February
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Draft

Supplemental Environmental Assessment

Addressing the Proposed Construction, Operation, and Maintenance of a New Joint Processing Center in Laredo, Webb County, Texas

Department of Homeland Security

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Cover Sheet

Draft Supplemental Environmental Assessment Addressing the Proposed Construction, Operation, and Maintenance of a New Joint Processing Center in Laredo, Webb County, Texas

Responsible Agencies: Department of Homeland Security (DHS); United States (U.S.) Customs and Border Protection (CBP)

Affected Location: Laredo, Webb County, Texas.

Report Designation: Draft Supplemental Environmental Assessment (SEA).

Abstract: DHS proposes the acquisition of land, and to construct, operate, and maintain a new Joint Processing Center (JPC) on a 100-acre parcel of land in Laredo, Webb County, Texas to support humanitarian efforts along the southwestern U.S./Mexico international border (Proposed Action). The proposed site is within Laredo, Texas on a portion of a cattle ranch. DHS would construct an approximately 200,000-square foot JPC capable of accommodating 200 staff and 500 undocumented non-citizens, including migrants and refugees, for processing. The JPC would have the possibility of expansion to accommodate up to 1,000 undocumented non-citizens. Ancillary facilities and structures would also be constructed to support operations at the proposed JPC. CBP previously analyzed the construction, operation, and maintenance of a new United States Border Patrol Laredo Sector Headquarters (Laredo HQ) at this site within its 2022 Laredo HQ Environmental Assessment (EA). The Project scope has changed regarding the purpose and need and facility design and siting. No changes are proposed to the location or acreage for the Proposed Action.

The Proposed Action is needed to relieve crowding within existing DHS facilities and to aid humanitarian efforts along the southwestern border by ensuring the security, placement, and successful transition of migrants and refugees. This multi-agency facility would be used by DHS, DHS Components, and potentially other federal agencies, as appropriate. This SEA is being prepared to describe and assess the potential environmental, cultural, socioeconomic, and physical impacts of two action alternatives and the No Action Alternative. Alternative 1 would implement the Proposed Action as planned at the 100-acre Laredo site. Alternative 2 is a net-zero alternative that would incorporate net-zero technologies into the Proposed Action. The analysis presented in the SEA would allow decision makers to determine if the Proposed Action would have effects on the natural, cultural, social, economic, and physical environment, as well as whether the action could proceed to the next phase of project development or if an Environmental Impact Statement is required.

Status updates for the SEA may be obtained via the DHS NEPA website at *www.dhs.gov/nepa*.

Privacy Advisory

This SEA was prepared according to the National Environmental Policy Act of 1969 (42 United States Code [U.S.C.] 4321 et seq.); the Council on Environmental Quality (CEQ), Regulations Implementing the Procedural Provisions of NEPA (40 CFR §§ 1500-1508); DHS Directive 023-01 Revision 01, Implementation of the National Environmental Policy Act; and other pertinent environmental statutes, regulations, and compliance requirements. Comments on this document are requested. Letters or other written comments provided may be published in the EA. Comments will normally be addressed in the EA and made available to the public. Any personal information provided will be used only to fulfill requests for copies of the SEA or associated documents. Private addresses will be compiled to develop a mailing list for those requesting copies of the SEA. However, personal home addresses and telephone numbers will not be published in the SEA.

EXECUTIVE SUMMARY

INTRODUCTION

The Department of Homeland Security (DHS) proposes to acquire approximately 100 acres of land and to construct, operate, and maintain a Joint Processing Center (JPC) in Laredo, Webb County, Texas. The JPC would be a permanent, multi-agency facility that would support humanitarian efforts along the southwestern U.S./Mexico international border by ensuring the security, placement, and successful transition of undocumented non-citizens, including migrants and refugees. The JPC would be used by DHS, DHS Components, and potentially other applicable federal agencies.

This Supplemental Environmental Assessment (SEA) is being prepared to describe and assess the potential environmental and socioeconomic impacts of the Proposed Action and Alternatives. The SEA complies with the National Environmental Policy Act (NEPA) of 1969, as amended (42 United States Code [U.S.C.] Section 4321 et seq.); the Council on Environmental Quality's (CEQ) *Regulations for Implementing the Procedural Provisions of the National Environmental Policy Act* (40 Code of Federal Regulations [CFR] Parts 1500-1508); and DHS Directive 023-01, Rev. 01, and Instruction Manual 023-01-001-01, Rev. 01, *Implementation of NEPA*. The SEA supplements and incorporates by reference the *Final Environmental Assessment (EA) for the New Laredo Sector Headquarters U.S. Border Patrol, Laredo Sector, Texas* published by U.S. Customs and Border Protection (CBP) in October 2022 (hereinafter referred to as the "2022 Laredo HQ EA") (CBP 2022).

The 2022 Laredo HQ EA was prepared to evaluate the potential impacts of land acquisition and construction, operation, and maintenance of a new headquarters facility for Laredo Sector. The purpose of the new facility was to increase personnel and facility capacity and meet the needs of U.S. Border Patrol (USBP) operations in the area. The proposed Laredo HQ and associated supporting infrastructure was designed for continuous operations in support of the Border Patrol Strategic Plan to gain and maintain effective control of the borders of the United States.

In accordance with DHS Directive 023-01, Rev. 01 and Instruction Manual 023-01-001-01, Rev. 01, DHS is preparing this SEA as a NEPA analysis was previously completed for the same project site under the 2022 Laredo HQ EA, but the scope of the Proposed Action has changed, triggering a need for additional environmental impact evaluation.

PURPOSE AND NEED

The purpose of the Proposed Action is to acquire land and to construct, operate, and maintain a JPC to relieve crowding in existing DHS facilities, and to aid the humanitarian efforts along the southwestern border, by ensuring the security, placement, and successful transition of undocumented non-citizens, including migrants and refugees. An undocumented individual is a non-citizen who does not possess a document valid for admission into the U.S. Undocumented citizens may or may not possess a passport or other acceptable document that denotes identity and citizenship when entering the U.S.

Existing Soft-sided Facilities (SSFs) along the border that currently process undocumented non-citizens entering the country are costly and inadequately equipped to accommodate the increasing numbers of migrants. The inefficiency of these SSFs also could adversely affect the health, safety, work efficiency, and morale of DHS personnel and migrants and refugees being processed, which could impede execution of the mission and operations of those facilities. Existing SSFs in Laredo Sector and other areas along the southwestern border were built as a temporary solution to crowding at existing processing facilities. These tent facilities are overly expensive to maintain and are not sustainable for long-term use.

The Proposed Action would allow multiple agencies to offer services and operate at the same location, resulting in increased efficiency and reduced transportation costs. The proposed JPC would be in one of the highest areas of apprehension and migrant encounter rates along the southwestern border.

PUBLIC INVOLVEMENT

As part of the NEPA process, DHS initiated public scoping for the Proposed Action by providing a 30-day review period from December 8th, 2023, to January 8th, 2024. A letter was distributed to 30 potentially interested federal, state, and local agencies; Indian Tribes; and other stakeholder groups or individuals. All scoping comments received were considered during preparation of the Draft EA.

DHS will make the Draft SEA and Finding of No Significant Impact (FONSI) available for a 30-day public review and comment period between February 16th and March 18th, 2024. DHS will post a Notice of Availability (NOA) on the DHS website and in the *Laredo Morning Times* and the *San Antonio Express-News* on February 16th, 2024. DHS will also notify relevant federal, state, and local agencies, and appropriate Native American tribes and nations as identified in **Appendix A**, and request input regarding any environmental concerns they might have. Hard copies of the Draft SEA will be made available to the public for a 30-day review at the Senator Judith Zaffirini Library (LC South Library) at 5500 Zapata Highway, Laredo, Texas, 78046. The Draft SEA will also be made available for download from the DHS internet web page at the following URL address: www.dhs.gov/nepa.

PROPOSED ACTION AND ALTERNATIVES

Alternative 1: Proposed Action. The Proposed Action would include the acquisition of approximately 100 acres of privately owned land and the construction, operation, and maintenance of a JPC along State Highway (SH) 20, just south of Laredo, Webb County, Texas. This site is undeveloped but has access close by to city water/sewer, three phase electricity, and fiber optics. Easy ingress/egress access is available via SH 20. The JPC would be approximately 200,000 ft^2 of useable floor space and would accommodate 200 staff and 500 non-citizens in processing, with the possibility of expanding to accommodate a capacity of 1,000 non-citizens in processing. The proposed JPC would also include the following ancillary support facilities and structures:

- Vehicle storage facility
- Loading facilities

- Outdoor tactical support areas
- Public and private vehicle parking areas
- Vehicle wash rack
- Temporary fuel island with above-ground tanks
- Canine kennel
- Stormwater management system
- Helipad
- Roadways
- Emergency generators
- Utilities

Because site design would occur following completion of this SEA, the analysis assumes that the entire 100-acre parcel would consist of the proposed JPC and ancillary support facilities, and most of the acquired land would be disturbed as a result of construction activities and future expansion. Construction of the JPC is anticipated to begin in May 2024 and would be completed by June 2026. The JPC would be operated and staffed 24 hours a day, 7 days a week. Maintenance would include routine repair and normal facility landscaping. The Standard Design of a JPC is included as **Appendix B**.

Alternative 2: Net-Zero Alternative. Alternative 2, the Net-Zero Alternative, would be the same as Alternative 1 but would incorporate the use of net-zero technologies for some utilities rather than using nonrenewable resources. The net-zero technologies proposed in this alternative include solar technology, a vermifiltration (VF) wastewater filtration system, and an atmospheric water generator (AWG). The use of these net-zero resource applications would aid the proposed JPC in achieving close to net-zero emissions, waste, and water conservation efforts.

No Action Alternative. As required by NEPA and CEQ regulations, the No Action Alternative reflects conditions within the project area should the Proposed Action not be implemented. Under the No Action Alternative, DHS personnel would continue to use other existing processing facilities. The use of existing processing facilities would not facilitate inter-agency coordination. Additionally, the existing processing facilities would remain undersized and would not be able to be expanded nor renovated to meet demand. Continued use of the existing processing facilities could adversely affect the health, safety, work efficiency, and morale of DHS personnel and undocumented non-citizens, which could impede execution of the mission and operations of those facilities.

SUMMARY OF ENVIRONMENTAL IMPACTS

Table ES-1 provides a summary of potential impacts anticipated under the two action alternatives and the No Action Alternative. The impacts are shown by resource area. **Section 3** of this SEA addresses these impacts in more detail. The Proposed Action has the potential to result in adverse environmental impacts and, as such, includes best management practices (BMPs) and design concepts identified in **Appendix C** of this SEA to avoid adverse impacts to the extent practicable.

Table ES-1: Summary of Potential Environmental Impacts by Alternative

Resource Area	Alternative 1: Proposed Action	Alternative 2: Net-Zero Alternative	No Action Alternative
Land Use	Long-term, minor, adverse impacts on land use within the limits of disturbance.	Impacts would be the same as described for Alternative 1.	No impacts.
Soils	Short-term, minor adverse impacts to soils during construction. Long-term, negligible adverse impacts during operation to soils.	Impacts would be similar to those described for Alternative 1.	No impacts.
Biological Resources	Long-term, minor adverse impacts to vegetation from construction. Short-term, negligible adverse impacts to wildlife from construction. Long-term, negligible adverse impacts to wildlife from operational activities. The Proposed Action would have *no effect* on federally listed species except for the ashy dogwood which *may affect but is not likely to be adversely affected*. Short- and long-term, negligible adverse impacts on state-listed species. Short- and long-term, negligible adverse impacts to migratory birds from construction and operational activities.	Impacts would be similar to those described for Alternative 1.	No impacts.
Water Resources	Long-term, negligible adverse impacts on groundwater. Long-term, negligible impacts to groundwater availability. Short- and long-term, minor indirect adverse impacts on surface water resources flow	Impacts to groundwater, surface water and wetlands, floodplains and stormwater would be the same as described for Alternative 1.	No impacts.

	and wetlands during construction and operation. Long-term, negligible beneficial impacts on stormwater. Long-term, negligible adverse impacts on floodplains.		
Air Quality	Short-term, minor adverse impacts from construction. Long-term, minor adverse impacts during operation and maintenance. Emissions would meet the de minimis thresholds.	Impacts would be the same as, or potentially less than, described for Alternative 1.	No impacts.
Noise	Short-term, minor adverse impacts to noise environment during construction. Long-term, minor adverse impacts during operation.	Impacts would be the same as described for Alternative 1.	No impacts.
Cultural Resources	DHS is finalizing the cultural resource survey report to determine if and how much cultural site 41WB624 extends into the proposed project area. If the site does extend into the proposed project area, DHS will make a NRHP and effect determination in coordination with the THC and in consultation with Tribes	No impacts.	No impacts.
Utilities and Infrastructure	Long-term, negligible adverse impacts on electric utilities from connection to the regional grid. Long-term, negligible impacts to water and wastewater utilities from increased demand. No impacts to public infrastructure. Short-term, minor adverse impacts to solid waste during construction.	Long-term, minor adverse impacts on electric utilities from connection to the regional grid, but potentially reduced demand due to use of solar energy. Long-term, moderate beneficial impacts on water and wastewater utilities from use of net-zero technologies. No impacts to public infrastructure.	No impacts.

	Long-term, minor beneficial impacts to solid waste during operation.	Long-term, minor beneficial impacts to solid waste during operation.	
Roadways and Traffic	Short-term, negligible to minor adverse impacts during construction. Long-term, negligible to minor adverse impacts during operations.	Impacts would be the same as described for Alternative 1.	No impacts.
Hazardous Materials	Short-term, minor adverse impacts from the use of hazardous materials during construction. Long-term, minor adverse impacts from the use and generation of hazardous materials and wastes during operation and maintenance.	Impacts would be the same as described for Alternative 1.	No impacts.
Socioeconomic Resources, Environmental Justice, and Protection of Children	Short-term, minor beneficial impacts to local socioeconomic conditions during construction. No or negligible impact on socioeconomic conditions during operation. No disproportionate adverse impacts on communities with environmental justice concerns or children.	Impacts would be the same as described for Alternative 1.	No impacts.
Human Health and Safety	Short-term, minor adverse impacts to construction contractor safety. Long-term, moderate beneficial impacts to public and DHS health and safety during operation.	Impacts would be the same as described for Alternative 1.	No impacts.
Sustainability and Greening	Long-term, minor beneficial and adverse impacts on sustainability and greening from incorporation of some sustainable features.	Long-term, moderate beneficial and minor adverse impacts on sustainability and greening from incorporation of all three net-zero technologies (i.e., solar PV system, AWG, and VF system).	Long-term, minor adverse impacts.

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SUPPLEMENTAL ENVIRONMENTAL ASSESSMENT

ADDRESSING THE PROPOSED CONSTRUCTION, OPERATION, AND MAINTENANCE OF A NEW JOINT PROCESSING CENTER IN LAREDO, WEBB COUNTY, TEXAS

DEPARTMENT OF HOMELAND SECURITY

2707 Martin Luther King Jr Avenue SE
Washington, DC 20528

FEBRUARY 2024

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ACRONYMS AND ABBREVIATIONS

°F	degrees Fahrenheit
ACS	American Community Survey
AEP	American Electric Power
APE	Area of Potential Effect
AOR	Area of Responsibility
ARPA	Archeological Resources Protection Act
AST	Above-ground Storage Tank
AWG	Atmospheric Water Generator
BESS	Battery Energy Storage System
BLS	Bureau of Labor Statistics
BMP	Best Management Practice
CAA	Clean Air Act
CBP	Customs and Border Protection
CEQ	Council on Environmental Quality
CFE	Carbon Pollution-free Electricity
CFR	Code of Federal Regulations
cmbd	centimeters below datum
CO	Carbon Monoxide
CO_2	Carbon Dioxide
CO_2e	Carbon Dioxide Equivalent
CWA	Clean Water Act
dB	Decibel
dBA	A-weighted Decibel
DHS	Department of Homeland Security
EA	Environmental Assessment
eGRID	Emissions & Generation Resource Integrated Database
EIS	Environmental Impact Statement
EISA	Energy Independence and Security Act
EJ	Environmental Justice
EPACT	Energy Policy Act
ERCOT	Electric Reliability Council of Texas
ESA	Endangered Species Act
EO	Executive Order
FEMA	Federal Emergency Management Agency
FONSI	Finding of No Significant Impact
FPPA	Farm Protection Policy Act
ft^2	square feet
GHG	Greenhouse Gas
HHS	Health and Human Services
HQ	Headquarters
I	Interstate
IPaC	Information for Planning and Consultation
JPC	Joint Processing Facility
MBTA	Migratory Bird Treaty Act
NAAQS	National Ambient Air Quality Standards
NAGPRA	Native American Graves Protection and Repatriation Act
NEPA	National Environmental Policy Act

NHPA	National Historic Preservation Act
NO_x	Nitrous Oxides
NOA	Notice of Availability
NPDES	National Pollutant Discharge Elimination System
NRHP	National Register of Historic Places
O_3	Ozone
OTHMs	Official Texas Historical Markers
OSHA	Occupational Safety and Health Administration
pCi/L	picocuries per liter
$PM_{2.5}$	Particulate Matter, with a diameter of 2.5 microns or less
PM_{10}	Particulate Matter, with a diameter of 10 microns or less
PSD	Prevention of Significant Deterioration
PV	Photovoltaic
ROI	region of interest
RTHLs	Recorded Texas Historic Landmarks
RVSS	remote video surveillance system
SEA	Supplemental Environmental Assessment
SH	State Highway
SHPO	State Historic Preservation Officer
SO_x	Sulfur Oxides
SPCCP	Spill Prevention, Control, and Countermeasure Plan
SSF	Soft-sided Processing Facility
SWPPP	Stormwater Pollution Prevention Plan
TCEQ	Texas Commission on Environmental Quality
THC	Texas Historical Commission
TPWD	Texas Parks and Wildlife Department
tpy	tons per year
TxDOT	Texas Department of Transportation
U.S.	United States
USACE	U.S. Army Corps of Engineers
USBP	U.S. Border Patrol
U.S.C.	U.S. Code
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
USRP	U.S. Refugee Resettlement Program
USRT	U.S. Route
VF	Vermifiltration
VOC	Volatile organic compounds
WOTUS	Waters of the U.S.

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1. INTRODUCTION

The Department of Homeland Security (DHS) proposes to acquire approximately 100 acres of land and to construct, operate, and maintain a Joint Processing Center (JPC) in Laredo, Webb County, Texas. The JPC would be a permanent, multi-agency facility that would support humanitarian efforts along the U.S. southwestern border by ensuring the security, placement, and successful transition of undocumented non-citizens, including migrants and refugees. The JPC would be used by DHS, DHS Components, and potentially other applicable federal agencies.

