities and technology, general issues with the site layout, limited space for expansion, and insufficient interior space for offices and processing. As a temporary solution, a standalone modular unit was constructed in the existing parking lot behind the Main Building.

An asbestos-containing material (ACM) and lead-containing paint survey was conducted in March of 2020 and August of 2022. The survey identified ACM in the Main Building on floor tile on the first floor and pipe legging in the basement. Lead-containing paint and lead-based paint (LBP) were found in the Main Building and Garage. Further information on ACM and LBP is provided in Section 3.13, Human Health and Safety.

Commercial and industrial warehouses are located directly to the east and north of the existing RHC LPOE, and border infrastructure directly to the south. The land to the west of Pan American Avenue is primarily vacant with the exception of some pedestrian pathways and is separated from the existing LPOE by inbound and outbound traffic.

Roadway Networks

Roadways in the vicinity of the RHC LPOE include Pan American Avenue, seven POV entry lanes, 1st Street, North Customs Avenue (which transitions into International Avenue) to the south, East 3rd Street to the north, and various unnamed paved driveways and parking areas at the RHC LPOE.

Pedestrian access from the south, across the border, requires crossing traffic lanes where vehicles queue to enter the primary inspection area. Once across traffic, pedestrians enter into an outdoor mall/queuing area and proceed into the Main Building pedestrian inspection area.

Incoming commercial and non-commercial vehicle traffic queue along the border, moving east to west on Calle Internacional. The closest inspection booth is closed, as most large vehicles are unable to make the turn into this lane. The northernmost lane is dedicated to commercial traffic only. Once inside the Commercial Lot, trucks have very little space to maneuver into the dock area. There is also limited space for Vehicle and Cargo Inspection Systems inspections (GSA 2019a).

The 2019 Feasibility Study determined that the current road configuration results in inefficient pedestrian and vehicle traffic flow, and puts a large demand on existing road infrastructure (GSA 2019a). Traffic from the RHC LPOE is routed into the city, which often leads to traffic congestion.

Water and Sewer

The City of Douglas provides water service to approximately 16,000 people in the city, sourced from a groundwater supply from the Douglas Groundwater Basin-fill aquifer. The system uses four operating storage tanks and six wells, and service is divided into two different pressure zones (Stantec 2020). The RHC LPOE is served by the Low Zone for lower elevations in the city and is connected with four-inch water lines. The High Zone serves development at higher elevations of the city. Monthly water usage data in 2019 indicate that the total annual water demand for the City of Douglas that year was approximately 990 million gallons (or 3,000 acre-feet) (Stantec 2020). The city identified that the existing wells are not able to meet current system needs and determined that improvements are necessary. The city is looking into increasing well source capacity, including potentially constructing new wells or rehabilitating existing city wells. There are several inactive city wells due to long-term decreases in the water table. Based on recent water use reports, current annual water consumption at the RHC LPOE is estimated at approximately 900,000 gallons (3 acre-feet) (CBP 2022, GSA 2022c).

Wastewater in the city is processed at the City of Douglas WWTP, located on West International Avenue approximately 2,600 feet west of the RHC LPOE. The City of Douglas completed upgrades to the WWTP in 2021 and the maximum wastewater treatment capacity is 3.1 million gallons per day (City of Douglas 2021b); however, the ADEQ permit for the WWTP average day flow is 2.6 million gallons per day (Stantec 2022). Treated effluent from the city's WWTP is discharged under the permit to the Rio Agua Prieta in Mexico, where it is used for irrigation. From 2019 to 2021, the average annual day flow into the WWTP ranged from 1.6 to 2.0 million gallons per day, with average day maximum month flows ranging from 2.1 to 2.3 million gallons per day (Stantec 2022). Wastewater generated at the RHC LPOE is typical of standard domestic wastewater and is generated from the use of bathroom sinks, showers, toilets, kitchen sinks, and dishwashers. Based on a typical sewage flow rate of 16 gallons per day per worker, it is estimated that the wastewater generated at the RHC LPOE is approximately 3,000 gallons per day (CBP 2022, PCS 2014).

Natural Gas/Electrical

Natural gas is provided to homes and businesses in the City of Douglas by Southwest Gas, who recently upgraded their gas lines (City of Douglas 2018). During a Phase I Environmental Site Assessment conducted for this project, an El Paso Natural Gas Easement and Southwest Gas natural gas pipeline was observed across the northern end of the Alternative 2 Expansion Area, traveling east-west from a natural gas compressor station located directly west of the expansion area.

Electrical service to the RHC LPOE is provided by the Arizona Public Service. Upgrades were made in 2018, including implementation of redundancy capabilities (City of Douglas 2018).

Current annual gas consumption at the RHC LPOE is estimated at approximately 700,000 cubic feet, and electricity consumption is approximately 1.3 million kilowatt hours (GSA 2022c).

Stormwater Drainage

Stormwater in the City of Douglas is collected through the MS4 system, which is separate from the sanitary sewer system. Stormwater is left untreated before being discharged into Whitewater Draw (City of Douglas 2018c). The MS4 outfall location is approximately 2.6 miles northeast of the RHC LPOE.

The RHC LPOE is relatively flat with gentle drainage to the west. During a Phase I Environmental Site Assessment conducted for this project, the site reconnaissance team observed storm drains located throughout the site (GSA 2019a). The site has historically experienced flooding events, especially areas along 1st Street and in the Cargo Lot; however, a drainage correction project at the RHC LPOE was implemented within the last 5 years and has since resolved any stormwater issues (Luttrell 2022). GSA personnel indicated that all stormwater from the site is collected via catch basin and is discharged into a stormwater channel on the western boundary of the site that drains into an unnamed branch of the Whitewater Draw. Based on an aerial review of the site, all 6 acres of the RHC LPOE are developed or paved areas, (i.e., buildings, roads, or parking areas).

The Alternative 2 Expansion Area is primarily undeveloped land. During the Phase I Environmental Site Assessment, it was identified that a portion of the expansion area was recently remediated following the closure of a 3.5-acre manufactured gas site and the site was observed to have a paved, concrete cap. Other paved walkways associated with a city park are also in this area.

Communications Systems

Cox Communication is the main communications provider in the City of Douglas, offering high definition cable, fiber optic accessibility, and high-speed broadband (City of Douglas 2018).

3.10.2 Environmental Consequences

This section describes the infrastructure and utilities located in the ROI that would be impacted under each alternative.

3.10.2.1 *Methodology*

To evaluate the impacts on utilities and infrastructure, GSA reviewed the project alternatives to determine whether any activities have the potential to cause the following within the ROI:

- Alteration of intended use and/or placement of facilities;
- Disruption to utility operations during construction activities; or
- An increase or decrease in demand for utility services during construction or operations.

A significant adverse impact to utilities and infrastructure would occur if the Proposed Action would result in:

- Substantial damage to nearby facilities;
- Long-term disruption of utility operations;
- Negatively affect local and regional utility supplier's ability to meet customer demands; or
- Require substantial public utility system updates.

3.10.2.2 *No Action Alternative*

Under the No Action Alternative, GSA would not construct a new Commercial LPOE or expand and modernize the RHC LPOE. Therefore, site conditions would remain as they currently exist and no construction, renovation, or demolition activities would occur. Conditions of the facilities conditions would continue to impede CBP personnel productivity and threaten the success of CBP's mission. Additionally, the RHC LPOE would not benefit from updated facilities and infrastructure with LEED certification, designed to accommodate renewable energy sources and achieve sustainable standards.

3.10.2.3 *Alternative 1 – Sequential Construction*

Under Alternative 1, construction of the proposed Commercial LPOE would result in short-term, moderate, adverse impacts to facilities; and short-term, negligible adverse impacts to utilities. At the RHC LPOE, there would be short-term, moderate adverse impacts on facilities; and short-term, negligible to minor adverse impacts to utilities.

Operations would result in long-term, moderate, beneficial impacts to facilities; and long-term negligible to minor adverse impacts to public utilities from increased demand at the proposed Commercial LPOE. There would be long-term, moderate, beneficial impacts to facilities, and long-term, negligible to minor adverse impacts to utilities at the RHC LPOE.

Construction

Commercial LPOE

As there are no existing facilities at the proposed Commercial LPOE site, there would be no impacts to facilities during construction. International Avenue may experience short-term, moderate impacts during construction from vehicle and equipment access. Refer to Chapter 4 for a discuss of impacts to James Ranch Road. Under Alternative 1, there would be overall negligible impacts on utilities providers from construction-related activities. Under a separate action, the City of Douglas is planning to drill a groundwater well to support construction of the Commercial LPOE, as well as other planned development in the area. Therefore, there would be negligible impacts to water utility providers. Refer to Section 3.6, Water Resources and Chapter 4, Cumulative Impacts for a discussion on groundwater impacts. There would be a short-term and negligible increase in demand for wastewater services during construction from hauling of portable toilets and other wastewater generated offsite.

It is assumed any electricity needs (e.g., for construction trailers) would be provided by the City of Douglas through tie-ins to temporary power lines; however, it is anticipated that the increased demand would be negligible on electrical providers. There would not be any increase in demand for natural gas or telecommunication services during construction. As discussed in Section 3.6, Water Resources, new development would be required to comply with City of Douglas General Plan stormwater requirements which requires all development or redevelopment projects, where applicable and feasible, to reduce water use, provide retention, and reduce oil pollutants at the source (City of Douglas 2018a).

Regarding proposed connections to existing utility lines, disruptions to existing utilities are not anticipated during construction as there are no utilities at the Commercial LPOE site. Reviews of utility mapping and coordination with utility companies would be conducted as appropriate. ADOT's James Ranch Road extension project is anticipated to provide existing ROW for utility connections to the proposed new Commercial LPOE. Electricity would be connected to the project area via Arizona Public Service to a nearby power source along James Ranch Road. For water and wastewater utilities, GSA would tie into new service lines via the James Ranch Road ROW, pending establishment of water and wastewater utility connections in the surrounding area. The extension of these utilities to the project area would be part of larger development planning efforts in the region by a consortium of partners (including Cochise County, the City of Douglas, etc.) that are not a part of GSA's action (refer to Chapter 4 for a discussion of cumulative impacts from the James Ranch Road widening action; as well as electric, sewer, and water

utility connection projects). Precise locations of proposed utilities for the new building are dependent on final design and would be installed in coordination with each utility company to ensure appropriate design and capacity for the utility connection to the proposed facilities. Any new utility connections would be established only after securing the appropriate approvals from utility providers.

RHC LPOE

Under Alternative 1, expansion and modernization of the RHC LPOE would result in short-term, moderate adverse impacts on facilities, to include nearby roadways, during construction. Existing LPOE facilities would be demolished and replaced new modernized facilities for POV and pedestrian processing, constructed to current GSA standards. Construction would occur in a phased approach while the RHC LPOE continued to operate, which could adversely affect facility functioning; however, the same phased approach would also minimize overall adverse impacts on service capabilities, vehicle and pedestrian wait times, and traffic compared to complete closure of the LPOE.

Construction at the RHC LPOE would have short-term, negligible adverse impacts on utility providers during construction. Onsite water uses may be used to control fugitive dust generation but would result in short-term, negligible adverse impacts to water utilities. There would be a temporary and negligible increase in demand for wastewater services during construction from hauling of portable toilets and other wastewater generated offsite. Electricity for construction may tie into nearby sources, but would not be anticipated to result in more than negligible impacts. No impacts to natural gas or telecommunications services are anticipated.

Construction at the RHC LPOE (including activities such as excavation, drilling, and other above- and below-ground work) would have the potential to cause intermittent, minor adverse impacts to utility lines within the project area near the RHC LPOE. Existing utility maps would be reviewed and, where needed, utility companies would be contacted to identify any locations where construction activities have the potential to affect utility lines. Potential impacts would be avoided by coordinating with responsible utility providers in advance of such activities and by either implementing measures to protect existing utility lines, or by arranging for their temporary or permanent relocation.

Operations

Commercial LPOE

Alternative 1 would result in a long-term, moderate beneficial impact on facilities. Newly constructed facilities would provide new utilities and infrastructure built and maintained to GSA standards that would support CBP operations and improve the efficiency of the processing of COVs. Long-term beneficial impacts to local roadways in the City of Douglas would occur from the relocation of commercial processing to a new port, as the rerouting of commercial traffic would reduce the burden on existing road networks near the RHC LPOE.

Under a separate action, the City of Douglas is planning to build a new water system to include a water well in the project vicinity to support the proposed Commercial LPOE, as well as other planned development in the area. Long-term, minor adverse impacts to water utilities are expected. Refer to Section 3.6, Water Resources and Chapter 4, Cumulative Impacts for a discussion on the potential impacts to the regional water supply.

Additionally, the City of Douglas plans to construct new wastewater infrastructure, including lift stations and wastewater lines along James Ranch Road and SR-80 to connect to the city's existing WWTP, to support potential development in the area near and including the proposed Commercial LPOE. Because the proposed Commercial LPOE would connect to the city's planned wastewater system, which would ultimately connect to the city's WWTP, long-term, minor adverse impacts are expected from increased wastewater generation. It is estimated that the overall project would result in approximately 200 additional new workers, of which 100 workers would be located at the proposed Commercial LPOE and could result

in an incremental increase of approximately 1,600 gallons per day of wastewater generated from the Commercial LPOE (based on a typical sewage flow rate of 16 gallons per day per worker [PCS 2014]). This represents approximately 0.1 percent of recent average annual day flow measurements at the city's WWTP (average annual day flow of 1.6 million gallons per day in 2021 [Stantec 2022]).

There would also be long-term increases in demand for electricity, natural gas, and telecommunication services from the operation of the new Commercial LPOE. Overall increases in demand for service are anticipated to be negligible to minor and not substantially affect utility providers.

New buildings would be designed to comply with current building codes as well as P100 Standards. Energy and water efficiency measures would be incorporated into design as a part of LEED certification which would minimize impacts from increased utility demands. Potential future use of onsite renewable energy systems would reduce energy demands in the long term if implemented (see Section 3.10.2.5).

Stormwater would be managed on site per city and county stormwater management requirements (see Section 3.6, Water Resources); additional stormwater management measures may be implemented to achieve LEED certification. Therefore, there would be no impacts to stormwater utility providers.

RHC LPOE

Newly constructed facilities would optimize and streamline CBP operations at the RHC LPOE, similar to as described for the Commercial LPOE. Expanded and modernized facilities would provide new utilities and infrastructure built and maintained to GSA standards that would support CBP operations and improve the efficiency of pedestrian and POV processing. The creation of FAMU/UAC Processing and additional parking would provide improved conditions for CBP personnel as well as enhancing traveler comfort. The upgraded storm water drainage system would minimize the potential risk of flooding at the RHC LPOE. Alternative 1 would result in a long-term, moderate beneficial impact on facilities.

Long-term, minor adverse impacts to the City of Douglas's municipal water system are expected from increased water demand from approximately 100 additional new workers at the RHC LPOE. The new workers could result in an incremental increase of 1.5 acre-feet per year in water demand on the city's existing system based on recent usage rates at the existing RHC LPOE. This represents less than 0.1 percent of the recent total water demand on the City of Douglas's existing water system. Refer to Section 3.6, Water Resources and Chapter 4, Cumulative Impacts for a discussion on the potential impacts to the regional water supply.

Similar to as discussed under operational impacts from the proposed Commercial LPOE, long-term, minor adverse impacts to the City of Douglas's existing WWTP are expected from operations of the RHC LPOE. It is estimated that the overall project would result in approximately 200 additional new workers, of which 100 workers would be located at the RHC LPOE and could result in an incremental increase of approximately 1,600 gallons per day of wastewater generated from the RHC LPOE (based on a typical sewage flow rate of 16 gallons per day per worker [PCS 2014]). This represents less than 0.1 percent of recent average annual day flow measurements at the city's WWTP (average annual day flow of 1.6 million gallons per day in 2021 [Stantec 2022]). Overall, operations at the RHC LPOE combined with the proposed Commercial LPOE would represent approximately 0.2 percent of recent average annual day flow measurements at the city's WWTP.

There would also be long-term increases in demand for electricity, natural gas, and telecommunication services from the operation of the RHC LPOE. Overall increases in demand for service are anticipated to be negligible and to not substantially affect utility providers.

New buildings would be designed to comply with current building codes, P100 Standards, and would have LEED Gold certification at a minimum, similar to the proposed Commercial LPOE. Increases in utility demand from an increase in employees working on site, would be partially offset with efficiency improvements associated with LEED construction. The extent of impacts on utility providers would depend

on overall usage and extent of efficiency improvements, but operations of the RHC LPOE is not anticipated to noticeably affect utility providers' ability to deliver service.

Stormwater would be managed on site per city and county stormwater management requirements (see Section 3.6, Water Resources); additional stormwater management measures may be implemented to achieve LEED certification. Therefore, there would be no impacts to stormwater utility providers.

Alternatives 1a – 1d: Reuse, Relocate, or Demolish Historic Structures

Alternatives 1a through 1d relate to the sub-alternatives for the management of the historic Main Building and Garage, as described in Section 2.1.2.1. The type and extent of impacts to utilities would depend on the sub-alternative chosen:

- Alternative 1a would involve reusing the existing historic structures and utilities could be improved or remain as is; therefore, adverse impacts to utilities would be negligible.
- Alternative 1b would involve the relocation of the historic structures. Under this sub-alternative, existing utilities currently servicing the structures would be shutoff or disconnected; new connection lines would be required at the new location of the structures. Temporary, negligible to minor adverse impacts could occur from disruption of services to users during construction.
- Alternative 1c would involve the demolition of the structures, which would require the shutoff/disconnection of utility lines. Negligible adverse impacts to utilities are expected under this sub-alternative.
- Alternative 1d would involve a combination of Alternatives 1a through 1c and the type of utility impact would be similar to those previously discussed under each sub-alternative; the extent would occur within the range of impacts that would result from Alternatives 1a, 1b, or 1c.

Since the Main Building and Garage are listed under NRHP, any renovation and demolition work to these structures would follow GSA *Procedures for Historic Properties*. Any changes to the buildings would also follow the Secretary of the Interior's *Standards for the Treatment of Historic Properties* and applicable guidelines.

3.10.2.4 *Alternative 2 – Concurrent Construction*

Under Alternative 2, construction of the proposed Commercial LPOE would result in short-term, moderate, adverse impacts to facilities; and short-term, negligible adverse impacts to utilities. At the RHC LPOE, there would be short-term, minor adverse impacts on facilities; and short-term, negligible to minor adverse impacts to utilities.

Operations would result in long-term, moderate, beneficial impacts to facilities; and long-term negligible to minor adverse impacts to utilities from increased demand at the proposed Commercial LPOE. There would be long-term, moderate, beneficial impacts to facilities, and long-term, negligible adverse impacts to utilities at the RHC LPOE.

Construction

Impacts during construction of Alternative 2 would be similar to as described for Alternative 1 for both the Commercial LPOE and RHC LPOE. Impacts would be slightly greater under Alternative 2 as there would be a greater use of utilities at any given time than under Alternative 1 due to the construction periods for both locations occurring concurrently; however, such increases are not anticipated to adversely impact utility provider's ability to meet demand and would be negligible. Construction of new utilities at the Commercial LPOE and coordination to avoid impacts to existing utilities as the existing RHC LPOE would be similar to as described for Alternative 1. Additional coordination with utilities would be required due to development in the Alternative 2 Expansion Area, particularly for natural gas utilities that run through the site.

Impacts to facilities would be similar to as described for Alternative 1, but less adverse as the overall construction period would be shorter, which would have greater beneficial impacts due to fewer delays or re-routing due to construction. Overall impacts would be short-term, minor, and adverse.

Operations

Impacts during operations of the Commercial LPOE and RHC LPOE under Alternative would be the same as described for Alternative 1. At the RHC LPOE, increased stormwater management capacity may be needed depending on the extent of development (i.e., more impervious area would result in higher stormwater runoff requiring management); therefore, stormwater structures and BMPs, such as drainage pipes, outfalls, and detention ponds, may be used to manage any increases in runoff and minimize the risk of flooding. Overall impacts to utilities at the RHC LPOE would be long-term, negligible to minor, and adverse.

Alternatives 2a – 2d: Reuse, Relocate, or Demolish Historic Structures

Alternatives 2a through 2d relate to the sub-alternatives for the management of the historic Main Building and Garage, as described in Section 2.2.1. Under Alternatives 2a through 2d, impacts to utilities would be similar to those described under Alternatives 1a through 1d.

3.10.2.5 *Impact Reduction Measures*

Impacts on infrastructure and utilities would be reduced through the following:

- Adherence to GSA P100 Standards (GSA 2021) including:
    - New parking and road networks must use low-embodied carbon concrete and environmentally preferable asphalt.
- Buildings would be "net zero" ready on a source energy basis with onsite renewables that are designated on the plan for future installation including pathways, conduits, or other means of providing power to the building.
- Coordinating with utility providers in advance of such activities to determine the best course of action to avoid or minimize impacts, either by implementing measures to protect utility lines or by arranging for their temporary or permanent relocation.

Future development may incorporate onsite renewable energy generation and would utilize energy- and water-efficient technology; which would further reduce demands on utility providers. GSA would also seek a minimum of a LEED Gold certification for construction of a new facility onsite, and steps to achieve this would likely include a reduction in the demand for energy and water.

3.11 SOCIOECONOMICS

This section describes the baseline conditions for the social and economic environment in the project area that are sensitive to changes and potential socioeconomic impacts that could result from implementing the Proposed Action, including the alternatives as discussed in Chapter 2. The data supporting this analysis were collected from standard sources, including federal agencies such as the U.S. Census Bureau, Bureau of Labor Statistics, and Bureau of Economic Analysis; state agencies such as the Office of Employment and Population Statistics and Arizona Commerce Authority; and local agencies such as The Maricopa Association of Governments.

While social impacts are discussed in this section, a discussion of those impacts that could disproportionately affect minority, low income, and youth populations are discussed in Section 3.12, Environmental Justice and Protection of Children's Health and Safety.

3.11.1 Affected Environment

3.11.1.1 *Region of Influence*

Since potential impacts with the greatest intensity would likely occur in Cochise County, the county is defined as the ROI, or the area analyzed for socioeconomic impacts. Socioeconomic impacts would be felt most by individuals, residents, and workers in Cochise County; especially residents in Douglas, Arizona and areas adjacent to the proposed Commercial LPOE site. Data are presented for Cochise County and compared to the State of Arizona overall and described for the City of Douglas as appropriate. The most recent and best available data are presented throughout the section.

3.11.1.2 *Existing Conditions*

Due to the close interconnectedness of population, housing, and labor conditions between the Commercial LPOE and RHC LPOE, this section discusses the general affected environment of the proposed Commercial LPOE and RHC LPOE together for each socioeconomic component. Where there are differences between the sites requiring distinction between the two locations, these are highlighted in the text as appropriate.

Population and Housing

Population

Past and current population data and future population estimates for the City of Douglas, Cochise County, and Arizona are shown in Table 3.11-1.

Douglas is the second-largest city in Cochise County. The populations of the City of Douglas, Cochise County, and Arizona all increased from 2000 to 2020. The City of Douglas, Cochise County, and Arizona increased at a similar average annual growth rate, with Douglas increasing at about 1 percent per year, Cochise County increasing at about 0.5 percent per year, and Arizona increasing at about 2 percent per year. However, since 2010 the populations in both the City of Douglas and Cochise County have declined at an average annual rate of 0.5 percent, while Arizona's population increased at an average annual rate of approximately 4 percent. From 2030 to 2050, the populations in the City of Douglas and Cochise County are expected to further decline, while the state population is expected to grow at an average rate of 1 percent per year (ACA 2018).

Table 3.11-1. Population Growth for the City of Douglas, Cochise County, and Arizona

Metric	City of Douglas	Cochise County	Arizona
Historical and Current Population			
2000	14,312	117,755	5,130,632
2010	17,378	131,346	6,392,017
2020	16,534	125,447	7,151,502
Average Annual Growth Rate (2010-2020)	-0.50%	-0.50%	3.90%
Average Annual Growth Rate (2000-2020)	0.80%	0.30%	2.00%
Projected Population[a]			
2030	15,899	130,906	8,284,861
2040	15,448	130,456	9,247,212
2050	15,078	130,177	10,096,228
Average Annual Growth Rate (2030-2050)	-0.30%	-0.60%	1.10%

Source: USCB 2000; USCB 2010; USCB 2020a; ACA 2018

[a] Population projections are based on the 2010 Census and are not consistent with 2020 Census results. Updated population projections will be released at the end of 2022 and will be based on the 2020 Census.

Housing

A housing unit refers to a house, an apartment, a mobile home or trailer, a group of rooms, or a single room occupied as separate living quarters, or if vacant, intended for occupancy as separate living quarters. Both occupied and vacant housing units are included in the total housing unit inventory. A housing unit is classified as occupied if it is the usual place of residence of a person or group of people; conversely, a housing unit is classified as vacant if it is not the usual place of residence of a person or group of people. The rental vacancy rate is the proportion of the rental inventory which is vacant for rent (USCB 2020b).

The total housing units, occupied housing units, rental vacancy rates, and homeowner vacancy rates for the City of Douglas, Cochise County, and Arizona are shown in Table 3.11-2.

Table 3.11-2. Housing Characteristics for the City of Douglas, Cochise County, and Arizona

Location	Total Housing Units	Occupied Housing Units	Rental Vacancy Rate (%)[a]	Homeowner Vacancy Rate (%)
City of Douglas	5,354	4,512	3.4	3.4
Cochise County	61,380	50,917	6.8	3.6
Arizona	3,040,595	2,643,430	5.4	1.6

Source: USCB 2020c

[a] The rental vacancy rate is computed by dividing the number of vacant units for rent by the sum of the number of renter-occupied units, the number of vacant units for rent, the number of rented not yet occupied units, and then multiplying by 100 (USCB 2020b).

Labor

Direct, indirect, and induced jobs could be created if Alternative 1 or 2 is selected. Therefore, labor force and employment statistics are presented for Cochise County. The City of Douglas is omitted from comparison of labor statistics with Cochise County and Arizona, as Bureau of Labor Statistics does not provide data for cities. As with the rest of the U.S., the COVID-19 pandemic shifted economic dynamics in Cochise County, and labor data from 2020 reflects the slowing of economic growth.

Labor Force

The size of a county's civilian labor force is measured as the sum of those currently employed and unemployed. People are classified as unemployed if they do not have a job, have actively looked for work in the prior four weeks, and are currently available for work (BLS 2022). As shown in Table 3.11-3, from 2000 to 2020 Cochise County's labor force remained stable, and the state's labor force grew at an average of approximately 2 percent per year. However, there has been a substantial decrease between 2010 and 2020, declining at an average annual rate of about 1 percent.