A Supplemental Environmental Assessment (SEA) is being prepared to describe and assess the potential environmental and socioeconomic impacts of the Proposed Action and Alternatives. The SEA would comply with the National Environmental Policy Act (NEPA) of 1969, as amended (42 United States Code [U.S.C.] Section 4321 et seq.); the Council on Environmental Quality's (CEQ) *Regulations for Implementing the Procedural Provisions of the National Environmental Policy Act* (40 Code of Federal Regulations [CFR] Parts 1500-1508); and DHS Directive 023-01, Rev. 01, and Instruction Manual 023-01-001-01, Rev. 01, *Implementation of NEPA*. The SEA would supplement and incorporate by reference the *Final Environmental Assessment for the New Laredo Sector Headquarters U.S. Border Patrol, Laredo Sector, Texas* published by U.S. Customs and Border Protection (CBP) in October 2022 (hereinafter referred to as the "2022 Laredo HQ EA") (CBP 2022).

The 2022 Laredo HQ EA was prepared to evaluate the potential impacts of land acquisition and construction, operation, and maintenance of a new headquarters facility for Laredo Sector. The purpose of the new facility was to increase capacity and meet the needs of U.S. Border Patrol (USBP) operations in the area. The proposed Laredo Headquarters (HQ) and associated supporting infrastructure was designed for continuous operations in support of the USBP Strategic Plan to gain and maintain effective control of the borders of the United States. During the cultural resource investigations, and pursuant to Section 106 of the National Historic Preservation Act (NHPA; 54 U.S.C. 306108) and its implementing regulations at 36 Code of Federal Regulations, CBP coordinated with the Texas Historical Commission (THC) on the 2022 Laredo HQ EA. Two areas (Site 1 and Site 2) containing potential historic artifacts were found within the 100-acre tract. CBP received concurrence from the THC of a no effect determination for Site 1 and the need for additional investigation for a portion of Site 2. DHS is currently working with THC to determine the National Register of Historic Places eligibility for Site 2.

The Laredo HQ was not funded or constructed, and the project scope has changed regarding the purpose and need and facility design from a HQ to a JPC. No changes are proposed to the location or total acreage needed for the Proposed Action of a JPC. Under the current Proposed Action, DHS would acquire the 100-acre parcel and construct, operate, and maintain a new multi-agency JPC facility instead of a USBP headquarters. In accordance with DHS Directive 023-01, Rev. 01 and Instruction Manual 023-01-001-01, Rev. 01, DHS is preparing this SEA as the NEPA analysis was previously completed for the same project site and acreage under the 2022 Laredo HQ EA, but the scope of the Proposed Action has changed to a JPC, triggering the need for additional environmental impact evaluation. The 2022 Laredo HQ EA includes a recent

and relevant NEPA analysis for construction of a facility at the same project location and affects the same amount of acreage.

DHS has developed and incorporated measures into this SEA that would appropriately and reasonably avoid, minimize, or mitigate environmental impacts associated with activities under the Proposed Action. This SEA is organized into six sections plus appendices. Section 1 provides background information on the project; identifies the purpose of and need for the Proposed Action; describes the area in which the Proposed Action would occur; and explains the public involvement process. Section 2 provides a detailed description of the Proposed Action and alternatives including the No Action Alternative. Once the SEA is prepared, Section 3 will describe existing environmental conditions in the area where the Proposed Action would occur and identifies potential environmental impacts that could occur within each resource area. Section 4 will contain an analysis of the cumulative and other impacts that the Proposed Action combined with other projects in the area may have on the environment. Sections 5 and 6 will provide a list of references used to develop the SEA, and a list of preparers who developed the SEA, respectively. Finally, the appendices will include other information pertinent to the development of the SEA.

1.1 BACKGROUND

The mission of DHS is to safeguard the American people, homeland, and values. As part of this mission, DHS and DHS components work together to uphold America's humanitarian response to refugees through the U.S. Refugee Resettlement Program (USRP). The USRP has three main objectives: security, placement, and transition. DHS provides security through pre-screening, on-site interview, security clearances, and fingerprinting.

1.2 LOCATION

The Proposed Action is in the city of Laredo, Webb County, Texas 78046 (see **Figure 1-1**). The 100-acre parcel and proposed location for the JPC is within a portion of cattle pasture (Maralunda Ranch), between U.S. Route (USRT) 83 and State Highway (SH) 20, 1.14 miles north of the intersection of Mangana-Hein Road and SH 20. The parcel is primarily an unimproved tract of land used for cattle grazing with fencing, gates, and a caliche-based access road.

1.3 PURPOSE AND NEED FOR THE PROPOSED ACTION

The purpose of the Proposed Action is to acquire land and to construct, operate, and maintain a JPC to relieve crowding in existing DHS facilities, and to aid the humanitarian efforts along the southwestern border, by ensuring the security, placement, and successful transition of undocumented non-citizens, including migrants and refugees. An undocumented individual is a non-citizen who does not possess a document valid for admission into the U.S. Undocumented citizens may or may not possess a passport or other acceptable document that denotes identity and citizenship when entering the U.S.

Existing Soft-sided Facilities (SSFs) along the border that currently process undocumented non-citizens entering the country are costly and inadequately equipped to accommodate the increasing numbers of migrants seeking asylum in the U.S. The inefficiency of these SSFs could also adversely affect the health, safety, work efficiency, and morale of DHS personnel and migrants and refugees being processed, which could impede execution of the mission and operations of those facilities. Existing SSFs in Laredo Sector and other areas along the southwestern border were built as a temporary solution to overcrowding at processing facilities along the border. These tents are overly expensive to maintain and are not sustainable for long-term use.

The Proposed Action would allow multiple agencies to operate out of a permanent facility. By offering services and operating at a joint location, this would result in increased efficiency, improved quality of operations, and reduced transportation costs. The proposed JPC would be in one of the highest areas of apprehension and migrant encounter rates along the southwestern border.

Figure 1-1. General Location Map

1.4 PUBLIC INVOLVEMENT

Public participation opportunities with respect to this NEPA process are guided by DHS NEPA implementing procedures, the requirements of NEPA (40 CFR 1506.6), and the CEQ regulations. Agency and public involvement in the NEPA process promotes open communication between the public and the government and enhances the decision-making process. The NEPA process encourages public involvement in decisions that would affect the quality of the human environment and includes the identification and evaluation of reasonable alternatives to proposed actions that would avoid or minimize adverse environmental impacts. In addition to public participation, interagency and intergovernmental coordination is a federally mandated process for informing and coordinating with other governmental agencies regarding federal proposed actions. This coordination also fulfills requirements under Executive Order (EO) 12372 (*Intergovernmental Review of Federal Programs*; superseded by EO 12416, and subsequently supplemented by EO 13132), which requires federal agencies to cooperate with and consider state and local views in implementing a federal proposal.

Additionally, EO 13175, *Consultation and Coordination with Indian Tribal Governments* (2000), Presidential Memorandum of January 26, 2021, *Tribal Consultation and Strengthening Nation to Nation Relationships*, and DHS Tribal Affairs Policy at 071-04 and 071-04-001 require government-to-government notification and consultation to ensure meaningful and timely input by tribal officials for federal actions that may have tribal implications.

Through the public involvement process, DHS will notify relevant stakeholders including federal, state, and local agencies, as well as federally recognized Native America tribes. The public involvement process provides DHS with the opportunity to cooperate with and consider state and local views in its decision regarding implementation of this federal proposal. DHS will coordinate with agencies such as U.S. Fish and Wildlife Service (USFWS), U.S. Army Corps of Engineers (USACE), and local agencies, and with appropriate Native American tribes and nations.

DHS received one substantive comment during the 30-day scoping period that began December 8, 2023. The Texas Department of Transportation (TxDOT) noted that the site will be part of the future Interstate (I)-2 corridor and requested a 75-foot setback from the existing property line to accommodate the expansion. The Proposed Action will include the requested setback.

A Notice of Availability (NOA) for the draft SEA and draft Finding of No Significant Impact (FONSI) will be published on the DHS website and in the *Laredo Morning Times*. The Draft SEA and FONSI will be available for review and comment during a 30-day public comment period to receive comments from the public; federal, state, and local agencies; and federally recognized Native American tribes. The start of the review period will be announced by the NOA. This is done to solicit comments on the Proposed Action and alternatives and involve the local community in the decision-making process. Hard copies of the Draft SEA will be made available to the public for a 30-day review at the Senator Judith Zaffirini Library (LC South Library) at 5500 Zapata Highway, Laredo, Texas, 78046. The Draft SEA will also be made available for download from the DHS website at the following URL address: *www.dhs.gov/nepa*. Any substantive comments received during this period will be reviewed and addressed in the

final SEA and FONSI. Comment letters and other agency and public involvement materials, including a list of stakeholders contacted during the review period, will be included in **Appendix A** of the Final SEA and FONSI.

1.5 FRAMEWORK FOR ANALYSIS

NEPA is a federal statute requiring the identification and analysis of potential environmental impacts of proposed federal actions before those actions are taken. CEQ is the principal federal agency responsible for the administration of NEPA. CEQ regulations mandate that all federal agencies use a systematic, interdisciplinary approach to environmental planning and the evaluation of actions that might affect the environment. This process evaluates potential environmental consequences associated with a proposed action and considers alternative courses of action. The intent of NEPA is to protect, restore, or enhance the environment through well-informed federal decisions.

The process for implementing NEPA is codified in 40 CFR Parts 1500-1508, *Regulations for Implementing the Procedural Provisions of the National Environmental Policy Act*. CEQ was established under NEPA to implement and oversee federal policy in this process. CEQ regulations establish criteria for when an EA may be prepared, but do not provide guidance on preparing an SEA, unless that analysis is intended as a supplement for an Environmental Impact Statement (EIS). Instead, guidance on preparing SEAs is provided in DHS Instruction Manual 023-01-001-01, Rev. 01, *Implementation of the NEPA*. The DHS guidance states that an SEA may be prepared for a proposed action when:

- A NEPA analysis was previously completed;
- A NEPA analysis is ongoing when there are substantial changes to the proposal that are relevant to environmental concerns; or
- If there are new circumstances or information relevant to environmental concerns and bearing on the proposal or its impacts.

The intended construction of a new USBP sector headquarters was originally analyzed in the 2022 Laredo HQ EA and consisted of the same 100-acre parcel analyzed under consideration in this SEA (see **Section 1.2**). The proposed headquarters would have been built to accommodate the increasing number of agents required to operate in the Laredo HQ and to effectively support the USBP mission. The primary buildings would have been an approximately 87,000 square-foot, main administrative building and an approximately 32,000 square-foot training building. The site would have also had a vehicle maintenance facility, on-site fuel tanks, canine kennel, equestrian facility, and other ancillary structures to support USBP's mission. The facility would not have been able to accommodate DHS processing activities and would not have been available for use by other DHS Components. Changes in the 100-acres and surrounding landscape, however, would have been similar for both the proposed headquarters and the proposed JPC. Thus, due to the similarity and relevance of those NEPA analyses to the current Proposed Action, an SEA is the appropriate form of analysis to account for the change in scope of the Proposed Action (i.e., changing proposed land use from sector headquarters to a permanent JPC).

To comply with NEPA, the planning and decision-making process for actions proposed by federal agencies involves a study of other relevant environmental statutes and regulations. However, the NEPA process does not replace procedural or substantive requirements of other environmental statutes and regulations. It addresses them collectively in the form of an EA or EIS, which enables the decision maker to have a comprehensive view of major environmental issues and requirements associated with the Proposed Action. According to CEQ regulations, the requirements of NEPA must be integrated "with other planning and environmental review procedures required by law or by agency so that all such procedures run concurrently rather than consecutively."

Within the framework of environmental impact analysis under NEPA, additional authorities that might be applicable include, but are not limited to, the Clean Air Act (CAA), Clean Water Act (CWA) (including a National Pollutant Discharge Elimination System [NPDES] stormwater discharge permit and Section 404 permit), Noise Control Act, Endangered Species Act (ESA), Migratory Bird Treaty Act (MBTA), NHPA, Archaeological Resources Protection Act, Resource Conservation and Recovery Act, Toxic Substances Control Act, and various EOs.

Table 1-1 lists major federal and state permits, approvals, and interagency coordination that could be required to implement the Proposed Action.

Table 1-1. Key Permits and Approvals (as applicable) and Interagency Coordination

Agency	Permit/Approval/Coordination	Status
U.S. Fish and Wildlife Service	- ESA Section 7 coordination/consultation - MBTA coordination - Bald and Golden Eagle Protection Act - Fish and Wildlife Coordination Act (16 U.S.C. Section 661 et seq.)	- Ongoing
Federally Recognized Native American Tribes and Nations	- Consultation regarding potential effects on cultural resources or sacred sites - NHPA Section 106 consultation for potential effects on historic properties	- Ongoing
Texas Historic Commission	- NHPA Section 106 coordination for potential effects on historic properties	- Ongoing
Texas Parks and Wildlife	- Consultation regarding potential effects on state-listed species	- Ongoing
Texas Commission on Environmental Quality	- CWA NPDES permit - Domestic Water Supply Permit (for applicable non-transient, non-community water system) - Permit to Operate (for emergency generators) - CAA permit consultation - On-site Wastewater Treatment System permit (for septic system and leach field)	- Ongoing
Texas Department of Transportation	- State Heliport Permit	- Ongoing

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2. PROPOSED ACTION AND ALTERNATIVES

2.1 INTRODUCTION

This section provides detailed information about DHS's proposal to acquire approximately 100 acres of land and to construct, operate, and maintain a JPC in Laredo, Webb County, Texas. As discussed in **Section 1.5**, the NEPA process evaluates potential environmental consequences associated with a proposed action and considers alternative courses of action.

Reasonable alternatives must satisfy the purpose of and need for a proposed action (see **Section 1.3**). The purpose of the Proposed Action is to acquire land and construct, operate, and maintain a JPC. The Proposed Action is needed to relieve over-crowding in existing DHS facilities and to aid the humanitarian efforts along the southwestern border, by ensuring the security, placement, and successful transition of undocumented non-citizens, including migrants and refuges. The JPC would be unique as it would allow multiple agencies to potentially utilize facilities at one joint location to provide migrant care and support.

CEQ guidance advocates the inclusion of a No Action Alternative against which potential effects can be compared. While the No Action Alternative would not satisfy the purpose of or need for the Proposed Action, it is analyzed in detail as recommended by CEQ regulations.

2.2 SCREENING CRITERIA FOR ALTERNATIVES

The range of reasonable alternatives considered in this SEA is constrained to those that would meet the purpose of and need for the Proposed Action as described in **Section 1.3**, which is to expand the capacity and efficiency of processing facilities along the border by constructing a JPC on 100 acres at the proposed location. DHS proposes to construct a fully functional 200,000 square foot (ft^2) JPC and ancillary facilities capable of accommodating 500 to 1,000 non-citizens and 200 staff. Such alternatives considered in this SEA must also meet essential technical, engineering, and economic threshold requirements to ensure that each alternative is environmentally sound and economically viable and complies with governing standards and regulations.

DHS used various selection criteria during the development of the 2022 Laredo HQ EA and evaluated multiple potential sites for the location of the headquarters in Laredo. Out of the sites considered, two parcels (one consisting of 130 acres and the other of 100 acres) were reviewed and carried forward for additional consideration (CBP 2022). For this Proposed Action, DHS developed the following screening criteria to confirm the suitability of the parcel for construction and operation of the proposed JPC in place of the headquarters. These are:

- ***Adequate Size.*** The parcel should be of adequate size to provide for the initial construction and expected future programmed functional needs. It should allow for future expansion of parking, have the required acreage to allow for necessary buffer zones, and provide space for special initiatives and/or for future facility expansion. DHS has determined that the minimum acreage required for the Proposed Action is approximately 100 acres.

- ***Proper Location.*** The JPC should be located and situated in such a way as to not compromise the security and safety of the facility, personnel, and individuals. A proper location would ensure full coverage of an area of responsibility, it would allow appropriate amenities for the community, and it would ensure the JPC is in close proximity (less than 30 minutes of driving) to major infrastructure and support, such as highways, airports, and other DHS or USBP facilities.
- ***Ease of Access.*** The JPC should have ease of access, which includes access to the JPC from more than one entry point for emergency egress purposes, good access for emergency response services, proximity to highways, and not be located on or near heavily congested roadways or other obstructions.
- ***Acquisition Likelihood.*** The JPC should be sited on property that can be purchased in a timely and cost-effective manner.
- ***Minimize Potential Negative Environmental Impacts.*** The JPC should not have any obvious detrimental cultural or environmental influences.
- ***Utilities.*** The JPC should have access to public utilities.

Evaluation of the 100-acre parcel against the above criteria confirmed its suitability for the placement of the proposed JPC. Due to time constraints of conducting environmental review and acquiring the 130-acre parcel (or others) versus the time to acquire the 100-acre parcel, no alternative locations were considered for construction of the JPC while preparing this SEA. The 100-acre parcel is of adequate size, is in a desired location, has ease of access, has minimal environmental impacts, has access to public utilities, and has a cost-effective and timely purchase acquisition. The following sections present the two action alternatives (Proposed Action and Net-Zero Alternative), as well as the No Action Alternative, analyzed throughout this SEA.

2.3 ALTERNATIVE 1: PROPOSED ACTION

Alternative 1, the Proposed Action would include the acquisition of approximately 100 acres of privately owned land and the construction, operation, and maintenance of a JPC along SH 20, south of Laredo, Webb County, Texas. The site consists of undeveloped cattle pasture and has access to city water/sewer, three phase electricity, and fiber optics. Easy ingress/egress access is available via SH 20. The JPC would have approximately 200,000 ft^2 of useable floor space and would accommodate 200 staff and 500 non-citizens in processing, with the possibility of expanding to accommodate a capacity of 1,000 non-citizens in processing. The proposed JPC would also include the following ancillary support facilities and structures:

- Vehicle storage facility
- Loading facilities
- Outdoor tactical support areas
- Public and private vehicle parking areas
- Vehicle wash rack
- Temporary fuel island with above-ground tanks
- Canine kennel

- Stormwater management system
- Helipad
- Roadways
- Emergency generators
- Utilities

Because site design would occur following completion of this SEA, the analysis assumes that the entire 100-acre parcel would consist of the proposed JPC and ancillary support facilities, and most of the acquired land would be disturbed as a result of construction activities and future expansion. Construction of the JPC is anticipated to begin in May 2024 and would be completed by June 2026. The JPC would be operated and staffed 24 hours a day, 7 days a week. Maintenance would include routine repairs to structures and assets including typical facility landscaping and upkeep. The Standard Design of a JPC is included as **Appendix B**.

2.4 ALTERNATIVE 2: NET-ZERO ALTERNATIVE

Alternative 2, the Net-Zero Alternative, would be the same as Alternative 1, but would incorporate the use of net-zero technologies for some utilities rather than using nonrenewable resources that do not meet the goals of EO 14057, *Catalyzing Clean Energy Industries and Jobs Through Federal Sustainability* (see **Sections 3.9** and **3.14**).

Net-zero refers to a building or facility that has net-zero carbon emissions, in addition to conserving water and/or waste. A net-zero emissions building is designed and operated so that it is fully serviced by carbon pollution-free electricity (CFE) when it is connected to a regional electrical grid. A net-zero building would have zero greenhouse gas (GHG) emissions from operations based on an annual cycle. Net-zero goals are sometimes referred to as being achieved at 0 percent, 70 percent, 90 percent, and 100 percent. For example, if a facility was to meet the net-zero 100 percent electricity goal, that facility would be 100 percent off-grid. If it relied on solar power only 70 percent of the time, it would have achieved 70 percent of the goal. In accordance with EO 14057, DHS is considering three models for using CFE to transition to net-zero emissions: 1) achieve a 100 percent match of CFE to annual facility consumption, including matching use on an hourly basis so CFE provides 50 percent of the facility load every hour of the day, week, and year (i.e., 24/7); 2) achieve a 45 percent net-zero goal and match use on an hourly basis so CFE provides 25 percent of the facility load 24/7; and 3) achieve a 45 percent net-zero goal.

The net-zero technologies proposed in this alternative include solar technology, a vermifiltration (VF) wastewater filtration system, and an atmospheric water generator (AWG). Under the guidance of EO 14057 and in consideration of federal sustainability efforts, the use of these net-zero resource applications would aid the proposed JPC facility in achieving close to net-zero emissions, waste, and water conservation efforts.

Energy generation is the largest source of GHG emissions, and renewable resources such as solar offer potential GHG emissions savings compared to the use of fossil fuels (carbon) to derive electricity. For the Laredo JPC, net-zero emissions goals would be achieved using a solar photovoltaic (PV) system with battery backups, as feasible. Solar technologies, which capture and generate electricity from sunlight, would use any of three solar array options depending on

spatial locations and feasibility: ground mounted, rooftop, and parking canopies. These include flat panel, axis tracking, or integrated solar PV products, all of which could be various sizes and include Battery Energy Storage Systems (BESS), if reasonable for the site.

BESS requires significant cooling to prevent degradation of the system and placing the BESS inside the proposed JPC would be more energy efficient than placing it outside, as it would not require the installation of additional cooling systems. Depending on the CFE model that DHS selects, the size of the PV system could range from 51,720 to 99,720 ft^2, and the size of the BESS could range from 57 to 3,975 ft^2. These options would result in an estimated annual facility CFE consumption of between 36 and 77 percent, depending on the selected option. The JPC facility would install the PV as an integrated, shared network or grid of power, known as a solar microgrid.

Under this alternative, DHS would install a VF system to reduce and efficiently process sewage waste generation at the Laredo JPC, which would be able to remove up to 99 percent of contaminants from wastewater. A VF system is a type of wastewater treatment that uses soil filtration with earthworms to speed up the decomposition process. It would consist of treatment beds containing earthworms, microbial bacteria, wood shavings, and/or river cobble, through which wastewater would flow via gravity. Solids would be separated out prior to entering the VF system and collected, hauled, and disposed of separately. Treated wastewater from the VF system would be discharged into an evaporation pond or could be re-used for purposes such as irrigation and landscaping.

The system would be in place of a septic field, in a prepared area of the JPC site. A VF system exemplifies a nature-based solution by integrating natural processes to treat wastewater. Through the symbiotic action of earthworms and microorganisms, VF systems effectively purify water, reducing pollutants, and promoting sustainable water management. This approach harnesses natural processes to enhance water quality, making it a nature-based solution for water treatment and pollution reduction. Compared to a standard septic system that requires the septic tanks to be drained and hauled away by a sewage disposal company, the use of VF could result in annual savings of more than $1 million depending on the capacity of the system.

This alternative would also consider the use of an AWG, also referred to as an atmospheric water system, which is a sustainable water technology that generates potable water from humidity in the surrounding air and can thus expand water availability. As such, water production rates are highly dependent upon the air temperature and the amount of water vapor (i.e., humidity) in the air. Not only does an AWG reduce the need to use local drinking water resources, but it can also expand water availability during shortages, contamination events, or even natural disasters that could interrupt drinking water services. Commercial AWGs employ condenser and cooling coil technology, and although significant quantities of energy can be required to operate the AWG, recent technological advancements have substantially improved the energy-water ratio. Some large-scale AWGs can produce more than 1,300 gallons of water per day; at the Laredo JPC, the size of the AWG would depend on its cost and feasibility given climate conditions at the site and need for potable water. Ultimately, the AWG would trap water vapor through passive condensation, treat the water with minerals for taste as needed, and distribute the potable water throughout the facility. The use of an AWG could increase energy needs, and thus the proposed

solar power system could be designed to compensate for this to make the AWG technology self-sustaining.

2.5 NO ACTION ALTERNATIVE

As required by NEPA and CEQ regulations, the No Action Alternative reflects conditions within the project area should the Proposed Action not be implemented. Under the No Action Alternative, DHS personnel would continue to use other existing processing facilities. The use of existing processing facilities would not facilitate inter-agency coordination. Additionally, the existing processing facilities would remain undersized and would not be able to be expanded nor renovated to meet demand. Continued use of the existing processing facilities could adversely affect the health, safety, work efficiency, and morale of DHS personnel and undocumented non-citizens, which could impede execution of the mission and operations of those facilities.

The No Action Alternative does not satisfy DHS's purpose of and need for the Proposed Action, as identified in **Section 1.3**. The No Action Alternative is carried forward for analysis in the SEA to provide a comparison of baseline conditions to the Proposed Action, as required by the CEQ NEPA implementing regulations (40 CFR Part 1502.14). The No Action Alternative reflects the status quo and serves as a benchmark against which effects of the Proposed Action can be evaluated.

2.6 ALTERNATIVES CONSIDERED BUT ELIMINATED FROM FURTHER DETAILED ANALYSIS

DHS evaluated several alternative locations for constructing the proposed JPC in Laredo, Webb County, Texas (**Figure 2-1**). This section addresses the options that were reviewed but not carried forward for further detailed analysis in the SEA (CBP 2021). Only the 100-acre parcel was carried forward for analysis; the others were considered but eliminated as they did not meet the purpose and need nor satisfy the site selection criteria.

2.6.1 130-ACRE PROPERTY

A 130-acre, privately owned tract located northwest of Alternative 1, off USRT 83, was considered under the Proposed Action. The site had been operated as an asphalt production site, was backfilled with gravel, and leveled. This property was eliminated from further consideration due to the length of time required to acquire this property. As such, this alternative was determined not to meet the selection criteria discussed in **Section 2.2** and is eliminated from further detailed analysis.

2.6.2 99 EAST LINK PROPERTY

Another site considered under the Proposed Action is an undeveloped 99-acre tract located in the southeast corner of Laredo, Texas, that was for sale. The site has water and capabilities for fiber optic, and electricity is available. However, the site has flooding issues that would require additional mitigation and impacts would be similar to or greater than the Preferred Alternative, and, as such, was determined to not meet the selection criteria discussed in **Section 2.2**. This site is eliminated from further detailed analysis.

2.6.3 MARALUNDA RANCH PROPERTY ALTERNATIVE SITE

An alternative location to the 100-acre site, also owned by Maralunda Ranch, was also considered. This site is approximately 147 acres located west of downtown Laredo, Texas, off USRT 83. This site was eliminated due to its proximity to the Rio Grande River and unacceptable risk of exposure to border activities. As such, it was determined not to meet the selection criteria discussed in **Section 2.2** and is eliminated from further detailed analysis.

2.6.4 PUEBLO NUEVO RANCH PROPERTY

Two adjacent 50-acre parcels making up the Pueblo Nuevo Ranch on SH 359 (**Figure 2-2)** were also considered. This site is bounded by undisturbed land and has multiple residences and business (manufacturing plant and landscaping/construction companies) located along on SH 359. This location was determined not to meet the selection criteria discussed in **Section 2.2** due to the length of time expected to negotiate with the seller as well as the potential for the adjacent land to be turned into housing or commercial development. It is eliminated from further detailed analysis.

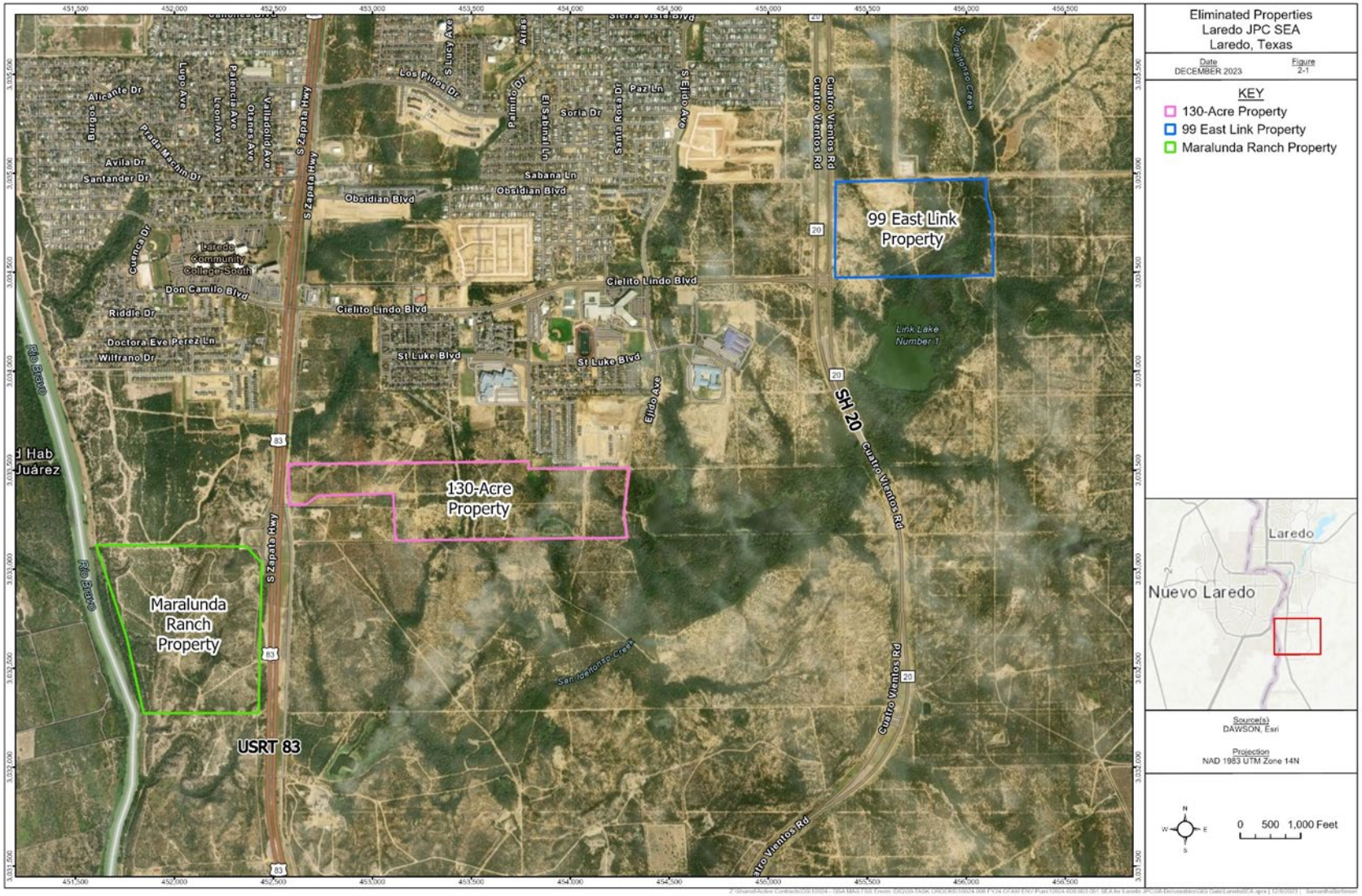

Figure 2-1. Eliminated Properties Map

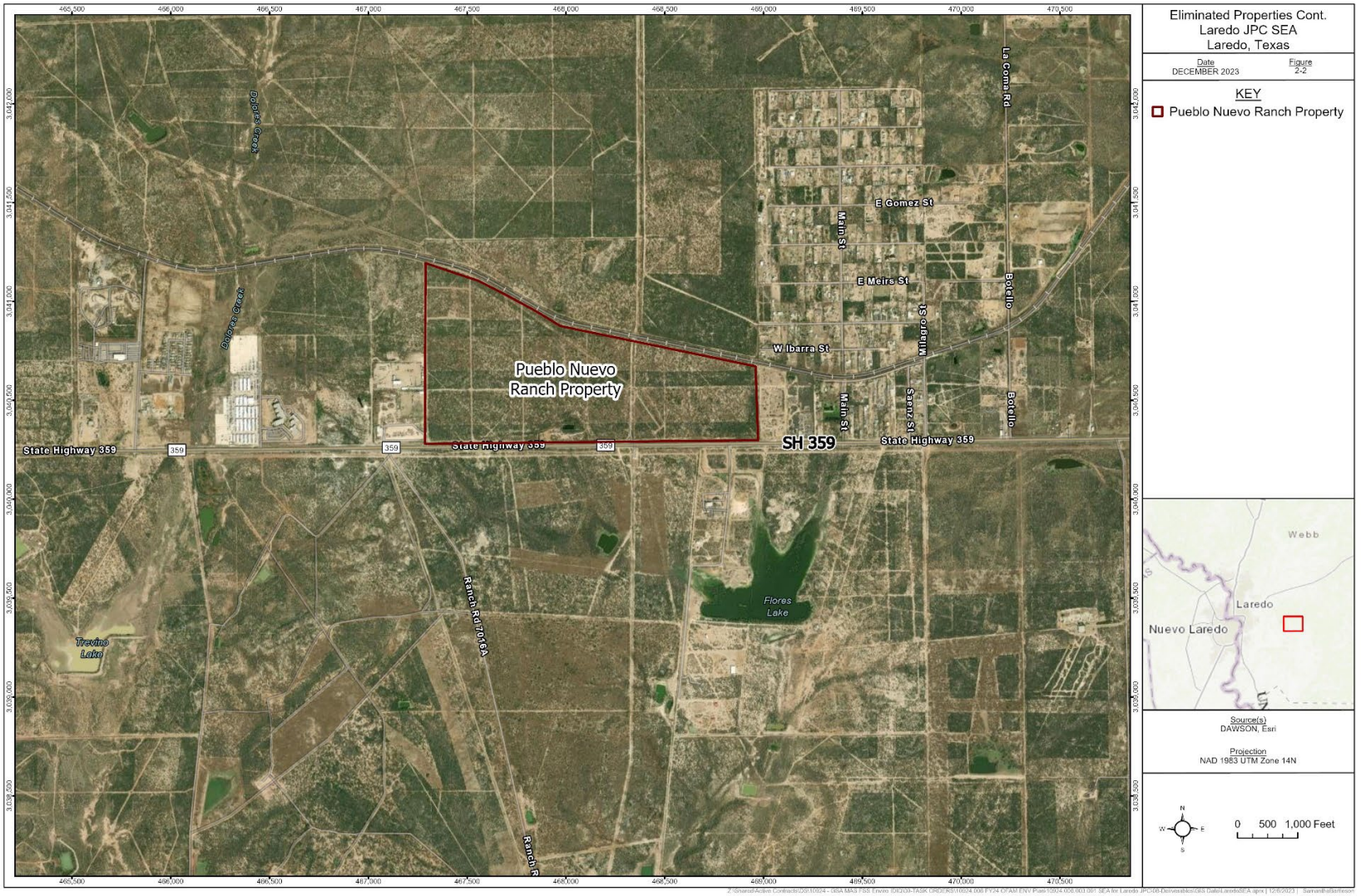

Figure 2-2. Eliminated Properties Map Continued

3. AFFECTED ENVIRONMENT AND CONSEQUENCES

3.1 SCOPE OF THE ANALYSIS

This section provides a discussion of the affected environment, as well as an analysis of the potential direct and indirect impacts that the alternatives could have on the affected environment. Cumulative and other impacts are discussed in **Section 4**. All potentially relevant resources areas were initially considered in this SEA. In accordance with NEPA, CEQ regulations, and DHS Instruction Manual 023-01-001-01, Rev. 01, this evaluation focuses on those resources and conditions potentially subject to effects, and on potentially significant environmental issues deserving of study. It does not go into detail on insignificant issues.

The analysis presented in this SEA incorporates and supplements the evaluation of potential impacts conducted in the 2022 Laredo HQ EA. This SEA evaluates the same resources as in the 2022 Laredo HQ EA and incorporates the original analysis as applicable (see **Table 3-1**). Impacts are analyzed for the potential for new impacts resulting from construction and operation of the proposed JPC as opposed to the headquarters are also analyzed.

Table 3-1: Resources Analyzed in Initial and Supplemental Environmental Impact Analysis Process

Resource	Analyzed in 2022 Laredo HQ EA	Analyzed in this SEA	Rationale for Elimination
Land Use	Yes	Yes	--
Geology	No	Yes	--
Soils	Yes	Yes	--
Prime Farmlands	No	Yes	--
Vegetative Habitat	Yes	Yes	--
Wildlife Resources	Yes	Yes	--
Threatened and Endangered Species	Yes	Yes	--
Water Resources	Yes	Yes	--
Wild and Scenic Rivers	No	No	No rivers designated as Wild and Scenic Rivers (16 U.S.C.551, 1278[c], 1281[d]) are located within or near the project site.
Floodplains	No	Yes	--
Air Quality	Yes	Yes	--
Noise	Yes	Yes	--
Cultural, Archaeological, and Historical Resources	Yes	Yes	--
Utilities and Infrastructure	Yes	Yes	--

Roadways and Traffic	Yes	Yes	--
Hazardous Materials	Yes	Yes	--
Socioeconomics	Yes	Yes	--
Environmental Justice and Protection of Children	Yes	Yes	--
Human Health and Safety	No	Yes	--
Sustainability and Greening	No	Yes	--

The following categories describe various types of impacts that could potentially result from the Proposed Action:

- *Short-term or long-term.* These characteristics are determined on a case-by-case basis and do not refer to any rigid time period. In general, short-term effects are those that would occur only with respect to a particular activity or for a finite period. Long-term effects are those that are more likely to be persistent and chronic.
- *Direct or indirect*. A direct effect is caused by, and occurs contemporaneously, at or near the location of the action. An indirect effect is caused by a proposed action and might occur later in time or be farther removed in distance, but still be a reasonably foreseeable outcome of the action.
- *Negligible, minor, moderate, or major*. These relative terms are used to characterize the magnitude or intensity of an impact. Negligible effects are generally those that might be perceptible but are at the lower level of detection. A minor effect is slight, but detectable. A moderate effect is readily apparent. A major effect is one that is severely adverse or exceptionally beneficial.
- *Adverse or beneficial*. An adverse effect is one having unfavorable or undesirable outcomes on the manmade or natural environment. A beneficial effect is one having positive outcomes on the manmade or natural environment. A single act might result in adverse effects on one environmental resources and beneficial effects on another resource.