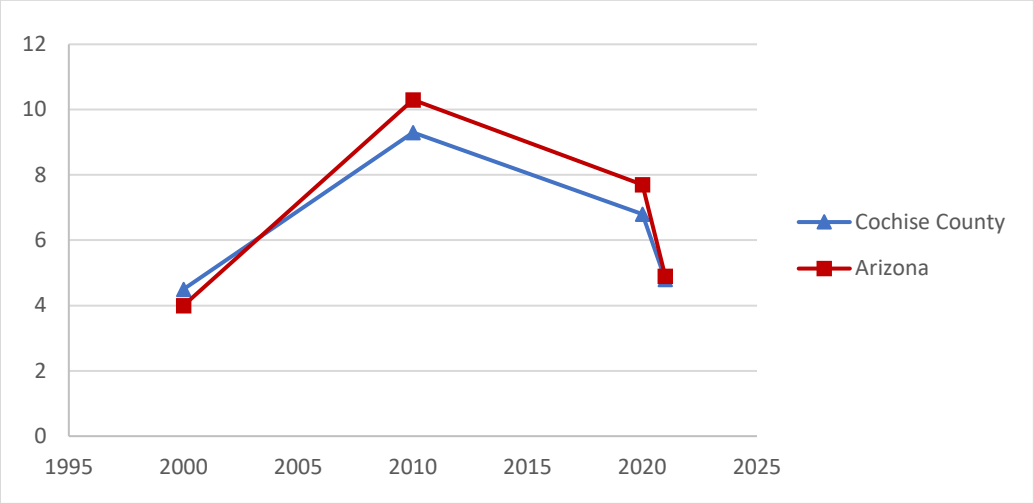
Table 3.11-3. Civilian Labor Force for Cochise County and Arizona, 2000–2020

Location	2000	2010	2020	Average Annual Growth Rate (2010-2020)	Average Annual Growth Rate (2000-2020)
Cochise County	48,657	57,146	50,090	-1.2%	0.1%
Arizona	2,510,611	3,096,316	3,456,852	1.0%	1.9%

Source: BLS 2000; BLS 2010; BLS 2020a, BLS 2021

Unemployment

The unemployment rate is calculated based on the number of unemployed persons divided by the labor force. Figure 3.11-1 shows the annual unemployment rates for Cochise County and Arizona in 2000, 2010, and 2020. In 2000, the unemployment rate in Cochise County was 0.5 percent lower than in the state of Arizona. From 2000 to 2010, unemployment in Cochise County and Arizona increased to 9.3 and 10.3 percent, respectively. The sharp increase between 2000 and 2010 can be attributed to the 2008 economic crisis, which was part of the global financial downturn. Unemployment rates have decreased since 2010, and in 2020 unemployment rates were 6.8 and 7.7 percent in Cochise County and Arizona, respectively. In 2021, the annual unemployment rates for Cochise County and Arizona were 4.8 and 4.9 percent, respectively.



Source: BLS 2000; BLS 2010; BLS 2020a, BLS 2021b

Figure 3.11-1. Unemployment Rates in Cochise County and Arizona, 2000–2020

Employment by Industry

Employment statistics by industry in Cochise County are shown in Table 3.11-4. The leading industries in the county are trade, transportation, and utilities; federal government; local government; and education and health services. These four industries account for more than half of total employment in Cochise County (BLS 2020b).

Table 3.11-4. Employment by Industry in Cochise County, 2022

Industry	Establishments	Employment
Trade, Transportation, and Utilities	428	5,973
Local Government	147	4,941
Federal Government	63	4,437
Education and Health Services	343	4,230
Professional Business Services	390	3,845
Leisure and Hospitality	278	3,639
Construction	217	1,938
State Government	13	930
Financial Activities	191	899
Natural Resources and Mining	79	822
Manufacturing	57	668
Other Services	142	542
Information	36	330
Unclassified	20	10
Total	**2,404**	**33,204**

Source: BLS 2022

Table 3.11-5 shows the top ten employers in Cochise County. Joyson Safety Systems Acquisition LLC, located approximately 1 mile north of the RHC LPOE, is the third-largest employer in Cochise County. Advanced Call Center Technologies, located approximately 1.6 miles northeast of RHC LPOE, is the tenth-largest employer in Cochise County. Notably, the U.S. Customs and Border Protection employs 1,070 people in Cochise County, with approximately 200 staff supporting operations at the RHC LPOE (Arizona MAG 2020a and 2020b).

Table 3.11-5. Top Ten Employers in Cochise County, 2020

Rank	Company	Activity	Employment
1	U.S. Department of the Army	Government	11,713
2	U.S. Customs and Border Protection	Government	1,070
3	Joyson Safety Systems Acquisition LLC	Manufacturing	1,000
4	Cochise County	Government	880
5	Walmart	Retail	824
6	State of Arizona	Government	800
7	Aegis Communications Group LLC	Business Services	724
8	Rchpsierra Vista Inc	Health Care	650
9	Sierra Vista Public Schools Unified District 68	Education	580
10	Advanced Call Center Technologies	Business Services	500
Total			**18,741**

Source: Arizona MAG 2020a and 2020b

Earnings

Several measures are used to describe earnings in the ROI, including per capita personal income (PCPI) and compensation by industry. The City of Douglas is omitted from comparison of earnings statistics with Cochise County and Arizona, as Bureau of Labor Statistics does not provide data for cities.

Per Capita Personal Income

Personal income is the income received by all persons from all sources, or the sum of net earnings by a place of residence, property income, and personal current transfer receipts. This includes earnings from work received during the period, interest and dividends received, and government transfer payments, such social security checks. It is measured before the deduction of personal income taxes and other personal taxes and is reported in current dollars. PCPI is the personal income for county residents divided by the county's total population (BEA 2022).

Table 3.11-6 contains annual PCPI in 2000, 2010, and 2020 for Cochise County and Arizona. All dollar estimates are in current dollars (not adjusted for inflation). Arizona's PCPI was about 27 percent higher than Cochise County's in 2000 and about 8 percent higher in 2020. In 2010, Cochise County's PCPI surpassed the state's PCPI by about 2 percent. Notably, Cochise County's PCPI more than doubled from 2000 to 2020, growing about 33 percent faster than the state overall.

Table 3.11-6. Annual Per Capita Personal Income in Cochise County and Arizona (in dollars)

	Per Capita Personal Income			
	2000	2010	2020	Percent Change 2000–2020
Cochise County	20,713	34,580	45,786	121.0
Arizona	26,388	33,848	49,648	88.1

Source: BEA 2020a

Industry Compensation

Compensation data are measured and reported for the county of work location and are typically reported on a per job basis. Compensation data indicate the wages and salaries for work done in a particular place (e.g., a county), but if the worker does not live in the county where the work occurred (e.g., a person from a neighboring county may cross county lines to go to work), then a sizeable portion will be spent elsewhere. These expenditures will not remain in or flow back to that county's economy. Total industry compensation includes wages and salaries as well as employer contribution for employee retirement funds, social security, health insurance, and life insurance. The term "Total Industry Compensation" is often used in economic data, but it is somewhat of a misnomer in that a portion of the "industry earnings" stems from government-related activity. Nevertheless, total industry compensation provides a good picture of the relative sizes of market-related economic activity, or business activity, performed in Cochise County (BLS 2017).

As shown in Table 3.11-7, income is generated by economic activity in Cochise County through a variety of sectors, including various types of business as well as government. Government and government enterprises; health care and social assistance; professional, scientific, and technical services; and construction accounted for approximately 91 percent of the approximately $2.9 billion compensated to employees working in Cochise County in 2020. It should be noted that while government and government enterprises often account for a large proportion of the compensation of employees in a county, 49.4 percent of total compensation in Cochise County is considered a high proportion and can be attributed to the Fort Huachuca Army base, home to the Army Network Enterprise Technology Command and the Army Intelligence Center, as well as the U.S. Customs and Border Protection presence along the U.S.–Mexico border, including three U.S. Border Patrol stations (Health Management Associates 2017, Cochise County 2022).

Table 3.11-7. Compensation of Employees by Industry in Cochise County, 2020

Industry Description	Compensation ($000)	Percent[a]
Government and Government Enterprises	1,442,594	49.4
Health Care and Social Assistance	254,323	8.7
Professional, Scientific, and Technical Services	241,138	8.3
Construction	235,130	8.1
Retail Trade	170,308	5.8
Administrative and Support and Waste Management and Remediation Services	101,157	3.5
Transportation and Warehousing	77,767	2.7
Accommodation and Food Services	75,937	2.6
Other Services Except Government and Government Enterprises	48,518	1.7
Finance & Insurance	39,396	1.3
Manufacturing	38,267	1.3
Educational Services	33,127	1.1
Wholesale Trade	30,640	1.0
Utilities	28,779	1.0
Farm (Crops, livestock, and dairy)	26,027	0.9
Information	24,545	0.8
Real Estate and Rental and Leasing	14,645	0.5
Management of Companies and Enterprises	13,346	0.5
Mining, quarrying, and oil and gas extraction	9,532	0.3
Arts, Entertainment, and Recreation	7,967	0.3
Forestry, Fishing, Related Activities (Support activities for agriculture and forestry)	7,278	0.2
Total compensation of employees	**2,920,421**	

Source: BEA 2020b

[a] Numbers may not add up to exactly 100 percent due to rounding.

Local Economy of the City of Douglas and Surrounding Communities

The local economy of Douglas employs approximately 4,370 workers, compared to 460 employees employed in nearby Pirtleville. Households in Douglas had a median household income of $38,446 in 2020, while the median household income in Pirtleville was slightly higher at $40,227. These are both lower than the household median income in Cochise County ($51,505), Arizona ($61,529), and across the entire U.S. ($64,994). The largest industries and highest paying industries overlap in the two communities are as follows (Datausa 2020):

Top Industries

- **Douglas –** Public Administration (933 workers), Health Care & Social Assistance (618 workers), and Educational Services (575 workers)
- **Pirtleville –** Public Administration (113 workers), Administrative & Support & Waste Management Services (110 workers), and Construction (69 workers)

Highest Paying Industries

- **Douglas –** Transportation & Warehousing, & Utilities ($60,750), Wholesale Trade ($53,750), and Real Estate & Rental & Leasing ($50,284)
- **Pirtleville –** Public Administration ($41,477) and Construction ($23,542)

The top employers in Douglas are Joyson Safety Systems Acquisition LLC (1,000 workers), the U.S. Government (609 workers), and Advanced Call Center Technologies (500 workers) (Arizona MAG 2020b).

The City of Douglas shares a border with the City of Agua Prieta, Sonora and is the second-largest port in Arizona for imports to and from Mexico. The connection of SR-80 and US-191, which feeds into I-10 about 63 miles north of Douglas, increases the demand of business development and the commercial shipping industry, directly connecting Mexican states with major U.S. markets (City of Douglas 2022). In Douglas and Agua Prieta, there are numerous maquiladoras (twin factories with facilities on both sides of the international border), with Douglas serving as the warehouse distribution center (Cochise College 2018). The international trade, particularly produce imports, that occurs at the RHC LPOE in Douglas is largely responsible for the economic vitality of the region (SEAGO 2018).

Tourism also provides a significant economic boost to the area, which offers a range of recreational, historical, and cultural attractions, as well a popular retail destination. As shown in Table 3.11-7, retail trade account for approximately 6 percent of total industry compensation in Cochise County. The city's retail market serves approximately 100,000 people in Douglas, Pirtleville, Agua Prieta, and surrounding communities on the U.S. side of the border (Cochise College 2018). Many border tourists enter the U.S. with the sole purpose of shopping, contributing to the area's trade and sales tax revenue (Cochise County 2022).

The SouthEastern Arizona Governments Organization has identified Douglas and the area surrounding the proposed Commercial LPOE as an Opportunity Zone—a designated area deemed as a prime location for economic and community development projects. In addition to general socioeconomic goals, the SouthEastern Arizona Governments Organization's economic development goals specific to the Douglas area focus on border-related opportunities, including border-targeted business attraction and industry development, advocacy for adequate LPOE staffing, and marketing of Foreign Trade Zones, and assisting in potential expansion resulting from the Proposed Action (City of Douglas et al. 2021).

Quality of Life and Community Services

Quality of life can be characterized as a person's well-being and happiness. Quality of life is a subjective measure and cannot be solidly defined. For this analysis, quality of life considerations focus on those elements that the public generally associates with a high quality of life: education, safety, recreation opportunities, and a positive and affordable general living environment. Other factors, such as air quality, traffic, and noise could also contribute to a person's sense of quality of life and are addressed in Sections 3.3, Air Quality and Greenhouse Gas Emissions; 3.8, Transportation and Traffic; and 3.9, Noise.

Police, Fire and Medical Services

The City of Douglas Police Department is located at 300 14th Street. The department employs 34 sworn and 14 civilian-staff and consists of the Humane Division and the Patrol Division. The Communications Division is part of the department's support services, and handles all emergency and non-emergency calls for service for police and emergency calls for Fire and Emergency Medical Services (City of Douglas 2022).

The Douglas Fire Department is located at 1400 10th Street. There is one fire station in the city with three fire trucks. The department serves an 8 square mile area for fire suppression response and responds to Emergency Medical Services calls in a 1,500 square mile radius (City of Douglas 2018b). The department also assists Northern Sonora with Emergency Medical Services, Fire, and HazMat incidents. The Douglas Fire Department was formed as a volunteer fire department and is comprised of 27 full-time employees and 4 part-time employees.

The Copper Queen Community Hospital is located in Bisbee, and handles the major emergency cases for the region. The Copper Queen Community Hospital – Douglas Medical Complex is a Freestanding Emergency Department. The Freestanding Emergency Department is located at 100 East Fifth Street, and provides closer emergency services to residents of Douglas and the surrounding communities (Copper Queen Community Hospital 2022a).

Schools

Students in the City of Douglas attend schools in the Douglas Unified School District #72, at the Pre-Kindergarten Early Learning Center, or at respective charter schools, Center for Academic Success charter schools or Omega Alpha Academy. There are three schools within 1 mile of the RHC LPOE, including Center for Academic Success Elementary School, Center for Academic Success High School, and Sarah Marley Elementary School.

The average student-to-teacher ratio in Arizona is approximately 23 students to 1 teacher. This student-to-teacher ratio is among the highest in the country; the national average is 16 students to 1 teacher. All of the schools in the City of Douglas have a student-to-teacher ratio that is higher than the state of Arizona (NCES 2021). Total enrollment and student-to-teacher ratio for the 11 schools in the City of Douglas are presented in Table 3.11-8.

Table 3.11-8. Schools in the City of Douglas, 2020-2021

School	Enrollment	Student-to-Teacher Ratio
Sarah Marley Elementary School	236	17:1
Ray Borane Middle School	414	19:1
Joe Carlson Elementary School	381	19:1
Paul Huber Middle School	443	19:1
Douglas High School	1,448	20:1
Stevenson Elementary School	374	21:1
Faras Elementary School	148	21:1
Clawson Elementary School	302	22:1
Center for Academic Success (K-12)	526	N/A[a]
Early Learning Center	91	N/A[a]
Omega Alpha Academy (K-12)	278	N/A[a]

Source: NCES 2021
K-12 = Kindergarten through 12th grade
[a] Student and teacher data is not available for this school.

The two-year public institution, Cochise College, has a campus in Douglas with a population of 10,800 students. The campus is located approximately 3.7 miles northwest of the proposed Commercial LPOE site.

Property Values

The value of a property is often influenced by the positive or negative value of surrounding properties, typically resulting in clusters of hot spots within a community. Smart Growth America conducted a "fiscal hot spot analysis", looking at property values within a set boundary and identifying areas where there are statistically significant clusters of higher or lower valued land. The City of Douglas has five main "hot spots" of property values, four of which are in primarily residential areas and include the existing warehouses east of the RHC LPOE. A large portion of downtown including North G Avenue and East 10th Street represents the largest hot spot in Douglas. The City of Douglas plans to expand economic development in the downtown area to include a mixed-use commercial district (City of Douglas et al. 2021).

The recreational value of natural resources can link residents to an area or attract new residents to an area. The recreational area closest to the RHC LPOE is the 1.6-acre 3rd Street Park, located 0.2 miles away. The 24-acre 8th Street Park, which is located 2.3 miles from the RHC LPOE, features playing fields; picnic areas; a pool; and workout stations for local residents and visitors. These areas (discussed in Section 3.4, Land Use and Visual Resources) contribute to the region's identity, as well as area quality of life (Cochise County 2022). There are plans to develop multi-use areas and public green spaces in the City of Douglas (City of Douglas et al. 2021).

3.11.2 Environmental Consequences

3.11.2.1 *Methodology*

The effects analysis considers aspects of the social and economic environment that are sensitive to changes and that may be adversely or beneficially affected by activities associated with Alternatives 1 and 2. As noted earlier, the ROI for the socioeconomic analysis is defined as Cochise County, but social impacts to population, housing, and quality of life and community services focus on the City of Douglas—or the area most likely to be affected by Alternatives 1 and 2.

To evaluate the impacts on socioeconomic resources, GSA reviewed the project alternatives to determine whether any activities have the potential to cause the following within the ROI:

- Alter local economies;
- Change housing characteristics (types of units, occupancy, housing values, etc.) or residential development patterns;
- Alter population growth or demographic patterns;
- Displace populations, residents, or businesses to accommodate construction;
- Require an amount of public or private resources (time and/or money) that interferes with the performance of other local government functions or the viability of proposed projects; or
- Induce growth without adequate supporting community services (e.g., education, public health and safety).

A significant adverse impact to socioeconomics would occur if the Proposed Action would result in:

- Alters local economies on a substantial basis without the capacity to absorb a decrease or increase;
- Changes housing characteristics or residential development patterns in a substantial way;
- Places a demand on suitable housing that exceeds availability;

- Alters population growth or demographic patterns in ways that change the overall character of communities;
- Requires an amount of public or private resources (time and/or money) that substantially interferes with the performance of other local government functions or the viability of proposed projects; and
- Induces growth that exceeds the capacity of supporting community services, including:
    - Change in the number of users of community services that exceed existing capacity;
    - Change in the demand for emergency and public protection services that would increase response times based on existing personnel resources and equipment; or
    - Change in the funding needed to sustain services or to increase access to services.

3.11.2.2 *No Action Alternative*

Under the No Action Alternative, GSA would not construct a new Commercial LPOE or expand and modernize the RHC LPOE. Socioeconomic benefits of approximately 200 government jobs remaining within the City of Douglas community and the associated income, spending, and tax revenue would continue. However, the potential short-term and long-term social and economic benefits from direct, indirect, and induced jobs from the Proposed Action would not occur in the City of Douglas or Cochise County. The capacity and efficiency of the RHC LPOE would degrade over time which could result in long-term adverse minor to moderate economic impacts to businesses and the regional economy. Long-term, minor adverse impacts in the City of Douglas would continue as COVs remain routed through the city, which would hinder revitalization plans and economic growth for the city. Congestion and traffic would continue to increase in the area, potentially delaying access to schools, recreation areas, hospitals, and other community facilities.

3.11.2.3 *Alternative 1 – Sequential Construction*

During construction from Alternative 1 there would be:

- Short-term, negligible impacts on population and housing;
- Short-term, minor, beneficial, and direct impacts on unemployment and income;
- Short-term, moderate to significant, beneficial, and indirect impacts from materials and equipment purchases, as well as indirect and induced job creation;
- Temporary, minor adverse impacts on local businesses adjacent to RHC LPOE; and
- Temporary, minor adverse impacts to nearby neighborhoods from decreased quality of life.

During operations from Alternative 1 there would be:

- Long-term, negligible to minor, beneficial, and direct impacts to population and housing;
- Long-term, moderate to significant, beneficial, and direct impacts to labor and earnings;
- Long-term minor to moderate, beneficial, direct and indirect impact on unemployment in all industries in Cochise County;
- Long-term, moderate to significant, beneficial, and direct impacts from commercial and industrial business growth around the Commercial LPOE; and
- Long-term, minor to moderate, beneficial impacts to quality of life in the City of Douglas, although long-term, minor adverse impacts from increasing population and contributing to unfavorable student-to-teacher ratios.

Construction (Commercial and RHC LPOEs)

Overall impacts on population and housing would be negligible during construction. The population is not expected to grow during the construction phase or increase demand on local housing because construction workers are not expected to relocate to the area. GSA anticipates that the majority of construction workers would be local and commute daily to the Commercial LPOE and RHC LPOE sites from their current residences within Cochise County. The remaining non-local workers would likely be hired from the Tucson or Phoenix area and commute as needed to Douglas. The majority of non-local workers are not expected to relocate semi-permanently or permanently to Douglas (i.e., rent an apartment in or near the City of Douglas). Instead, non-local workers from the Tucson or Phoenix area would primarily utilize hotels in or near Douglas. If workers temporarily relocate, the overall number would be expected to be low given the overall number of construction workers (i.e., 50 workers during non-peak construction, and 100 workers during peak construction). As such, the demand for local housing would not be expected to increase during the construction phase. The ability of individuals in Cochise County living on a fixed income to pay rent; Cochise County's tax base; and Cochise County's ability to provide funding for social services, health services, or schools would not be affected.

There would be a short-term, minor, beneficial, and direct impact on unemployment and income in the City of Douglas and communities associated with construction of the commercial LPOE and RHC LPOE. Construction of the proposed Commercial LPOE would create up to 100 jobs during an estimated 48 to 54-month construction period. Up to 100 workers would be employed during a peak construction period of 18 to 24 months. During an estimated non-peak construction period of 30 to 36 months, up to 50 workers would be employed. Following the completion of the Commercial LPOE, the subsequent expansion and modernization of the RHC LPOE would create up to 100 jobs during an estimated 36 to 42-month period. Similar to the construction of the Commercial LPOE, 18 to 24 of those months represent peak construction and maximum number of workers, and up to 50 workers would be working during an estimated non-peak construction period of 18 to 24 months. Because workers would be hired locally or from Cochise County, most of their expenditures (e.g., rent, property taxes) for the 84 to 96-month duration of their employment would remain in or flow back into Cochise County's economy. In general, approximately 80 percent is actually "take home" pay, and the other 20 percent goes toward workers' compensation, health insurance, unemployment, and Social Security. Thus, approximately 80 percent of the wages and salaries of local construction workers would be spent in Cochise County and flow back into Cochise County's economy.

The PCPI and compensation of employees in the construction sector in Cochise County would be expected to increase slightly during the 84 to 96-month construction period. During this time, the unemployment rate in Cochise County would likely decrease slightly. Short-term, moderate to significant, beneficial, and indirect socioeconomic impacts would result from directly impacted industries purchasing supplies and materials from other industries. The estimated project cost of Alternative 1 is $349.2 million, a substantial portion which would be spent within the local Douglas economy on construction labor and materials. Materials and equipment would be purchased from local vendors when applicable. Indirect jobs would be created when the construction firm makes purchases from local vendors and retail stores and at establishments where workers would shop. Induced impacts would occur when employees of the directly and indirectly affected industries spend the wages they receive. The types of indirect and induced jobs that would be created during the construction phase would likely be relatively low-wage jobs, such as restaurant workers or convenience store clerks.

The phased modernization of the RHC LPOE would have temporary, minor adverse impacts on local businesses adjacent to the existing LPOE. Upon completion of the Commercial LPOE, all commercial operations, including the impound lot and the FMCSA Facility, would be transferred to the new facility, then vacated and demolished at the existing RHC LPOE. Relocation of workers supporting these operations could partially remove their spending at local businesses near the RHC LPOE. The adjacent duty-free shop would be acquired by GSA and demolished, along with the city park directly to the north of the RHC LPOE. The duty shop is expected to relocate within the City of Douglas.

Construction would result in temporary, minor adverse impacts associated with decreased quality of life of residents in close proximity to the RHC LPOE due to increased noise levels, air emissions, and traffic and congestion. Residents adjacent the RHC LPOE may be delayed in reaching emergency and urgent care facilities during construction activities. The response time of ambulances, fire trucks, and police may increase slightly when attempting to access areas adjacent to the RHC LPOE. Because no additional students would be expected to relocate to Cochise County during construction, no impacts on the student-to-teacher ratio or quality of education would be expected at Cochise County schools. No impacts to property values are expected during construction.

Operations (Commercial and RHC LPOEs)

Long-term, negligible to minor beneficial impacts to population and housing are expected. Following construction of the Commercial LPOE, CBP would hire approximately 150 additional full-time staff to support approximately 100 positions at the Commercial LPOE and 250 positions at the RHC LPOE.

While it is difficult to estimate the exact level of in-migration, it is assumed that most of the CBP personnel relocating to the area would prefer relocating to the City of Douglas and the surrounding communities. As such, the population may permanently grow (including families) in the long-term. Considering the number of vacant housing units and existing plans for downtown infill development, those who relocate to the area would have ample housing options in the City of Douglas or nearby cities, and this in-migration would help offset local housing vacancies.

Long-term, moderate to significant beneficial impacts to labor and earnings are expected during operations. The project is expected to generate an additional $10.8 to $20 million of revenue per year to Cochise County, with the City of Douglas experiencing the most benefits (US Economic Research 2020). The reduced traffic times resulting from the two-port solution would have direct, beneficial effects on personal travel expenditures and freight transportation costs, which would create indirect economic impacts to the region. Shorter wait times at the RHC LPOE for tourists has the potential to increase spending in the area. Reduced freight transportation costs have the potential to influence international trade competitiveness, commercial output, and jobs. As a result, there would be long-term, minor to moderate, beneficial, direct and indirect impacts on unemployment in all industries in Cochise County, especially retail (non-grocery and grocery,); food services establishments; real estate and rental and leasing; health care and social assistance; utilities; finance and insurance; and transportation and warehousing (US Economic Research 2020). Cochise County has designated a substantial portion of undeveloped land surrounding the Commercial LPOE as a “growth area” for resulting development. The area surrounding the Commercial LPOE would be expected to become an industrial and commercial hub, filled with trade and businesses that are more suitable outside of downtown Douglas (City of Douglas et al. 2021).

Alternative 1 could induce potential opportunities for a new warehouse district just east of the RHC LPOE once commercial traffic is moved to the Commercial LPOE (GSA 2021). The city owns several properties, including warehouse buildings, in this area that could more easily be redeveloped once the commercial traffic moves to the new Commercial LPOE. The City of Douglas has plans to revitalize downtown and create connected infrastructure corridors to the Commercial LPOE to ensure that the areas around the RHC LPOE continue to succeed economically while at the same time encouraging commercial and industrial business growth around the Commercial LPOE. It is expected that the area surrounding the Commercial LPOE would revolve around major interstate and international commerce, while the downtown area would focus on investments to attract people ‘to’ downtown as a destination (City of Douglas et al. 2021). As a result, compensation of employees in retail trade; accommodation and food services; construction; real estate and rental and leasing; and arts, entertainment, and recreation would likely increase, and unemployment would likely decrease—creating long-term, moderate to significant, beneficial, indirect impacts.

Operations of the two-port solution are expected to result in long-term, minor to moderate beneficial impacts to quality of life. Noise levels would return to existing levels in areas near the RHC LPOE once construction activities are completed. Residents close to the RHC LPOE as well as residents in the larger Cochise County area would be expected to benefit from improved traffic circulation and overall air quality in the area. The rerouting of commercial traffic away from downtown Douglas would allow for the development of more pedestrian-friendly infrastructure that would increase safety. Residents living near the Commercial LPOE and along roads such as SR-80 that may experience localized increases in traffic would experience negligible to minor air quality and noise impacts, which could affect quality of life. However, the two-port solution is generally anticipated to result in quality-of-life improvements in the surrounding community which could have beneficial impacts on property values in the City of Douglas and surrounding areas. No adverse impacts to recreational facilities are expected.

Any additional CBP personnel and their families that may relocate to the City of Douglas would contribute to a permanent population increase and would result in minor adverse impacts on the educational quality. Given that the student-to-teacher ratio in Douglas and Cochise County already exceeds the state and national averages, additional students would contribute to unfavorable student-to-teacher ratios at schools, and adverse impacts on education would be minor and adverse in the long term.

Alternatives 1a – 1d: Reuse, Relocate, or Demolish Historic Structures

Alternatives 1a through 1d relate to the sub-alternatives for the management of the historic Main Building and Garage, as described in Section 2.1.2.1. As these sub-alternatives would take place within the footprint of the RHC LPOE, the potential impacts to socioeconomics as already identified under Alternative 1 would not change.

3.11.2.4 *Alternative 2 – Concurrent Construction*

During construction from Alternative 2 there would be:

- Short-term, negligible impacts on population and housing;
- Short-term, minor, beneficial, and direct impacts on unemployment and income;
- Short-term, moderate to significant, beneficial, and indirect impacts from materials and equipment purchases, as well as indirect and induced job creation;
- Temporary, minor adverse impacts on local businesses adjacent to RHC LPOE; and
- Temporary, minor adverse impacts to nearby neighborhoods from decreased quality of life.