3.2 LAND USE

3.2.1 DEFINITION OF THE RESOURCE

The term "land use" refers to the relationship between people and the land, specifically, how the physical world is adapted, modified, or put to use for human purposes (ILG 2010). In many cases, land use descriptions are codified in local zoning laws. However, there is no nationally recognized convention or uniform terminology for describing land use categories.

In appropriate cases, the location and extent of a proposed action needs to be evaluated for its potential effects on a project area and adjacent land uses. The foremost factor affecting a proposed action in terms of land use is its compliance with any applicable land use or zoning regulations. Other relevant factors include matters such as existing land use at the project area, the types of land uses on adjacent properties and their proximity to a proposed action, the duration of a proposed activity, and its permanence.

3.2.2 AFFECTED ENVIRONMENT

Webb County encompasses approximately 2.16 million acres and is home to roughly 270,000 people, making it the largest county in the South Texas area. The city of Laredo, Texas has a land use Code of Ordinances, including a Land Development Code and Subdivision Ordinance – these ordinance(s) do not apply to the Proposed Action. In addition, Webb County, as a municipal entity, would not enforce any specific land use classifications for the Proposed Action (City of Laredo 2023). Existing land use has not changed since the 2022 Laredo HQ EA and is still primarily comprised of shrubland and native grasses, minimal fencing, and a caliche-based access road Although used for cattle grazing, none of the soils found within the proposed area(s) is prime farmland and therefore does not fall under the Farmland Protection Policy Act (FPPA). More information on the soils within the proposed project area can be found in **Section 3.3**. Nearby existing land use includes residential properties to the north, SH 20 to the east, and disturbed Tamaulipan Shrubland to the south and west.

3.2.3 ENVIRONMENTAL CONSEQUENCES

Evaluation of potential land use impacts is based on the level of land use sensitivity in areas affected by a proposed action and compatibility of proposed actions in existing conditions. In general, a land use impact would be considered adverse if it were to meet one or more of the following requirements.

- Is consistent or in noncompliance with existing land use plans or policies.
- Precludes the viability of existing land use.
- Precludes continued use or occupation of an area.
- Results in incompatibility with adjacent land use to the extent that public health or safety is threatened.
- Conflicts with planning criteria established to ensure the safety and protection of human life and property.

3.2.3.1 Alternative 1: Proposed Action

Implementation of the Proposed Action would result in a change from the current land use of shrubland/native grasses used for cattle grazing to a developed area in the form of the new JPC and ancillary facilities. The proposed site falls within the city limits of Laredo, Texas. Adjacent land uses have remained consistent from land use discussed in the Laredo HQ 2022 EA and include oil and gas production and rangelands. The closest residential area is almost one-mile north of the proposed site. Although the Proposed Action would convert nearly all of the undeveloped land within the project site to developed use, the construction activities would not cause a restriction to future land uses adjacent to the area. The Proposed Action would have *long-term, minor impacts* on land use within the immediate or surrounding areas.

3.2.3.2 Alternative 2: Net-Zero Alternative

Impacts using Alternative 2, the Net-Zero Alternative would be similar to those under Alternative 1 and would result in *long-term, minor impacts* to land use. The installation and operation of net-zero technologies would not result in additional changes to land use.

3.2.3.3 No Action Alternative

Under the No Actional Alternative, DHS would not construct the JPC and ancillary support facilities. Land use would remain as described in **Section 3.2.2**. There would be *no impact* to land use under the No Action Alternative.

3.3 SOILS

3.3.1 DEFINITION OF THE RESOURCE

Soils are the unconsolidated materials overlying bedrock or other parent material. Soils typically are described in terms of their complex type, slope, and physical characteristics. Differences among soil types in terms of their structure, elasticity, strength, shrink-swell potential, and erosion potential affect their ability to support certain applications or uses. In appropriate cases, soil properties must be examined for their compatibility with particular construction activities or types of land use.

3.3.2 AFFECTED ENVIRONMENT

There are four main soil types mapped within the project area Verick fine sandy loam, 105 percent slopes (VkC), Nido-Rock outcrop complex, hilly (NDF), Copita fine sandy loam (CpB), and Maverick-Catarina complex, gently rolling (MCE). Additional details on the soil type at the project site are provided in the 2022 Laredo HQ EA (CBP 2022). Soils within the project site are not considered prime farmland. Since the publication of the 2022 Laredo HQ EA, soils within the project site lay predominately undisturbed with the exception of trampling by cattle grazing and disturbances from ranch operations. Implementation of the Proposed Action would disturb all soils because of construction activities, JPC operations, and future expansion within the 100 acres. Soils on the project site provide nutrients to existing native vegetation which can provide sustenance and cover to existing wildlife. The carrying capacity of these soils is lower than that

of the more productive surrounding soils due to salinity, very low available water capacity, slope, and the hazard of water erosion (USDA 2023).

3.3.3 ENVIRONMENTAL CONSEQUENCES

Impacts on soils would be considered adverse if they would change the soil composition, structure, or function within the environment.

3.3.3.1 Alternative 1: Proposed Action

Under the Proposed Action, a JPC would be constructed on the 100-acre parcel to include 200,000 ft^2 of useable floor space in addition to ancillary support facilities and structures. Up to 100 acres of soils (of which none are considered prime farmland soils) would be permanently disturbed or removed from biological production at the new JPC. The effects from the disturbance and removal from biological production of approximately 100 acres of soil would be negligible due to the small size of the project footprint relative to the amount of the same soils throughout the adjacent landscape. Upon completion of construction, all temporary disturbance areas could be revegetated with a mixture of native plant seeds or nursery plantings or allowed to revegetate naturally, if applicable. However, since much of the parcel would be covered by the JPC and ancillary facilities, revegetation may not be entirely possible.

Construction of the proposed JPC would result in some earthmoving activities, grading, and minor excavation to place building foundations and establish utility connections. These activities would expose subsoils under the existing compacted surface, which would then be at risk of erosion. Since the native soils have previously been disturbed and compacted from ranching activities, construction activities would not change soil structure or soil productivity. Erosion would be minimized by employing appropriate construction and stabilization techniques and implementing best management practices (BMPs). BMPs would include the installation of silt fencing and sediment traps, application of water to disturbed soil to reduce dust, and recovering disturbed areas in the same compacted stone material following ground disturbance, as appropriate (see **Appendix C**). In addition, since the Proposed Action would disturb more than one acre, DHS would obtain a Stormwater General Permit for Construction Activities from the Texas Commission on Environmental Quality (TCEQ) and would adhere to permit requirements to manage erosion and stormwater discharge from the construction site, including development of a Stormwater Pollution Prevention Plan (SWPPP) (TCEQ 2023c). Alternative 1 would result in *short-term, minor adverse impacts* to soils during construction of the proposed JPC.

An increase in impervious surfaces at the project site is anticipated under the Proposed Action due to the construction of the permanent proposed JPC and other hardened infrastructure and ancillary facilities, such as paved vehicle parking and a helipad. Although the compacted stone material that would be used elsewhere throughout the site may allow some soil infiltration, reduced infiltration and increased runoff from the addition of impervious surfaces would occur during operation of the proposed JPC. Permanent runoff control measures would be implemented as part of the stormwater management design to reduce erosion and potential impacts to surrounding areas. Alternative 1 would result *in long-term, negligible adverse impacts* to soils.

3.3.3.2 Alternative 2: Net-Zero Alternative

Impacts to soils at the project site would be similar to, but potentially greater than, those under Alternative 1. The net-zero technologies would be constructed within the parcel; however, there is the potential for the solar PV system and VF system to increase the overall footprint of disturbance within the project site. Installation of a ground-mounted solar array would result in additional soil disturbance to install the PV system, and development of treatment beds for the VF system would also result in additional disturbance. Installation of net-zero technologies under Alternative 2 would result in *short-term, minor adverse impacts* to soils. Alternative 2 would not result in a larger increase in impervious surfaces than Alternative 1; the operation of net-zero technologies under Alternative 2 would result in *long-term, negligible adverse impacts* to soils.

3.3.3.3 No Action Alternative

Under the No Action Alternative, DHS would not construct the JPC and ancillary support facilities at the Laredo site. Soils would remain as described in **Section 3.2.2**. There would be *no impact* to soils under the No Action Alternative.

3.4 BIOLOGICAL RESOURCES

3.4.1 DEFINITION OF THE RESOURCE

Biological resources include native or naturalized plants and animals and the habitats in which they occur, and native or introduced species found in landscaped or disturbed areas. Protected species are defined as those listed as threatened, endangered, or proposed or candidate for listing by the USFWS or Texas Parks and Wildlife Department (TPWD). Federal species of concern are not protected by the ESA; however, these species could become listed, and therefore are given consideration when addressing impacts of an action on biological resources. Certain avian species are protected by the MBTA and Bald and Golden Eagle Protection Act.

Sensitive habitats include those areas designated by USFWS as critical habitat protected by the ESA and sensitive ecological areas as designated by state or federal rulings. Sensitive habitats also include wetlands, plant communities that are unusual or of limited distribution, and important seasonal use areas for wildlife (e.g., migration routes, breeding areas, and crucial summer/winter habitats). Habitat conditions observed at the project site were used to evaluate the potential for occurrence of special status species based on a combination of publicly available data and biological surveys.

3.4.2 AFFECTED ENVIRONMENT

Vegetation

The project site is located in the South Texas Brush Country as characterized by TPWD (TPWD 2020). Biological surveys of the proposed project site were conducted in May 2021 in support of the 2022 Laredo HQ EA. The results of the vegetative survey, including prior consultation conducted with the USFWS, as discussed in the 2022 Laredo HQ EQ are incorporated into this

SEA by reference. Four vegetation communities were found during the biological survey within the project site including old growth Tamaulipan mixed shrubland (80 percent), Tamaulipan Ramadero woodlands (10 percent), disturbed grassland (9 percent), and bare ground/dirt roads (1 percent) (GSRC 2021). The proposed project site falls within the Southwest Plateau and Plains Dry Steppe and Shrub Province (USFS 2015). This ecoregion is diverse because it has elements of three converging vegetative communities: Chihuahuan Desert to the west, Tamaulipan thornscrub and subtropical woodlands along the Rio Grande, and coastal grasslands to the east. The 2021 survey identified 46 flora species occurring within the project site (GSRC 2021).

Terrestrial and Aquatic Wildlife Resources

Terrestrial and aquatic wildlife resources include native and naturalized terrestrial and aquatic animals and the habitats in which they exist. The South Texas Brush Country ecoregion supports an abundance of wildlife, such as coyote, ringtail, white-tailed deer, and bobcats. Bird species are especially abundant in this region as the Central and Mississippi flyways converge in south Texas. Additionally, south Texas is the northernmost range for many of the Neotropical species of Central America. Approximately 500 avian species, including Neotropical migrants, shorebirds, raptors, and waterfowl can occur in south Texas. Additional information on the wildlife species that may be present within this ecoregion is discussed in greater detail in the 2022 Laredo HQ EA. As stated previously, biological surveys were conducted of the Project site in May 2021. The results of the observed wildlife species within the Project site location included 37 birds, six mammals, six invertebrates, and four reptiles (GSRC 2021).

Special Status Species

The ESA was enacted to protect and recover imperiled species and the ecosystems upon which threatened and endangered species depend for their survival. Threatened and endangered species are commonly protected because their historic range and habitat have been reduced and will only support a small number of individuals. Some species have declined for natural reasons, but declines are commonly exacerbated or accelerated by man-made influences. All federal agencies are required to implement protective measures for designated species and to use their authorities to further the purposes of the ESA. Additional information on the USFWS responsibilities and pertinent information regarding endangered species, listing eligibility of new endangered and threatened species, and candidate species is discussed in greater detail in the 2022 Laredo HQ EA.

Federally Listed Species

CBP consulted the USFWS' Information for Planning and Consultation (IPaC) database in January 2022 for the 2022 Laredo HQ EA and identified six federally listed species: the endangered Gulf Coast jaguarandi, endangered ocelot, threatened piping plover and threatened red knot, endangered Texas hornshell, and endangered ashy dogweed. Additional details on these species are discussed in greater detail in the 2022 Laredo HQ EA. DHS reconsulted the IPaC in December 2023. DHS identified a total of eight federally listed and proposed listed species with the potential to occur within the project site (USFWS 2023). A list of these species is presented in **Table 3-2** below. Biological surveys conducted in May 2021 included surveys for all federal and state listed species potentially occurring at or near the proposed project site. During surveys, no federally listed species were observed. DHS is consulting with the USFWS

regarding the potential impacts on federally listed, proposed, and candidate species as they relate to the implementation of the Proposed Action. There are generally no Section 7 requirements for candidate or proposed species, however USFWS encourages all agencies to take advantage of any opportunity they may have to conserve federally listed candidate and proposed species.

Table 3-2. Federally Listed Species with the Potential to Occur at the Project Site

Species Name	Status	Habitat	Potential to Occur at Site
Mammals			
Tricolored bat (*Perimyotis subflavus*)	PE	Caves and mines, road-associated culverts, forested habitats where they roost in trees.	Yes
Birds			
Piping Plover (*Charadrius melodus*)	T	Exposed islands and sandbars long riverbanks.	No
Rufa Red Knot* (*Calidris canutus rufa)*	T	Coastal habitats and islands.	No
Clams			
Texas Hornshell *(Popenaias popeii)*	E	Narrow areas of rivers and streams with travertine bedrock and fine-grained sand, clay or gravel in the crevices.	No
Mexican Fawnsfoot *(Truncilla cognata)*	PE	Medium to large rivers, in or adjacent to riffle and run habitats, as well as in stream bank habitats.	No
Salina Mucket *(Potamilus metnecktayi)*	PE	Medium to large rivers, generally in nearshore habitats and crevices, undercut riverbanks, travertine shelves and under large boulders adjacent to runs.	No
Insects			
Monarch Butteryfly *(Danaus plexippus)*	C	Flowering plants and weeds, roadside, fields	Yes
Flowering Plants			
Ashy Dogweed *(Thymophylla tephroleuca)*	E	Sandy soils in level or gently rolling grasslands with scattered shrubs.	Yes

Source: USFWS 2023
Key – P = Proposed, E = Endangered, T = Threatened, C = Candidate, *previously referred to as “red knot”

State Listed Species

TPWD currently lists 74 fish and wildlife species as endangered, and 148 species as threatened under Texas Administrative Codes §65.175 and §65.176 (TPWD 2023). One state listed species, the Texas tortoise (*Gopherus berlandieri*), was observed during biological surveys conducted in May 2021 for the 2022 Laredo HQ EA. **Table 3-3** below was prepared from 2023 data and lists all state rare, threatened, and endangered species with the potential to occur in Webb County, Texas.

247 **Table 3-3. State Listed Species in Webb County, Texas**

Common Name	Scientific Name	Federal Status	Grank[1]	Srank[2]	Species of Greatest Conservation Need
Mammals					
Black bear	*Ursus americanus*		G5	S3	Yes
Cave myotis bat	*Myotis velifer*		G4G5	S2S3	Yes
Davis pocket gopher	*Geomys personatus davisi*		G4T2	S2	Yes
Eastern red bat	*Lasiurus borealis*		G3G4	S4	Yes
Eastern spotted skunk	*Spilogale putorius*		G4	S1S3	Yes
Hoary bat	*Lasiurus cinereus*		G3G4	S3	Yes
Long-tailed weasel	*Mustela frenata*		G5	S5	Yes
Mountain lion	*Puma concolor*		G5	S2S3	Yes
Ocelot	*Leopardus pardalis*	E	G4	S1	Yes
Southern yellow bat	*Lasiurus ega*		G5	S3S4	Yes
Strecker's pocket gopher	*Geomys streckeri*		G1Q	S1	Yes
Tricolored bat	*Perimyotis subflavus*		G3G4	S2	Yes
Western hog-nosed skunk	*Conepatus leuconotus*		G4	S4	Yes
Western spotted skunk	*Spilogale gracilis*		G5	S5	Yes
White-nosed coati	*Nasua narica*		G5	S1	Yes
Birds					
Franklin's gull	*Leucophaeus pipixcan*		G5	S2N	Yes
Gray hawk	*Buteo plagiatus*		G5	S2B	Yes
Lark bunting	*Calamospiza melanocorys*		G5	S4B	Yes
Mountain plover	*Charadrius montanus*		G3	S2	Yes
Sprague's pipit	*Anthus spragueii*		G3G4	S3N	Yes
Western burrowing owl	*Athene cunicularia hypugaea*		G4T4	S2	Yes
White-faced ibis	*Plegadis chihi*		G5	S4B	Yes
Wood stork	*Mycteria americana*		G4	SHB,S2N	Yes
Amphibians					
South Texas siren (Large Form)	*Siren sp. 1*		GNRQ	S1	Yes
Fish					
Rio Grande darter	*Etheostoma grahami*		G2G3	S2	Yes
Rio Grande shiner	*Notropis jemezanus*		G3	S1	Yes
Speckled chub	*Macrhybopsis aestivalis*		G3G4	S1S2	Yes
Tamaulipas shiner	*Notropis braytoni*		G4	S1S2	Yes
Reptiles					

Mexican hog-nosed snake	*Heterodon kennerlyi*		G4	SNR	No
Northern cat-eyed snake	*Leptodeira septentrionalis septentrionalis*		G5	S3	Yes
Reticulate collared lizard	*Crotaphytus reticulatus*		G3	S4	Yes
Rio Grande river cooter	*Pseudemys gorzugi*		G3G4	S2	Yes
Roundtail horned lizard	*Phrynosoma modestum*		G5	S4	Yes
Tamaulipan spot-tailed earless lizard	*Holbrookia subcaudalis*		GNR	S2	Yes
Texas horned lizard	*Phrynosoma cornutum*		G4G5	S3	Yes
Texas indigo snake	*Drymarchon melanurus erebennus*		G5T4	S4	Yes
Texas tortoise	*Gopherus berlandieri*		G4	S2	Yes
Western box turtle	*Terrapene ornata*		G5	S3	Yes
Western hognose snake	*Heterodon nasicus*		G5	S4	Yes
Western massasauga	*Sistrurus tergeminus*		G3G4	S3	Yes
Insects					
American bumblebee	*Bombus pensylvanicus*		G3G4	SNR	Yes
Neojuvenile tiger beetle	*Cicindela ocellata rectilatera*		G5T1	SH	Yes
No accepted common name	*Cenophengus pallidus*		GNR	SNR	Yes
No accepted common name	*Latineosus cibola*		G1G2	SNR	Yes
Arachnids					
No accepted common name	*Diplocentrus diablo*		GNR	S2	Yes
Mollusks					
Mexican fawnsfoot	*Truncilla cognata*		G1	S1	Yes
Salina mucket	*Potamilus metnecktayi*		G1	S1	Yes
Texas hornshell	*Popenaias popeii*	E	G1	S1	Yes
Plants					
Arrowleaf milkvine	*Matelea sagittifolia*		G3	S3	Yes
Ashy dogweed	*Thymophylla tephroleuca*	E	G2	S2	Yes
Buckley's spiderwort	*Tradescantia buckleyi*		G3	S3	Yes
Croft's bluet	*Houstonia croftiae*		G3	S3	Yes
Fitch's hedgehog cactus	*Echinocereus reichenbachii var. fitchii*		G5T3	S3	Yes
Johnston's frankenia	*Frankenia johnstonii*		G3	S3	Yes
Kleberg saltbush	*Atriplex klebergorum*		G2	S2	Yes
Mccart's whitlow-wort	*Paronychia maccartii*		GH	SH	Yes
Nickels' cory cactus	*Coryphantha nickelsiae*		G2	SH	Yes

Sand sheet leaf-flower	*Phyllanthus abnormis var. riograndensis*		G5T3	S3	Yes
Shortcrown milkvine	*Matelea brevicoronata*		G3	S3	Yes
Siler's huaco	*Manfreda sileri*		G3	S3	Yes
South Texas gilia	*Gilia ludens*		G3	S3	Yes
South Texas yellow clammyweed	*Polanisia erosa ssp. Breviglandulosa*		G5T3T4	S3S4	Yes
Texas almond	*Prunus minutiflora*		G3G4	S3S4	Yes
Texas stonecrop	*Lenophyllum texanum*		G3	S3	Yes
Yellow-flowered alicoche	*Echinocereus papillosus*		G3	S3	Yes

Source: TPWD 2023

[1]NatureServe global conservation status ranks.

G1 Critically Imperiled — At very high risk of extinction or elimination due to very restricted range, very few populations or occurrences, very steep declines, very severe threats, or other factors.

G2 Imperiled — At high risk of extinction or elimination due to restricted range, few populations or occurrences, steep declines, severe threats, or other factors.

G3 Vulnerable — At moderate risk of extinction or elimination due to a fairly restricted range, relatively few populations or occurrences, recent and widespread declines, threats, or other factors.

G4 Apparently Secure — At fairly low risk of extinction or elimination due to an extensive range and/or many populations or occurrences, but with possible cause for some concern as a result of local recent declines, threats, or other factors.

G5 Secure — At very low risk or extinction or elimination due to a very extensive range, abundant populations or occurrences, and little to no concern from declines or threats.

GH Possibly Extinct (species) or Possibly Eliminated (ecosystems) — Known from only historical occurrences but still some hope of rediscovery. Examples of evidence include (1) that a species has not been documented in approximately 20–40 years despite some searching and/or some evidence of significant habitat loss or degradation; (2) that a species or ecosystem has been searched for unsuccessfully, but not thoroughly enough to presume that it is extinct or eliminated throughout its range.

GNR Unranked – Global rank not yet assessed.

GNA Not Applicable — A conservation status rank is not applicable because the species or ecosystem is not a suitable target for conservation activities.

[2]NatureServe state conservation ranks.

S1 Critically Imperiled— At very high risk of extirpation in the jurisdiction due to very restricted range, very few populations or occurrences, very steep declines, severe threats, or other factors.

S2 Imperiled— At high risk of extirpation in the jurisdiction due to restricted range, few populations or occurrences, steep declines, severe threats, or other factors.

S3 Vulnerable— At moderate risk of extirpation in the jurisdiction due to a fairly restricted range, relatively few populations or occurrences, recent and widespread declines, threats, or other factors.

S4 Apparently Secure— At a fairly low risk of extirpation in the jurisdiction due to an extensive range and/or many populations or occurrences, but with possible cause for some concern as a result of local recent declines, threats, or other factors.

S5 Secure— At very low or no risk of extirpation in the jurisdiction due to a very extensive range, abundant populations or occurrences, with little to no concern from declines or threats.

SH Possibly Extirpated – Known from only historical records but still some hope of rediscovery. There is evidence that the species or ecosystem may no longer be present in the jurisdiction, but not enough to state this with certainty. Examples of such evidence include (1) that a species has not been documented in approximately 20-40 years despite some searching and/or some evidence of significant habitat loss or degradation; (2) that a species or ecosystem has been searched for unsuccessfully, but not thoroughly enough to presume that it is no longer present in the jurisdiction.

SNR Unranked—National or subnational conservation status not yet assessed

SNA Not Applicable —A conservation status rank is not applicable because the species or ecosystem is not a suitable target for conservation activities.

Critical Habitat

Sensitive habitats include those areas designated by USFWS as critical habitat protected by the ESA and sensitive ecological areas as designated by the state or federal rulings. Sensitive habitats include wetlands, plant communities that are unusual or of limited distribution, and important seasonal use areas for wildlife (e.g., migration routes, breeding areas, and crucial summer/winter habitats). Habitat conditions observed at the project site were used to evaluate the potential for occurrence of special status species based on a combination of publicly available data and the May 2021 biological survey. Of the federally listed species in **Table 3-2**, only the Texas hornshell has critical habitat. However, although the habitat is present within Webb County, the habitat is confined to the Rio Grande River and no suitable habitat is found within the proposed project site (USFWS 2023).

3.4.3 ENVIRONMENTAL CONSEQUENCES

Impacts on wildlife resources would be considered adverse if the impacts substantially reduce ecological processes or populations. A substantial reduction is one that threatens the long-term viability of a sensitive species, or results in the substantial loss of a sensitive species' habitat that could not be offset or otherwise compensated.

Effects to threatened and endangered species would be adverse if the species or their habitats are adversely affected over relatively large areas, or if any of the following occur:

- Permanent loss of occupied, critical, or another suitable habitat.
- Temporary loss of critical habitat that adversely affects recolonization by threatened or endangered resources.
- Take (as defined under the ESA) of a threatened or endangered species.

3.4.3.1 Alternative 1: Proposed Action

Vegetation

The Proposed Action would result in the permanent conversion of approximately 100 acres of shrubland/native grasses (characterized as South Texas Brush Country), including less than an acre of palustrine forested wetland vegetation. Most of the area is currently and historically being used for livestock grazing. Vegetative impacts would occur predominately from vegetative clearing for the construction and operation of the JPC and supporting infrastructure. Impacts on vegetation from the construction of a JPC and ancillary facilities would be similar to what was already disclosed in the 2022 Laredo HQ EA for construction of a headquarters. Differences are limited to final design and siting within the project site location; however, as stated previously, siting would occur within the limits of disturbance as analyzed in the Laredo HQ EA. The exception would be that a vegetative buffer would be left around any perennial or intermittent streams determined to be potentially jurisdictional Waters of the U.S. These protected stream areas include one palustrine stream to the northeast and a short segment of a palustrine stream and its associated small palustrine forested wetland to the west. No tree clearing along the banks of the palustrine streams is anticipated as part of the Proposed Action as DHS would avoid impacts on the palustrine forested wetland (see **Section 3.5.2** wetland

discussion). Final design would occur after completion of the SEA. This analysis assumes the entire 100-acres parcel (with the exception noted above) would consist of the proposed JPC and ancillary support facilities.

The South Texas Brush Country vegetative community within the ranch that would be affected by the construction of the proposed Laredo JPC is both locally and regionally common. The permanent loss of this limited amount of acreage would not adversely affect the population viability of any plant species in the region. To ensure that Alternative 1 does not actively promote the establishment of non-native and invasive species in the area, BMPs would be implemented to minimize the spread and reestablishment of non-native vegetation (see **Appendix C**). Upon completion of construction, all temporary disturbance areas would be revegetated with a mixture of native plant seeds or nursery plantings. These BMPs, as well as measures protecting vegetation in general, would reduce potential impacts from non-native invasive species to a negligible amount.

Alternative 1 could result in reasonably foreseeable long-term beneficial impacts on vegetative habitat by reducing the adverse impacts of illegal cross-border violator activities in the Laredo Sector area of responsibility (AOR). Alternative 1 would have a *long-term, minor adverse impact* on vegetation in the project site.

Wildlife

The Proposed Action would have the same level of impact on wildlife as what was discussed in the 2022 Laredo HQ EA. The Proposed Action would result in minor habitat loss for general wildlife species in the vicinity of the project site. Soil disturbance and operation of heavy equipment could result in a reasonably foreseeable impact on less mobile individuals such as lizards, snakes, and ground-dwelling species such as mice and rats. During clearing, wildlife species that may utilize the vegetative area on a transient basis would be expected to utilize larger tracts of suitable adjacent habitat. Additionally, most wildlife would likely avoid harm by escaping to the surrounding habitat as well as the vegetative buffers remaining along the protected stream areas. The degradation and loss of habitat could also affect burrows and nests, as well as cover, forage, and other important wildlife resources. The loss of these resources would result in the displacement of individuals that would then be forced to compete with other wildlife for the remaining resources. Although this competition for resources could result in a reduction of total population size, such a reduction would be extremely minimal in relation to total population size and would not result in long-term effects on the sustainability of any wildlife species.

The wildlife habitat present in the project site is both locally and regionally common, and the permanent loss of approximately 100 acres of wildlife habitat would not adversely affect the population viability of any wildlife species in the region. Additionally, upon completion of construction, all temporary disturbance areas would be revegetated with a mixture of native plant seeds or nursery plantings. DHS would continue to comply with the MBTA and in accordance with the 2022 Laredo HQ EA, BMPs would be implemented if construction or clearing activities were scheduled during the nesting season (typically March 15 to September 15).

Impacts from lighting during construction and operation on wildlife were discussed in greater detail in the 2022 Laredo HQ EA. As stated in the 2022 Laredo HQ EA, lighting would attract or repel various wildlife species within the vicinity of the project site. The presence of lights within the project site could also produce some long-term behavioral effects, although the magnitude of these effects is not presently known. Some species, such as insectivorous bats, may benefit from the concentration of insects that would be attracted to the lights. Continual exposure to light has been proven to slightly alter circadian rhythms in mammals and birds.

Although DHS anticipates artificial lighting to be used for the facility and associated infrastructure, artificial lighting concentrated around a single 100-acre developed area would not significantly disrupt activities of wildlife populations across the region, as there is similar habitat is readily available to the north, east, west, and south for wildlife relocation. DHS would continue to utilize lighting BMPs listed in the 2022 Laredo HQ EA, such as, down shielding, would be applied to all outdoor lighting once construction is complete, further minimizing the potential impacts on potential wildlife species. Construction activities would be limited primarily to daylight hours, whenever possible; therefore, construction impacts on wildlife would be insignificant, since the highest period of movement for most wildlife species occurs during night-time or low daylight hours. The USFWS Recommended Best Practices for Communication Tower Design, Siting, Construction, Operation, Maintenance, and Decommissioning (USFWS 2021) would be implemented to reduce nighttime atmospheric lighting and the potential adverse effects of nighttime lighting on migratory bird and nocturnal flying species.

Short and long-term impacts from construction and operational noise, vehicle traffic behavior on wildlife, and wildlife behavioral responses due to noise, would remain consistent with what was analyzed in the 2022 Laredo HQ EA. Wildlife populations not already habituated to surrounding noise would adapt to the normal operations conducted at the new Laredo JPC and surrounding ancillary facilities. BMPs would reduce noise associated with operation of the construction equipment and everyday vehicle traffic associated with the new Laredo JPC. Alternative 1 would result in *short-term, negligible adverse impacts* to wildlife species from construction of the Proposed Action and *long-term negligible adverse impacts* to wildlife species from operational activities.

The 2022 Laredo HQ EA discusses the possibility of a communication tower within the 100-acre parcel. This communication tower would still be necessary for the proposed Laredo JPC. There is a possibility that the proposed communication tower could pose hazards to migratory birds and even some bird mortality through bird strikes with the tower. The loss of a few individual birds from the tower operation would not adversely affect the population viability of bird species in the region. The number and extent of bird strikes in relation to the size of migratory bird populations and the extent of the migratory flyway would be minor and would not affect sustainability of migratory bird populations in the region. Additionally, DHS would follow BMPs listed in **Appendix C**, such as conducting surveys prior to any construction activities taking place and scheduling project activities to occur outside of the nesting season of March 15 to September 15 in order to reduce impacts on migratory birds. Alternative 1 would have a *long-term, negligible adverse impact* on migratory birds.

Special Status Species

Consultation with USFWS for the 2022 Laredo HQ EA focused on the Gulf Coast jaguarandi, ocelot, piping plover, red knot, Texas hornshell, and ashy dogweed. Per the IPaC in 2021 and 2023 results, the piping plover and red knot are only considered for wind projects. Additional detail on listed species consulted in 2021 is located in the 2022 Laredo HQ EA. CBP concluded for the Laredo HQ EA that the Proposed Action *may affect, but is not likely to adversely affect* (*may affect)* the Gulf Coast jaguarundi, ocelot, and ashy dogweed and their habitat. CBP made *no effect* determinations on the piping plover, red knot, and Texas hornshell due to no suitable habitat present within the project site. On January 7, 2022 [02ETTX00-2022-I-1113], the USFWS concurred with CBP on its *may affect* determinations for the Gulf Coast jauarundi, ocelot, and Ashy dogwood.

Since the 2022 Laredo HQ EA USFWS consultation, the Gulf Coast jaguarandi and ocelot are no longer listed with the potential to occur within the project area. DHS maintains its prior determination of *may affect* for the ashy dogwood. There is no suitable habitat for the piping plover, red knot, and Texas hornshell; therefore, DHS maintains its *no effect* determination for these species. As stated previously, DHS reviewed the IPaC in December 2023 for the proposed project, and identified four additional species that were not included in the 2021 IPaC list. These include the tricolored bat, Mexican fawnsfoot, salina fawnsfoot, and Monarch butterfly. The tricolored bat, Mexican fawnsfoot, and salina mucket are proposed endangered species and do not require Section 7 consultation under ESA. No suitable habitat is present within the project area for these species and no species have been observed within or directly adjacent to the vicinity of the project site. Therefore, DHS has concluded that the Proposed Action would have *no effect* on any listed or proposed species with exception of the ashy dogwood.

The federally endangered ashy dogwood is the only species with the potential to occur in the vicinity of the project site due to habitat suitability. Ashy dogweed occurs in sandy soils within the South Texas Plains among Tamaulipan thornscrub associates on level or gently rolling grasslands with scattered shrubs. CBP conducted a biological survey in May 2021 (for the 2022 Laredo HQ EA) and found no indication of this species within the project site. DHS has concluded that the site does not have the preferred characteristics for ashy dogwood to thrive and grow as the species is preferential to sandy and sandy loam soils and the site has sandy loam soils. Therefore, DHS has determined the Proposed Action *may affect* the ashy dogwood. DHS re-initiated consultation with the USFWS to receive concurrence on the determination for the ashy dogwood. As of the time of writing, USFWS has not yet provided a response.

Although there is no suitable habitat present in the project site for the federally proposed endangered tricolored bat, there is potential forested habitat adjacent to the site. However, the bats' presence is unlikely due to the high human activity in the area including vehicle traffic on SH 20. DHS would follow the BMPs listed in **Appendix C** and follow USFWS Recommended Best Practices for Communication Tower Design, Siting, Construction, Operations, Maintenance and Decommissioning to reduce nighttime atmospheric lighting and the potential adverse effects on nocturnal flying species.

TPWD lists several state-listed species that may occur within or near the project site. The project area could be considered suitable habitat for various state-sensitive reptile, bird, mammal,

and plant species. However, no state listed species were observed during the May 2021 biological surveys. Under Alternative 1, approximately 100 acres of South Texas Brush Country vegetative habitat would be permanently affected. Mobile species such as the Texas horned lizard (*Phrynosoma cornutum*) and Texas indigo snake (*Drymarchon melanurus*) may be temporarily displaced by construction activities; however, these highly mobile species typically utilize large expanses of suitable habitat and the effects of disturbance and alterations to small segments are likely to be minimal to negligible to populations of these species. Removal of vegetation would reduce the total amount of available suitable habitat for state listed species. However, utilize seasonal restrictions (**see Appendix C**) on vegetation clearing to minimize impacts on migratory birds which would also benefit state listed wildlife avian species. Grubbing, digging, clearing, or ground-leveling activities at the Laredo JPC site may result in the incidental take of some individuals of more sedentary state listed species such as the Texas tortoise. DHS would follow BMPs (see **Appendix C**) to minimize impacts on biological resources. Additionally, due to the limited amount of disturbance to habitat relative to the amount of similar habitat within the proposed project site DHS anticipates Alternative 1 would result in *short- and long-term, negligible adverse impacts* on state listed species.

3.4.3.2 Alternative 2: Net-Zero Alternative

Under Alternative 2, the proposed Laredo JPC would have similar *long-term, minor adverse impacts* on the vegetative habitat as described under Alternative 1.

Under Alternative 2, the proposed Laredo JPC would have similar *short- and long-term negligible adverse impacts* on the wildlife resources as described under Alternative 1.

Under Alternative 2, the proposed Laredo JPC would have similar *long-term, negligible adverse impacts* on the threatened and endangered species as described under Alternative 1.

3.4.3.3 No Action Alternative

Under the No Action Alternative, DHS would not construct the JPC and ancillary support facilities. Biological resources would remain as described in **Section 3.4.2**. There would be *no impact* to biological resources under the No Action Alternative.

3.5 WATER RESOURCES

3.5.1 DEFINITION OF THE RESOURCE

Water resources are natural and man-made sources of water that are available for use by, and for the benefit of, humans and the environment. Water resources relevant to the location of the Proposed Action near Webb County, Texas, include groundwater, surface waters, wetlands, and floodplains.

Groundwater. Groundwater is water that exists in the saturated zone beneath the Earth's surface that collects and flows through aquifers and is used for drinking, irrigation, and industrial purposes. Groundwater typically can be described in terms of depth from the surface, aquifer or well capacity, water quality, and recharge rates.

Surface Water and Wetlands. WOTUS are defined within the CWA, and jurisdiction is addressed by USACE and U.S. Environmental Protection Agency (USEPA). Surface water includes natural, modified, and man-made water confinement and conveyance features above groundwater that may or may not have a defined channel and discernable water flow. Stormwater is an important component of surface water systems because of its potential to introduce sediments and other contaminants that could degrade surface waters, such as lakes, rivers, or streams. Energy Independence and Security Act (EISA) Section 438 (42 U.S.C. § 17094) establishes into law stormwater design requirements for federal development projects that disturb a footprint of greater than 5,000 ft^2. Under these requirements, pre-development site hydrology must be maintained or restored to the maximum extent technically feasible with respect to temperature, rate, volume, and duration of flow.

Water quality standards are regulated by the USEPA, under the Safe Drinking Water Act and the CWA. Section 303(d) of the CWA requires states to identify and develop a list of impaired water bodies where technology-based and other required controls have not provided attainment of water quality standards. The CWA also establishes federal limits, through the NPDES permit process, for regulating point and non-point discharges of pollutants into the Waters of the United States (WOTUS) and quality standards for surface waters.