During operations from Alternative 2 there would be:

- Long-term, negligible to minor, beneficial, and direct impacts to population and housing;
- Long-term, moderate to significant, beneficial, and direct impacts to labor and earnings;
- Long-term minor to moderate, beneficial, direct and indirect impact on unemployment in all industries in Cochise County;
- Long-term, moderate to significant, beneficial, and direct impacts from commercial and industrial business growth around the Commercial LPOE; and
- Long-term, minor to moderate, beneficial impacts to quality of life in the City of Douglas, although long-term, minor adverse impacts from increasing population and contributing to unfavorable student-to-teacher ratios.

Construction (Commercial and RHC LPOEs)

Impacts during construction of Alternative 2 would be similar to as described for Alternative 1 for both the Commercial LPOE and RHC LPOE. Impacts to population and housing would be similar to as described for Alternative 1, except that up to 200 workers would be hired at once to accommodate concurrent construction for an estimated construction period of 48 to 54 months. As under Alternative 1, 18 to 24 of those months represent peak construction with maximum number of workers. Impacts would be greater in the near term while concurrent construction is ongoing, but would occur for a shorter duration than under Alternative 1.

There would be short-term, moderate to significant, beneficial impacts to labor and earnings due to increased spending on construction labor and materials. Project-related spending on construction labor and materials would be similar but likely less than under Alternative 1, due to decreased cost escalation and inflationary pressures as a result of the compressed project timeline. Impacts would be greater in the near term while concurrent construction is ongoing, but would occur for a shorter duration than under Alternative 1.

Construction would temporarily decrease quality of life of residents in close proximity to the proposed Commercial LPOE and RHC LPOE due to increased noise levels, air emissions, traffic and congestion, and resultant decrease response times of police, fire, and medical services, similar as to described for under Alternative 1. As under Alternative 1, no impacts to schools or property values are anticipated.

Operations (Commercial and RHC LPOEs)

Impacts during operations of the Commercial LPOE and RHC LPOE under Alternative would be the same as described for Alternative 1.

Alternatives 2a – 2d: Reuse, Relocate, or Demolish Historic Structures

Alternatives 2a through 2d relate to the sub-alternatives for the management of the historic Main Building and Garage, as described in Section 2.2.1. As these sub-alternatives would take place within the footprint of the RHC LPOE, the potential impacts to socioeconomics as already identified under Alternative 2 would not change.

3.11.2.5 *Impact Reduction Measures*

No impact reduction measures would apply for Socioeconomics under the Proposed Action.

3.12 ENVIRONMENTAL JUSTICE AND PROTECTION OF CHILDREN'S HEALTH AND SAFETY

This section describes the baseline conditions for race, income, and population of children in the project area and potential disproportionate impacts that could result from implementing the Proposed Action, including Alternatives 1 and 2 as discussed in Chapter 2. In evaluating environmental justice under NEPA, agencies must recognize the interconnected cultural, social, occupational, historical, or economic factors that may amplify the natural and physical environmental effects of the proposed agency action (CEQ 1997).

3.12.1 Affected Environment

3.12.1.1 *Region of Influence*

The ROI for environmental justice and child populations focuses on the proposed Commercial LPOE, RHC LPOE, expansion areas, and immediate surrounding areas. Potential impacts with the greatest intensity and longest duration (e.g., noise, air quality, transportation, changes in economic activity) would occur near the proposed Commercial LPOE and RHC LPOE. Therefore, environmental justice and children protection considerations are analyzed within a respective 2-mile radius of the proposed Commercial LPOE and RHC LPOE.

3.12.1.2 *Regulatory Setting and Requirements*

EO 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*, directs federal agencies to consider whether impacts on human health or the environment (including social and economic aspects) would be disproportionately high and adverse for minority and low-income populations, and would outweigh impacts on the general population or other comparison group.

EO 13990, *Protecting Public Health and the Environment and Restoring Science to Address the Climate Crisis* directs federal agencies to prioritize both environmental justice and employment. EO 13990 supports the national goal of improving public health and the environment by ensuring access to clean air and water, limiting exposure to dangerous chemicals and pesticides, and holding polluters accountable, including those who disproportionately harm people of color and low-income people.

EO 14030, *Climate-Related Financial Risk*, outlines the government approach to mitigating climate-related financial risks and ensuring financial security for workers, families, and businesses who may be disproportionately affected by climate change. The EO advises federal agencies to assess their government programs, assets, and liabilities, and to identify causes of and address disparate impacts on disadvantaged communities and communities of color.

EO 13045, *Protection of Children from Environmental Health Risks and Safety Risks*, places a high priority on the identification and assessment of environmental health and safety risks that may disproportionately affect children. The EO requires that each agency "shall ensure that its policies, programs, activities, and standards address disproportionate risks to children." It considers that physiological and social development of children makes them more sensitive than adults to adverse health and safety risks, and recognizes that children in minority and low-income populations are more likely to be exposed to and have increased health and safety risks from environmental contamination than the general population.

The analysis also considers information from the USEPA's EJSCREEN model. The EJSCREEN model serves as a screening-level tool to identify areas that may have a higher susceptibility to environmental justice impacts because of their demographic composition and existing exposure to contaminants or proximity to facilities. The model uses environmental indicators to quantify susceptibility to exposure, including data related to proximity to ozone and other air toxins, lead paint, and underground storage tanks (USTs).

3.12.1.3 *Existing Conditions*

Environmental Justice

The definitions of minority, low-income, and minority or low-income populations are presented below.

- **Minority –** Individual(s) who are members of the following population groups as designated in the U.S. Census: Black or African American, American Indian and Alaska Native, Asian, Native Hawaiian and Other Pacific Islander, as well as Hispanic or Latino of any race.
- **Low-income –** The U.S. Census Bureau uses a set of income thresholds that vary by family size and composition to determine who is in poverty (i.e., classified as 'low-income'). If a family's total income is less than the family's threshold, then that family and every individual in it is considered in poverty. The official poverty thresholds do not vary geographically but are updated for inflation using the Consumer Price Index. The official poverty definition uses income before taxes and does not include capital gains or noncash benefits (such as public housing, Medicaid, and food stamps) (USCB 2021).
- **Minority or low-income population –** Populations where either: (a) the total number of minority or low-income individuals of the affected area exceeds 50 percent of the overall population in the same area, or (b) the total number of minority or low-income individuals within the affected area is meaningfully greater (e.g., 120 percent greater) than the minority or low-income population percentage in an appropriate comparison unit of geographic analysis (CEQ 1997). A minority population also exists if there is more than one minority group present and the minority percentage, as calculated by aggregating all minority persons, meets one of the above-stated thresholds. In identifying minority or low-income populations, agencies may consider as a community either a group of individuals living in geographic proximity to one another, or a geographically dispersed/transient set of individuals (such as migrant workers or Native Americans), where either type of group experiences common conditions of environmental exposure or effect. The selection of the appropriate unit of geographic analysis may be a governing body's jurisdiction, a neighborhood, census tract, or other similar unit that is to be chosen so as not to artificially dilute or inflate the affected minority population.
- **Meaningfully Greater –** A meaningfully greater minority or low-income population within a geographic unit affected by a federal action is determined by comparing the minority or low-income composition of the geographic unit to the minority or low-income composition of the general population. Similar to selecting the appropriate unit of geographic analysis, a comparison population should be selected so as to not artificially dilute or inflate the affected minority populations. For this analysis, the comparison population is the total population of Cochise County.

The analysis of minority and low-income populations focuses on U.S. Census Bureau data for geographic units (i.e., census tracts and block groups) that represent, as closely as possible, the potentially affected areas. A census tract is a geographic area for which the U.S. Census Bureau provides consistent sample data and is comprised of smaller census block groups. Census tracts generally contain a population between 1,200 and 8,000 people. A census block group is the smallest geographic area for which the U.S. Census Bureau provides consistent sample data, and generally contains a population between 600 and 3,000 individuals (USCB 2022). Census data for minority populations are available at the block group level; however, data for incomes below the poverty level are currently available only for census tracts and larger areas.

USEPA typically considers a project to be in an area of potential environmental justice concern when an EJSCREEN analysis for the impacted area shows 1 or more of the 12 indices at or above the 80th percentile in the nation and/or state. Per scoping comments received from USEPA dated August 15, 2022, this analysis considers EJSCREEN information for the block groups that exceed the 80th percentile in the nation and/or state.

Commercial LPOE

Table 3.12-1 summarizes the percentage of minority and low-income populations within 2 miles of the Commercial LPOE site, Cochise County, and the State of Arizona for comparison purposes.

Table 3.12-1. Minority and Low-Income Population within the Region of Influence

Population Group	2-Mile ROI		Cochise County		Arizona	
	Pop.	Total (%)	Pop.	Total (%)	Pop.	Total (%)
Nonminority	575	22.5	69,095	54.6	3,883,722	54.1
Black or African American	69	2.7	4,512	3.6	305,973	4.3
Total Hispanic or Latino	1,737	67.8	44,858	35.5	2,260,690	31.5
American Indian or Alaska Native	32	1.2	1,058	0.8	272,294	3.8
Asian	128	5.0	2,371	1.9	233,048	3.2
Other Minority[a]	20	0.8	4,548	3.6	218,337	3.0
Total Minority	**1,986**	**77.5**	**57,347**	**45.4**	**3,290,342**	**45.9**
Total Population	**2,561**	**100**	**126,442**	**100**	**7,174,064**	**100**
Low Income	**231**	**9.0**	**18,121**	**14.3**	**990,528**	**13.8**

USCB 2020d and 2020e

[a] Other Minority = Native Hawaiian or Other Pacific Islander; Some other race; or Two or more races.

The average minority population percentage of Cochise County is approximately 46 percent, and a meaningfully greater minority population percentage relative to the general population of the county would exceed the 50 percent threshold defined by CEQ. Therefore, the lower threshold of 50 percent is used to identify areas with meaningfully greater minority populations within 2 miles of the Commercial LPOE. There is 1 block group within the ROI, and the block group contains individual racial group minority populations or aggregate minority populations that meet the environmental justice criteria. The total minority population residing within the 2-mile ROI is approximately 1,986, or 77.5 percent of the entire population. Therefore, the overall composition of the ROI is predominantly nonminority. Minority populations in the ROI are predominantly Hispanic or Latino, followed by Asian. Figure 3.12-1 displays the block groups identified as meeting the criteria for environmental justice minority populations surrounding the proposed Commercial LPOE, as well as the population density of minority populations within each block group.

Low-income populations were evaluated using the absolute 50 percent and the relative 120 percent or greater criteria for potentially affected block group within the ROI. If a block group's percentage of low-income individuals met the 50 percent criterion or was more than 120 percent of the total low-income population within Cochise County (i.e., 18.3 percent), then the area was identified as having a low-income population. Figure 3.12-2 displays the block groups identified as meeting the criteria for environmental justice low-income populations surrounding the proposed Commercial LPOE, as well as the population density of low-income individuals within each block group. The only block within the 2-mile radius does not have a low-income population that exceeds the 50 percent or meaningfully greater criteria.

Using USEPA's EJSCREEN model, the one block group within 2 miles of the Commercial LPOE site was identified to meet or exceed the 80th national percentile threshold for Ozone and Air Toxic Respiratory Health Index.

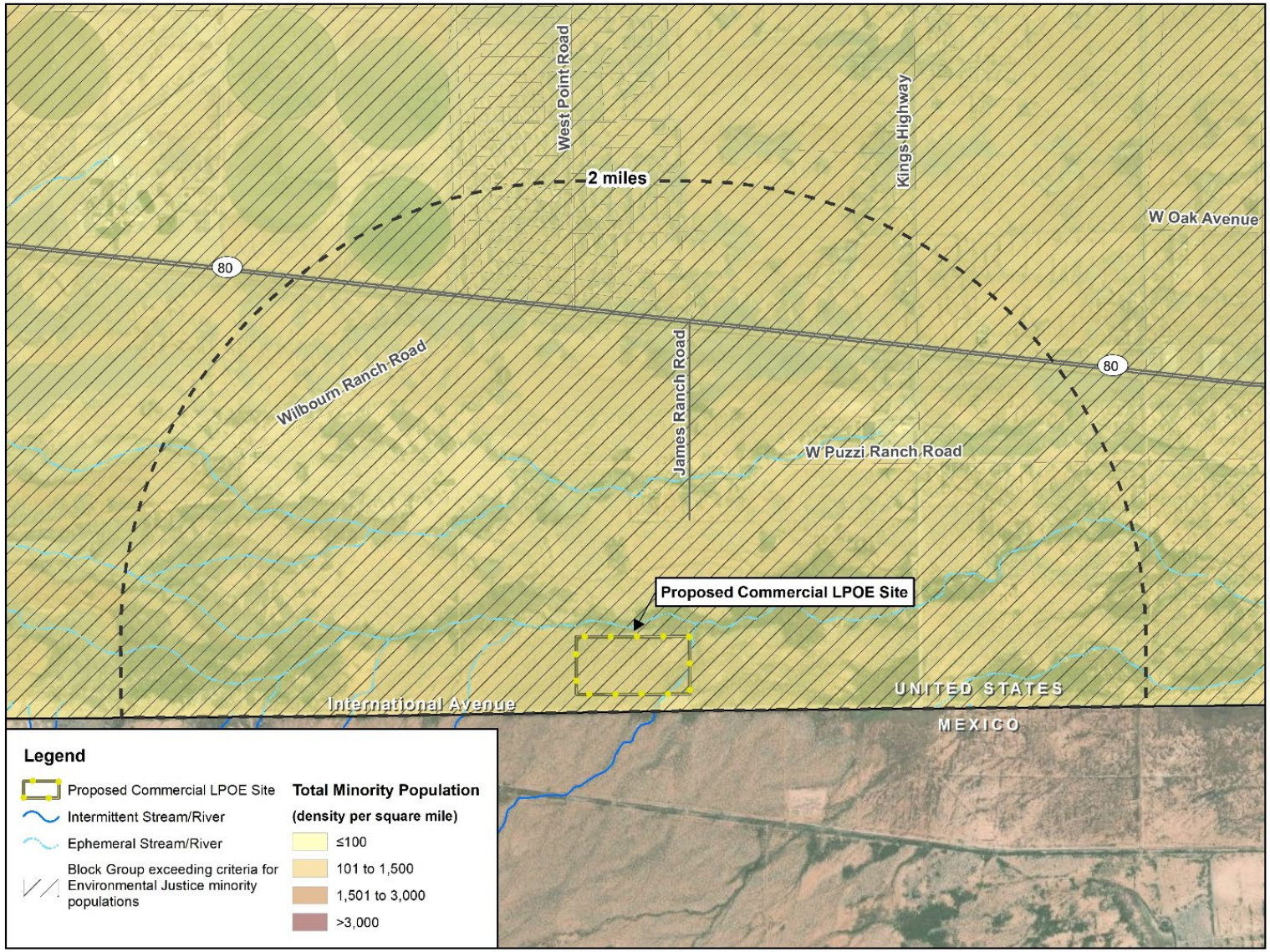


Figure 3.12-1. Minority Populations at Commercial Site

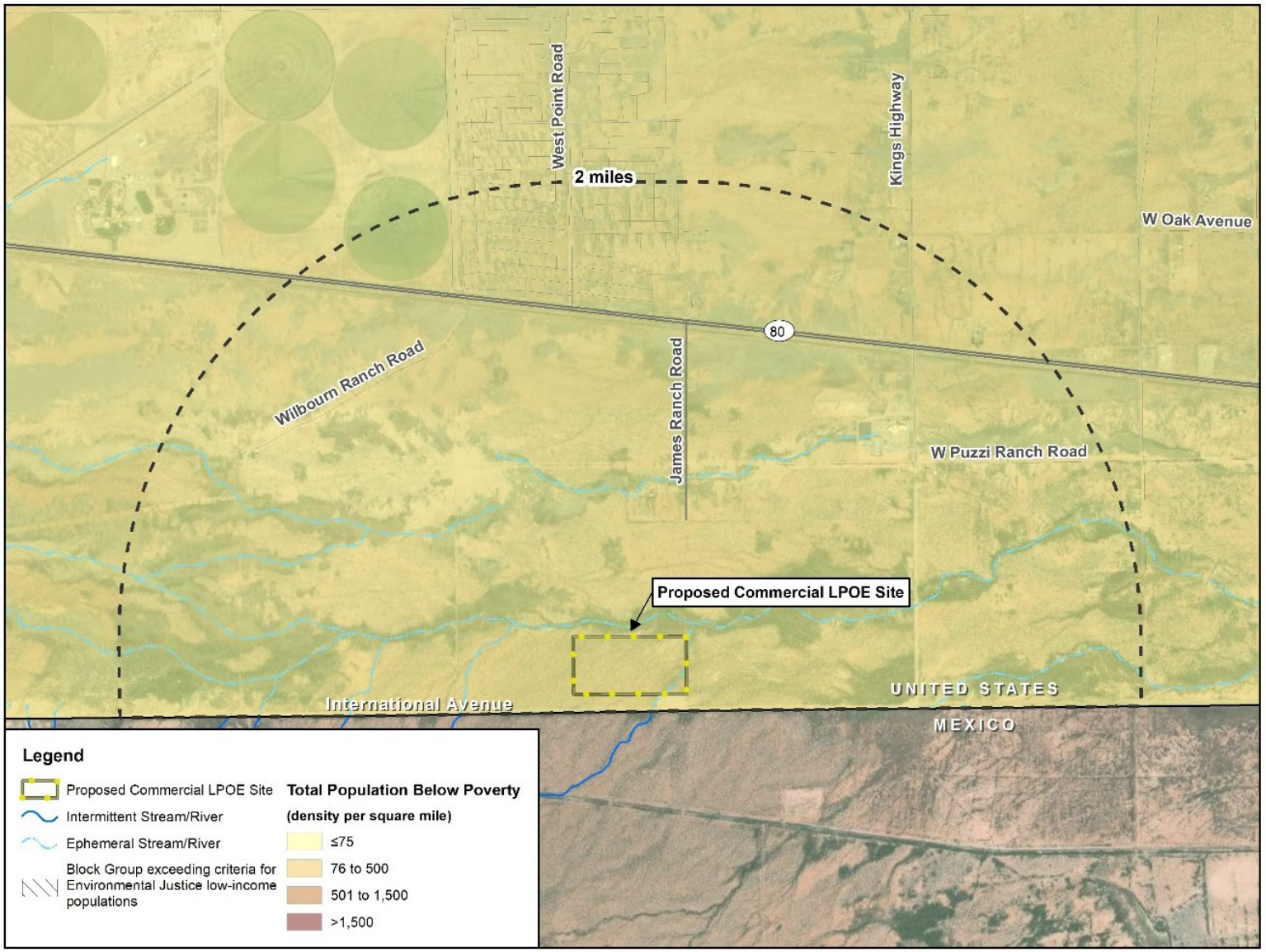


Figure 3.12-2. Low-Income Populations at Commercial Site

RHC LPOE

Table 3.12-2 summarizes the percentage of minority and low-income populations within 2 miles of the RHC LPOE site, Cochise County, and the State of Arizona for comparison purposes.

Table 3.12-2. Minority and Low-Income Population within the Region of Influence

Population Group	2 Mile ROI		Cochise County		Arizona	
	Pop.	Total (%)	Pop.	Total (%)	Pop.	Total (%)
Nonminority	1,378	10.7	69,095	54.6	3,883,722	54.1
Black or African American	204	1.6	4,512	3.6	305,973	4.3
Total Hispanic or Latino	10,997	85.6	44,858	35.5	2,260,690	31.5
American Indian/ Alaska Native	70	0.5	1,058	0.8	272,294	3.8
Asian	163	1.3	2,371	1.9	233,048	3.2
Other Minority[a]	1,388	10.8	4,548	3.6	218,337	3.0
Total Minority	**11,444**	**89.3**	**57,347**	**45.4**	**3,290,342**	**45.9**
Total Population	**12,822**	**100**	**126,442**	**100**	**7,174,064**	**100**
Low Income	**2,995**	**23.4**	**18,121**	**14.3**	**990,528**	**13.8**

USCB 2020d and 2020e

[a] Other Minority = Native Hawaiian or Other Pacific Islander; Some other race; or Two or more races.

The average minority population percentage of Cochise County is approximately 46 percent, and a meaningfully greater minority population percentage relative to the general population of the county would exceed the 50 percent threshold defined by CEQ. Therefore, the lower threshold of 50 percent is used to identify areas with meaningfully greater minority populations within 2 miles of the RHC LPOE. All of the 13 block groups within the ROI have individual racial group minority populations or aggregate minority populations that meet the environmental justice criteria. The total minority population residing within the 2-mile ROI is approximately 11,444, or 89.3 percent of the entire population. The overall composition of the ROI is predominantly nonminority. Minority populations in the ROI are predominantly Hispanic or Latino, followed by Other Minority. Figure 3.12-3 displays the block groups identified as meeting the criteria for environmental justice minority populations surrounding the RHC LPOE, as well as the population density of minority populations within each block group.

Low-income populations were evaluated using the absolute 50 percent and the relative 120 percent or greater criteria for potentially affected block groups within the ROI. If a block group's percentage of low-income individuals met the 50 percent criterion or was more than 120 percent of the total low-income population within Cochise County (i.e., 18.3 percent), then the area was identified as having a low-income population. Figure 3.12-4 displays the block groups identified as meeting the criteria for environmental justice low-income populations surrounding the RHC LPOE, as well as the population density of low-income populations within each block group. Of the 13 block groups within the ROI, 9 block groups have low-income populations that meet the environmental justice criteria. The total low-income population residing within the 2-mile ROI is approximately 2,422, or 19 percent of the entire population.

Using USEPA's EJSCREEN model, all of the block groups within 2 miles of the RHC LPOE were analyzed for eleven indices that reflect 12 environmental indicators. Of the 13 block groups within the ROI, all 13 block groups fall above the 80th national percentile for one or more of the following indicators: Ozone (level in air); Air Toxics Respiratory Hazard Index (ratio of exposure concentration to health-based reference concentration); Lead Paint (percent of housing units built prior to 1960); and UST (number of USTs within a 1,500 foot buffer block group). Of the 13 block groups within the ROI, 12 block groups are above the threshold for potential lead paint exposure, 7 block groups are above the threshold for ozone, 7 block groups are above the threshold for USTs, and 1 block group meets the threshold for Air Toxic Respiratory Health Index.

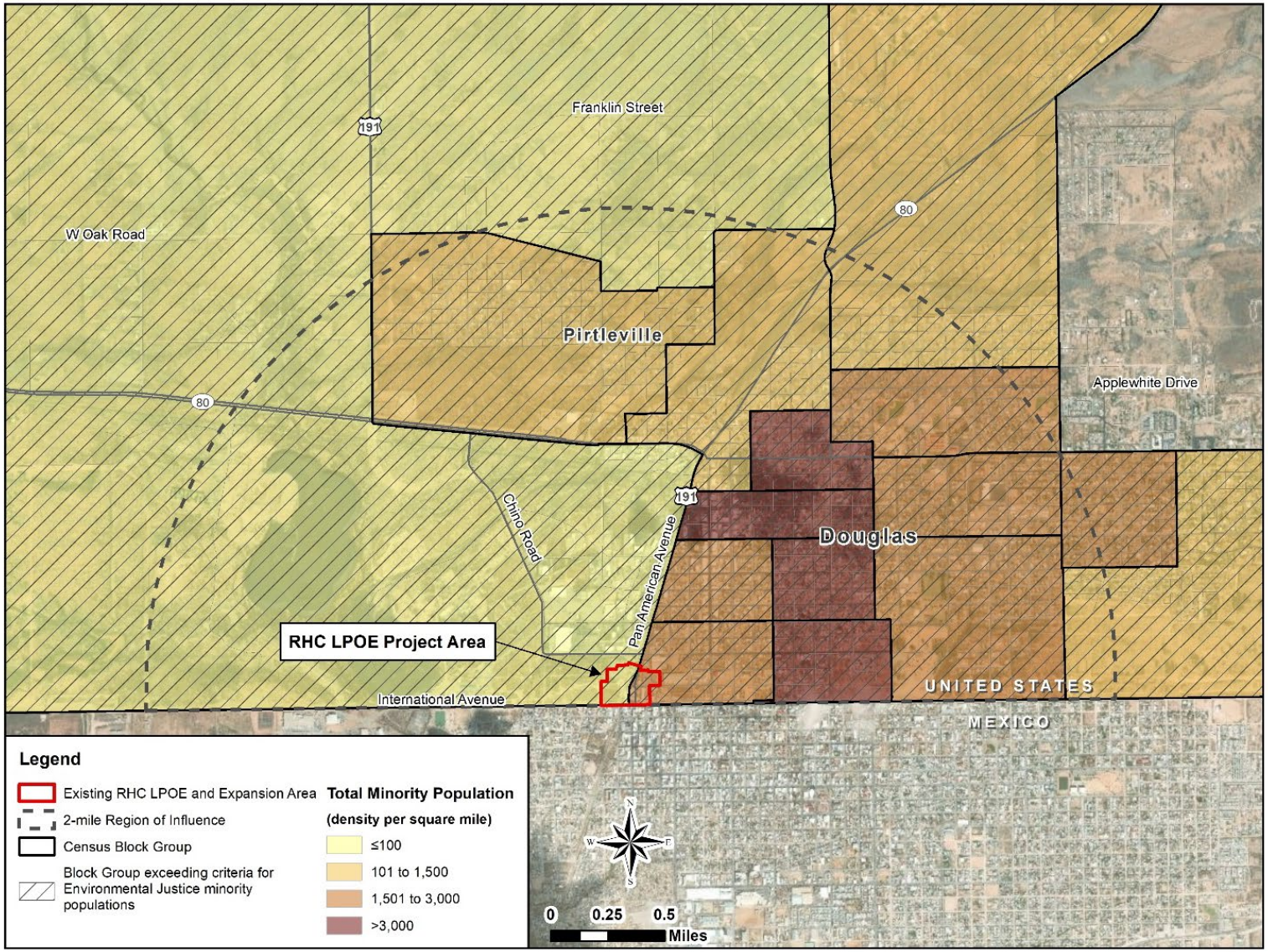


Figure 3.12-3. Minority Populations at RHC LPOE Expansion Site

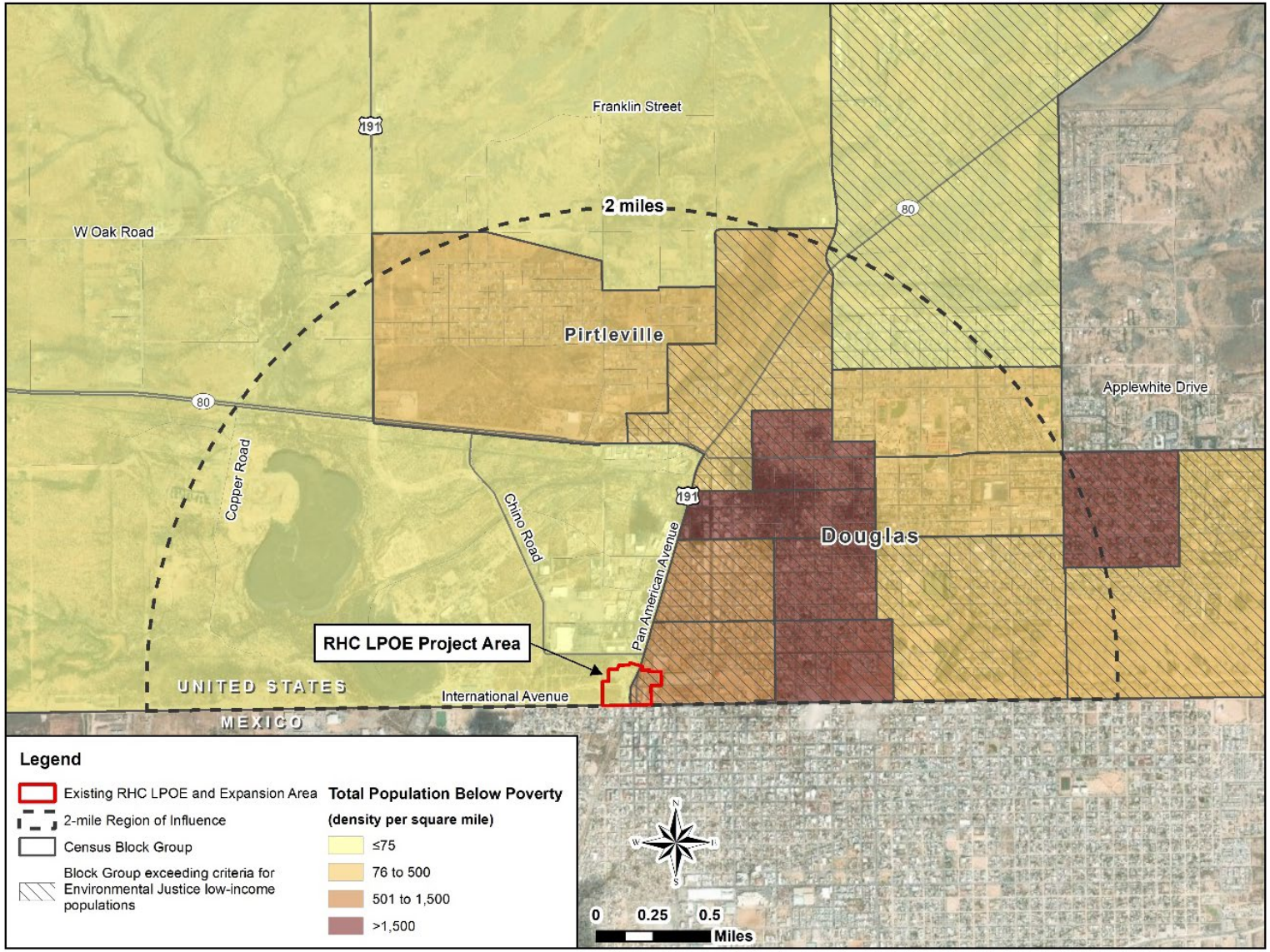


Figure 3.12-4. Low-Income Populations at RHC LPOE Expansion Site

Protection of Children's Health and Safety

The *Memorandum Addressing Children's Health through Reviews Conducted Pursuant to the National Environmental Policy Act and Section 309 of the Clean Air Act* recommends that an EIS "describe the relevant demographics of affected neighborhoods, populations, and/or communities and focus exposure assessments on children who are likely to be present at schools, recreation areas, childcare centers, parks, and residential areas in close proximity to the project area, and other areas of apparent frequent and/or prolonged exposure" (USEPA 2012).

The analysis for EO 13045 requires the assessment of readily available demographic data and information on local, regional, and national populations. The number and distribution of children under the age of 19 in the ROI are assessed to determine whether Alternatives 1 and 2 would expose them to environmental health and safety risks.

Commercial LPOE

Table 3.12-3 shows the population of children under age 5 and 5 to 19 within 2 miles of the RHC LPOE, Cochise County, and Arizona. Section 3.3, Air Quality and Greenhouse Gas Emissions and Section 3.9, Noise also discuss locations of air pollutant- and noise-sensitive receptors, to include locations children may be present within 0.5 mile of the Commercial LPOE. Figure 3.12-5 shows the population density of child populations under 5 years in the only block group within 2 miles of the proposed Commercial LPOE.

Table 3.12-3. Youth Populations in the Region of Influence

Location	Children under Age 5 (%)	Children 5 to 19 Years (%)
2-Mile ROI	8.9	18.7
Cochise County	5.8	19.4
Arizona	6.0	19.6

Source: USCB 2020f

RHC LPOE

Table 3.12-4 shows the population of children under age 5 and 5 to 19 within 2 miles of the RHC LPOE, Cochise County, and Arizona. Section 3.3, Air Quality and Greenhouse Gas Emissions and Section 3.9, Noise also show locations of air pollutant- and noise-sensitive receptors, to include locations children may be present within 0.5 mile of the RHC LPOE. Figure 3.12-6 shows the population density of child populations under 5 years in block groups within 2 miles of the RHC LPOE.

Table 3.12-4. Youth Populations in the Region of Influence

Location	Children under Age 5 (%)	Children 5 to 19 Years (%)
2-Mile ROI	8.5	25.2
Cochise County	5.8	19.4
Arizona	6.0	19.6

Source: USCB 2020f

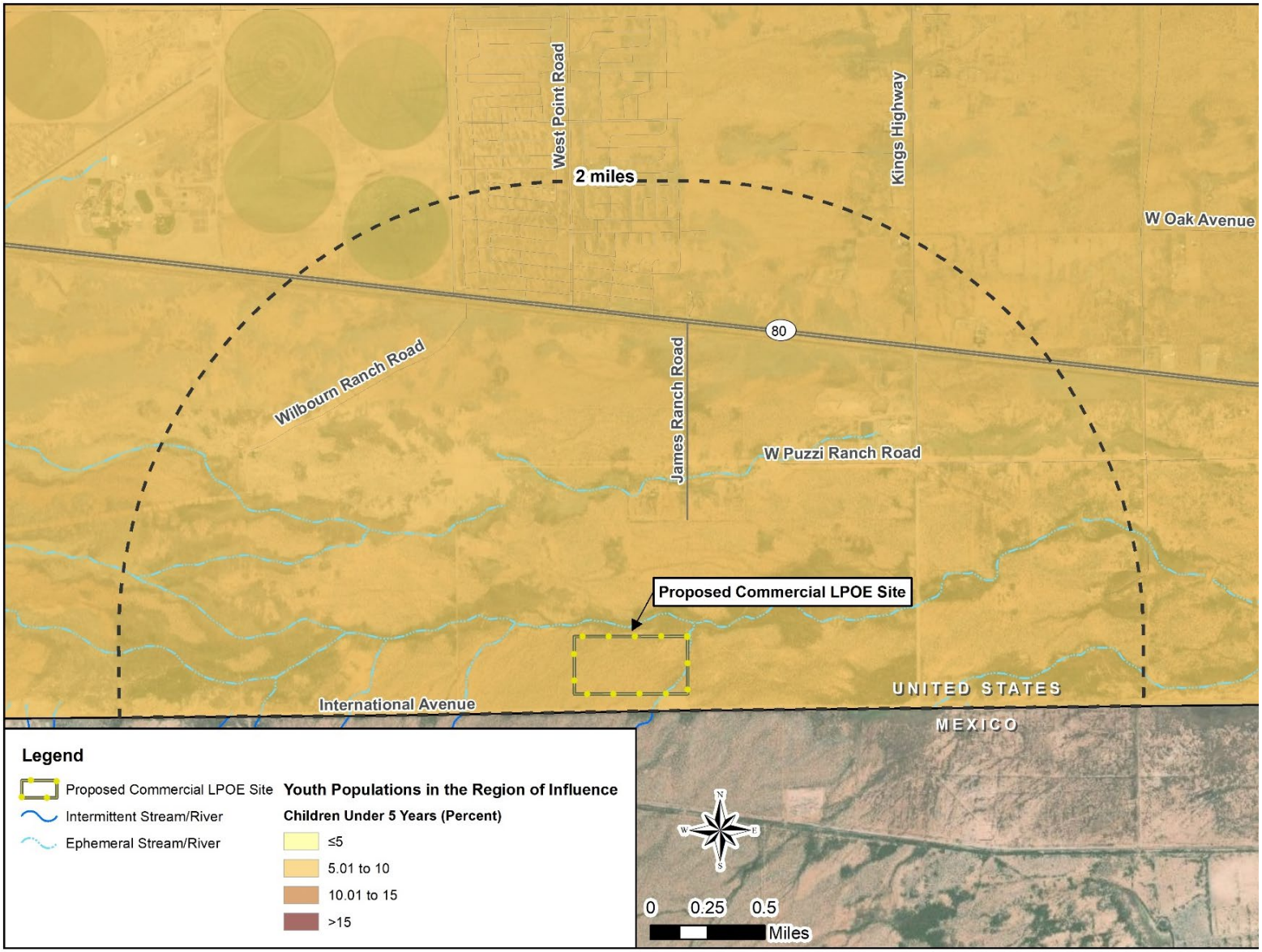


Figure 3.12-5. Child Populations at Commercial Expansion Site

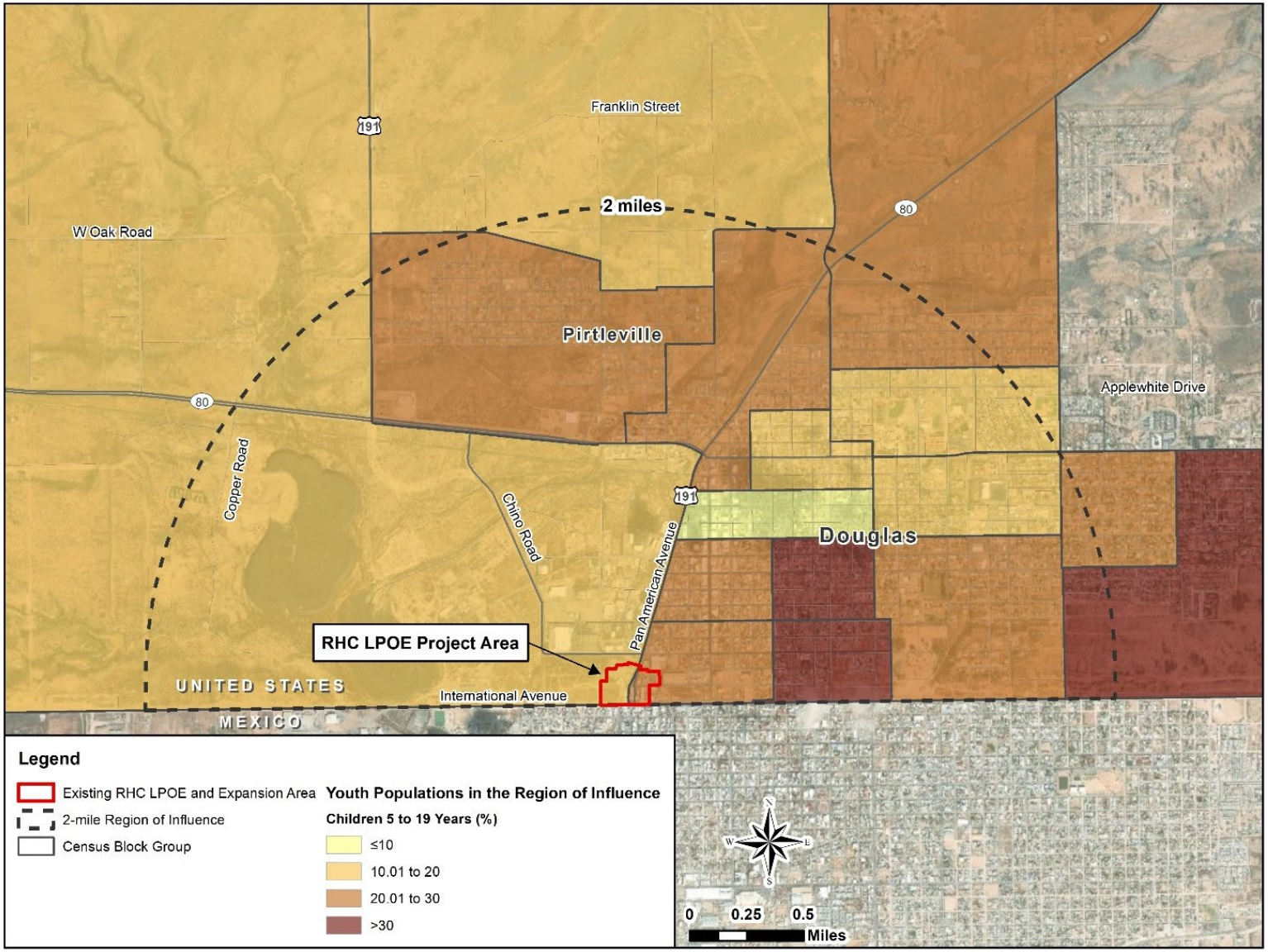


Figure 3.12-6. Child Populations at RHC LPOE Expansion Site

3.12.2 Environmental Consequences

3.12.2.1 *Methodology*

Consideration of the potential consequences for environmental justice requires three main components:

1) A demographic assessment of the affected community to identify the presence of minority or low-income and youth populations that may be potentially affected.
2) An assessment of all potential impacts identified to determine if any result in significant adverse impacts to the affected environment.
3) An integrated assessment to determine whether any disproportionately high and adverse impacts exist for minority or low-income groups and youth populations present in or near the RHC LPOE site and proposed Commercial LPOE site.

To evaluate the impacts on environmental justice resources, alternatives were reviewed for their potential to cause the following:

- Cause a disproportionately high and adverse effect on a low-income or minority population; or
- Cause a disproportionately high and adverse environmental health and safety risks to children.

Determination of significant impacts is informed by the USEPA's *Promising Practices for EJ Methodologies in NEPA Reviews* (USEPA 2016). Context and intensity of impacts on the impacted communities is considered when determining whether impacts from the Proposed Action would be considered significant under NEPA. Factors considered when determining significance of impacts to environmental justice (or children) populations include:

- Whether the action results in environmental, economic, or health impacts due to special vulnerabilities, unique routes of exposure, or cultural practices;
- The degree to which the action may establish a precedent for future actions with significant effects;
- Whether the action results in loss of significant cultural or historical resources;
- Whether the action results in impacts with specific concern to low-income or minority populations that are highly controversial.

3.12.2.2 *No Action Alternative*

Under the No Action Alternative, GSA would not construct a new Commercial LPOE or expand and modernize the existing RHC LPOE. Therefore, no impacts on environmental justice populations or children would occur. Potential beneficial impacts to environmental justice and child populations from removal of COVs through the city, as well as beneficial impacts to low-income populations from increased job opportunities would not occur.

3.12.2.3 *Alternative 1 – Sequential Construction*

Construction

Commercial LPOE

Environmental Justice. The proposed Commercial LPOE site is located within Census Tract 6, Block Group 1, which is identified as an environmental justice minority population (see Figure 3.12-3); however, three residential properties were identified within 1 mile of the Commercial LPOE (see Section 3.9.1.3). This EIS identified the following impacts that could occur during construction and that may affect minority populations surrounding the Commercial LPOE site.

- **Air Quality Impacts –** Short-term, minor, adverse, direct and indirect air quality impacts would be expected to disproportionately affect minority populations due to health impacts from increased air emissions from on-road and non-road construction vehicles during construction activities (see Section 3.3, Air Quality and Greenhouse Gas Emissions). Emissions, airborne dust, and soil surface disturbance from the use of on-road and non-road construction vehicles could degrade air quality in the area surrounding the proposed Commercial LPOE. The majority of the nitrogen oxide, SO_2, and carbon monoxide emissions would be associated with vehicle and equipment exhaust. Since these emissions would occur at ground level, they would likely cause short-term increases in air pollutant emissions in the immediate vicinity of the project area. However, for purposes of this analysis, it was assumed that these emissions would not likely be transported more than one mile, except on windy days. The closest residential properties to the proposed Commercial LPOE are located approximately 2,500 and 5,500 feet to the north of the Commercial LPOE. No other structures are located within 1 mile of the Commercial LPOE; however, there are residences along James Ranch Road and SR-80. These residences may experience disproportionate impacts from degraded air quality due to increase construction traffic traveling to and from the Commercial LPOE, and impacts may be compounded due to existing air quality conditions. Notably, the project area is located in a nonattainment area for PM_{10}, and a USEPA-designated maintenance area for SO_2.
- **Congestion –** Short-term, minor, adverse transportation and traffic impacts would be expected to disproportionately affect minority populations due to increased congestion (see Section 3.8, Transportation and Traffic) and, therefore, delays accessing emergency and urgent care facilities. Medical facilities are located in Bisbee to the west and Douglas to the east of the proposed Commercial LPOE (see Section 3.11, Socioeconomics). Minority populations near the proposed Commercial LPOE may be delayed during construction activities in reaching these facilities; conversely, an ambulance or other emergency services (i.e., police, fire) may be delayed accessing residences near James Ranch Road or SR-80 near the Commercial LPOE. In the case of an accident, time delays due to traffic or congestion from the demolition and redevelopment activities under the Alternative 1 could have serious consequences, although the likelihood of this occurrence is low.
- **Noise Disturbances –** Disproportionate impacts from noise disturbances are not anticipated. The closest sensitive receptors identified to the Commercial LPOE site are three residential properties located approximately 2,500 and 5,500 feet to the north. The estimated noise level resulting from construction activities would be approximately 56 dBA at the closest property line of the residences located at a 2,500-foot distance, which is considered below "intrusive" (see Section 3.9.1.2). Noise impacts would be minimized to the extent possible by standard noise control measures, such as project scheduling, noise barriers, and using noise controls on equipment (e.g., mufflers). Activities would be consistent with normal construction activities and would be conducted during normal business hours. Noise impacts from increased construction vehicle traffic are not anticipated to disproportionately affect residences near James Ranch Road or SR-80 as the truck transport would be intermittent, would be restricted to typical business hours, and commuter traffic would be limited to daily construction start and end times.

- **Job Opportunities –** Economic impacts could disproportionately benefit minority and low-income populations throughout the region in search of a job. Minor beneficial impacts would occur due to the creation of direct, indirect, and induced jobs associated with the Alternative 1 (see Section 3.11, Socioeconomics). The social and economic benefits job creation would not be permanent and would largely be reversed in the long term, after construction is complete. Approximately 50 to 100 direct jobs would be created during construction; some of these jobs would be locally sourced, although others may come from the Phoenix and Tucson areas. Indirect or induced jobs could be created from project-related spending and worker spending. Jobs and income are strongly associated with a number of beneficial health outcomes, such as an increase in life expectancy, improved child health status, improved mental health, and reduced rates of chronic and acute disease morbidity and mortality (HDA 2004; Cox et al. 2004).

While environmental justice populations may be disproportionately affected, none of the above impacts are anticipated to be disproportionately high and adverse; and overall short-term, minor adverse impacts to environmental justice populations are anticipated.

Protection of Children. Negligible to minor impacts are expected to child populations during construction. There are no sites that children may regularly attend (e.g., childcare centers or schools, community centers, or recreational facilities) within 2 miles of the proposed Commercial LPOE, therefore child populations are not expected to spend time in the vicinity of the Commercial LPOE construction. As discussed under Environmental Justice, there are potential sensitive receptors along James Ranch Road and SR-80 that may experience impacts from degraded air quality due to increase construction traffic traveling to and from the Commercial LPOE. Depending on the presence of children at these residences, children could be adversely affected by increased vehicle emissions. Children are especially vulnerable due to higher relative doses of air pollution, smaller diameter airways, and more active time spent outdoors and closer to ground-level sources of vehicle exhaust.

RHC LPOE

Environmental Justice. The RHC LPOE is located within Census Tract 9.01, Block Group 3 and within 2 miles of multiple environmental justice block groups as shown on Figures 3.12-1 and 3.12-2. Similar impacts would occur as described for the proposed Commercial LPOE to populations surrounding the RHC LPOE.

- **Air Quality Impacts –** Short-term, minor, adverse, direct and indirect air quality impacts would be expected to disproportionately affect minority and low-income populations due to increased air emissions from on-road and non-road vehicles during construction activities, similar to as described for the proposed Commercial LPOE. Impacts would be most acute to residences and sensitive receptors to air pollutants closest to the RHC LPOE, and noticeable within 1 mile of the site (see Table 3.9-2). Recreational users of nearby parks within 1 mile (3rd Street Park, Paseo de las Americas Linear Park, and Tenth Street Park) would also experience disproportionate impacts. Once construction ceases, air emissions and ambient pollutant concentrations from on-road and non-road vehicles and traffic would return to existing levels. Emissions would be reduced through the use of BMPs such as watering of soils during excavation.
- **Congestion –** Short-term, minor, adverse transportation and traffic impacts would be expected to disproportionately affect minority and low-income populations due to increased congestion and, therefore, delays accessing emergency and urgent care facilities or services in Douglas, similar to as described for the proposed Commercial LPOE.
- **Noise Disturbance –** Short-term, minor, adverse noise impacts would be expected to disproportionately affect minority and low-income populations near the RHC LPOE due to noise disturbances associated with the use of heavy equipment and construction traffic. Noise would be felt most by users at the Paseo de las Americas Linear Park adjacent to the western boundary of the

existing port, as well as residences within 100 feet to 600 feet of the RHC LPOE. Noise impacts would be minimized to the extent possible by standard noise control measures, such as project scheduling, noise barriers, and using noise controls on equipment (e.g., mufflers). Activities would be consistent with normal construction activities and would be conducted during normal business hours. Noise would be short-term, intermittent and temporary until the construction phase is over. Furthermore, increases in noise levels during construction at the RHC LPOE would be offset because of the relocation of COV operations to the new facility.

- **Job Opportunities –** Economic impacts could disproportionately benefit minority and low-income populations in search of a job throughout the region. Impacts would be similar to as described for the proposed Commercial LPOE.

While environmental justice populations may be disproportionately affected, none of the above impacts are anticipated to be disproportionately high and adverse; and overall short-term, minor adverse impacts to environmental justice populations are anticipated.

Protection of Children. There could be minor to moderate adverse impacts to child populations during construction. Within 3,000 feet of the RHC LPOE, there are three sites identified that children may regularly attend (e.g., childcare centers or schools, community centers, or recreational facilities; see Tables 3.3-2 and 3.9-2) that could be adversely affected from construction. These include 3rd Street Park (700 feet), Center for Academic Success (1,800 feet), and Head Start Douglas (1,900 feet).

Temporary, minor adverse impacts to child populations are anticipated due to increased level of noise created by construction equipment and vehicles could affect children's learning, especially near homes, schools, and recreational areas, including at 3rd Street Park. Noise levels would be greatest when children are outdoors, which is for a short period of the day. Offsite receptors located between 100 feet to 600 feet could experience the combined noise levels of 68.5 dBA to 88.5 dBA.

Temporary, minor adverse impacts to child populations due to construction air emissions could occur during construction, particularly those closest to the construction site (i.e., at 3rd Street Park). Children are especially vulnerable due to higher relative doses of air pollution, smaller diameter airways, and more active time spent outdoors and closer to ground-level sources of vehicle exhaust. Similar to as described for environmental justice populations, emissions would be reduced through the use of BMPs such as watering of soils during excavation.

Operations

Commercial LPOE

Environmental Justice. The EIS identified the following impacts that could occur during operations and that may affect populations surrounding the Commercial LPOE site.

- **Air Quality Impacts –** Long-term, minor, adverse impacts would be expected to disproportionately affect minority populations from the introduction of COVs on James Ranch Road and increase of COVs on SR-80 (between James Ranch Road and US-191) and associated health impacts from vehicle emissions (see Section 3.3. Air Quality and Greenhouse Gas Emissions).
- **Congestion –** Disproportionate impacts on minority populations from congestion during operations of the Commercial LPOE are not anticipated. Although there would be increased traffic on James Ranch Road and SR-80 (between James Ranch Road and US-191), this traffic is not anticipated to degrade roadway LOS or affect minority populations from reaching emergency and urgent care facilities or services.

- **Noise Impacts –** Minor, permanent adverse impacts would be expected to disproportionately affect minority populations from operations of the Commercial LPOE and introduction of COVs. The Commercial LPOE would be a new, permanent source of noise for the area due to vehicular traffic as COVs would enter and exit through this facility, and a new indoor firing range would be located at the Commercial LPOE. Receptors located on James Ranch Road and SR-80 (between James Ranch Road and US-191) would experience an increase in intermittent noise levels from the COVs during operating hours.
- **Job Opportunities** – Economic impacts could disproportionately benefit minority and low-income populations in search of a job throughout the region. There would be long-term, negligible to moderate permanent economic benefits as a result of the operation of the two-port solution to the surrounding region, as described in Section 3.11, Socioeconomics. Impacts would be similar to as described for construction but would be permanent.

While environmental justice populations may be disproportionately affected, none of the above impacts are anticipated to be disproportionately high and adverse; and overall long-term, minor adverse to minor beneficial impacts to environmental justice populations are anticipated.

Protection of Children. Negligible impacts are expected to child populations during operations. There are no sites that children may regularly attend (e.g., childcare centers or schools, community centers, or recreational facilities) within 2 miles of the proposed Commercial LPOE, therefore children between the ages of 5 and 19 are not expected to spend time in the vicinity of the newly constructed Commercial LPOE during operation. Any potential future development that directly or indirectly occurs near the Commercial LPOE (as discussed in Section 3.11, Socioeconomics) is unlikely to attract child populations.

Climate Risk. Long-term impacts related to climate change in the Southwest are discussed in Section 3.3.1.3. Generally, these impacts include long-term increases in temperatures, persistent drought and reduction in water availability, impacts on food production, and associated health impacts with these conditions. Decreased food and water availability could also further increase costs associated with accessing these resources, which could disproportionately affect low-income populations. Over time, minority and low-income populations and children in the project area would likely become more susceptible to these impacts. Alternative 1 would result in only negligible incremental contributions to global GHG emissions and climate change; however, the adverse impacts on environmental justice populations discussed above, particularly air quality impacts along roads near the proposed Commercial LPOE, may become more pronounced in the long term as a result of climate change impacts.

RHC LPOE

Environmental Justice. The EIS identified the following impacts that could occur during operations and that may affect populations surrounding the RHC LPOE.

- **Air Quality Impacts –** Long-term, minor, beneficial impacts would be expected to disproportionately affect minority and low-income populations from removal of COVs traveling through downtown Douglas and associated health benefits from reduction in vehicle emissions.
- **Congestion –** Long-term, minor beneficial impacts would be expected to disproportionately affect minority and low-income populations from removal of COVs traveling through downtown Douglas and improvements on circulation in the city.
- **Noise Disturbances –** Minor permanent beneficial impacts would be expected to disproportionately affect minority and low-income populations from removal of COVs traveling through downtown Douglas and improvements on circulation in the city.
- **Job Opportunities –** Economic impacts could disproportionately benefit minority and low-income populations in search of a job throughout the region, similar to as described for the Commercial LPOE.

- **Loss of Recreational Space –** There would be a permanent, minor adverse impact from the loss of recreational space in Douglas from the conversion of a city park and public washroom in the Alternative 1 Expansion Area. This would disproportionately impact minority and low-income populations ability to access recreational spaces near the RHC LPOE; however, there are park spaces within 0.1 miles including Paseo de las Americas Linear Park and the 3rd Street Park (which includes a public washroom).

While environmental justice populations may be disproportionately affected, none of the above impacts are anticipated to be disproportionately high and adverse; and overall long-term, minor beneficial to environmental justice populations are anticipated.

Protection of Children's Health and Safety. Negligible to minor beneficial and adverse impacts are expected to child populations during operations. The expansion of the RHC LPOE would result in permanent loss of the city park that children frequent adjacent to the RHC LPOE. However, impacts to the other three sites that children may regularly attend (e.g., childcare centers or schools, community centers, or recreational facilities) within 2 miles of the RHC LPOE would be beneficial, as children would experience less intense noise and emissions than prior to the project, due to the rerouting of commercial traffic to the Commercial LPOE. Any potential future development that indirectly occurs near the RHC LPOE (as discussed in Section 3.11, Socioeconomics) is unlikely to attract child populations.

Climate Risk. Long-term impacts from climate change on minority, low-income, and child populations would be similar to as described as for the Commercial LPOE; however, operations of the RHC LPOE are expected to have a net benefit impact on environmental justice populations.