The term "Waters of the United States" has a broad meaning under the CWA and incorporates deep water aquatic habitats and special aquatic habitats (including wetlands). Since the 2022 Laredo HQ EA was completed, the definition of WOTUS has been amended due to the 2023 U.S. Supreme Court's decision in Sackett v. Environmental Protection Agency. The current definition of WOTUS was amended to remove the significant nexus test from consideration when identifying tributaries and other waters as federally protected. Also, the adjacency test was revised when identifying federally jurisdictional wetlands, and it was clarified that interstate wetlands do not fall within the interstate waters category. Wetlands are a protected resource under EO 11990, Protection of Wetlands, as amended by EO 11988 and additional information regarding wetlands is provided in the Laredo HQ EA.

Floodplains. Floodplains are areas of low, level ground present along rivers, stream channels, or coastal waters that are subject to periodic or infrequent inundation because of rain or melting snow. Additional information including EO 11988 and the Federal Emergency Management Agency (FEMA) definition is provided in the Laredo HQ EA.

3.5.2 AFFECTED ENVIRONMENT

Groundwater

The project site has multiple aquifers that provide groundwater to this region. The major aquifers are the Gulf Coast aquifer in southeastern Webb County, the Laredo aquifer in central Webb County, and the Carrizo-Wilcox aquifer throughout much of Webb County. Minor aquifers are the Yegua-Jackson aquifer in eastern Webb County and the Queen City-Bigford aquifer in central Webb County. Additional information on groundwater characteristics of the site is discussed in greater detail in the 2022 Laredo HQ EA.

Surface Water and Wetlands

Information about the Rio Grande River Basin is included in the 2022 Laredo HQ EA. New data was evaluated concerning the City of Laredo which uses surface water from the Rio Grande River as its source of municipal water. The average daily consumption via two water treatment plants during 2016 was approximately 36.29 million gallons per day (Laredo Water 2023). Laredo Water does not have updated water usage on their website. WOTUS and wetlands at the site were determined during surveys for the 2022 Laredo HQ EA and potential impacts were described in general. DHS has identified two potentially jurisdictional perennial streams within the project area (with predominately intermittent characteristics), and four non-jurisdictional drainage features (three in the southeast quadrant of the parcel) were noted near the highway and are likely the result of highway construction affecting site drainage. One non-jurisdictional drainage is located in the northwest quadrant of the parcel.

Floodplains

Floodplains were described in the 2022 Laredo HQ EA. FEMA floodplain maps were reviewed to identify if the project site is located within mapped floodplains (FEMA 2023). The majority of the Preferred Alternative is located outside of the 100-year floodplain; approximately one acre of this site, along the northern boundary and associated with a stream, falls within the 100-year floodplain and is classified as Zone A (FEMA 2021; see **Figure 3-1**).

3.5.3 ENVIRONMENTAL CONSEQUENCES

Impacts on water resources would be considered adverse if they would substantially reduce water availability or interfere with the water supply to existing uses, contribute to exceedances of annual yields of water supply sources or overdraft groundwater basins, substantially adversely affect water quality, or violate water resource laws and regulation.

3.5.3.1 Alternative 1: Proposed Action

Groundwater

No water would be withdrawn from the local aquifers for municipal purposes as a result of this alternative; therefore, it is anticipated that impacts to ground water resources would be negligible.

Construction and operation of the Proposed Action may result in the inadvertent release of oils, grease, and hazardous materials which could eventually enter the groundwater system at aquifer recharge areas. There would be minimal potential for infiltration, however, given the heavily compacted, developed surface conditions at the project site. Implementation of BMPs to manage potential releases, such as development of a site-specific spill response plan (see **Section 3.9.3**), proper housekeeping, equipment maintenance, and containment of fuels and other hazardous materials would minimize the potential for inadvertent releases and groundwater contamination during construction (see **Appendix C**). The Proposed Action would result in *long-term, negligible adverse impacts* on groundwater.

Surface Water and Wetlands

Water usage for the new JPC would be slightly greater than water usage proposed in the 2022 Laredo HQ EA. These estimates are based off the 2021 Laredo HQ potential usage which was estimated to be approximately 30,000 gallons per day for a total of approximately 10.9 million gallons per year. Usage may differ depending on the JPC needs and ancillary facilities. As mentioned previously, the annual surface water supply is approximately 33.77 million gallons per day, which is a total of approximately 12.3 billion gallons per year. Because the new JPC would only use approximately 0.0008 percent of the annual surface water available from the Rio Grande River per year, it is anticipated that impacts to water availability would be long-term and negligible. Because the new JPC would only use a small portion of the annual surface water available relative to the water used by all other residential, commercial, or agricultural consumers in the state, it is anticipated that impacts to water availability would be *long-term and negligible*.

As stated in the 2022 Laredo HQ EA, there are two potentially jurisdictional perennial streams within the project area. Although identified as perennial streams on USGS topographic maps, during the site visit the streams lacked water and due to drought conditions, these streams may only flow during rainfall and may be considered intermittent streams. The two streams total approximately 1,250 linear feet. Several other non-jurisdictional drainage features (three in the southeast quadrant of the parcel) were noted near the highway and are likely the result of highway construction affecting site drainage. One non-jurisdictional drainage is located in the northwest quadrant of the parcel. The perennial stream located in the southwest portion of the site is adjacent to a small, palustrine forested wetland consisting of 0.005 acres identified as "P4" in the **Figure 3-1** below. The stream was lined with honey mesquite and was about 323 linear feet (about 0.06 miles) in length before draining offsite. Upland species near the creek consisted of blackbrush acacia (*Vachellia rigidula*) and acacia shrubs (*Acacia berlandieri*) along with creosote bushes (*Larrea tridentata*) and various cacti. The other perennial stream is located in the northeastern corner of the property. This stream identified as P3 is about 1,046 linear feet (about 0.17 miles) in length. The upper portions of this stream empty into a floodplain. Lime-prickly ash (*Zanthoxylum fagara*) was the main tree along the stream. Honey mesquite (*Prosopis glandulosa*), coyotillo shrubs (*Karwinskia humboldtiana*), and Texas persimmon (*Diospyros texana*) were common in the area along with purple groundcherry *(Quincula lobata*).

Both streams drain off the property into the San Indelfonso Creek and eventually into the Rio Grande River approximately 2 miles west of the project area. Both streams were also highly eroded with steep, high banks difficult to traverse. DHS proposes to avoid both stream areas (1,250 linear feet) and the PFO wetland (0.005 acre) during development of the JPC and ancillary facilities and would leave a vegetative buffer around them as the land would be difficult to develop. The 2022 Laredo HQ EA incorrectly used stream [2,214 linear feet] and wetland [2.84 acres] numbers from a different Alternative. The northeast corner of property bounded by the northeast stream could be accessed from the highway or along the edge of the property, if necessary, without needing a large crossing. Therefore, no WOTUS or wetlands would be directly impacted.

Similar to the 2022 Laredo HQ EA, the Proposed Action may have temporary, indirect negligible impacts on surface waters as a result of increases in erosion and sedimentation during periods of

construction and potential run-off. Disturbed soils and hazardous substances (e.g., antifreeze, fuels, oils, and lubricants) could have the potential to impact water quality during a rain event. However, through the use of BMPs, these effects would be minimized and negligible (see **Appendix C**). A Construction Stormwater General Permit would be obtained prior to construction, and this would require approval of a site-specific SWPPP. A site-specific Spill Prevention, Control, and Countermeasure Plan (SPCCP) would also be instituted prior to the start of construction. BMPs outlined in these plans would reduce potential migration of soils, oil and grease, and construction debris into local surface waters. Once the construction project is complete, any temporary construction footprints would be revegetated with native vegetation, as outlined in the SWPPP, which would mitigate the potential of nonpoint source pollution to enter local surface waters.

Under EO 11990, new construction by government agencies should "avoid to the extent possible the long- and short-term adverse impacts associated with the destruction or modification of wetlands and to avoid direct or indirect support of new construction in wetlands wherever there is a practicable alternative." Any adverse impacts on the aquatic environment would be offset by BMPs during construction. No direct impacts on wetlands or surface waterbodies would be anticipated under the Proposed Action as DHS would avoid potential jurisdictional surface waterbodies and wetlands identified at the project site during construction. DHS would leave a vegetative buffer to minimize indirect impacts from potential run-off and increased erosion and sedimentation during construction and operation. Thus, the Proposed Action would have short- and long-*term, minor indirect adverse impacts* on surface waterbodies and wetlands during construction and operation.

Similar to the 2022 Laredo HQ EA, the proposed JPC site development would include a stormwater management system that would reduce adverse impacts of unmanaged stormwater flow during operation and would minimize potential impacts of stormwater on downstream water quality. Inclusion of the stormwater management system would ensure the hydrology of project site is consistent with the pre-development condition to the maximum extent technically feasible, in accordance with the requirements of the EISA. With installation of a stormwater management system, the Proposed Action would have *long-term, negligible beneficial impacts* on stormwater, since the system would address and prevent unmanaged sheet flow that is currently occurring at the project site.

Figure 3-1. Water Resources of Proposed Site

Floodplains

Compliance with EO 11990 and EO 11988 would also be incorporated into the site design. Under EO 11990, new construction by government agencies should "avoid to the extent possible the long- and short-term adverse impacts associated with the destruction or modification of wetlands and to avoid direct or indirect support of new construction in wetlands wherever there is a practicable alternative." Consultation with USACE was determined unnecessary since DHS has committed to avoiding any WOTUS, wetlands, or floodplains associated with the two identified streams. If, in the future, additional development or road crossings are needed and could potentially impact WOTUS or wetlands, DHS would initiate contact with the appropriate agencies to ensure that the Proposed Action would be in compliance with EO 11990 and limit any potential impacts to floodplains in the surrounding area. EO 11988 states that, "If an agency has determined to, or proposes to, conduct, support, or allow an action to be located in a floodplain, the agency shall consider alternatives to avoid adverse effects and incompatible development in the floodplains."

The majority of the Proposed Action is located outside of the 100-year floodplain; approximately one acre of this site, along the northern boundary, falls within the 100-year floodplain and is classified as Zone A (FEMA 2021; see **Figure 3-1**). However, through avoidance, the facility design would be modified to minimize potential impacts on the floodplain and avoid this portion of the site within the floodplain. The Proposed Action would not increase the risk or impact of floods on human safety, health, and welfare, or adversely impact the beneficial values that floodplains serve. Additionally, the Proposed Action would not increase duration, frequency, elevation, velocity or volume of flood events because the project site would be constructed in a way to avoid the floodplain. Therefore, the Proposed Action would have *a long-term, negligible impact* on floodplains and would be in compliance with EO 11988. Additionally, because the project site would be sited and designed outside of the 100-year floodplain, no additional flood resiliency measures would be required per EO 13690 Federal Flood Risk Management Standard.

3.5.3.2 Alternative 2: Net-Zero Alternative

Alternative 2 would result in impacts to groundwater, surface water and wetlands, and floodplains similar to the impacts under the Proposed Action; however, there would be a decrease in the reliance on groundwater and surface water resources during operations. Similar to Alternative 1, the potential for inadvertent spills of petroleum or hazardous materials and subsequent groundwater contamination would remain and would not change with the installation and operation of net-zero technologies. Implementation of BMPs during construction and operation would minimize the potential for accidental contamination (see **Appendix C**). Implementation of an AWG system would allow water resources to be extracted and utilized to expand the amount of water available at the project site and result in a decrease in reliance on groundwater resources during operations to a larger extent than under Alternative 1. Like Alternative 1, implementation of BMPs and planning during construction could minimize sediment transportation and erosion that could create adverse impacts on downstream water quality, resulting in *long-term, negligible, adverse impacts* on groundwater resources, surface water and wetlands, and areas subject to the 1 percent annual chance flood. DHS would implement standard construction BMPs and meet all necessary federal, state, and local permitting requirements.

Impacts to stormwater at the project site would be similar to those under Alternative 1. Installation of net-zero technologies such as a ground-mounted solar PV system and development of VF system treatment beds may result in additional ground disturbance and runoff. Alternative 2 would result in *short-term, minor adverse impacts* to stormwater during construction, and *long-term, negligible beneficial impacts* to stormwater with installation of a stormwater management system.

3.5.3.3 No Action Alternative

Under the No Action Alternative, DHS would not construct the JPC and ancillary support facilities, and water resources would remain as described in **Section 3.5.2**. There would *be no impact* to water resources under the No Action Alternative.

3.6 AIR QUALITY

3.6.1 DEFINITION OF THE RESOURCE

Air quality is defined by the concentration of various pollutants in the atmosphere. Under the CAA (42 U.S.C.), the six pollutants defining air quality, called "criteria pollutants," include carbon monoxide (CO), sulfur dioxide, nitrogen dioxide, ozone (O_3), suspended particulate matter (measured less than or equal to 10 microns in diameter [PM_{10}] and less than or equal to 2.5 microns in diameter [$PM_{2.5}$]), and lead. CO, sulfur oxides (SO_X), and some particulates are emitted directly into the atmosphere from emissions sources. Nitrogen dioxide, O_3, and some particulates are formed through atmospheric and chemical reactions that are influenced by weather, ultraviolet light, and other atmospheric processes. Volatile organic compounds (VOC) and nitrogen oxides (NO_X) are precursors of O_3 and are used to represent O_3 generation.

Under the CAA, the USEPA has established National Ambient Air Quality Standards (NAAQS) (40 CFR Part 50) for criteria pollutants. Areas that are and have historically been in compliance with the NAAQS or have not been evaluated for NAAQS compliance are designated as attainment areas. Areas that violate a NAAQS are designated as nonattainment areas. Areas that have transitioned from nonattainment to attainment are designated as maintenance areas and are required to adhere to maintenance plans to ensure continued attainment. The CAA gives states the authority to establish their own air quality rules and regulations. Texas enforces the federal NAAQS.

The USEPA General Conformity Rule applies to federal actions occurring in nonattainment or maintenance areas and a general conformity determination is required when the total direct and indirect emissions of nonattainment and maintenance criteria pollutants (or their precursors) exceed specified thresholds. The emissions thresholds that trigger requirements for a conformity analysis are called *de minimis* levels. *De minimis* levels (in tons per year [tpy]) vary by pollutant and also depend on the severity of the nonattainment status for the area in question (40 CFR Part 93.153). The General Conformity Rule does not apply to federal actions occurring in attainment areas.

Climate Change and GHGs

Global climate change refers to long-term fluctuations in temperature, precipitation, wind, sea level, and other elements of Earth's climate system. Of particular interest, GHGs are gaseous emissions that trap heat in the atmosphere. GHGs include water vapor, carbon dioxide (CO_2), methane, nitrous oxide, O_3, and several fluorinated and chlorinated gaseous compounds. To estimate global warming potential, all GHGs are expressed relative to a reference gas, CO_2, which is assigned a global warming potential equal to one (1). All GHGs are multiplied by their global warming potential, and the results are added to calculate the total CO_2 equivalent (CO_2e) emissions. The dominant GHG emitted is CO_2, accounting for 79 percent of all U.S. GHG emissions as of 2020, the most recent year for which data are available (USEPA 2023a).

EO 13990, *Protecting Public Health and the Environment and Restoring Science to Tackle the Climate Crisis*, signed January 20, 2021, reinstated the *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*, issued on August 5, 2016, by the Council on Environmental Quality CEQ that required federal agencies to consider GHG emissions and the effects of climate change in NEPA reviews (CEQ 2016). CEQ's *National Environmental Policy Act Interim Guidance on Consideration of Greenhouse Gas Emissions and Climate Change*, issued on January 9, 2023, recommends determining the social cost of GHG emissions from a proposed action where feasible as a means of comparing the GHG impacts of the alternatives (CEQ 2023).

The "social cost of carbon" is an estimate of the monetized damages associated with incremental increases in GHG emissions, such as reduced agricultural productivity, human health effects, property damage from increased flood risk, and the value of ecosystem services (CEQ 2023). Accordingly, estimated CO_2e emissions and associated social cost of carbon are provided in this SEA for informative purposes. The interim social cost of carbon established by the Interagency Working Group for the year 2025 is estimated at 56 dollars per metric ton of CO_2 (in 2020 dollars; IWG-SCGHG 2021).

EO 14008, *Tackling the Climate Crisis at Home and Abroad*, further strengthens EO 13990 by implementing objectives, including requiring federal agencies to develop and implement climate action plans, to reduce GHG emissions and bolster resilience to the impacts of climate change. The DHS *Climate Action Plan* recognizes the effects of climate change to DHS's mission and aims to implement strategies to address the risks posed by climate change including incorporating climate adaptation planning and processes into DHS mission areas, ensuring climate resilient facilities and infrastructure, ensuring climate-ready services and supplies, and increasing climate literacy (DHS 2021). *The Long-term Strategy of the United States: Pathways to Net-Zero Greenhouse Gas Emissions by 2050* sets target benchmarks to achieve net-zero GHG emissions by no later than 2050 through emission-reducing investments such as carbon-free power generation, zero-emission vehicles, energy-efficient buildings, and expansion and protection of forest areas (DOS and EOP 2021).

USEPA implements the GHG Reporting Program, requiring certain facilities to report GHG emissions from stationary sources, if such emissions exceed 25,000 metric tons of CO_2e per year

(40 CFR Part 98). Major source permitting requirements for GHGs are triggered when a facility exceeds the major threshold of 100,000 tons per year (tpy) for CO_2e emissions.

3.6.2 AFFECTED ENVIRONMENT

USEPA Region 6 and the TCEQ regulate air quality in Texas. The project area is in Webb County, Texas, which is within the Brownsville-Laredo Intrastate Air Quality Control Region (40 CFR § 81.135). The USEPA has designated Webb County as in attainment for all criteria pollutants (USEPA 2023b). As such, the General Conformity Rule is not applicable to emissions of criteria pollutants in the county.

Climate Change and GHGs

Laredo has an average high temperature of 93 degrees Fahrenheit (°F) in the hottest month (July) and an average low temperature of 63°F in the coldest month (January), with an average annual temperature of 75.4°F. The annual average precipitation of the region is 19 inches. The wettest month of the year is September with an average rainfall of 3.78 inches (NOAA 2023).

Ongoing climate change in Southern Texas, including Webb County, has contributed to rising temperatures, increased storm intensity, increased severity of flooding and droughts, disruption of natural ecosystems, and human health effects. Despite increases in storms and flooding, warmer temperatures increase evaporation rates and water use by plants, which causes soils to become drier and increases the need for irrigation. In turn, ground and surface water supplies are being consumed at faster rates, which leads to declines in recharge rates and the future availability of water supplies. Higher temperatures in Texas also have led to increased severity, frequency, and extent of wildfires, which expand deserts and change landscapes. High air temperatures can cause adverse health effects such as heat stroke and dehydration, especially in vulnerable populations (i.e., children, elderly, sick, and low-income populations), which can affect cardiovascular and nervous systems (USEPA 2016).