Alternatives 1a – 1d: Reuse, Relocate, or Demolish Historic Structures

Alternatives 1a through 1d relate to the sub-alternatives for the management of the historic Main Building and Garage, as described in Section 2.1.2.1. As these sub-alternatives would take place within the footprint of the RHC LPOE, the potential impacts to environmental justice and children's health and safety as already identified under Alternative 1 would not change.

3.12.2.4 *Alternative 2 – Concurrent Construction*

Construction

Impacts during construction of Alternative 2 would be similar to as described for Alternative 1 for both the Commercial LPOE and RHC LPOE. Impacts to environmental justice and child populations would last for a shorter duration than under Alternative 1; however, noise and emissions are likely to have greater intensity under Alternative 2.

Operations

Impacts during operations of the Commercial LPOE and RHC LPOE under Alternative 2 would be the same as described for Alternative 1. However, because the expansion area is greater under Alternative 2, impacts could be slightly more adverse. In addition to the city park, there could potentially be loss of trails of Paseo de Las Americas Linear Park that children frequent.

Alternatives 2a – 2d: Reuse, Relocate, or Demolish Historic Structures

Alternatives 2a through 2d relate to the sub-alternatives for the management of the historic Main Building and Garage, as described in Section 2.2.1. As these sub-alternatives would take place within the footprint of the RHC LPOE, the potential impacts to environmental justice and children's health and safety as already identified under Alternative 2 would not change.

3.12.2.5 *Impact Reduction Measures*

Impact reduction measures for resources specific to environmental justice are discussed in the respective sections (i.e., Sections 3.3, Air Quality and Greenhouse Gas Emissions; Section 3.4, Land Use and Visual Resources; Section 3.8, Transportation and Traffic; and Section 3.9, Noise).

3.13 HUMAN HEALTH AND SAFETY

This section discusses human health and safety, which includes direct and indirect factors that have the potential to affect the human population or workers associated with the Proposed Action and its alternatives as discussed in Chapter 2. Direct factors include exposure to chemicals, extreme temperatures, and weather, while indirect factors include physical safety and security of the surrounding environment. Factors in the project area that could affect human health and safety include automobile or pedestrian accidents, workplace accidents, criminal activities, extreme weather, and exposure to hazardous waste and materials.

3.13.1 Affected Environment

3.13.1.1 *Region of Influence*

The ROI for human health and safety focuses on the RHC LPOE, the proposed Commercial LPOE site, and directly adjacent areas surrounding both sites, including the expansion areas for Alternatives 1 and 2.

3.13.1.2 *Regulatory Setting and Requirements*

Hazardous Waste and Materials. The purpose of the Comprehensive Environmental Response, Compensation, and Liability Act, often referred to as Superfund, is to clean up contaminated sites so that public health and welfare are not compromised. The Federal Resource Conservation and Recovery Act of 1976 (RCRA) provides for "cradle to grave" regulation of hazardous wastes. Other federal laws applicable to hazardous waste and materials include: Community Environmental Response Facilitation Act of 1992; CWA; CAA; Safe Drinking Water Act; OSHA; Atomic Energy Act; Toxic Substances Control Act; and Federal Insecticide, Fungicide, and Rodenticide Act.

In addition to the acts and laws mentioned above, EO 12088, *Federal Compliance with Pollution Control*, mandates that necessary actions be taken to prevent and control environmental pollution when federal activities or federal facilities are involved.

Hazardous waste in Arizona is regulated primarily under the authority of the RCRA and the Arizona Health and Safety Code. Other Arizona laws regarding hazardous waste are specific to handling, storage, transportation, disposal, treatment, reduction, cleanup, and emergency planning. Worker health and safety and public safety are key issues when dealing with hazardous materials that may affect human health and the environment.

For this analysis, the terms hazardous waste, hazardous materials, and toxic substances include those substances defined as hazardous by Comprehensive Environmental Response, Compensation, and Liability Act; RCRA; and the Spill Prevention, Control, and Countermeasures Rule. In general, they include substances that, because of their quantity; concentration; or physical, chemical, or toxic characteristics, may present moderate danger to public health or welfare or the environment when released into the environment.

Worker Safety. As a division of the Industrial Commission of Arizona, the Arizona Division of Occupational Safety and Health operates under an approved plan with the U.S. Department of Labor to regulate occupational safety and health issues within Arizona. The Arizona Occupational Safety and Health Plan adopts federal OSHA standards and has several additional, unique standards for general industry, commercial driving operations, construction, fall protection, and enforcement programs, among others (OSHA 2022). The plan governs both private-sector and public-sector workplaces, with the exception of federal government employers.

The occupational health and safety concerns of federal employers and employees are the responsibility of OSHA. OSHA regulations applicable to the Proposed Action include 29 CFR 1910 and 29 CFR 1926, which cover general industry and construction regulations, respectively. Hazards faced by personnel at construction sites or in commercial workplaces could include injuries sustained from collisions with moving vehicles, lifting and moving equipment, and contact with hazardous substances during inspections.

3.13.1.3 *Existing Conditions*

Commercial LPOE

A Phase I Environmental Site Assessment was completed for the proposed Commercial LPOE in August 2019. This Phase I Environmental Site Assessment was used to identify potential Recognized Environmental Conditions (RECs), as defined by the guidelines (E 1527-13) of the American Society for Testing and Materials, associated with current and past uses of the property.

The proposed Commercial LPOE is located on undisturbed and undeveloped native desert land, with the closest structure located approximately 1.5 miles northeast. No pre-existing hazardous waste or material resource concerns or RECs were identified within the project area during the Phase I Environmental Site Assessment (Terracon 2019).

Although the 2019 Phase I Environmental Site Assessment did not conclude any RECs or pre-existing hazardous waste/material resource concerns, documentation of an existing smoke easement on the property was identified after the completion of the assessment. The smoke easement, pertaining to the proposed Commercial LPOE property, indicates restrictions and conditions imposed upon said land by reason of its inclusion (at the time of the easement) within the Douglas INA. The smoke easement purposes are related to claims from the 1920s, in which the owner of the property claimed damages to the soil, vegetation, crops, trees, and livestock on the land from smoke, gases, fumes, dust, and vapors of nearby smelter facilities located to the east of the property. The cited parties responsible for the alleged damages include the Calumet & Arizona Mining Company and the Phelps Dodge Corporation. The responsible parties denied the claim, but all parties involved decided to settle, and therefore the smoke easement was granted absolving and releasing the responsible parties (Calumet & Arizona Mining Company and Phelps Dodge Corporation) of any and all claims of damages past, present, or future to the property from the operation of the smelters. The easement also provided the right for the responsible parties to continue operation of the smelters. The existence of this smoke easement provides grounds for potential contamination to exist on the proposed Commercial LPOE site.

Due to the discovery of the smoke easement on the proposed Commercial LPOE, soil sampling and laboratory testing will be conducted to prevent exposure to workers or the release of hazardous waste and materials to the environment. Results of the soil sampling will be included in the Final EIS.

RHC LPOE

The RHC LPOE has operated since 1914, with existing facilities constructed in 1933. The City of Douglas was founded as a smelter town to treat copper ore, and the regional economy was historically driven by the local mining industry. While there are no longer any active smelting operations in Douglas, mining operations in neighboring cities still exist, regularly transporting heavy mining machinery and hazardous materials and waste over the U.S.-Mexico border, through the RHC LPOE, into downtown Douglas, and throughout the surrounding areas.

Phase I Environmental Site Assessment. A draft Phase I Environmental Site Assessment was prepared in October 2022 to establish existing conditions within the RHC LPOE and expansion areas (GSA 2022b). The Phase I Environmental Site Assessment was performed in accordance with current American Society for Testing and Materials guidelines (E1527-21) and USEPA's "Standards and Practices for All Appropriate Inquiries" (Title 40 CFR 312). The findings of the Phase I Environmental Site Assessment, as summarized below, are used to evaluate the consequences of the Proposed Action and its alternatives with respect to hazardous waste and materials with the potential to affect human health and safety.

The RHC LPOE site previously contained a historic leaking underground storage tank (LUST) that was installed in 1934 and closed in-place in 1990. The former LUST was located adjacent to the west wall of the RHC LPOE Main Building. The LUST was a 1,000-gallon tank used to store diesel fuel for a boiler in the basement of the Main Building. In 1991 the UST and associated piping was excavated and removed

from the site. Soil samples collected from beneath the former tank location detected concentrations of total petroleum hydrocarbons (TPH) above the ADEQ's suggested soil cleanup level. A Phase II Environmental Site Assessment was performed at the site in 1992 during which 25 soil samples were collected and 4 groundwater monitoring wells were installed. Laboratory analysis of the collected soil samples detected TPH concentrations above the suggested soil cleanup level around the former tank location and a benzene concentration above the Arizona Aquifer Water Quality Standard in three of the four groundwater samples (EAI 2006a). Approximately 445 tons of TPH-contaminated soils were excavated from the former LUST site. Some inaccessible contaminated soils were left in place beneath the building. In August of 2005, the ADEQ Solid Waste Inspection and Compliance Unit provided a "No Further Action" determination to close out the soil contamination case. In 2006, a fifth monitoring well was installed and a total of four rounds of groundwater sampling were conducted from the installed monitoring wells. Results from the sampling events indicated no detection of TPH, volatile organic compounds (VOCs), or polycyclic aromatic hydrocarbons (PAHs) above Arizona Aquifer Water Quality Standard or other ADEQ standards (EAI 2006b). A "No Further Action" determination was issued by ADEQ in 2007 to close the groundwater case (Jacobs 2020).

The expansion area directly to the west of the RHC LPOE, across from Pan American Avenue, consists of undeveloped, open land historically used as a holding area for cattle prior to 2001. Coordination with the property owner during the Phase I Environmental Site Assessment indicated that cattle were often treated in pesticide dipping vats in Mexico before being brought over the border into the U.S. and held in the holding area. Cattle dipping vats historically have been used to treat cattle with chemical and pesticide solutions, often containing arsenic, to kill disease-carrying ticks. There is the potential that the cattle were periodically hosed-down in this area, creating the potential that any chemicals or substances applied in the dipping vats may have been washed off and leached into the shallow subsurface of the ground. This area is currently unused; however, illicit dumping of construction and demolition debris, as well as other unidentified solid waste debris, were observed on the site during the Phase I Environmental Site Assessment. This debris could include ACM, materials with LBP, wood treated with creosote or chromated copper arsenate, contaminated concrete, or other potentially hazardous materials.

Another portion of the expansion area, across Pan American Avenue to the northwest of the RHC LPOE, was formerly the site of a manufactured gas plant (MGP). This portion of the expansion area is presently crossed by an El Paso Natural Gas Easement and gas pipeline. The MGP was located on the site from approximately 1905 through 1947 and operated until about 1932 when MGP operations were terminated. The property continued to supply natural gas to the City of Douglas until 1966 under ownership of APS. A site investigation and interim remedial action was initiated in 1995 due to historical use of the site. Analytical soil sample results identified a number of contaminants of concern (COCs) including various PAHs and elevated presence of lead and arsenic. Interim remedial actions included demolition of the MGP facility and removal of 1,274 tons of contaminated soils and fill material.

In 2019 APS initiated additional remediation activities at the former MGP under VRP. Prior to remediation, the city removed debris piles consisting of construction debris that was illicitly dumped on the site between 1998 and 2019. Additional soil sampling was conducted, and three groundwater monitoring wells were installed for sampling. Analytical soil sample results continued to indicate presence of lead, arsenic, and PAHs exceeding residential and non-residential soil remediation levels (Jacobs 2019). However, analytical results from the groundwater samples collected from the monitoring wells indicated that all COCs were below the Arizona Aquifer Water Quality Standard and site-specific Arizona groundwater protection limits (Jacobs 2021a). Additional excavation and disposal of a total of 38,191 tons of material was conducted. The material removed included 37,465 tons of Arizona Special Waste soil and stained concrete, 699 tons of recycled construction debris (uncontaminated asphalt and concrete), 25 tons of scrap metal and tree debris, and 0.14 ton of non-friable ACM (Jacobs 2021b). On March 25, 2022, the ADEQ VRP granted APS a "No Further Action" determination for the former MGP site (ADEQ 2022f).

Due to the potential for soils contamination identified in the RHC LPOE expansion areas summarized above, soil sampling and laboratory testing will be conducted to prevent exposure to workers or the release of hazardous waste and materials to the environment. Results of the soil sampling will be included in the Final EIS.

Nearby Facilities of Concern. The former site of the Calumet & Arizona Company and Phelps Dodge Corporation Reduction Works (former Phelps Dodge smelter site) copper smelting facility is located between the two project areas, approximately 0.7 mile west of the existing RHC LPOE and 3.5 miles east of the proposed Commercial LPOE. The site formerly supported a 2,000-acre copper smelting operation. A large pile of slag, or solid wastes from processing copper ore, currently occupies approximately 200 acres. Two copper smelters operated from 1904 to 1931 and 1931 to 1987, respectively. During the smelting process, metal ores were heated, which produced molten metals and released SO_2 and particulate matter through two 600-foot stacks. Between 1970 and 1987, ADEQ and USEPA periodically monitored offsite ambient air for concentrations of hazardous substances. Prevailing winds generally blew toward the south and north-northeast. The smelter had a history of stack emission rates for particulate matter and SO_2 exceeding USEPA NAAQS, which led to closure of the smelter in 1987. The smelter facilities were demolished in January 1990; two large slag piles and three closed landfills remain on the property. Two of the closed landfills were historical dumping areas that are now covered in soil, and the third was a municipal landfill that is now closed. The landfill areas were all leased by Phelps Dodge to the City of Douglas under the condition the city managed closure and monitoring of the landfill sites (URS Greiner 1997). The total landfill area is approximately 60 acres, located to the northeast of the slag piles (US DHHS 1995). In response to concerns raised during scoping, GSA conducted extensive background research into the potential for this site to have caused contamination within the GSA project areas and is summarized below.

An Extraction Procedure Toxicity (EP Tox) analyses was conducted on the slag piles in 1979. The report indicated the piles are considered inert, are not susceptible to aerial migration, their potential for leaching is low, and based on results are not a RCRA hazardous material (URS Consultants 1994).

In 1985 the Arizona Department of Health Services collected 52 surface samples at undisclosed offsite locations from the former Phelps Dodge smelter site throughout a widespread area in the City of Douglas to evaluate background lead concentrations in the area. Lead concentrations in the samples ranged from 50 to 1,170 milligrams per kilogram (mg/kg), with an average lead concentration of 254 mg/kg. The Agency for Toxic Substances and Disease Registry (ATSDR) also reported offsite maximum and mean background arsenic concentrations of 35.8 and 15 mg/kg, respectively, for surface samples collected at distances between 1 and 6 miles from the smelter site; all of these samples exceeded the residential regional screening level (RSL) (Jacobs 2020). The results of these sampling events were later published in a 1993 ATSDR Public Health Assessment Report.

Due to the preliminary findings of contamination identified in the ATSDR's 1993 Public Health Assessment Report, the USEPA determined further characterization of the former smelter site and the areas between the site and the City of Douglas was necessary. Therefore, an expanded site inspection and remedial investigation led by the USEPA was conducted on the site and the findings of the report were presented in a 1997 USEPA expanded investigation report prepared by URS Greiner. During the expanded investigation effort, 512 surface soil samples were collected for analysis for lead (via x-ray fluorescence) and inorganic contaminants (via fixed laboratory) in February of 1995. The sampling locations included areas on-site at the former smelter site and off-site within the surrounding communities. Sampling included a transect of samples collected every 200 feet within the area between the former smelter site and the RHC LPOE expansion areas, as well as along Pan American Avenue. Additionally, supplemental step-out surface soil sampling was conducted in February of 1996. A conservative version (800 mg/kg) of the established 1,000 mg/kg industrial limit was recommended for use by the USEPA for the supplemental step-out samples located on-site. Step-out sampling was done at transect points that exceeded a concentration of 800 mg/kg on-site or 400 mg/kg within the residential communities. Step-out samples consisted of 50-foot interval sampling locations along, and perpendicular to, the transect to further investigate the presence of

potential local contamination or determine if larger areas of contamination existed. Sampling results indicated that 78 samples collected from the former smelter site exceeded a 400 mg/kg residential limit on the x-ray fluorescence. In addition, 8 of the 78 samples exceeded the step-out sampling criteria of 800 mg/kg, and 3 samples (all located onsite at the former smelter site) exceeded the 1,000 mg/kg industrial limit for lead. Those 3 samples were collected from the northeastern portion of the former smelter site (URS Greiner 1997).

Of the samples collected from the surrounding community, none that exceeded the criteria limits discussed above were located within the RHC LPOE expansion areas. The results of the x-ray fluorescence lead testing indicate the former smelter site probably contributed to on-site concentrations above background levels of lead in the soil; however, the investigation did not identify consistent concentrations of lead contamination above 800 mg/kg in on-site soils. Additionally, the investigation found there was no discernable variation in lead concentrations corresponding with proximity to/distance from the former smelter site. Therefore, the expanded investigation report concluded at the time that, because the entire site has remained vacant and there are only a few known isolated areas of lead contamination remaining at the time, the former smelter site did not appear to be a threat to human health or the environment with respect to lead contamination (URS Greiner 1997). Note that this statement was made in reference to the Phelps Dodge smelter site itself and does not directly apply to the project areas under consideration in this Proposed Action.

Concentrations of inorganic contaminants were also identified in the soil above background sample concentrations; however, most of the results did not exceed the Arizona Health-Based Guidelines for soil ingestion. Some residential Health-Based Guidelines were exceeded within the community; however, results were generally below the USEPA's guidelines for residential and industrial areas (URS Greiner 1997).

At the request of ADEQ and the community, five surface samples were also collected for radionuclide testing and analysis. All samples were analyzed for gross alpha and gross beta activity. Results of the radionuclide testing indicated that the gross alpha results from the on-site samples were elevated compared to the background sample, but all gross alpha results were below the USEPA soil ingestion benchmarks of 13 pCi/g, 17 pCi/g, and 18 pCi/g listed for the three naturally occurring uranium isotopes U^{238}, U^{235}, and U^{234}, respectively. The highest gross alpha sample was collected from the slag pile, at 9.2 pCi/g as compared to the background sample of 2.7 pCi/g. In addition, the radionuclide testing results indicated that gross beta activities were greater than the ingestion benchmarks but similar (ranging from 23 pCi/g to 27 pCi/g), or in one case (the slag pile sample of 20 pCi/g), less than the background results (21 pCi/g), indicating the source of gross beta activity is naturally occurring and therefore not directly attributed to the former smelter site. The sum of the alpha and beta gross activities was greater than the soil ingestion benchmarks in all cases due to the high gross beta activity; however, it should be noted that the summed activities for the on-site samples were not substantially higher than that of the background samples, indicating the magnitude of contribution from naturally occurring sources (URS Greiner 1997).

Groundwater samples were also collected from around the site, as well as from upgradient off-site locations, to be used for comparison. Inorganic groundwater sample results did not exceed any maximum contaminant levels or up to three times the upgradient sample results. Some groundwater samples were also collected for radionuclide analysis. The samples collected included an upgradient off-site location (HP-01) and a downgradient location east of the slag piles (HP-09). The results from HP-01 were elevated by more than two orders of magnitude in comparison to the downgradient sample (HP-09). These results indicate an elevated regional presence of radionuclides in the shallow groundwater. Sample HP-01 was collected at a depth of 20 feet bgs, and sample HP-09 was collected at a depth of 75 feet bgs. HP-09 represents the shallow aquifer, while HP-01 represents the perched groundwater table; therefore, the results are not directly comparable. However, the report concludes that based on the limited scope of the radiological assessment, the deeper groundwater does not appear to be impacted. Further, the fact that gross alpha and beta levels were higher in the off-site, upgradient sample location, radionuclide contamination does not appear to be

attributed to former smelter site activities. The report goes on to state that because of the extremely elevated concentrations of the upgradient radionuclide samples, an additional investigation of the radionuclide contamination should be conducted by the off-site responsible party. The Phelps Dodge Reduction Works (i.e., the former smelter site owner) used results from the 1997 USEPA expanded investigation to apply for a clean closure permit in place of an aquifer protection permit.

According to the USEPA Superfund Site online database, the former Phelps Dodge smelter site does not qualify for the National Priorities List (USEPA 2022). Further, the site is not listed within the ADEQ VRP online database (ADEQ 2022g).

Scoping commenters provided comments which indicated the former smelter site boundaries extend to directly adjacent to the Alternative 2 Expansion Area. A review of historic records provided by ADEQ indicated that during a 1994 site investigation report, USEPA considered the property to the east of the former smelter site to be a part of the former Phelps Dodge smelter site. This property area has historically been occupied by the closed landfills, and in the late 1800s, by an old Copper Queen Smelter that closed once the former Phelps Dodge smelter site became the main facility operation in 1905. However, Phelps Dodge considered the old Copper Queen site to be a separate facility (URS Consultants 1994). Based on a review of Chain-of-Title records for the Alternative 2 Expansion Area parcels back to 1980, neighboring properties to the west of the RHC LPOE expansion areas were not owned by Phelps Dodge at any point. Additionally, based on a review of historical aerial photographs back to 1958, there was no type of development or mining activities adjacent to the west of the Alternative 2 Expansion Area. Therefore, for the purposes of the Proposed Action analysis, the nearest environmental and human health concerns of the former Phelps Dodge smelter site are identified to be located at the slag pits located approximately 0.7 mile west of the Alternative 2 Expansion Area westernmost boundary.

Lead-Based Paint and Asbestos-Containing Material. The RHC LPOE contains two structures that have been listed on the National Register of Historic Places (NRHP), the Main Building and Garage, both of which were constructed in 1933 and have a confirmed presence of LBP and ACM. Additionally, while not confirmed, there is a possible presence of LBP and ACM in the duty-free shop building to be acquired within the expansion area considered in Alternative 1 due to its age of construction.

An LBP survey of the Main Building and the Garage was completed in August 2022 (ACT Environmental, Inc. 2022). LBP was found in the Garage and in the basement, first, and second floors of the Main Building. Approximately 20 square feet of damaged LBP were identified during the survey, including 19 square feet within the Main Building and 1 square foot within the Garage. LBP that is in intact condition includes paint with no damage or deterioration and is not classified as a lead hazard. Damaged or deteriorated (peeling) LBP represents a lead hazard, as defined by USEPA.

Areas of known ACM are periodically inspected per GSA regulations. An internal GSA inspection of ACM in the Main Building was conducted in April 2019. Specifically, the ACM included 1-foot by 1-foot perforated ceiling tiles in the basement, first, and second floors, as well as pipe insultation found on the heating, ventilation, and air conditioning (HVAC) and water lines in the walls between the first and second floors. The latter had been partially abated in the basement. ACM represents a health hazard when friable asbestos becomes damaged and the fibers are inhaled. ACM that is undamaged, undisturbed, or encapsulated is not considered a health hazard.

Pesticides. GSA has identified a large beetle population at the RHC LPOE. To combat the problem, in accordance with FIFRA, two insecticides are sprayed throughout the site on a regular basis. This includes a monthly application of the pesticide Barricor SP and a weekly application of Suspend SC. The potential for shallow soil contamination resulting from years of pesticide application exists for the RHC LPOE; however, due to the developed nature of the site and impervious paved surfaces, it is likely the pesticides are washed off-site by stormwater run-off.

Security and Law Enforcement. The Douglas Police Department is located approximately 1.2 miles north of the RHC LPOE and is the primary provider of law enforcement and police protection services in the area. In addition, the Bisbee Police Department is located approximately 22.7 miles to the west-northwest of the RHC LPOE, and Cochise County Sheriff's Office is located approximately 22.4 miles to the west-northwest, both in Bisbee, Arizona.

Emergency Services. The Copper Queen Community Hospital Emergency Department in Douglas, Arizona is located approximately 0.5 mile north of the existing RHC LPOE. This facility is housed in the Copper Queen Community Hospital – Douglas Medical Complex, which also provides a primary care clinic, urgent care capabilities, coumadin clinic, laboratory, surgery clinic, and physical therapy services. Copper Queen Community Hospital has an additional Emergency Department located in Bisbee, Arizona, located approximately 23.5 miles west-northwest of the RHC LPOE (Copper Queen Community Hospital 2022b).

Fire protection services are provided by the Douglas Fire Department, located in Douglas, approximately 1.9 miles northeast of the existing RHC LPOE.

3.13.2 Environmental Consequences

3.13.2.1 *Methodology*

To evaluate impacts on human health and safety, GSA reviewed the project alternatives to determine whether any activities have the potential to cause the following within the ROI:

- Adverse impacts on public or occupational health and safety;
- New sources of construction materials and operational supplies to be developed;
- Create the need for a hazardous waste treatment, storage, or disposal permit for the project;
- Create reasonably foreseeable conditions that would increase the risk of a hazardous materials or hazardous waste release; or
- Affect the capacity of waste collection services and treatment, storage, and disposal facilities.

A significant adverse impact to human health and safety would occur if the Proposed Action would result in:

- Conflict with any federal, state, or local laws, regulations, or ordinances relating to public health and safety, including occupational safety and health;
- An unacceptable increased risk of adverse impacts to human health;
- Violations of applicable federal, state, or local standards related to the management of hazardous materials or wastes; or
- Increase in the use of hazardous materials or generation of hazardous wastes to such an extent that would lead to an elevated risk of human health or environmental effects.

The potential impacts of the Proposed Action and its alternatives on occupational health and safety relate directly to the size of the workforce needed for operation and maintenance activities. Workers at any facility are subject to risks of injuries and fatalities from physical hazards. Such risks include exposure to extreme weather conditions, hazardous equipment, and large moving vehicles. This EIS estimates the potential occupational safety and health impacts of construction of the Proposed Action and its alternatives using data collected by the Bureau of Labor Statistics based on the North American Industry Classification System (NAICS). NAICS Codes 2362 (construction of nonresidential buildings) and 2373 (highway, street, and bridge construction) were used to predict the probability of the workforce to experience recordable injuries, illnesses, lost workdays, or fatalities during the construction phase of the Proposed Action and its alternatives.

3.13.2.2 *No Action Alternative*

Under the No Action Alternative, GSA would not construct a new Commercial LPOE nor expand and modernize the RHC LPOE. Therefore, negligible impacts would occur since there would be no change in risks to human safety, hazardous materials usage, or waste generation. Ongoing maintenance to the RHC LPOE would continue, which would require negligible amounts of hazardous materials usage and generate negligible amounts of hazardous waste. Risks to health and safety associated with existing conditions and operations at the RHC LPOE would remain unchanged from current conditions. The processing of COVs would be retained at the existing RHC LPOE. COVs would continue to drive through the City of Douglas while carrying potentially hazardous materials or transporting heavy mining equipment.

3.13.2.3 *Alternative 1 – Sequential Construction*

During construction of Alternative 1, there would be short-term, negligible adverse impacts to worker safety from construction activities, and short-term, negligible to minor adverse impacts from hazardous materials and waste handling at both the proposed Commercial LPOE and RHC LPOE.

Operations of Alternative 1 would result in long-term, negligible adverse effects on human health and safety and from hazardous materials and waste handling at the proposed Commercial LPOE. At the RHC LPOE, there would be long-term, minor to moderate beneficial impacts on human health and safety.

Construction

Commercial LPOE

Table 3.13-1 summarizes Bureau of Labor Statistics data for occupational injuries and fatalities in the construction industry, specifically NAICS Codes 2362 (construction of nonresidential buildings) and 2373 (highway, street, and bridge construction). These data summarize the incidence rate for injury or illness cases per 100 worker-years (or 200,000 hours) for total recordable cases and cases involving lost workdays. The table also lists the total number of fatalities in each industry by year.

Table 3.13-1. Occupational Injuries and Fatalities for Relevant Construction Industries (2014 – 2020)

Year	Average Employment (thousands)		Total Recordable Injury or Illness Cases (rate per 100 workers)		Cases with Days Away from Work, Transfer, or Restriction (rate per 100 workers)		Total Fatal Injuries in Industry	
	2362[a]	2373[b]	2362[a]	2373[b]	2362[a]	2373[b]	2362[a]	2373[b]
2014	698.4	294.4	2.7	3.8	1.4	2.3	69	94
2015	730.3	309.7	2.4	3.6	1.3	2.2	62	108
2016	762.3	319.3	2.4	3.5	1.3	2.3	50	107
2017	792.5	327.7	2.7	3.2	1.4	1.9	56	104
2018	827.1	341.2	2.5	3.6	1.4	2.0	71	100
2019	840.9	348.6	1.9	3.4	1.1	2.0	69	104
2020	797.7	346.0	1.8	2.7	1.0	1.6	58	105
Average	**778.4**	**326.7**	**2.3**	**3.4**	**1.3**	**2.0**	**62.1**	**103.1**

Source: U.S. Bureau of Labor Statistics 2022
[a] NAICS Code 2362 is the industry code for construction of nonresidential buildings.
[b] NAICS Code 2373 is the industry code for construction of highways, streets, and bridges.

The average annual number of fatal injuries for workers in the nonresidential building construction industry is approximately 62, based on the years from 2014 to 2020, for an average workforce of approximately 778,000 employees. The average probability of a fatal injury during the period was approximately 0.00008 per worker per year (less than 1 in 10,000). The average annual number of fatal injuries for workers in the highway, street, and bridge construction industry is approximately 103, based on the years from 2014 to 2020, for an average workforce of approximately 327,000 employees. The average probability of a fatal injury during the period was approximately 0.0003 per worker per year (less than 1 in 1,000). During peak construction activity under Alternative 1, it is assumed that up to 100 construction workers could be onsite simultaneously. While peak activity would not last the duration of the 48- to 54-month construction period anticipated under Alternative 1, a conservative estimate would still expect no fatalities to occur over the course of construction (projected maximum of 0.135 fatality to occur over the 4.5-year total construction period).

Under Alternative 1, risks to health and safety of personnel and patrons would increase slightly during the construction phase. Risks would be minimized by adhering to occupational safety and health regulations, the use of protective gear and equipment, and the implementation of BMPs. Access to the construction site would be restricted to construction workers. Risks to human health and safety during construction under Alternative 1 would therefore be short-term, negligible to minor, and adverse.

Alternative 1 would result in short-term, negligible to minor adverse impacts from hazardous materials and waste handling during construction of the proposed Commercial LPOE. Hazardous materials associated with construction would be used in accordance with federal, state, and local regulations. All wastes including hazardous waste, construction debris, and other waste materials would be removed from all project areas and disposed of in accordance with applicable regulations. The increased amounts of hazardous materials such as diesel fuel, gasoline, paint, adhesives, and solvents used onsite during construction could increase the potential for spills. Any spills from construction activities would be immediately contained and disposed of properly in accordance with all applicable plans and regulations. In addition, any project-specific hazards affecting workers would be reduced based on strict adherence to OSHA standards and other relevant safety laws, rules, and regulations. Therefore, there would be a low likelihood of hazardous material spills or associated human health impacts as a result of hazardous materials or waste handling during construction activities.

Potentially contaminated soil (as a result of the former Phelps Dodge smelter site) could be encountered during excavation activities. Soil sampling will be conducted prior to the Final EIS to further identify the presence of hazardous materials, and results will be incorporated into the Final EIS. If contaminated soil is present, appropriate abatement, management, or disposal actions would be implemented in accordance with applicable regulatory requirements to prevent, minimize, and control hazardous materials, if necessary, during construction.

RHC LPOE

Potential impacts to human health and safety during the construction phase at RHC LPOE under Alternative 1 would be negligible. Potential impacts to worker safety during construction at RHC LPOE would be similar to as described for the Commercial LPOE as there would be similar amounts of workers on site, although for a shorter construction period (36 to 42 months). Risks to health and safety of personnel and patrons would increase slightly during the construction phase but would be minimized by adhering to occupational safety and health regulations, the use of protective gear and equipment, and the implementation of BMPs, similar to as described for the Commercial LPOE. In addition, access to the construction site would be restricted to construction workers and applicable CBP personnel.

There would be temporary, negligible to minor adverse impacts from hazardous materials and waste handling during expansion and modernization of the new RHC LPOE facilities, similar to those described for the proposed Commercial LPOE. Hazardous materials associated with construction and potentially contaminated soils encountered during excavation would be handled in accordance with federal, state, and

local regulations as described for the proposed Commercial LPOE to prevent, minimize, and control hazardous materials and exposure during construction activities.

All locations potentially containing LBP would be evaluated before starting construction activities to determine if any abatement measures would be required. For all ACMs, a licensed abatement contractor would be retained to remove and properly dispose of ACMs prior to commencing construction operations. Additionally, any transformers that need to be disturbed or moved would be sampled for polychlorinated biphenyl (PCB) content. If PCBs are present, appropriate abatement actions for their disposal would be implemented in accordance with regulatory requirements, and soil beneath transformers would be evaluated for evidence of releases. Demolition would be conducted in accordance with all appropriate federal NESHAPS related to asbestos (see Section 3.3, Air Quality and Greenhouse Gas Emissions).

Other potentially contaminated soil (as a result of historical contamination, spills and releases, pesticide use, and proximity to the former Phelps Dodge smelter site) could also be encountered during excavation or demolition activities. Soil sampling will be conducted prior to the Final EIS to further identify the presence of hazardous materials (e.g., metals, TPH, VOCs, PAHs, pesticides, etc.), and results will be incorporated into the Final EIS. If contaminated soil is present, appropriate abatement, management, or disposal actions would be implemented in accordance with applicable regulatory requirements to prevent, minimize, and control hazardous materials, if necessary, during construction. Additional types of hazardous or otherwise regulated waste materials could also be generated during demolition activities. These include, but are not limited to, items such as fluorescent, halide, or sodium vapor lamps containing mercury; smoke detectors and emergency exit signs containing low-level radioactive sources; mercury switches; electronic ballasts containing PCBs and/or other fluids; and various equipment containing batteries. Such wastes would be disposed in accordance with federal, state, and local regulations.

Operations

Commercial LPOE

There would be long-term, negligible adverse effects on human health and safety during operations of the proposed Commercial LPOE. Operations would be conducted in accordance with applicable building and safety codes. Employees would adhere to fire safety standards set forth in the Fire Protection Code and Life Safety Code 101 of the National Fire Protection Association codes and Uniform Fire Code (Douglas Code of Ordinances Title 8, Chapter 8.08, Fire Prevention Code).

There would be long-term, negligible adverse impacts related to hazardous materials and waste handling from operations of the proposed Commercial LPOE. The new facility would not include any ACMs or LBP that could result in occupant exposure, or any PCB-containing electrical equipment. There may be petroleum storage tanks associated with the new facility; these would be installed and operated in accordance with all applicable regulations and current industry standards including leak-detection systems and secondary containment. Hazardous materials such as paints and cleaners would be used in facility maintenance activities, but these would likely be in small amounts. Small amounts of hazardous waste may also be generated periodically from facility maintenance activities and would be managed in accordance with applicable regulations.

The addition of COV processing and an indoor firing range would result an increase in handling of hazardous waste and materials. COVs that previously traveled through the RHC LPOE would be regularly transporting heavy mining machinery and hazardous materials and waste through the proposed Commercial LPOE, and the indoor firing range would generate potentially hazardous munitions waste. However, adherence to federal, state, and local regulations would minimize the potential for any long-term exposure or release of hazardous waste or materials to the environment.

RHC LPOE

Long-term, minor to moderate beneficial impacts on human health and safety of CBP personnel and the public would be expected from modernizing the RHC LPOE. The current layout of the RHC LPOE requires pedestrians to cross several lanes of vehicle traffic, and the volume of commercial traffic through the City of Douglas presents safety and traffic hazards resulting from vehicle accidents or accidental releases of hazardous materials potentially carried by COVs. Under Alternative 1, the RHC LPOE would be expanded and redeveloped with modernized facilities meeting all applicable building codes and improved pedestrian access. Commercial traffic, and the potentially hazardous materials or heavy mining equipment being transported by COVs, would be rerouted away from the downtown streets of the City of Douglas. The operations of the RHC LPOE would also improve, reducing traffic jams and minimizing the risk of vehicular and pedestrian accidents.

There would be negligible adverse impacts related to the handling of hazardous materials and wastes from operations of the new RHC LPOE. The new facility would not include any ACMs or LBP that could result in occupant exposure. Hazardous materials such as paints and cleaners would be used in facility maintenance activities, but these would likely be in small amounts. Small amounts of hazardous waste may also be generated periodically from facility maintenance activities and would be managed in accordance with applicable regulations.

Alternatives 1a – 1d: Reuse, Relocate, or Demolish Historic Structures

Alternatives 1a through 1d relate to the sub-alternatives for the management of the historic Main Building and Garage, as described in Section 2.1.2.1. As these sub-alternatives would take place within the footprint of the RHC LPOE, the potential impacts from hazardous waste and materials as already identified under Alternative 1 would not change.

ACM, LBP, and other potential hazardous materials (e.g., PCB window caulk, fluorescent light tubes, PCB-containing electrical equipment) in the Main Building and the Garage would be removed prior to construction activities. Therefore, short-term, minor adverse impacts would be expected from the potential adverse effects on human health and safety. However, effects would be minimized by ensuring that OSHA standards are followed in the disturbance, removal, and transportation of ACM, LBP, and other materials. Long-term, minor beneficial impacts on the health and safety of CBP personnel and pedestrians entering the U.S. through the RHC LPOE would be expected from the removal of ACM and LBP from the Main Building, which currently houses the pedestrian inspection area.

3.13.2.4 *Alternative 2 – Concurrent Construction*

During construction of Alternative 2, there would be short-term, negligible adverse impacts to worker safety from construction activities, and short-term, negligible to minor adverse impacts from hazardous materials and waste handling at the proposed Commercial LPOE. Impacts at the RHC LPOE would be similar but would be short-term, minor, and adverse from hazardous materials and waste handling.

Operations of Alternative 2 would result in long-term, negligible adverse effects on human health and safety and from hazardous materials and waste handling at the proposed Commercial LPOE. At the RHC LPOE, there would be long-term, minor to moderate beneficial impacts on human health and safety.

Construction

Under Alternative 2, concurrent construction at the RHC LPOE and the proposed Commercial LPOE site would result in similar impacts to human health and safety similar as described for Alternative 1 for both the Commercial LPOE and RHC LPOE but would be slightly more adverse. The concurrent construction activities would increase the number of construction workers working at the same time and COVs would remain onsite for processing during construction at the RHC LPOE, thus resulting in a higher risk for traffic-related accidents. The increased maximum number of workers at a given time (approximately 200 workers) and the decrease in overall construction time (approximately 36 to 42 months shorter) would

result in the potential for up to approximately 0.21 fatality during the construction phase of Alternative 2. No construction-related fatalities would be expected, although the risk would negligibly increase over the rate of fatalities calculated for Alternative 1.

There would be short-term, minor adverse impacts related to hazardous materials and wastes handling during construction of Alternative 2, similar to as described for Alternative 1. The Alternative 2 Expansion Area at the RHC LPOE encompasses a larger land area than the Alternative 1 Expansion Area (up to 16.4-acre difference) and primarily includes undeveloped, open land area. The Alternative 2 Expansion Area represents the maximum build-out that GSA would consider. If all open land area is developed, due to the historic land use and contamination history of the expansion areas, the potential to encounter potentially contaminated soils during excavation activities may be greater than under Alternative 1. In addition, the illicitly dumped construction and demolition debris would also potentially be encountered under Alternative 2 (depending on the size and scope of the expansion area), which would require proper management including identification and segregation of potentially hazardous materials and other waste materials requiring special handling prior to construction activities. Soil sampling would be conducted prior to soil reuse or disposal to characterize the soil for the presence of hazardous materials (e.g., metals, TPH, VOCs, PAHs, pesticides, etc.). If contaminated soil is present, appropriate abatement, management or disposal actions would be implemented in accordance with applicable regulatory requirements to prevent, minimize, and control hazardous materials, if necessary, during construction.

Operations

Impacts during operations of the Commercial LPOE and RHC LPOE under Alternative 2 would be the same as described for Alternative 1.

Alternatives 2a – 2d: Reuse, Relocate, or Demolish Historic Structures

Alternatives 2a through 2d relate to the sub-alternatives for the management of the historic Main Building and Garage, as described in Section 2.2.1. Under Alternatives 2a through 2d, impacts to health and safety would be similar to those described under Alternatives 1a through 1d.

3.13.2.5 *Impact Reduction Measures*

Measures that would limit impacts related to human health and safety during building construction and operations are discussed below.

- If PCB-containing materials are identified onsite, appropriate abatement actions for their disposal would be implemented in accordance with regulatory requirements, and soil beneath transformers would be evaluated for evidence of releases. If present in underlying soils, appropriate abatement actions for removal and disposal would be implemented in accordance with applicable regulatory requirements.
- All spills or releases of POLs; hazardous materials; pollutants; or contaminants would be handled in accordance with measures outlined in a Spill Prevention and Response Plan prepared for construction.
- As a BMP, a Soil Management Plan may be prepared to address the potential for encountering areas of environmental concern (e.g., contaminated soil) during grading, excavation, or other subsurface disturbance. The Soil Management Plan would identify specific measures to address hazardous waste and materials cleanup efforts including monitoring, handling, stockpiling, characterization, on-site reuse, export and disposal protocols for excavated soil.
- All personnel would follow standard operating procedures for hazardous material handling.
- All potentially hazardous wastes generated would be properly characterized, segregated, and managed onsite prior to offsite disposal.

- Any existing municipal (household) trash, construction debris, and other waste materials would be removed from all project areas and disposed of in accordance with applicable regulations.
- Potentially hazardous wastes generated during project-related construction activities would be disposed of or recycled at appropriate facilities in accordance with associated regulatory requirements.
- Construction workers would adhere to safety standards promulgated in 29 CFR Chapter 17 to protect against workplace hazards. To minimize potential exposure or safety concerns to workers, appropriate personal protective equipment would be worn.

CHAPTER 4 CUMULATIVE IMPACTS

4.1 INTRODUCTION

Cumulative impacts are defined by the CEQ regulations in 40 CFR 1508.1(g)(3) as "effects, which are effects on the environment that result from the incremental effects of the action when added to the effects of other past, present, and reasonably foreseeable actions regardless of what agency (federal or non-federal) or person undertakes such other actions. Cumulative effects can result from individually minor but collectively significant actions taking place over a period of time."

Cumulative impacts can result from individually minor, but collectively substantial impacts taking place over a period of time. Cumulative impacts on resources in the project area may result from the impacts of the project together with other past, present, and reasonably foreseeable projects, such as residential, commercial, industrial, and other development. These land use activities may result in cumulative effects on a variety of natural resources, such as species and their habitats, water resources, and air quality. They also can contribute to cumulative impacts on the urban environment, such as changes in community character, traffic patterns, noise, housing availability, and employment. According to CEQ's cumulative impacts guidance, the cumulative impact analysis should be narrowed to focus on important issues at a national, regional, or local level.

4.2 PAST, PRESENT, AND REASONABLY FORESEEABLE FUTURE ACTIONS

The cumulative effects analysis presented in this EIS is based on the potential effects (direct and indirect) resulting from the construction of a new Commercial LPOE and the expansion and modernization of the existing RHC LPOE (as described in Chapters 1 through 3), combined with other past, present, and reasonably foreseeable future actions that could have effects in the project area. Because the operating conditions of Alternative 1 (sequential construction) and Alternative 2 (concurrent construction), would essentially be the same, no differentiation of potential cumulative impacts between the two alternatives would exist during the operational phase.

Two of the projects identified for cumulative impacts analysis – ADOT's James Ranch Road and the Cochise County-City of Douglas infrastructure project – are development projects that would support the Proposed Action and would involve land disturbance activities. On a smaller scale, the City of Douglas has various local street improvement projects that may also include land disturbance, though to a lesser extent, and mainly on previously disturbed land. The City of Douglas's plan to revitalize the city largely depends on the implementation of the Proposed Action and its relocation of COV traffic to the proposed Commercial LPOE. The city's vision to promote growth around the downtown district and connectivity to the RHC LPOE is considered in cumulative impacts as this plan would potentially result in population and economic growth, locally and regionally. The former Phelps Dodge smelter site, while not in operation any longer and not within the footprint of the Proposed Action, continues to be an environmental concern and is presented in cumulative impacts due its historic impact on environmental quality in the region. The past, present, and reasonably foreseeable future actions as identified are discussed in greater detail in Sections 4.2.1 through 4.2.5.

4.2.1 ADOT Extension of James Ranch Road

The proposed Commercial LPOE would be accessed via James Ranch Road, located in Cochise County on SR-80. James Ranch Road is currently an unpaved road and would need to be extended to the proposed Commercial LPOE site. Additionally, the project may include ROW for a water pipeline, wastewater pipeline, and a utility conduit and an environmental study. ADOT would be the agency responsible for this project, though close collaboration with GSA, Cochise County, City of Douglas, and other entities would be required. ADOT is currently conducting an environmental study for the improvements of this road and for the extension of the road and associated utilities.

4.2.2 Cochise County-City of Douglas Infrastructure Project

Cochise County and the City of Douglas are in the process of completing infrastructure studies that identify infrastructure improvements, primarily for water and wastewater needs, to serve the proposed Commercial LPOE and future regional users. Other state and regional partners are also working to align economic development initiatives and infrastructure investments to enable growth around the new proposed Commercial LPOE. In 2020, Cochise County and the City of Douglas entered into an MOU that details the services and activities each entity would provide to support potential construction of a new Commercial LPOE (Cochise County and City of Douglas 2020). Under this MOU various roles and responsibilities were defined, including the analysis of infrastructure by Cochise County. Studies for water and wastewater utilities are underway to determine the feasibility of providing the City of Douglas water and wastewater utilities to the proposed Commercial LPOE and potential future users (Stantec 2022). After construction of the infrastructure, the City of Douglas would operate and maintain the water and wastewater utility services for the proposed Commercial LPOE and any new development that may occur in the region. Cochise County and the City of Douglas would need to coordinate any infrastructure design with ADOT's planned construction of James Ranch Road. The infrastructure project is anticipated to be completed in 2024, prior to the construction of the proposed Commercial LPOE (Stantec 2022).

Conceptual plans for the proposed water service system include a groundwater well, an elevated storage tank, and water lines in the vicinity of the proposed Commercial LPOE. The proposed water system was designed based on projected water demand from the proposed Commercial LPOE, Cochise College, and developable areas located generally along the proposed waterline. The proposed well and storage tank would potentially be located immediately north of SR-80 at the southeastern corner of the Cochise College campus. A new water main would be constructed from the storage tank along SR-80 and James Ranch Road to connect to the proposed Commercial LPOE. Approximately 4 miles of waterline would be constructed. The proposed well would potentially be drilled 1,000 feet below ground and is anticipated to have a production capacity of 1,000 gallons per minute (Stantec 2022). Prior to drilling the well, the city would be required to file a "Notice of Intent" to Drill, Deepen, Replace or Modify a Well (DWR 55-40)" with ADWR. ADWR would also require a drawdown impact assessment prior to issuing a drilling permit.

Conceptual plans for the proposed wastewater collection system include two lift stations and wastewater collection lines. This proposed system would connect to the existing wastewater collection system at the intersection of SR-80 and US-191, which ultimately connects to the existing City of Douglas WWTP. The planned collection system was designed based on projected wastewater generation rates from the proposed Commercial LPOE, Cochise College, and developable areas generally located along the proposed wastewater collection line. The wastewater line would be located along SR-80, between Cochise College and the intersection of SR-80 and Whitewater Draw, and along James Ranch Road to the proposed Commercial LPOE. Approximately 8 miles of wastewater collection lines would be constructed. A new collection pipe supported on a utility pipe bridge may need to be constructed to support the wastewater pipe crossing Whitewater Draw.

A broadband conduit is proposed to generally cover the same alignment as the wastewater collection system for future telecommunication planning purposes. The proposed conduit would potentially begin at the southeastern corner of the Cochise College campus on SR-80 and extend approximately 7.5 miles east along SR-80 where it would connect to the existing City of Douglas broadband conduit near SR-191. A branch of the broadband conduit alignment would also run south from the intersection of SR-80 and James Ranch Road until it reaches the proposed Commercial LPOE. The total length of the broadband conduit is approximately 9 miles. Although the location of a broadband conduit was investigated in the infrastructure studies, the installation of the broadband fiber would not be part of the infrastructure project. The county is currently undertaking a broadband feasibility study to improve the telecommunication network in the region that is not part of this infrastructure project.

4.2.3 Douglas Infill and Downtown Revitalization Strategy

Industries in both the cities of Douglas and Agua Prieta are heavily dependent on COVs, which can impede traffic flow in both cities, resulting in pollution and safety concerns for both communities. Furthermore, because of the urban setting surrounding the existing port, potential expansion is physically constrained on both sides of the border. Although the potential to relocate COV traffic out of the City of Douglas provides an opportunity for economic growth for the City of Douglas, the community has also expressed concern that potential development along the SR-80 corridor, between the city and the proposed Commercial LPOE, would hinder efforts to revitalize the downtown district and attract infill development to vacant properties (City of Douglas et al. 2021).

With these concerns in mind GSA partnered with USEPA's Office of Community Revitalization to provide planning assistance to the City of Douglas and technical support specifically in anticipation for the Proposed Action. This collaboration with the city led to the development of the Douglas Infill and Downtown Revitalization Strategy, a planning document that outlines the city's strategies for leveraging the LPOE projects for economic development consistent with the city's vision for future growth (City of Douglas et al. 2021). Although it is anticipated that the proposed Commercial LPOE would bring economic benefits for the region, the city would like to ensure that the areas around the existing RHC LPOE continue to thrive while at the same time encouraging commercial and industrial business growth around the proposed Commercial LPOE. The revitalization planning document outlines the key strategies and actions on how to ensure long-term vibrancy in downtown Douglas with infill development and placemaking investments.

The planning document identified areas considered fiscal "hot spots," including a large portion of the city's downtown area and an area located less than a quarter mile from the RHC LPOE, at a shopping complex on Pan American Avenue. The planning document also acknowledged that the Proposed Action would provide an important opportunity for improving downtown walkability as about 2,500 people cross the border daily on foot. As such, the planning document calls for the city and GSA to design the RHC LPOE modernization with the goal of creating a highly walkable environment and a better sense of place and arrival for pedestrians. This would tie-in with the city's planned efforts to redesign G Avenue (a historic district), create more public space, and create a direct connection between the G Avenue district and the RHC LPOE.

The two primary growth areas identified in the planning document are the city's downtown and the proposed Commercial LPOE. The other focus area identified for growth is the area surrounding the proposed Commercial LPOE, along a SR-80 corridor and just north of the Mexican border. The U.S. and Mexico are working together to route COV traffic through this area rather than the downtowns of Douglas and Agua Prieta. The city envisions this area developing as an industrial and commercial hub, filled with land uses that are more appropriate and function more efficiently outside of the downtown.

4.2.4 City of Douglas Roadway Improvements

The City of Douglas has the following roadway improvement projects that may overlap with the LPOE projects (Pedroza 2022):

- **Chino Road Extension Project to SR-80 and US-191** – Chino Road currently connects to SR-80; however, the extension would branch off the current road and connect at the intersection of SR-80 and US-191, located 2,200 west of the existing connection point. This improvement could include remediation of a 900-foot road section constructed over landfill.
- **Drainage Improvements on 3rd Street and Pan American Avenue** – Drainage improvement project located just north of the RHC LPOE.
- **5th Street Roadway Improvements** – Improvements would occur from Chino Road to Pan American Avenue.

4.2.5 The Phelps Dodge Copper Smelter Site

Historically, the City of Douglas has had water, air, and soil pollution problems from the presence of the former Phelps Dodge smelter site, which ceased operation due to issues with its air emissions (City of Douglas 2008). The facility is located between the two LPOE project areas, approximately 0.7 mile west of the existing RHC LPOE and 3.5 miles east of the proposed Commercial LPOE. The smelter facility was demolished in January 1990. Two large slag piles and three closed landfills remain on the property. Two of the closed landfills were historical dumping areas that are now covered in soil, and the third, was a municipal landfill that is now closed. The smelter had a history of stack emission rates for particulate matter and SO_2 exceeding USEPA NAAQS, which led to closure of the facility in 1987.

Various investigations were conducted during the 1980s and 1990s with respect to lead contamination as a result of the former Phelps Dodge smelter site as described in Section 3.13.1.3. The investigations generally found that the smelter had contributed to off-site lead contamination in the soil and chronic lead contamination in the air, which may have lessened since the closure of the facility. Although the Douglas region did not meet NAAQs for SO2 in 1995, the USEPA approved a maintenance plan in 2006 for attaining these standards, likely due to the closing of the Phelps Dodge smelter facility as it had been the largest source of SO_2 in the region (USEPA; *Federal Register*: February 28, 2006; Volume 71, Number 39).

Additionally, because the Whitewater Draw runs through the center of the former Phelps Dodge smelter site, concerns have been raised about storm flows carrying contaminants from the site south to Agua Prieta (Sonora, Mexico). Contaminants were found in Whitewater Draw and in groundwater. Specifically, lead and arsenic have been found in the Whitewater Draw and in local wells, below action levels (UA 2008). Neither the Whitewater Draw nor any of its tributary streams are currently identified as impaired per the ADEQ 303(d) List of Impaired Waters (ADEQ 2022) or per the Arizona Assessment of Intermittent Streams (ADEQ 2018).

According to the USEPA Superfund Site online database, the former Phelps Dodge smelter site does not qualify for the National Priorities List (USEPA 2022). The site also does not have any active remediation under ADEQ's VRP (ADEQ 2022). For more details, see Section 3.13 Human Health and Safety.

4.3 CULTURAL RESOURCES

Under the Proposed Action, there could be adverse effects under NHPA and direct, significant adverse impacts under NEPA to cultural resources if unanticipated discoveries are encountered during ground-disturbing activities at either the proposed Commercial LPOE or the RHC LPOE project sites. These potential adverse impacts, however, could be mitigated through monitoring during construction ground-disturbing activities by a qualified archaeologist and through impact reduction measures as approved by SHPO. Regarding the historic Main Building and Garage, Alternatives 1a and 1b would result in no adverse effects under NHPA and negligible to minor adverse impacts under NEPA to architectural cultural resources. Alternatives 1c and 1d would result in adverse effects under NHPA to architectural historic properties and direct, minor to significant, adverse, and permanent impacts under NEPA. GSA would manage the historic structures through one of the sub-alternatives defined in Section 2.2.1, pending the outcome of ongoing Section 106 consultation with SHPO and consulting parties.

Cumulatively, the development projects identified in Section 4.2, along with the Proposed Action, could result in some level of adverse impacts to cultural resources. The James Ranch Road and infrastructure projects could result in adverse impacts to archaeological resources as these projects would involve ground-disturbing activities. The revitalization plans for the City of Douglas could entail projects that either require ground-disturbing activities or involve the potential impact on a historic property. Proposed projects subject to compliance with NEPA with the potential for significant impacts on cultural resources would be evaluated, including required consultations with regulatory agencies and stakeholders, such as SHPO and tribal governments. Potentially significant impacts could be mitigated through avoidance whenever possible.