According to the National Emissions Inventory, in 2021 the state of Texas produced approximately 663,500,000 metric tons of CO_2 emissions (USEIA 2023) and in 2017, Webb County produced 1,662,497 tons of CO_2 (USEPA 2021).

3.6.3 ENVIRONMENTAL CONSEQUENCES

For this SEA, a comparative air quality analysis was performed to estimate the effects on air quality and climate change that would result from the Proposed Action based on previously analyzed effects of similar DHS actions. Effects on air quality are evaluated by comparing the annual net change in emissions for each criteria pollutant against the 250 tpy Prevention of Significant Deterioration (PSD) major source threshold, as defined by USEPA, for attainment pollutants except for lead. The PSD threshold for lead is 25 tpy. The PSD thresholds do not denote a significant impact; however, they do provide a threshold to identify actions that have insignificant impacts on air quality. For actual operations and regulatory purposes, the PSD major source thresholds only apply to stationary sources; however, they are applied in this SEA to both stationary and mobile sources as a surrogate indicator of significance in an attainment area. If a proposed action's emissions are below these threshold levels, the action's impacts on

air quality are presumed to be negligible to minor. Impacts on air quality would be significant if a proposed action were to exceed the General Conformity Rule de minimis level for nonattainment pollutants.

Consistent with EO 14008 and the 2016 CEQ Final Guidance, this SEA examines GHGs as a category of air emissions. Per the 2023 CEQ Interim Guidance, the social cost of carbon was calculated for the estimated total emissions of CO_2e during the construction period and the foreseeable annual CO_2e emissions from operational activities under the Proposed Action. It also examines potential future climate scenarios to determine whether elements of the Proposed Action would be affected by climate change. This analysis does not attempt to measure the actual incremental impacts of GHG emissions from the Proposed Action, as there is a lack of consensus on how to measure such impacts. Global and regional climate models have substantial variation in output and do not have the ability to measure the actual incremental impacts of a project on the environment.

3.6.3.1 Alternative 1: Proposed Action

Short-term, minor, adverse impacts on air quality would occur from construction of the JPC and ancillary support facilities. During the construction period, emissions of criteria pollutants and GHGs would be directly produced from operation of heavy construction equipment, heavy duty diesel vehicles hauling demolition debris and construction materials to and from the project area, workers commuting daily to and from the project area, and ground disturbance. All such emissions would be temporary in nature and produced only when construction activities are occurring. Long-term, minor, adverse impacts on air quality would occur from operation and maintenance of the new JPC and ancillary support facilities. Air emissions would be directly produced from operation of emergency generators, fuel dispensing activities, and the additional 200 personnel commuting to and from the JPC daily. Additionally, limited helicopter operations may occasionally occur at the proposed JPC.

Table 3-4 provides the estimated annual net change in emissions that would result from Alternative 1, including construction of the JPC (2024); development of the rest of the 100-acre site (2025 through 2029); and facility operations, maintenance, and personnel changes (2030 and later). Detailed emissions calculations are included in **Appendix D**. Annual emissions also would not exceed the PSD threshold of 250 tpy for VOC, NO_X, CO, SO_X, and $PM_{2.5}$ (25 tpy for lead); therefore, Alternative 1 would not result in significant impacts on air quality.

Table 3-4. Estimated Net Annual Air Emissions from Alternative 1

Year	VOC (tpy)	NO_X (tpy)	CO (tpy)	SO_X (tpy)	PM_{10} (tpy)	$PM_{2.5}$ (tpy)	Lead (tpy)	CO_2e (tpy)
2024 (construction)	6.3	1.9	2.42	0.006	2.836	0.063	<0.001	563.08
2025 (construction)	0.555	2.779	3.672	0.010	111.71	0.106	<0.001	997.09
2026 (construction)	0.330	3.329	3.270	0.008	0.080	0.077	<0.001	1433.80
2027 (construction)	0.330	3.329	3.270	0.008	0.080	0.077	<0.001	1433.80
2028 (construction)	0.330	3.329	3.270	0.008	0.080	0.077	<0.001	1433.80
2029 (construction)	48.25	0.675	1.427	0.004	0.023	0.023	<0.001	434.99
2030 and later (operations)	2.056	0.275	4.306	0.021	0.026	0.026	<0.001	431.40
Applicable PSD threshold	**250**	**250**	**250**	**250**	**250**	**250**	**25**	**N/A**
Exceeds threshold?	**No**	**No**	**No**	**No**	**No**	**No**	**No**	**N/A**

Key: N/A = not applicable

The air pollutant of greatest concern for the Proposed Action is particulate matter, such as fugitive dust, which is generated from ground-disturbing activities and combustion of fuels in construction equipment. Fugitive dust emissions would be greatest during initial site preparation and site grading activities and would vary from day to day depending on the work phase, level of activity, and prevailing weather conditions. Under a worst-case scenario in which all site preparation and construction work occurred within one year and no dust suppression or other dust/particulate matter control measures are implemented, construction under the Proposed Action would emit approximately 111 tons of PM_{10} in 2025, which was estimated under the assumption that site grading for development of the rest of the site (not including the JPC; approximately 93 acres) would occur over a 6-month period within a single construction year, and no grading would occur in later years. Under this worst-case scenario, uncontrolled particulate emissions would be below the PSD threshold, and therefore, not a significant impact to air quality.

Construction activities would incorporate BMPs and environmental control measures to control and minimize fugitive dust emissions, in accordance with Texas Administrative Code Rule §111.143 and Rule §111.145. In addition, work vehicles would be well-maintained and use diesel particulate filters to reduce emissions of criteria pollutants. Rule §111.143 also specifically requires complete covering of open-bodied trucks and trailers transporting materials which can create airborne particulate matter in areas where the general public has access (e.g., public roadways). Further, work vehicles would be well-maintained and use diesel particulate filters to reduce emissions of criteria pollutants. These BMPs and environmental control measures could reduce particulate matter emissions from a construction site by approximately 50 percent. Project phasing (e.g., clearing and grading specific areas prior to construction) may further reduce particulate matter emissions.

For the quantitative air analyses referenced in this SEA, it was assumed all new personnel would commute to and from the JPC five days per week. In addition, helicopter flights using the proposed helipad would be infrequent and are estimated at one flight per week (52 flights per year). Helicopter flights would be conducted using light helicopters within the local area. A helicopter would not be stationed at the JPC. Emissions produced from transient helicopter operations have the potential to affect air quality up to 3,000 feet above ground level (or the mixing zone). At or higher than 3,000 feet above ground level, emissions would be adequately dispersed through the atmosphere to the point where they would not result in ground-level impacts on a localized area. The proposed helipad would be of a sufficient size to capture the downdraft from helicopter takeoffs and landings and minimize the potential for localized particulate matter emissions from dust generation during helicopter operations. Considering the infrequency of helicopter operations at the JPC, emissions from such operations would have negligible impacts on air quality and, when added to the estimated emissions from operation of the JPC, would not exceed the *de minimis* or PSD thresholds for any criteria pollutant. Therefore, *the Proposed Action would not be expected to result in a long-term, significant impact* on air quality.

Climate Change and GHGs

As shown in **Table 3-4**, the Proposed Action is expected to produce approximately 6,728 tons (6,103 metric tons) of CO_2e during the construction period (i.e., 2024 through 2029). Detailed CO_2e calculations are included in **Appendix D**. In accordance with the 2023 CEQ Interim Guidance, comparisons were calculated to equate GHG emissions in familiar terms using the USEPA GHG equivalencies calculator. By comparison, 6,103 metric tons of CO_2e is the GHG footprint of 1,315 passenger vehicles driven for 1 year or 769 homes' energy use for 1 year (USEPA 2022). Over the construction period, the social cost of GHG under the Proposed Action would equal $341,768 (6,103 metric tons CO_2e x $56 per metric ton CO_2e = $341,768).

Emissions from construction during the highest CO_2e emissions year (i.e., 2025) would represent less than 0.4 percent of the total CO_2e emissions in the county and less than 0.001 percent of the CO_2 emissions in the state. As such, air emissions produced during construction would not meaningfully contribute to the potential effects of global climate change and would not considerably increase the total CO_2e emissions produced by Webb County or the state of Texas. Therefore, GHG emissions during construction would result in short-term, negligible, adverse impacts on air quality.

Long-term, operational CO_2e emissions would start in 2030 and continue indefinitely, with approximately 431 tons of CO_2e produced per year. By comparison, 431 tons (391 metric tons) of CO_2e is equivalent to the GHG footprint of 87 passenger vehicles driven for 1 year or 49 homes' energy use for 1 year (USEPA 2022). The annual social cost of carbon from operations under Alternative 1 would be $21,896 per year (391 metric tons CO_2e x $56 per metric ton CO_2e = $21,896). Total annual operational CO_2e emissions would represent less than 0.0006 percent of the total CO_2 emissions in the state and approximately 0.026 percent of the total CO_2 emissions in Webb County. As such, air emissions produced during operations would not meaningfully contribute to the potential effects of global climate change and would not considerably increase the total CO_2e emissions produced by the state or county. Therefore, GHG emissions from operations under Alternative 1 would result in *long-term, minor, adverse impacts* on air quality. Annual emissions of CO_2e from stationary sources (i.e., emergency generators and fuel storage tanks) would not exceed the USEPA's annual 25,000 metric tpy reporting threshold; therefore, DHS would not be required to report annual GHG emissions.

Ongoing changes to climate patterns in Texas are described in **Section 3.6.2**. These climate changes are unlikely to affect the ability of DHS to implement the Proposed Action. The project site is primarily an unimproved tract of land used for cattle grazing with fencing, gates, and a caliche-based access road. Rising temperatures, increased storm intensity, increased severity of flooding and droughts, disruption of natural ecosystems, and other results from ongoing climate change would not affect the Proposed Action, nor would the Proposed Action meaningfully contribute to the occurrence of such events.

3.6.3.2 Alternative 2: Net-Zero Alternative

Short-term, minor, adverse impacts to air quality at the project site under Alternative 2 would be similar to those under Alternative 1 during construction of the proposed JPC (2024) and development of the rest of the 100-acre site (2025 through 2029).

Criteria pollutant and GHG emissions and the resulting impacts on air quality and social costs from operation and maintenance of the new JPC and ancillary facilities would be incrementally less than those under Alternative 1. Alternative 2 would not include operation of emergency generators. Instead, backup power would be provided by solar battery systems. Like the Proposed Action, Alternative 2 operational air emissions would be directly produced from fuel dispensing activities and the 200 personnel commuting to and from the JPC daily. Long-term, minor, adverse impacts on air quality from operation and maintenance of the new JPC and ancillary support facilities would be less than those described for Alternative 1. Alternative 2 would not include operation of emergency generators. Instead, backup power would be provided by solar battery systems. Like Alternative 1, operational air emissions would be directly produced from fuel dispensing activities and the additional 200 personnel commuting to and from the JPC daily. **Table 3-5** summarizes these operational emissions. In addition, emissions would be produced from transient helicopter operations, as described for the Proposed Action. The estimated annual operational emissions from Alternative 2 would not exceed the *de minimis* or PSD thresholds for any criteria pollutant. Therefore, Alternative 2 would have *long-term minor adverse impacts* on air quality from operation and maintenance activities.

Table 3-5. Estimated Net Annual Operational Air Emissions from Alternative 2

Year	VOC (tpy)	NOX (tpy)	CO (tpy)	SOX (tpy)	PM_{10} (tpy)	$PM_{2.5}$ (tpy)	Lead (tpy)	CO2e (tpy)
2030 and later (operations)	2.034	0.182	4.244	0.002	0.006	0.005	<0.001	420.6
Applicable PSD threshold	**250**	**250**	**250**	**250**	**250**	**250**	**25**	**N/A**
Exceeds threshold?	**No**	**No**	**No**	**No**	**No**	**No**	**No**	**N/A**

Key: N/A = not applicable

The 382 metric tons of CO_2e that would result annually from operation of Alternative 2 is the approximate GHG footprint of 85 passenger vehicles driven for 1 year or 48 homes' energy use for 1 year (USEPA 2022b). The annual social cost of carbon from operations under Alternative 2 would be $21,392 per year (382 metric tons CO_2e x $56 per metric ton CO_2e = $21,392). Like Alternative 1, total annual operational CO_2e emissions would represent 0.00006 percent of the total CO_2 emissions in the stats and approximately 0.023 percent of the total CO_2 emissions in Webb County. As such, air emissions produced during operations under Alternative 2 would not meaningfully contribute to the potential effects of global climate change and would not considerably increase the total CO_2 emissions produced by the state or county. Therefore, GHG emissions from operations under Alternative 2 would result in long-term, minor, adverse impacts on air quality, but slightly less than Alternative 1. As with Alternative 1, annual emissions from stationary sources (i.e., fuel storage tanks) for Alternative 2 would not exceed the USEPA's annual 25,000 metric tpy reporting threshold; therefore, DHS would not be required to report annual GHG emissions.

According to the Lawrence Berkeley National Laboratory, utility-scale solar power produces 447 megawatt hours per acre per year for fixed-tilt solar PV systems (Bolinger and Bolinger 2022). In 2021, the CO_2 total output emissions rate for all nonrenewable fuels in the Electric Reliability Council of Texas (ERCOT) All Emissions & Generation Resource Integrated Database (eGRID) region, which includes south Texas, was 813.6 pounds per megawatt hour (USEPA 2023c). Thus, an acre of solar panels producing zero-emissions electricity in Laredo would save approximately 363,697 pounds, or 182 tons (165 metric tons), of CO_2 per year. Each acre of

solar panel array potentially installed under Alternative 2 would reduce the annual social cost of GHG by approximately $9,240 (165 metric tons CO_2 x $56 per metric ton of CO_2 = $9,240). The annual CO_2 savings from each acre of solar PV system (165 metric tons) would be equal to the GHG footprint of 37 passenger vehicles drive for one year or 21 homes' energy use for one year (USEPA 2022b). The CO_2e emissions savings from a solar PV system could offset a portion of the estimated CO_2e emissions from operation of the JPC (i.e., fuel dispensing activities and the 200 personnel commuting to and from the JPC daily).

Ongoing changes to climate patterns in Texas are described in **Section 3.6.2**. These climate changes are unlikely to affect the ability of DHS to implement the Proposed Action. The project site is primarily an unimproved tract of land used for cattle grazing with fencing, gates, and a caliche-based access road. Rising temperatures, increased storm intensity, increased severity of flooding and droughts, disruption of natural ecosystems, and other results from ongoing climate change would not affect the Proposed Action under Alternative 2, nor would Alternative 2 meaningfully contribute to the occurrence of such events. Alternative 2 would contribute to global climate change slightly less than Alternative 1 if solar energy is incorporated.

3.6.3.3 No Action Alternative

Under the No Action Alternative, DHS would not construct the JPC and ancillary support facilities, and air quality conditions would remain as described in **Section 3.6.2**. There would be *no impact to air quality or climate change* under the No Action Alternative.

3.7 NOISE

3.7.1 DEFINITION OF THE RESOURCE

Noise is defined as undesirable sound that interferes with communication, is intense enough to damage hearing, or is otherwise intrusive. Sound intensity is quantified using a measure of sound pressure level called decibels (dB). The A-weighted decibel (dBA) is a measurement in which "A-weighting" is applied to the dB to approximate a frequency response expressing the perception of sound by the human ear and deemphasizes the higher and lower frequencies that the human ear does not perceive well. The range of audible sound levels for humans is considered to be 1 to 130 dBA, and the threshold of audibility is generally within the range of 5 to 25 dBA (USEPA 1981a; USEPA 1981b).

Sensitive noise receptors could include specific locations (e.g., schools, churches, hospitals) or an expansive area (e.g., nature preserves, conservation areas, historic preservation districts) in which occasional or persistent sensitivity to noise above ambient levels exist. Noise is often generated by activities essential to a community's quality of life, such as construction or vehicular traffic.

The Noise Control Act of 1972 established a national policy to promote an environment free from noise that jeopardizes human health and welfare. It directs federal agencies to comply with applicable federal, state, and local noise control regulations. The City of Laredo maintains a noise ordinance, which restricts sound levels above 70 dBA between 8:00 p.m. and 7:00 a.m. (City of Laredo 2023). According to the Federal Aviation Administration and the U.S.

Department of Housing and Urban Development, residential units and other noise-sensitive land uses are "clearly unacceptable" in areas where noise exposure exceeds 75 dBA, and "normally acceptable" in areas where noise exposure is 65 dBA or less (24 CFR Part 51).

3.7.2 AFFECTED ENVIRONMENT

As stated in the 2022 Laredo HQ EA, noise within the general project site and surrounding area is elevated due to the proximity of the parcel to SH 20. However, no noise-sensitive receptors, such as residences, schools, hotels, libraries, religious institutions, hospitals, or similar uses, are located within 2,000 feet of the project site.

Construction noise can cause an increase in sound that is well above ambient levels. Noise levels associated with common types of construction equipment are listed in **Table 3-6**. The Occupational Safety and Health Administration (OSHA) sets legal limits on noise exposure levels. The minimum requirement states that exposure for workers 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, and exposure to this level must not exceed 15 minutes within an 8-hour period (29 CFR Part 1910.95).

Table 3-6.Average Noise Levels for Common Construction Equipment

Construction Category and Equipment	Predicted Noise Level at 50 feet (dBA)	Predicted Noise Level at 250 feet (dBA)	Predicted Noise Level at 500 feet (dBA)	Predicted Noise Level at 1,000 feet (dBA)
Clearing and Grading	Blank	Blank	Blank	Blank
Grader	80 to 93	66 to 79	60 to 73	54 to 67
Truck	83 to 94	69 to 80	63 to 74	57 to 68
Backhoe	72 to 93	58 to 79	52 to 73	46 to 67
Construction	Blank	Blank	Blank	blank
Concrete Mixer	74 to 88	60 to 74	54 to 68	48 to 62
Crane	63 to 88	49 to 74	43 to 68	37 to 62
Paver	86 to 88	72 to 74	66 to 88	60 to 62
Dozer/Tractor	60 to 89	46 to 75	40 to 69	34 to 63
Front Loader	70 to 90	56 to 76	50 to 70	44 to 64
Compressor	63 to 84	49 to 70	43 to 64	37 to 58

Sources: (USEPA 1971; FHWA 2017)

3.7.3 ENVIRONMENTAL CONSEQUENCES

Impacts to the noise environment would be considered adverse if they would result in substantial changes to ambient noise, exceedances of applicable noise regulations, or intrusive noise for sensitive receptors.