4.4 AIR QUALITY AND GREENHOUSE GAS EMISSIONS

Under the Proposed Action, there would be short-term, minor adverse impacts on the regional air quality during construction due to dust and emissions from equipment and vehicles during construction. Impacts under Alternative 2 would be greater in intensity due to overlapping construction schedules of the proposed Commercial LPOE and the RHC LPOE. During operation, there would be long-term, minor adverse air impacts from onsite equipment and worker vehicles during operations. Increases in GHG emissions would be negligible, though could be offset from the new sustainable facilities and "net zero" ready infrastructure which would reduce energy use.

Cumulatively, the development projects identified in Section 4.2, along with the Proposed Action, could result in short-term, minor to moderate adverse air quality impacts during construction, depending on the schedule of these projects. The construction of the Proposed Action, James Ranch Road, infrastructure, and street improvements projects could all overlap and result in increased air pollutants and dust. Intensity of the impacts could be greater under Alternative 2 with the concurrent construction. In the long-term, the induced increases in POVs from the increased capacity and efficiency of the RHC LPOE and from potential increased population growth from the city's revitalization plans would contribute to increased air pollutants and GHGs in the region.

4.5 LAND USE AND VISUAL RESOURCES

Under the Proposed Action, there would be short-term, minor adverse impacts during construction to surrounding businesses and residential areas from fugitive dust, increased traffic volumes, noise generated by construction activities, or impedance to accessibility to a property. During operation, permanent, beneficial impacts from the relocation of trucks to the new Commercial LPOE would result as the removal of COVs would be in line with the City of Douglas's revitalization plans to make its city more pedestrian-friendly. Permanent minor to moderate adverse visual impacts to users of state and federal parks could result from the construction and operation of the Commercial LPOE. Permanent, beneficial visual impacts are expected from the modernization of the RHC LPOE as buildings and structures would be upgraded.

Cumulatively, the development projects identified in Section 4.2, along with the Proposed Action, could result in temporary, minor to moderate adverse land use impacts during construction, depending on the schedule of these projects. The construction of the Proposed Action, James Ranch Road, infrastructure, and street improvements projects could all overlap and result in temporary impedances to traffic and accessibility to adjacent or nearby land uses. In the long-term, the infrastructure project, along with the Proposed Action, would result in permanent, beneficial impacts as these projects would be consistent with the region's vision of creating a commercial and industrial hub on SR-80 and be consistent with the City of Douglas's long-term vision of revitalizing its downtown district and creating a pedestrian-friendly city. The continued operation of the former Phelps Dodge smelter site would result in long-term, adverse land use impacts as this site would inhibit development at or adjacent the property.

4.6 GEOLOGY AND SOILS

Under the Proposed Action, there would be minor impacts to geology from ground disturbance during construction and permanent, moderate adverse impacts to soils as 80.5 acres would be converted to impervious area at the proposed Commercial LPOE site and up to 24 acres would be disturbed at the RHC LPOE under Alternative 2 Expansion.

Cumulatively, the development projects identified in Section 4.2, along with the Proposed Action, could result in some level of local geology and soil disturbance from construction activities and development. Many of the projects described in Section 4.2 would have similar impacts to geology and soil resources as potential impacts under the Proposed Action, as described in Section 3.5.2. These impacts could include excavation activities with disturbance or modification to surficial geology, soil erosion from use of heavy equipment, and impacted soil productivity as surface soils and vegetation would be replaced with mostly

paved and impervious surfaces. Similar to the Proposed Action, any future development would be subject to the same Arizona Stormwater CGP requirements, which would limit soil loss on site and reduce potential for cumulative adverse impacts once construction is completed. Negligible adverse impacts would be anticipated to topography; new construction under the Proposed Action and for future development projects would be graded as necessary; however, as the majority of the local topography is relatively flat, grading of soils would be minimal and topography would not change sustainably from current conditions. The former Phelps Dodge smelter site could result in continued adverse impacts, such as the off-site lead contamination of the soil.

4.7 WATER RESOURCES

Under the Proposed Action there would be the potential for short-term, minor adverse impacts to water resources during construction and long-term, minor adverse impacts under operations. During construction adverse impacts to water quality could occur from soil erosion or contaminated runoff; however, adherence to AZPDES permit requirements, including the development of a SWPPP, would minimize these impacts. During construction of the proposed Commercial LPOE, water would be sourced from a new water well that the City of Douglas plans to drill to support the Proposed Action and additional future projects in the area. A permit from ADWR would be required to authorize the drilling and use of a new well, to minimize adverse impacts to groundwater resources. During operations, any increased water demand from the proposed Commercial LPOE and new facilities at the RHC LPOE would be offset as the new facilities would be constructed to achieve LEED certification with Gold-level standards at a minimum, which may integrate WCMs to reduce water usage. There would be long-term minor adverse impacts to surface water due to the increased impervious areas and increased runoff, resulting in degradation of water quality. The intensity of surface water impacts would be greater under Alternative 2 due to a larger expansion area. Short-term adverse impacts to the local groundwater would occur from water usage during construction; intensity of groundwater usage would be greater under Alternative 2 due to concurrent construction.

Cumulatively, all projects identified in Section 4.2, along with the Proposed Action, could result in long-term, minor to moderate impacts to water resources. The development projects would result in similar adverse impacts as the Proposed Action. During construction of the projects, there would be short-term, minor impacts from the potential for sedimentation and the potential for spills; potential impacts to water quality during construction would be mitigated through AZPDES permit requirements. Use of a new well to be constructed by the City of Douglas could cause minor to moderate impacts to local wells, the local aquifer, and ultimately the availability of groundwater, especially if construction schedules overlap. The revitalization of the City of Douglas, which also considers the potential development of the SR-80 corridor, could result in an increase in population and businesses in the area. This population increase would result in higher water demands and, thus, higher rates of groundwater usage and higher drawdowns within the local aquifer. As part of the Cochise County-City of Douglas infrastructure project, an 800-foot radius of influence of a new well was estimated based on a theoretical drawdown calculation assuming uniform aquifer properties (Stantec 2020). Because the nearest identified well is located over 2,000 feet from the proposed well location, use of the well by projected regional users is not expected to interfere with other well users, though this analysis was based on uniform aquifer properties (Stantec 2022). All future groundwater wells would be installed and permitted pursuant to state regulations. All wells would require an impact analysis per ADWR to determine if nearby wells would be impacted. An impact is defined as 10 feet of drawdown in a five-year period. The potential for flooding hazards could increase due to increased impervious area related to development projects in the City of Douglas. The streets improvements projects include drainage improvement along Pan American Avenue and 3rd Street, which would improve the management of stormwater. Additionally, the city's revitalization strategy includes working with GSA to provide walking path and green space which could offset potential flooding issues. The former Phelps Dodge smelter site could result in adverse impacts, such as groundwater contamination in local wells.

4.8 BIOLOGICAL RESOURCES

Under the Proposed Action, there would be long-term and permanent, negligible to moderate adverse impacts to biological resources. This includes direct, moderate adverse impacts from vegetation loss, habitat disturbance, and potential mortality from vehicle encounters, as well as minor, adverse, and indirect impacts from noise and increased human activity resulting in wildlife avoidance. Alternative 2 would have greater biological impacts than Alternative 1 as the expansion area at the RHC LPOE under Alternative 2 includes more undeveloped land. The alternatives are not likely to adversely affect federal and state special status species as discussed in Section 3.7.2. Therefore, effects to these species are expected to be negligible.

Cumulatively, the development projects identified in Section 4.2, along with the Proposed Action, could result in permanent, minor to moderate adverse impacts to biological resources. In addition to the Proposed Action, the development projects and revitalization plans for the city could collectively result in additional cumulative impacts on vegetation and wildlife habitat. Projects proposed to be located on currently undeveloped land, such as infrastructure construction, would generally result in greater amounts of vegetation loss or habitat disturbance than proposed projects located within highly developed areas, including most of the areas within the areas surrounding the RHC LPOE and the Douglas downtown district. Overall impacts from development projects would remain at less than significant levels with implementation of applicable permit requirements and BMPs (i.e., minimizing area of disturbance, revegetation with native plants, timing construction activities to avoid sensitive breeding or migration periods, etc.) and adherence to relevant federal and state regulations. The continued existence of the former Phelps Dodge smelter site could result in adverse impacts, such as the degradation of aquatic habitats downstream.

4.9 TRANSPORTATION AND TRAFFIC

Under the Proposed Action there would be temporary, minor to moderate adverse impacts to transportation resources and traffic during construction; and long-term, minor, adverse to beneficial impacts during operations on the roadways serving the proposed Commercial LPOE and the RHC LPOE, mainly SR-80, US-191, and Pan American Avenue. During construction, traffic under Alternative 2 would overlap due to concurrent construction; therefore, Pan American Avenue, US-191, and SR-80 would experience greater traffic impacts than under Alternative 1. Traffic analyses indicate that affected roadways would have more than enough capacity to handle additional traffic from the Proposed Action, during construction and operations for both alternatives. During operations, the relocation of COV processing to the proposed Commercial LPOE would decrease traffic congestion, noise levels, air pollutants, and safety hazards associated with truck traffic routed through the City of Douglas.

Cumulatively, the development and street improvements projects identified in Section 4.2, along with the Proposed Action, could result in temporary, minor to moderate adverse impacts during construction. The extent of impacts would depend on the timing of construction as overlapping construction schedules could cause greater traffic congestion and delays, greater road hazards, greater vehicular emissions, and greater wear and tear on the local roadways. The revitalization of the City of Douglas, which also considers the potential development of the SR-80 corridor, could also result in an increase in vehicles in the region and result in long-term LOS degradation of the roadways. Furthermore, the increased efficiency of the modernized port could increase future traffic volumes. Because the LPOE would be upgraded, there would be more POVs passing through per hour as processing times would decrease. Additionally, a conservative growth rate of 2% was used to estimate the increase in POV traffic volumes in the traffic analysis (see Section 3.8.1.3), which would lead to elevated traffic volumes throughout the city over time. Over the long term, as the City of Douglas continues to grow, the number of POVs on roadways could increase; thus, overall POV traffic passing through the LPOE could also increase, leading to increased traffic and congestion.

4.10 NOISE

Under the Proposed Action, short-term, minor adverse noise impacts could occur from construction equipment and vehicles. Due to concurrent construction, short-term, minor to moderate adverse noise impacts would be greater Alternative 2. Construction-related traffic on SR-80, US-191, and Pan American Avenue could increase detectable noise levels to sensitive receptors located along these roadways. During operations, permanent, minor adverse noise impacts would occur at the proposed Commercial LPOE from activities and associated COV traffic; permanent, beneficial noise impacts would occur at the modernized RHC LPOE and the City of Douglas from the relocation of COV trucks to the new Commercial LPOE.

Cumulatively, construction activities for the development projects listed in Section 4.2, along with the Proposed Action, would increase noise levels locally and could occur in the vicinity of sensitive receptors located near the project areas and along travel routes for construction-related traffic. This would result in short-term, minor to moderate adverse impacts. The extent of noise impacts would depend on the schedule of the construction schedule for each of the projects; further increases in noise levels could be detected by sensitive receptors if construction of the projects overlapped. Permanent, moderate adverse noise impacts from vehicular traffic could occur on SR-80 and US-191 if the region attracts industrial and commercial businesses to relocate along SR-80 due to its proximity to the proposed Commercial LPOE. The City of Douglas would experience a reduction in overall noise levels from the removal of COV traffic; however, overall noise levels could increase from urban growth envisioned in the City of Douglas's revitalization plan and also from an increase in POVs and buses due to more efficient operations at the RHC LPOE.

4.11 INFRASTRUCTURE AND UTILITIES

Under the Proposed Action there would be the potential for temporary, negligible adverse impacts on infrastructure and utilities during construction and long-term, negligible to minor adverse impacts during operations from increased demand. During operations, increased demand from new workers at both LPOE sites would increase water and energy demand. Potential adverse impacts would be minimized as the proposed Commercial LPOE and modernized RHC LPOE would have greater water and energy efficiencies. The proposed facilities would be built to LEED Gold standards, at a minimum; be "net zero ready" in terms of energy use; and adhere to the CEQ's *Guiding Principles for Sustainable Federal Buildings*.

Cumulatively, the development projects identified in Section 4.2, along with the Proposed Action, could result in long-term, moderate, adverse impacts to the City of Douglas's water and wastewater systems. As discussed in Section 4.2.2, the infrastructure project would connect to local and regional systems and would increase demand on these systems, resulting from new workers and population growth induced by the revitalization of the City of Douglas and operation of the proposed Commercial LPOE, including potential development along the SR-80 corridor. The City of Douglas has acknowledged that existing wells serving the city do not meet current needs (see Section 3.10.1.3). The city is looking to either construct new wells or rehabilitate existing wells (Stantec 2020). The planned infrastructure project includes a new wastewater system that would require connection into the City of Douglas's WWTP. Based on historic flows into the WWTP and projected wastewater generated by the proposed Commercial LPOE and potential development in the region, it is estimated that the WWTP may reach its capacity of 2.6 million gallons per day by 2040 (Stantec 2022). The City of Douglas would evaluate the rates of wastewater flow into the WWTP and update the facility's master plan as appropriate, to potentially include expansion of the WWTP prior to 2040.

4.12 SOCIOECONOMICS

Under the Proposed Action, there would be short-term, moderate to significant beneficial impacts from increasing jobs, local spending in the community, and associated tax revenue during the construction phase. Under Alternative 2, spending on labor and materials would be similar but likely less than under Alternative 1, due to decreased cost escalation and inflationary pressures as a result of the compressed project timeline.

Impacts would be greater in the near term, but would occur for a shorter duration than under Alternative 1. During operations, long-term, moderate to significant beneficial impacts from increased job opportunities and revenue for the region could occur, while long-term, minor adverse impacts could result from induced increases in population, leading to adverse effects on the quality of education and demand on community services.

Cumulatively, the development projects discussed in Section 4.2, have the potential to support future development and permanent job creation, which would result in long-term, beneficial cumulative impacts. Additionally, the city and county would have increased capacity to support existing and additional demand on utilities and infrastructure as a result of the development projects identified in Section 4.2, which could have long-term, beneficial cumulative impacts on quality of life for residents in the ROI. Cochise County's infrastructure project would allow for the development of new trade and businesses in the vicinity of the Commercial LPOE. Cochise County has designated part of this area for what is expected to be an industrial and commercial hub, and the movement of commercial activities would allow for greater expansion of tourist attractions near the downtown area (City of Douglas et al. 2021). The city's street improvements would support future city development projects in line with the city's revitalization plans.

4.13 ENVIRONMENTAL JUSTICE AND PROTECTION OF CHILDREN'S HEALTH AND SAFETY

Under the Proposed Action, there would be disproportionate impacts to low-income and minority populations and child populations from increased air pollutants, traffic congestion, and noise both from construction and operation; however, no impacts would be disproportionately high and adverse. There would be negligible to moderate beneficial impacts to low-income and minority populations from increased job opportunities, and at the RHC LPOE, there would be long-term, negligible to minor beneficial impacts from the removal of the COVs.

Cumulatively, the development projects discussed in Section 4.2 could have moderate adverse impacts from increased air emissions and congestion if the construction of the projects occurred at the same time. Emergency response services may experience time delays over a longer period of time if the construction periods from these projects occurred sequentially. Health impacts and economic benefits would occur in a similar manner. Due to the demographics of the surrounding region, these impacts would likely disproportionately impact environmental justice populations.

In the long term, the development projects and the City of Douglas's revitalization plans would be expected to have minor to moderate, localized cumulative impacts on environmental justice populations due to an increase in jobs and economic activity in the city, and associated economic, social, and health benefits.

4.14 HUMAN HEALTH AND SAFETY

Under the Proposed Action, there would be short-term, negligible adverse impacts to human health and safety during construction. The potential for adverse impacts is greater under Alternative 2 as the processing of COV traffic would remain onsite during construction at the RHC LPOE, resulting in a higher risk for traffic-related accidents, as well as due to increased potential to encounter contaminated soils in the Alternative 2 Expansion Area. During operations, long-term beneficial impacts are expected as COV traffic would be relocated to the new Commercial LPOE and, therefore, would result in improved traffic safety conditions for workers at the RHC LPOE and the City of Douglas.

Cumulatively, development projects identified in Section 4.2, along with the Proposed Action, could result in short-term, negligible to minor adverse impacts to human health and safety during construction; and long-term negligible to minor cumulative beneficial impacts would be expected during operation. The development projects would have similar negligible to minor impacts for construction and operation activities as those potentially resulting from actions discussed from the Proposed Action, as described in Section 3.13.2. Risks to health and safety of personnel and patrons would increase slightly during the

construction phase of the projects; however, these risks would be minimized by adhering to OSHA regulations, the use of protective gear and equipment, and the implementation of BMPs. Project-specific impacts from hazardous waste and materials would be reduced through conformance with applicable regulatory requirements and implementation of appropriate avoidance, management, and mitigation measures as required by OSHA and RCRA. Therefore, the potential adverse cumulative impacts associated with human health and safety would not be significant when considered with other present and future projects. The potential presence and exposure to soil contamination in the project areas is elevated due to the proximity and historic contamination of the former Phelps Dodge smelter site.

CHAPTER 5 SHORT-TERM USE OF THE ENVIRONMENT VS LONG-TERM PRODUCTIVITY AND COMMITMENTS OF RESOURCES

5.1 RELATIONSHIP BETWEEN LOCAL SHORT-TERM USES OF MAN'S ENVIRONMENT AND THE MAINTENANCE AND ENHANCEMENT OF LONG-TERM PRODUCTIVITY

Section 102(C)(iv) of NEPA [42 USC § 4332] and 40 CFR 1502.16 require an EIS to address "*the relationship between local short-term uses of man's environment and the maintenance and enhancement of long-term productivity*." This involves the consideration of whether a Proposed Action is sacrificing a resource value that might benefit the environment in the long-term, for some short-term value to the project proponent (GSA) or the public.

The purpose of the Proposed Action is to accommodate the long-term CBP requirements for the current tenants located at the RHC LPOE that would meet applicable building code, accessibility, and security standards. Furthermore, the purpose is to make such accommodations primarily within the City of Douglas and Cochise County, Arizona market in a cost-effective manner that would not majorly disrupt the federal tenants from achieving their agency mission.

Project areas impacted under the Proposed Action include the proposed Commercial LPOE site, which is currently vacant, undeveloped land, characterized by areas of desert scrub and semi-desert grasslands. The proposed site includes an ephemeral stream in the southeast corner, along the eastern edge of the proposed site boundary. The Proposed Action would develop up to 80.5 acres of land into impervious area and would remove existing vegetation, which would result in the alteration of the existing ecological community. Development of the site would further contribute to habitat fragmentation; however, the vegetation does not represent high-quality native habitat for local species. The RHC LPOE is located on primarily developed land. The Alternative 1 Expansion Area consists mainly of developed land but also includes a 0.4-acre park that has a washroom facility, sidewalks and a few trees. A portion of the western side of Alternative 2 Expansion Area includes approximately 12 acres of undeveloped open land. Most of this area was previously disturbed and lacks surface water resources or viable wildlife habitat. The expansion areas are surrounded by developed areas, including roads, and would not feasibly be used for natural resource management or agriculture.

The current conditions of the LPOE sites do not possess existing and enduring resource or environmental values whose long-term potential benefits would be sacrificed to provide for short-term value to the project proponent (GSA). The Proposed Action, if implemented, would last for many decades. The short-term impacts on the environment would be offset by the benefits that the Proposed Action would generate in the long term. The Proposed Action would fulfill security goals and provide mitigation of current adverse traffic conditions.

5.2 IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS OF RESOURCES

Section 102(C)(v) of NEPA [42 USC § 4332] requires EISs to address "any irreversible and irretrievable commitments of resources which would be involved in the proposed action should it be implemented." Irreversible and irretrievable commitments of resources mean losses to or impacts on natural resources that cannot be recovered or reversed.

More specifically, "irreversible" implies the loss of future options. Irreversible commitments of resources are those that cannot be regained, such as permanent conversion of wetlands and loss of cultural resources, soils, wildlife, agricultural and socioeconomic conditions. The losses are permanent and incapable of being reversed. "Irreversible" applies mainly to the effects from use or depletion of nonrenewable resources, such as fossil fuels or cultural resources, or to those factors, such as soil productivity, that are renewable only over long periods of time.

"Irretrievable" commitments are those that are lost for a period of time, such as the temporary loss of timber productivity in forested areas that are kept clear for use as a ROW, road, or winter sports site. The lost forest production is irretrievable, but the action is not irreversible. If the use changes back again, it is possible to resume timber production.

5.2.1 Irreversible Commitments of Resources

Under the Proposed Action, the following irreversible commitments of resources would occur:

- Consumption of fossil fuels (primarily diesel) and lubricants by heavy construction equipment (e.g., bulldozers and Caterpillars, graders, scrapers, excavators, loaders, trucks) used to excavate and develop the land for the new proposed Commercial LPOE and the expansion areas at the RHC LPOE;
- Consumption of fossil fuels (primarily diesel) and lubricants by heavy construction equipment used to construct the new facilities at the proposed Commercial LPOE and the RHC LPOE;
- Materials used to construct the new facilities, including cement/concrete, soil cement, steel, iron and other metallic alloys, copper wiring, PVC pipe, plastic, etc.;
- Energy, supplied by fossil fuels or some other source of electricity, used over the operational life of the proposed Commercial LPOE and the RHC LPOE;
- Land required for development at the proposed Commercial LPOE and the expansion areas; and
- Water used for construction purposes.

5.2.2 Irretrievable Commitments of Resources

As noted above, "irretrievable" commitments of resources are those that are lost for a period of time, but not permanently. The Proposed Action would entail the long-term loss of minimal amounts of vegetation at the proposed Commercial LPOE (up to 80.5 acres) and the RHC LPOE (up to 0.4 acres for the Alternative 1 Expansion Area and up to 12 acres for the Alternative 2 Expansion Area).

CHAPTER 6 REFERENCES

ACA (Arizona Commerce Authority). 2018. Office of Economic Opportunity. 2018. 2018-2055 State and County Population Projections, Medium Series. Accessed August 24, 2022 at https://www.azcommerce.com/oeo/population/population-projections.

ACT Environmental Inc. 2022. Lead-Based Paint Inspection Raul Hector Castro Custom House, Land Port of Entry, 1st and Pan American Ave., Douglas, AZ. AEI 2279. August 19, 2022.

ADEQ (Arizona Department of Environmental Quality). 2022a. What is Arizona's State Implementation Plan (SIP)? Accessed October 1, 2022 at https://www.azdeq.gov/SIP.

ADEQ (Arizona Department of Environmental Quality). 2022b. State Implementation Plan Revision: Regional Haze Program (2018-2028). August 15, 2022.

ADEQ. 2022c. "Why do I need an AZPDES Construction Activity General Permit (CGP) for Stormwater?" Accessed October 4, 2022 at https://azdeq.gov/AZPDES/CGP

ADEQ. 2022d. Arizona's 2022 Clean Water Act Assessment (July 1, 2012 to June 30, 2021) Integrated 305(b) Assessment and 303(d) Listing Report. Revised March 2022. Accessed October 4, 2022 at https://static.azdeq.gov/wqd/wqa/2022_cwaa.pdf

ADEQ. 2022e. Arizona's Water Quality Assessment Dashboard. Accessed October 4, 2022 at https://azdeq.shinyapps.io/assessment_dashboard/

ADEQ. 2022f. No Further Action Determination. APS Douglas Manufactured Gas Plant, Property SWC of 3rd Street and Pan American Avenue, Douglas, Arizona 85607, Site Code: 513300-00. March 25, 2022.

ADEQ. 2022g. Voluntary Remediation Program (VRP) Sites. Accessed September 20, 2022 at https://azdeq.gov/VRPsites

ADEQ. 2021. "Groundwater Protection." Revised October 21, 2021. Accessed August 30, 2022 at https://azdeq.gov/groundwater-protection.

ADEQ. 2020. AZPDES Fact Sheet Construction General Permit for Stormwater Discharges Associated with Construction Activity. Accessed September 2, 2022 at https://static.azdeq.gov/permits/azpdes/cgp_fact_sheet.pdf

ADEQ. 2018. An Assessment of Arizona's Intermittent Streams. 2018. Accessed October 4, 2022 at https://static.azdeq.gov/wqd/reports/int_streams_2018.pdf

ADEQ. 2000. Ambient Groundwater Quality of the Douglas Basin: An ADEQ 1995-1996 Baseline Study. September 2000. Accessed October 4, 2022 at https://static.azdeq.gov/wqd/gw/fs/00-08_douglasbasin_fs.pdf

ADOT (Arizona Department of Transportation). 2022a. Types of Scenic Roads. Accessed 09/10/2011. https://azdot.gov/about/historic-and-scenic-roads/types-scenic-roads

ADOT. 2022b. Federal Functional Classification Map. Accessed 9/13/2022 at https://adot.maps.arcgis.com/apps/webappviewer/index.html?id=7910e9ddd68b43f3a5b86aaf19119081

ADOT. 2022c. Traffic Data Management System (TDMS). Accessed 9/13/2022 at https://adot.public.ms2soft.com/tcds/tsearch.asp?loc=Adot&mod=TCDS

ADWR (Arizona Department of Water Resources). 2022a. AAWS Interactive Map. Accessed September 2022 at https://azwatermaps.azwater.gov/aaws/

ADWR. 2022b. Interactive Maps & Data. Accessed October 1, 2022 at https://new.azwater.gov/gis

ADWR. 2022c. The Story Behind Arizona Department of Water Resources. 1980 Groundwater Management Act. Accessed August 30, 2022 at https://new.azwater.gov/adwr/history.

ADWR. 2022d. Active Management Areas. Election to Designate AMA for the Douglas Basin. FAQs. Accessed August 30, 2022 at https://new.azwater.gov/ama/faqs-douglas-ama.

ADWR. 2016. Douglas and Willcox Basins and San Simon Valley Sub-basin, South Eastern Arizona - Hydrologic Monitoring Report No.9. May 2016. Accessed October 4, 2022 at https://new.azwater.gov/sites/default/files/SE_AZ_HMR_9.pdf

Arfin and Yado. 2020. A Survey of Road Traffic Congestion Measures Towards a Sustainable and Resilient Transportation System. June 2020. Access 9/13/2022 at https://www.researchgate.net/figure/Level-of-service-LoS-based-on-the-corresponding-V-C-ratio-and-operating-conditions_tbl2_342043387

Arizona Department of Forestry and Fire Management. 2022. Arizona Wildfire Risk Assessment Portal. Accessed October 1, 2022 at https://dffm.az.gov/arizona-wildfire-risk-assessment-portal

Arizona Game and Fish Department. 2022. Arizona Rattlesnakes. Accessed September 2, 2022 at https://www.azgfd.com/wildlife/livingwith/rattlesnakes/

Arizona Game and Fish Department. 2012. Arizona's State Wildlife Action Plan: 2012 – 2022. May 16, 2012. Accessed August 8, 2022 at https://s3.amazonaws.com/azgfd-portal-wordpress/PortalImages/files/wildlife/2012-2022_Arizona_State_Wildlife_Action_Plan.pdf

Arizona MAG (Arizona Maricopa Association of Governments). 2020a. Arizona Employer Viewer. Accessed August 24, 2022 at https://geo.azmag.gov/maps/azemployer/.

Arizona MAG. 2020b. Business, Jobs, and Industry Highlights; Cochise County. Accessed August 24, 2022 at https://azmag.gov/Portals/0/Documents/maps-data/Cochise.pdf.

Arizona-Mexico Commission et al. 2013. ADOT; Arizona Commerce Authority; Arizona Office of Tourism. Arizona Border Communities Roadmap. December 2013.

ASMA (ASM Affiliates). 2022. Cultural Resources Memo for the Douglas Land Port of Entry Environmental Impact Statement, Douglas, Cochise County, Arizona. 12/23/2022.

Ayres et al. 2010 – 2033 Regional Transportation Plan Final Report. Prepared for Yuma Metropolitan Planning Organization. April 2010.

AZSoS (Arizona Secretary of State). 2016. Arizona Administrative Code. Title 18. Environmental Quality Chapter 11. Department of Environmental Quality - Water Quality Standards. Supplement 16-4. Accessed October 4, 2022 at https://static.azdeq.gov/wqd/SW_Standards_12_31_16.pdf

BEA (Bureau of Economic Analysis). 2022. Note on Per Capita Personal Income and Population. Accessed August 25, 2022 at https://www.bea.gov/note-capita-personal-income-and-population.

BEA. 2020a. Economic Profile by County. Accessed August 26, 2022 at https://apps.bea.gov/regional/downloadzip.cfm.

BEA. 2020b. Compensation of Employees by NAICS Industry. Accessed August 24, 2022 at https://apps.bea.gov/regional/downloadzip.cfm.

BLS (U.S. Bureau of Labor Statistics). 2022. Databases, Tables & Calculators by Subject. Accessed September 8, 2022 at https://www.bls.gov/data/

BLS 2021. Employment Statistics by State 1975-2020. Accessed August 24, 2022 at https://www.bls.gov/lau/staadata.txt.

BLS. 2020a. Labor Force Data by County, 2020 Annual Averages. Accessed August 24, 2022 at https://www.bls.gov/lau/laucnty20.txt.

BLS. 2020b. Quarterly Census of Employment and Wages Full Data Update. Accessed August 25, 2022 at https://www.bls.gov/web/cewdat.supp.toc.htm.

BLS 2010. Labor Force Data by County, 2010 Annual Averages. Accessed August 24, 2022 at https://www.bls.gov/lau/laucnty10.txt.

BLS 2000. Labor Force Data by County, 2000 Annual Average. Accessed August 24, 2022 at https://www.bls.gov/lau/laucnty00.txt.

Bolt, Beranek and Newman. 1971. Noise from Construction Equipment and Operations, Building Equipment, and Home Appliances. Prepared for the U.S. Environmental Protection Agency, Office of Noise Abatement and Control, Washington, D.C. December 31, 1971.

CBP (Customs and Border Protection). 2022. Staffing Levels at RHC. Email communication from Alston Neasbie (CBP) to Ricardo Robles (CBP). September 28, 2022.

CEQ (Council on Environmental Quality). 2016. Final Guidance for Federal Departments and Agencies on Consideration of Greenhouse Gas Emissions and the Effects of Climate Change in National Environmental Policy Act Reviews. Executive Office of the President, Washington, DC. Accessed October 1, 2022 at https://ceq.doe.gov/docs/ceq-regulations-and-guidance/nepa_final_ghg_guidance.pdf

CEQ 1998. Final Guidance for Incorporating Environmental Justice Concerns in EPA's NEPA Compliance Analyses. Accessed September 1, 2022 at https://www.epa.gov/sites/default/files/2015-02/documents/ej_guidance_nepa_epa0498.pdf.

City of Douglas. 2022. City of Douglas Police Department. Accessed August 25, 2022 at https://www.douglasaz.gov/255/Police-Department.

City of Douglas. 2021a. Consumer Confidence Report. June 2021. Accessed October 4, 2022 at https://www.douglasaz.gov/DocumentCenter/View/5255/2021-Consumer-Confidence-Report---Final

City of Douglas. 2021b. (https://www.douglasaz.gov/DocumentCenter/View/3770/040621-City-of-Douglas-Celebrates-Bay-Acres-and-WWTP-Expansion)

City of Douglas. 2020. Douglas Municipal Code Title 8, Health and Safety, Chapter 8.28, Noise; 10/14/2020.

City of Douglas. 2018a. City of Douglas Stormwater Management Program Plan. November 2018. Accessed September 27, 2022 at https://www.douglasaz.gov/DocumentCenter/View/1883/COD-Stormwater-Program-Plan

City of Douglas. 2018b. 2018 State of the City. Mayor Robert Uribe. Accessed December 21, 2022 at https://www.douglasaz.gov/DocumentCenter/View/1247/CoD-State-of-City2018.

City of Douglas. 2018c. Water & Sewer. Accessed December 21, 2022 at https://www.douglasaz.gov/293/Water-Sewer

City of Douglas. 2008. Subdivision Code and Engineering Design Standards Manual. Ordinance No. 08-918. Accessed September 26, 2022 at https://www.douglasaz.gov/DocumentCenter/View/295/Subdivision-Code-2008-W-PlatesPDF

City of Douglas et al. (City of Douglas, USEPA, and GSA). 2021. Douglas Infill and Downtown Revitalization Strategy. https://www.douglasaz.gov/DocumentCenter/View/5032/Douglas-Infill-and-Downtown-Revitalization-Strategy. January 2021.

Coates, D.R., and R. L. Cushman, 1955. Geology and Ground-Water Resources of the Douglas Basin Arizona. Accessed September 2, 2022 at https://pubs.er.usgs.gov/publication/wsp1354

Cochise College. 2018. 2018 Economic Review: Douglas. Accessed September 12, 2022 at https://www.douglasaz.gov/DocumentCenter/View/1954/2018-Economic-Review-Douglas-AZ.

Cochise County. 2022a. Land Use Map Amendment Boundaries. https://www.cochise.az.gov/ImageRepository/Document?documentId=5823. Accessed September 17, 2022.

Cochise County. 2022b. Cochise County Zoning Regulations, Revised August 25, 2022.

Cochise County. 2018a. Stormwater Management Program. Cochise County Highway & Floodplain Department Flood Control District. September 2018. Accessed October 4, 2022 at https://www.cochise.az.gov/DocumentCenter/View/796/Stormwater-Management-Plan-Adopted-September-2018-PDF?bidId=

Cochise County. 2018b. Stormwater Ordinance. Ordinance No. 049-18. Cochise County Highway & Floodplain Department Flood Control District. September 2018. Accessed October 4, 2022 at https://www.cochise.az.gov/DocumentCenter/View/798/Stormwater-Ordinance-PDF

Cochise County. 2015. Comprehensive Plan. Amended and Readopted 2015. Accessed October 4, 2022 at https://www.cochise.az.gov/DocumentCenter/View/136/Cochise-County-Comprehensive-Plan-PDF

Cochise County and City of Douglas. 2020. Memorandum of Understanding Between Cochise County and City of Douglas Regarding Efforts to Build Commercial Port of Entry in Douglas, Arizona. Signed 12/2/2021.

Copper Queen Community Hospital. 2022a. Copper Queen Community Hospital. Accessed August 12, 2022 at https://www.cqch.org/.

Copper Queen Community Hospital. 2022b. Copper Queen Community Hospital. Accessed September 29, 2022 at https://www.cqch.org/

Cox et al. 1004. Cox, Tom, Stavroula Leka, Ivan Ivanov, and Evelyn Kortum. 2004. "Work, Employment and Mental Health in Europe." *Work & Stress* 18(2): 179–185.

CEQ (Council on Environmental Quality). 1997. Environmental Justice Guidance Accessed August 31, 2022 at https://www.epa.gov/sites/default/files/2015-02/documents/ej_guidance_nepa_ceq1297.pdf https://www.energy.gov/sites/prod/files/2019/05/f63/NEPA%20Community%20Guide%202019.pdf

Datausa. 2020. Economy. Douglas and Pirtleville. Accessed September 12, 2022 at https://datausa.io/profile/geo/douglas-az?compare=pirtleville-az.

Department of Energy (DOE) 2019. Community Guide to Environmental Justice and NEPA Methods. Environmental Justice Interagency Working Group. Accessed on August 31, 2022 at https://www.energy.gov/sites/prod/files/2019/05/f63/NEPA%20Community%20Guide%202019.pdf.

EAI (ENV America Incorporated). 2006a. Groundwater Monitoring Well Redevelopment and Sampling U.S Port of Entry Douglas, Arizona. As prepared for U.S General Services Administration. July 19, 2006.

EAI. 2006b. POE Douglas Arizona Department of Environmental Quality Voluntary Remediation Program Application. May 16, 2006.

EcoPlan Associates, Inc. 2022. Biology for Douglas, Arizona Environmental Impact Statement. September 23, 2022

EDR (Environmental Data Resources, Inc.). 2022. The EDR Radius Map™ Report with GeoCheck®, 101 Pan American Avenue, Douglas, AZ 85607. Inquiry Number 7062672.2s. July 22, 2022.

FEMA (Federal Emergency Management Agency). 2022. Glossary. Accessed September 27, 2022 at https://www.fema.gov/about/glossaryl

Griffith, G.E., J.M. Omermik, C.B. Johnson, and D.S. Turner. 2014. Ecoregions of Arizona (poster): U.S. Geological Survey Open-File Report 2014-1141, with map, scale 1:1,325,000. Accessed September 19, 2022 at https://pubs.usgs.gov/of/2014/1141/pdf/ofr2014-1141_front.pdf

GSA (General Services Administration). 2022a. Whole Building Design Guide, GSA Criteria. Accessed 9/10/2022 at https://www.wbdg.org/ffc/gsa/criteria.

GSA. 2022b. Phase I Environmental Site Assessment Report, Raul Hector Castro Land Port of Entry and Expansion Areas, 1 Pan American Ave and 19 Additional Parcels, Douglas, Arizona 85607. As prepared by Potomac-Hudson Engineering, Inc. October 2022.

GSA. 2022c. Existing Water Usage at Raul Hector Castro. Email communication from Danielle Bogni (GSA) to Paul DiPaolo (PHE). [includes attachments: utility invoices for electrical, gas, and water] October 4, 2022.

GSA. 2021. PBS-P100. Facilities Standards for the Public Buildings Service. October 2021.GSA. 2021. PBS-P100. Facilities Standards for the Public Buildings Service. July. Accessed at https://www.gsa.gov/cdnstatic/P100%202021%20v1.pdf.

GSA. 2020. Urban Development/Good Neighbor Program – Principles. September 10. Accessed at: https://www.gsa.gov/real-estate/design-construction/urban-developmentgood-neighborprogram/good-neighbor-principles.

GSA. 2019a. Douglas Arizona Land Ports of Entry Regional Feasibility Study & Douglas Firing Range Report as Prepared by Line and Space, LLC. November 25, 2019.

GSA. 2019b. Public Buildings Service Desk Guide for Floodplain Management, Companion to GSA Order PBS 1095.8. September 2019.

GSA. 2018. Traffic Study for the Raul Hector Castro Land Port of Entry in Douglas, Arizona. Prepared by Stantec Consulting. July 10, 2018.

GSA. 1999. GSA PBS NEPA Desk Guide. https://www.gsa.gov/cdnstatic/PBS_NEPA_Deskguide.pdf. October 1999.

HAD 2004. Health Development Agency (HAD). 2004. *The evidence about work and health*. HAD Briefing No. 18, June 2004.

Health Management Associates. 2017. Community Health Assessment Report: Cochise County, Arizona. Accessed August 25, 2022 at https://www.cochise.az.gov/DocumentCenter/View/2255/Cochise-County-CHA-Report-2017?bidId=.

IBWC (International Boundary and Water Commission.). 2022. "The International Boundary and Water Commission – Its Mission, Organization and Procedures for Solution of Boundary and Water Problems." Accessed September 1, 2022 at https://www.ibwc.gov/About_Us/About_Us.html.

INS (Immigration and Naturalization Service). 2002. Final Environmental Assessment for U.S. Border Patrol Temporary Vehicle Barriers, Naco and Douglas, Arizona. November 2002. Accessed October 4, 2022 at https://www.dhs.gov/xlibrary/assets/nepa/Mgmt_NEPA_FEA-FONSIUSBPtempvehiclebarriersAZnov2002.pdf

IPCC (Intergovernmental Panel on Climate Change). 2018. Global Warming of 1.5°C: An IPCC Special Report. October 2018. Accessed October 1, 2022 at https://www.ipcc.ch/site/assets/uploads/sites/2/2019/06/SR15_Full_Report_Low_Res.pdf.

Jacobs. 2021a. No Further Action Report for APS Douglas Former MGP Site Douglas, Arizona ADEQ VRP Site Code 513300-00. December 2021.

Jacobs. 2021b. Remedial Action Closure Report for the APS Douglas Former Manufactured Gas Plant, Douglas, Arizona ADEQ VRP Site Code 513300-00. September 2021.

Jacobs. 2020. Remedial Action Plan for the APS Douglas Former Manufactured Gas Plant, Douglas, Arizona ADEQ VRP Site Code 513300-00. February 2020.

Jacobs. 2019. Work Plan for APS Former Manufactured Gas Plant Site, Douglas Arizona. August 2019.

Jacobs, 2015. Cochise County 2040 Long-Range Transportation Plan Final Report. Prepared for Cochise County. May 12, 2015.

Keeling, CD. 1960. The Concentration and Isotopic Abundances of Carbon Dioxide in the Atmosphere. Scripps Institution of Oceanography, University of California, La Jolla, California. March 25.

Lamancusa, J. 2009. "Noise Control – Outdoor Sound Propagation." Pennsylvania State University, Department of Mechanical and Nuclear Engineering. July 20, 2009. Accessed January 2020 at http://www.mne.psu.edu/lamancusa/me458/10_osp.pdf.

Luttrell, Stacy. 2022. Email communication "Re: Existing Water Usage at Raul Hector Castro," (information regarding flooding issues at the RHC LPOE); October 4, 2022.

Marshall, R.M., D. Turner, A. Gondor, D. Gori, C. Enquist, G. Luna, R. Paredes Aguilar, S. Anderson, S. Schwartz, C. Watts, E. Lopez, and P. Comer. 2004. An Ecological Analysis of Conservation Priorities in the Apache Highlands Ecoregion. January 2004. Accessed September 19, 2022 at https://www.conservationgateway.org/ConservationPlanning/SettingPriorities/EcoregionalReports/Documents/Apache_Highlands_Report.pdf

MCDOT 2021. Roadway Design Manual. August 2021.

Minutes of the Douglas, AZ LPOE Team Coordination Meeting with ADOT. GSA. 8 September 2022. Virtual.

National Center for Education Statistics. 2021. Common Core of Data Public school data 2020-2021. Accessed August 25, 2022 at

https://nces.ed.gov/globallocator/index.asp?search=1&State=AZ&city=Douglas&zipcode=&miles=&itemname=&sortby=name&School=1&PrivSchool=1&CS=8E757476.

NatureServe. 2022. NatureServe Explorer. Accessed September 1, 2022 at https://explorer.natureserve.org/

NOAA (National Oceanic and Atmospheric Administration). 2022. Climate at a Glance. Cochise County. Accessed October 4, 2022 at https://www.ncei.noaa.gov/access/monitoring/climate-at-a-glance/county/time-series/AZ-003/pcp/ann/8/1895-2022?base_prd=true&begbaseyear=2000&endbaseyear=2022

NRCS (Natural Resources Conservation Service). 2021a. Map Unit Description: Guest-Riveroad Association, 0 to 1 Percent Slopes – Cochise County, Arizona, Douglas-Tombstone Part. Accessed September 12, 2022 at https://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx

NRCS. 2021b. Map Unit Description: Libby-Gulch Complex, 0 to 10 Percent Slopes – Cochise County, Arizona, Douglas-Tombstone Part. Accessed September 2, 2022 at https://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx

NRCS. 2021c. Map Unit Description: Riveroad and Ubik Soils, 0 to 5 Percent Slopes – Cochise County, Arizona, Douglas-Tombstone Part. Accessed September 2, 2022 at https://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx

NRSC. 2019. Soil Formation and Classification. Accessed October 6, 2022 at https://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/edu/?cid=nrcs142p2_054278.

OSHA (Occupational Safety and Health Administration). 2022. Arizona State Plan. Accessed September 6 2022 at https://www.osha.gov/stateplans/az

OSHA. 2019. Occupational Noise Exposure. Standard 1910.95. Accessed December 3, 2019 at: https://www.osha.gov/laws-regs/regulations/standardnumber/1910/1910.95.

PHE (Potomac-Hudson Engineering). 2022. Meeting Minutes for September 8, 2022, "Douglas, AZ LPOE Team Coordination Meeting – ADOT". 9/9/2022.

Pollution Control System (PCS). 2014. Sewage Flow Rate Estimating Guide. 11/18/2014. at: https://www.pollutioncontrolsystem.com/Uploads/images/Pages/SEWAGE%20FLOW%20RATE%20ESTIMATING%20GUIDE%20Nov%202014_20170105.pdf

Scripps Institution of Oceanography. 2022. Scripps CO2 Program: Carbon Dioxide Measurements. Accessed October 1, 2022 at https://scrippsco2.ucsd.edu/.

Stantec. 2022. Douglas POE & Service Areas Water & Wastewater Infrastructure 30% Design. Prepared for Cochise County & City of Douglas. October 21, 2022.

Stantec. 2020. Proposed Douglas Port of Entry Water and Wastewater Feasibility Report. Prepared for Cochise County & City of Douglas. December 11, 2020. As Prepared by Stantec Consulting Services Inc.

Terracon (Terracon Consultants, Inc.). 2019. Phase I Environmental Site Assessment: Douglas Land Port of Entry Site West of James Ranch Road Douglas, Cochise County, AZ. As prepared for Line and Space, LLC. August 2, 2019

The Planning Center 2002

TransCore, et al. 2007. City of Douglas Small Area Transportation Study Final Report. Prepared for City of Douglas. July 2007

UA (University of Arizona). 2008. Downtown Douglas Revitalization Plan. Accessed August, 26, 2022 at https://www.douglasaz.gov/DocumentCenter/View/290/Downtown-Douglas-Revitalization-Plan-PDF. NOT FOUND IN SECTIION 3.11

URS Consultants, Inc. 1994. Sample Plan for the Phelps Dodge Douglas Reduction Works Site, Douglas, Arizona. As prepared for the U.S Environmental Protection Agency. December 16, 1994.

URS Greiner. 1997. Expanded Site Inspection/Remedial Investigation for the Phelps Dodge Douglas Reduction Works Site, Douglas, Arizona. As prepared for the U.S Environmental Protection Agency. April 30, 1997.

US Economic Research. 2020. Working Paper: Measuring the Economic Impact of a Two-Port Solution in Douglas, Arizona.

USCB (U.S. Census Bureau). 2021. How the Census Bureau Measures Poverty. Accessed September 6, 2022 at https://www.census.gov/topics/income-poverty/poverty/guidance/poverty-measures.html#:~:text=The%20official%20poverty%20definition%20uses,Medicaid%2C%20and%20food%20stamps)..

USCB (U.S. Census Bureau). 2020a. QuickFacts: Arizona; Cochise County, Arizona; Douglas city, Arizona. Accessed August 24, 2022 at census.gov/quickfacts/fact/table/AZ,cochisecountyarizona,douglascityarizona/PST045221.

USCB. 2020b. Census National Redistricting Data Summary File. Accessed August 23, 2022 at https://www2.census.gov/programs-surveys/decennial/2020/technical-documentation/complete-tech-docs/summary-file/2020Census_PL94_171Redistricting_NationalTechDoc.pdf.

USCB. 2020c. Decennial Redistricting Data; Selected Housing Characteristics. Accessed August 23, 2022 athttps://data.census.gov/cedsci/table?q=housing%20in%20cochise%20county&g=0400000US04_1600000US0420050&tid=ACSST5Y2018.S2501.

USCB 2020d. 2020: ACS 5-Year Estimates Subject Tables. Accessed September 1, 2022 at https://data.census.gov/cedsci/table?t=Income%20and%20Poverty&g=0400000US04_1400000US04003000502,04003000503,04003000600,04003000700,04003000800,04003000901,04003000902,04003001100&y=2020&tid=ACSST5Y2020.S1702

USCB. 2010. Population and Housing Unit Counts. Accessed August 24, 2022 at https://www2.census.gov/library/publications/decennial/2010/cph-2/cph-2-4.pdf.

USCB. 2000. Summary Population and Housing Characteristics. Accessed August 24, 2022 at https://www2.census.gov/library/publications/2002/dec/phc-1-4.pdf.

USDHHS (U.S. Department of Health and Human Services). 1995. Petitioned Public Health Assessment. Phelps Dodge Corp Douglas Reduction Works. Douglas, Cochise County, Arizona. September 29, 1995.

USDOT (U.S. Department of Transportation). 2018. Federal Transit Administration. Transit Noise and Vibration Impact Assessment Manual. September 2018. FTA Report No. 0123

USEPA. (U.S Environmental Protection Agency). 2022a. Arizona Nonattainment/Maintenance Status for Each County by Year for All Criteria Pollutants. Accessed October 1, 2022 at https://www3.epa.gov/airquality/greenbook/anayo_az.html

USEPA. 2022b. AirData Air Quality Monitors. Accessed October 1, 2022 at https://epa.maps.arcgis.com/apps/webappviewer/index.html?id=5f239fd3e72f424f98ef3d5def547eb5&extent=-146.2334,13.1913,-46.3896,56.5319

USEPA. 2022c. NAAQS Table. Accessed October 1, 2022 at https://www.epa.gov/criteria-air-pollutants/naaqs-table

USEPA. 2022d. Overview of Greenhouse Gases. Accessed October 1, 2022 at https://www.epa.gov/ghgemissions/overview-greenhouse-gases

USEPA. 2022e. De Minimis Tables. Accessed October 1, 2022 at https://www.epa.gov/general-conformity/de-minimis-tables

USEPA. 2022f. Regulatory and Guidance Information by Topic: Air. Accessed October 1, 2022 at https://www.epa.gov/regulatory-information-topic/regulatory-and-guidance-information-topic-air

USEPA. 2022g. Superfund Site Information. Phelps Dodge Historical Smelter. Accessed September 20, 2022 at https://cumulis.epa.gov/supercpad/cursites/csitinfo.cfm?id=0900786

USEPA. 2021. Emission Factors for Greenhouse Gas Inventories. Accessed October 1, 2022 at https://www.epa.gov/sites/default/files/2021-04/documents/emission-factors_apr2021.pdf

USEPA. 2014. U.S. Environmental Protection Agency. 2014. Douglas Wastewater Treatment Plant Upgrade and Bay Acres Colonia Wastewater Collection System Expansion For the City of Douglas, Arizona Environmental Assessment. January 7, 2014. https://www.epa.gov/sites/default/files/2020-01/documents/douglas-bay_acres_colonia_ea_1-7-14.pdf. Accessed 8/30/2022.

USEPA. 2012. Memorandum Addressing Children's Health through Reviews Conducted Pursuant to the National Environmental Policy Act and Section 309 of the Clean Air Act. Accessed September 1, 2022 at https://www.epa.gov/sites/default/files/2014-08/documents/nepa-childrens-health-memo-august-2012.pdf

USEPA. 2001. Binational Prevention and Emergency Response Plan Between Douglas, Arizona and Agua Prieta, Sonora. https://www.epa.gov/sites/default/files/2014-09/documents/douglas-agua-prieta-sister-city-plan.pdf

USEPA. 1981. Noise Effects Handbook. A Desk Reference to Health and Welfare Effects of Noise. Office of Noise Abatement and Control. October 1979, Revised July 1981. Accessed December 3, 2019 at: http://nonoise.org/epa/Roll7/roll7doc27.pdf.

USEPA. 1978. Protective Noise Levels, Condensed Version of EPA Levels Document. Office of Noise Abatement and Control. EPA 550/9-79-100. November 1978.

USEPA. 1974. Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare within Adequate Margin of Safety. U.S. Environmental Protection Agency, Office of Noise Abatement and Control. Washington, D.C. March 1974.

USFWS (U.S. Fish and Wildlife Service). 2022a. Environmental Conservation Online System. Generate Species List. Accessed September 2, 2022 at https://ecos.fws.gov/ecp0/reports/ad-hoc-species-report-input

USFWS. 2022b. IPaC resource list. Accessed September 1, 2022 at https://ipac.ecosphere.fws.gov/location/index

USFWS. 2020. Cons #02ENNM00-2020-F-0593. November 9, 2020. Accessed online November 30, 2022 at https://ecos.fws.gov/tails/pub/document/18183719

USGCRP (US Global Change Research Program). 2018. Impacts, Risks, and Adaptation in the United States: Fourth National Climate Assessment, Volume II [Reidmiller, D.R., C.W. Avery, D.R.

Easterling, K.E. Kunkel, K.L.M. Lewis, T.K. Maycock, and B.C. Stewart (eds.)]. U.S. Global Change Research Program, Washington, DC. Accessed October 1, 2022 at https://nca2018.globalchange.ov/.

USGCRP. 2017. Climate Science Special Report: Fourth National Climate Assessment, Vol 1 [Wuebbles, D.J., D.W. Fahey, K.A. Hibbard, D.J. Dokken, B.C. Stewart, and T.K. Maycock (eds.)]. U.S. Global Change Research Program, Washington, DC. Accessed October 1, 2022 at http://science2017.globalchange.gov/.

CHAPTER 7 LIST OF PREPARERS

Potomac-Hudson Engineering, Inc.

Paul DiPaolo, PMP – Project Manager/Environmental Scientist
M.S., Environmental Planning and Management
B.S., Environmental Science and Policy
12 years of experience

Pedro Da Silva, E.I.T. – Environmental Engineer
B.S., Chemical Engineering
3 years of experience

Mimi Drozdetski – Environmental Analyst
B.S., Environmental Science and Technology
1 year of experience

Stacy Herrick – Document Specialist
B.S., Art
28 years of experience

Erin Kouvousis – Environmental Scientist
M.S., Ecology
B.S., Conservation
12 years of experience

Pamela Lawson – Document Production
36 years of experience

Robert Naumann – Senior Environmental Scientist
M.S., Environmental Science
B.S., Natural Resources
24 years of experience

Cynthia Ong – Environmental Consultant, Staff Analyst
M.S., Environmental Sciences
B.S., Civil Engineering
12 years of experience

Samir Qadir, P.E. – Senior Environmental Engineer
M.S., Environmental Policy
B.S., Electronics and Telecommunications Engineering
18 years of experience

Diego Santaella – Environmental Scientist
B.S., Environmental Science and Technology
3 years of experience

Melissa Secor – Environmental Scientist
B.S., Meteorology
B.S., Business Management
15 years of experience

Deborah Shinkle – GIS Analyst
B.A., Environmental Studies
20 years of experience

Y2K Engineering, LLC

Samantha Cole – Engineering Designer II
B.S., Civil Engineering
2 years of experience

Rae Stephani, PE, PTOE, RSP – Project Engineer
B.S., Civil Engineering
7 years of experience

CHAPTER 8 LIST OF AGENCIES, ORGANIZATIONS, AND PERSONS CONTACTED

U.S. Federal Government

U.S. Environmental Protection Agency, Region 9, San Francisco, California

U.S. Fish and Wildlife Service, Region 2, Albuquerque, New Mexico

U.S. Fish and Wildlife Service, Arizona Ecological Services Office

U.S. Geological Survey

U.S. Customs and Border Protection

U.S. Department of State

Federal Emergency Management Agency, Region 9

U.S. Army Corps of Engineers, Arizona-Nevada Office

Arizona State Government

Arizona State Historic Preservation Office

Arizona Department of Transportation

Arizona Game and Fish Department

Arizona Department of Environmental Quality

Local Government

Cochise County

City of Douglas

Other Organizations

Southeastern Arizona Governments Organization

Ramirez Advisors

Osvil International

Individuals Providing Comments During the Scoping Process

Eric Braverman

Steven Helffrich

Kurt Stickler

Carmen Bernal

David Ivan Clark

Mieko Brown

MJ Druckman

Ben La Forge

Frank Tadeo

Janea Sanchez

Joe Flynn

Raymond Ortiz

Neil Petersen

John Trautmann

Michael Saremi

Melissa Salcido

Ray Novoa

Nearby residences were also provided notice. Additional agencies, organizations, and persons contacted will be added to the list if comments are received during the public review period.