3.7.3.1 Alternative 1: Proposed Action

During construction of the JPC, the use of heavy construction equipment, such as those identified in **Table 3-6**, would generate intermittent, temporary increases in ambient noise levels during the

demobilization and construction periods. Noise from construction would vary depending on the type of equipment being used, the area in which the activity would occur, and the distance of the receptor to the noise source; however, noise levels generated by construction equipment typically exceed ambient levels by 20 to 30 dBA. The use of multiple pieces of equipment with identical or similar noise levels would result in additive noise that would increase the overall noise environment by a few dB over the noisiest equipment (USEPA 1971).

Construction noise levels would mostly be limited to the immediate vicinity of the project site where the primary receptors would be construction workers and DHS personnel. Noise heard by DHS personnel would be a nuisance but would not be damaging since there would be some, although minimal, throughout the construction site. DHS would comply with applicable OSHA standards for occupational noise exposure to protect DHS personnel from unacceptable levels of noise throughout the duration of construction.

Construction noise would decrease with increasing distance from the construction activities and would generally attenuate to below 65 dBA between 500 to 1,500 feet from the source. Implementing noise reduction BMPs, such as turning off equipment when not in use, the use of exhaust mufflers and other noise dampening equipment, could reduce the sound level by up to 10 dBA (USEPA 1971). Construction contractors would adhere to appropriate OSHA standards to protect the workforce from excessive noise and would use personal hearing protection to limit exposure. Construction noise would occur for the duration of the construction period and would be confined to normal workdays and working hours (e.g., 7:00 a.m. to 5:00 p.m.) (see **Appendix C**). Noise beyond ambient levels would cease following the construction period. All applicable noise laws and guidelines would be followed to reduce the effects from noise produced by construction. As stated in the 2022 Laredo HQ EA, the Proposed Action is in an area approximately 0.7 miles southeast of the nearest residential communities. All construction noises would attenuate to acceptable levels prior to reaching the residential area. Therefore, Alternative 1 would result in *short-term, minor adverse impact*s to the noise environment during construction of the JPC.

Operation and maintenance of the proposed JPC would generally entail noise consistent with pre-construction ambient noise levels. Operational activities and traffic patterns may increase post construction at the site and along SH 20. Installation of the proposed helipad to accommodate helicopter flights would introduce a novel, but infrequent, source of noise. DHS estimates that one helicopter flight per week (i.e., 52 flights per year) would occur to the project site. A helicopter would not be stationed at the project site. Helicopter overflights at 1,000 feet above ground level can generate noise up to 82 dBA (FAA 1977). This noise would generate distinct events that have the potential to periodically, but briefly, annoy individuals directly under the flight path. These disruptions would be temporary and intermittent but would occur on a routine basis. Therefore, Alternative 1 would result in *long-term, minor adverse impacts* on the noise environment during operation of the JPC.

3.7.3.2 Alternative 2: Net-Zero Alternative

Impacts to the noise environment at the project site would be similar to those under Alternative 1. The installation and operation of net-zero technologies would not result in additional changes

to the ambient noise environment. There would be *short-term, minor adverse impacts* during construction, and *long-term, minor adverse impacts* during operation under Alternative 2.

3.7.3.3 No Action Alternative

Under the No Action Alternative, DHS would not construct the JPC and ancillary support facilities. The noise environment would remain as described in **Section 3.7.2**. There would be *no impact* to the noise environment under the No Action Alternative.

3.8 CULTURAL RESOURCES

3.8.1 DEFINITION OF THE RESOURCE

The term "cultural resources" refers to a broad range of properties relating to history, prehistory, or places important in traditional religious practices and include historic properties, archeological resources, and sacred sites Several federal laws and EOs, including the NHPA, the Archaeological and Historic Preservation Act, the American Indian Religious Freedom Act, the Archaeological Resources Protection Act (ARPA), the Native American Graves Protection and Repatriation Act (NAGPRA), and EO 13007, *Indian Sacred Sites*, refer to cultural resources.

The NHPA focuses on property types such as pre-contact and historic-age sites, buildings and structures, districts, and other places that have physical evidence of human activity considered important to a culture or a community for scientific, traditional, religious, or other reasons. These resources can prove useful in understanding and describing the cultural practices of past peoples or retain cultural and religious significance to modern groups. Resources judged significant under criteria established in the NHPA are considered eligible for listing in the National Register of Historic Places (NRHP). The NRHP refers to those places as "historic properties" and the NHPA requires federal agencies to consider the effects of their activities and programs on NRHP-eligible or listed properties.

The implementing regulations for the NHPA, *Protection of Historic Properties* (36 CFR Part 800), present a process for federal agencies to consult with the appropriate State Historic Preservation Officer (SHPO)/Tribal Historic Preservation Officer, federally recognized tribes, Native Hawaiian organizations, other interested parties, and, when appropriate, the Advisory Council on Historic Preservation. This is to ensure that potential effects on historic properties are adequately considered.

Cultural items as defined by the NAGPRA are defined as human remains, as well as both associated and unassociated funerary objects, sacred objects, and objects of cultural patrimony or objects that have an ongoing historical, traditional, or cultural importance to a Native American group or culture (NPS 2006b). Archeological resources, as defined by ARPA, consist of any material remains of past human life or activities that are of archeological interest and are at least 100 years of age. Such items include, but are not limited to, pottery, basketry, bottles, weapons, weapon projectiles, tools, structures or portions of structures, pit houses, rock paintings, rock carvings, intaglios, graves, human skeletal remains, or any portion or piece of those items (NPS 2006c). Sacred sites are defined by EO 13007, Indian Sacred Sites, as any specific, discrete, narrowly delineated location on Federal land that is identified by a Native American tribe or

Native American individual determined to be an appropriately authoritative representative of a Native American religion as sacred by virtue of its established religious significance, or ceremonial use by, a Native American religion, provided that the tribe or appropriately authoritative representative of a Native American religion has informed the federal land-owning agency of the existence of such a site (NPS 1996).

3.8.2 AFFECTED ENVIRONMENT

Existing Archeological Sites and Previously Conducted Archeological Surveys

Pursuant to 36 CFR 800.16(d), the Area of Potential Effect (APE) for the undertaking consists of a one-mile radius from the proposed site location. No known NRHP-listed properties or districts, Recorded Texas Historic Landmarks (RTHLs), or Official Texas Historical Markers (OTHMs) are located within the APE. Eight archeological investigations have been previously conducted per the Texas Archeological Sites Atlas (Atlas; **Table 3-7)**. Nine sites were identified during these previous investigations (**Table 3-8).**

2023 Archeological Survey Results

An investigation was performed for the 2022 Laredo EA (Atlas Number: 8500025734; CBP 2022; Lindemuth 2022). No new sites were identified during the survey. However, a potentially significant extension of the previously recorded archeological site 41WB624 with an undetermined NRHP eligibility was discovered. In coordination with the Texas Historical Commission (THC), CBP determined additional survey would be needed to determine the eligibility of the extension of site 41WB624. Concurrence was received by the THC on December 30, 2021. No comments were received from Tribes.

Given the results of the 2022 survey, further investigation was performed in the proposed project area to determine the extent and NRHP eligibility of the extension of site 41WB624 into the project area. The field investigations included tight transect mapping (i.e., visual ground surveys), surface collection using controlled Surface Collection Units (SCUs), the mechanical excavation of trenches, and the hand excavation of test units (TUs). The fieldwork was conducted over five, 10-day field sessions between July 13 and October 27, 2023. Section 106 consultation to determine the eligibility of site 41WB624 is ongoing and will be completed and any mitigation measures implemented prior to construction.

During the 2023 field investigation, seventy-one 15-meter (m) spaced transects were pre-plotted north to south in the proposed project area. A total of 156 potentially diagnostic (i.e., a time period or cultural group can be identified) lithic tools were recorded during the transect mapping in the APE. In addition to the potential culturally/temporally diagnostic artifacts recorded, 44 archaeological features indicating past human activity were also recorded during visual ground survey. Most of the features (39) recorded were thermally altered rock concentrations that potentially represent hearths. The remaining five features consisted of lithic debitage concentrations that were interpreted to represent lithic chipping stations where stone tools may have been made, including one that represented an early reduction location. An additional seven agave concentrations were mapped as potentially significant resources based on the historic importance of these plants to the Native American people of the area.

500 **Table 3-7. Previously Conducted Archeological Investigations within the 1 Mile APE.**

Atlas Number	Title/Sponsor	Project Type	Texas Antiquities Commission Permit	Sites Discussed
8400008925	Texas Water Development Board 1997 Annual Report to the Texas Historical Commission for Texas Antiquities Permit 1779	Survey	1779	N/A
8400009606	Federal Highway Administration and Texas Department of Transportation	Survey	N/A	N/A
8500011453	Texas Department of Transportation	Survey	N/A	N/A
8400011871	Cuatro Vientos – A Reconsideration of Seven Prehistoric Sites in the Lower Rio Grande Plains of South Texas; Texas Department of Transportation	Survey	3755	41WB441, 41WB572, 41WB577, 41WB578, 41WB621, 41WB622, and 41WB623
8500013508	Webb County	Survey	2593	N/A
8500014152	Cuatro Vientos – A Reconsideration of Seven Prehistoric Sites in the Lower Rio Grande Plains of South Texas; Texas Department of Transportation	Survey	3755	41WB441, 41WB572, 41WB577, 41WB578, 41WB621, 41WB622, and 41WB623
8500017233	Texas Department of Transportation	Survey	Survey	41WB624
8500025734	U.S. Customs and Border Protection	Survey	N/A	41WB624

501 Source: THC 2020

502 **Table 3-8. Previously Recorded Archeological Resources Recorded within the 1 Mile APE.**
503

Atlas Number	Number/Name	Site Type	Designation/Eligibility
Archeological Sites			
9479057399 9479057301 9479057302	41WB573	Prehistoric campsite with lithic reduction area	2/13/2001 – Undetermined 5/28/2001 – Undetermined 2/12/2004 - Undetermined
9479057799 9479057701 9479057702	41WB577	Prehistoric campsite with lithic reduction area	2/13/2001 - Undetermined 1/5/2005 - Undetermined 9/2/2005 - Undetermined 3/9/2007 - Ineligible
9479057899 9479057801	41WB578	Prehistoric campsite with lithic reduction area	2/13/2001 - Undetermined 1/5/2005 - Undetermined

9479057802			9/2/2005 - Undetermined 3/9/2007 - Undetermined
9479062199 9479062101	41WB621	Prehistoric campsite with lithic reduction area	3/9/2007 – Ineligible 1/5/2005 – Undetermined 9/2/2005 - Ineligible
9479062299 9479062201 9479062202	41WB622	Open campsite and lithic procurement locale	1/5/2005 – Undetermined 9/2/2005 – Ineligible 3/9/2007 - Ineligible
9479062399 9479062301 9479062302	41WB623	Open campsite and lithic procurement locale	1/5/2005 – Undetermined 9/2/2005 – Ineligible 3/9/2007 - Ineligible
9479062499 9479062401	41WB624	Prehistoric campsite with lithic reduction area	1/5/2005 – Undetermined 2/1/2010 - Ineligible within ROW 5/27/2022 - Undetermined
9479066201	41WB662	Prehistoric open campsite	8/3/2007 - Ineligible within ROW
9479077001	41WB770	Prehistoric lithic procurement locale	No review on record

Source: Lindemuth 2022

Thirty-five SCUs were placed across portions of the project area that were considered to have a low potential for intact subsurface deposits. During the project, a substantial rain event took place. This resulted in several of the surface artifacts being horizontally displaced between the time they were recorded during the initial tight transect survey and the placement of the SCUs. Artifacts were recorded up to 10 meters from their initial location which suggests that at least some portions of the site can experience substantial surface disturbance. As a result, the context of the surface artifacts in the upland portions of the site indicate artifact displacement due to natural causes and would not be an extension of nearby site 41WB624.

Subsurface testing was performed by mechanically excavating twenty trenches and the hand excavation of ten test units. Twenty trenches were mechanically excavated in the northern portion of the APE, where there was a noted concentration of culturally/temporally diagnostic material as well as several features. Overall, examination of the profiles of the trenches showed very little evidence of buried cultural deposits. Fifteen of the trenches had no evidence of cultural material. Where found, the cultural deposits were low-density and ephemeral. As a result, the data from the mechanically excavated trenches suggests there is little or no potential for significant in situ subsurface deposits at the site, even within the soils that have previously been shown to have a moderate potential for subsurface cultural material.

Ten hand excavated test units were placed across the APE of site 41WB624. The majority of the test units (TUs), seven of the ten units excavated, were placed on features recorded during the tight transect mapping portion of the project within the area with a low potential for subsurface deposits, based on previous research. Cultural material was recovered from nine of the ten test units that were excavated across the site. Overall material recovered from the test units was low-density and recovered from the upper 50 centimeters below datum (cmbd). Only a few stone tools were recovered from the subsurface contexts in the test units excavated and none of the stone tools recovered were culturally/temporally diagnostic. The hand excavated test units suggest that the there is little or no potential for significant subsurface material within the APE

tested. As a result, the initial results suggest the subsurface deposits within the APE of site 41WB624 have little to no potential to provide significant information regarding overall prehistoric settlement and adaptation in the lower Rio Grande Valley. Initial results suggest the subsurface deposits have little to no potential to provide significant information regarding overall prehistoric settlement and adaptation in the lower Rio Grande Valley (GSRC 2023).

3.8.3 ENVIRONMENTAL CONSEQUENCES

Adverse effects on cultural resources can include physically altering, damaging, or destroying all or part of a resource; altering characteristics of the surrounding environment that contribute to the resource's significance; introducing visual or audible elements that are out of character with the property or that alter its setting; neglecting the resource to the extent that it deteriorates or is destroyed; or selling, transferring, or leasing the property out of agency ownership without adequate legally enforceable restrictions or conditions to ensure preservation of the property's historic significance. Ground-disturbing activities constitute the most relevant potential impacts on archaeological resources. Visual effects constitute the most relevant impacts on above-ground resources.

3.8.3.1 Alternative 1: Proposed Action

DHS is in the process of finalizing the cultural resource survey report resulting from the 2023 field investigation to determine if and how much site 41WB624 extends into the proposed project area. If the site does extend into the proposed project area, DHS will make a NRHP and effect determination in coordination with the THC and in consultation with Tribes. DHS would then follow the procedures set forth in 36 CFR 800.4-800.5, as needed, prior to construction activities.

3.8.3.2 Alternative 2: Net-Zero Alternative

Impacts to cultural resources at the project site would be similar to those under Alternative 1. The installation and operation of net-zero technologies would result in a change in the visual aesthetics of the project site from existing conditions if an elevated solar PV system is installed (i.e., mounted on a rooftop or parking canopy). If the extension of site 41WB624 is determined to be eligible for the NRHP and an adverse effect determination made that cannot be avoided, DHS would seek follow 36 CFR 800.5 in order to minimize or mitigate the adverse effect on historic properties.

3.8.3.3 No Action Alternative

Under the No Action Alternative, DHS would not construct the JPC and ancillary support facilities. Cultural resources would remain as described in **Section 3.8.2**. There would be *no impact* to cultural resources under the No Action Alternative.

3.9 UTILITIES AND INFRASTRUCTURE

3.9.1 DEFINITION OF THE RESOURCE

Infrastructure consists of the interrelated systems and physical structures that enable a population in a specified area to function. The infrastructure components to be discussed in this section include utilities, solid waste management, and hardened public infrastructure. Utilities generally include electrical supply, natural gas or propane supply, water supply, sanitary sewer and wastewater, communications systems, and stormwater drainage infrastructure. Solid waste management primarily relates to the availability of landfills to support a population's residential, commercial, and industrial needs. Public infrastructure relates to built features that are publicly accessible, such as sidewalks and roadways.

The intent of EO 14057, *Catalyzing Clean Energy Industries and Jobs Through Federal Sustainability*, is to transform how the federal government builds, buys, and manages its assets and operations, by supporting the growth of America's clean energy and clean technology industries and accelerating progress toward achieving a net-zero, carbon pollution-free electricity sector by 2035. Net-zero refers to a building or facility that has net-zero emissions and conserves water and/or waste. A net-zero emissions building is designed and operated so that when it's connected to a regional electrical grid it is fully serviced by carbon pollution-free electricity.

3.9.2 AFFECTED ENVIRONMENT

Electrical power for the project site is currently available via commercial grids from American Electric Power (AEP) Texas, a unit of AEP company that distributes electrical energy on behalf of the various Retail Electric Providers operating within the project site and provides electricity to an area of approximately 97,000 square miles in south and west Texas (AEP Texas 2023). The project site is tied into municipal utilities for water, with existing infrastructure being provided and maintained by the City of Laredo. Sewerage utilities would be available through the construction of a fully automated anaerobic septic system after mandatory permits have been acquired for TCEQ compliance. Hardened infrastructure surrounding the project site consists of major Laredo routes USRT 83 and SH 20, with no new public infrastructure required for ingress or egress at the proposed JPC.

Solid waste for the project site would be collected and disposed of by a local waste disposal contractor. Solid waste receptacles will be maintained at the project site. Non-hazardous solid waste (trash and waste construction materials) will be collected and deposited in on-site receptacles. Any hazardous or regulated material would be collected and stored in tanks or drums within a secondary containment system and discarded by a properly licensed and certified hazardous waste disposal contractor under applicable federal and state rules and regulations. All rainwater collected in secondary containment will be pumped out, and secondary containment will have netting to minimize exposure to wildlife. The tracking of waste materials to their final destinations would be included to ensure proper disposal.

3.9.3 ENVIRONMENTAL CONSEQUENCES

Effects on utilities and infrastructure are evaluated for their potential to disrupt or improve existing levels of service and create additional needs for electricity, water, sanitary sewer and wastewater service, stormwater drainage, and solid waste management.

3.9.3.1 Alternative 1: Proposed Action

Impacts from the installation of electrical, sewerage, and potable water for a JPC and ancillary facilities would be the same as what was already disclosed in the 2022 Laredo HQ EA for construction of a headquarters.

The new JPC's potential capacity of 200 staff and 500 undocumented noncitizens would be estimated to use approximately 17,500 gallons of water per day for a total of approximately 6.4 million gallons per year. As this is 0.0001 percent of the annual surface water available within the Rio Grande River Basin (TWDB 2022), it is anticipated that impacts to water availability would be long-term and negligible. Additionally, no water would be drawn from local aquifers for municipal purposes, sewage would be handled through the construction of a fully automated anaerobic septic system, and no new public infrastructure, such as roadways, would be built in support of the proposed JPC. Therefore, Alternative 1 would result in *long-term, negligible impacts* to water and wastewater utilities, and *no impact* to public infrastructure.

Construction of the proposed JPC would generate solid waste. This non-hazardous debris would primarily consist of trash and waste construction materials, which would be collected and deposited in maintained on-site receptacles. The JPC would contain solid waste materials until removed from the construction and maintenance sites by a local waste disposal contractor, assisting in keeping the project site and surroundings free of litter and reducing the amount of disturbed area needed for waste storage. DHS would minimize site disturbance and avoid attracting predators by promptly removing waste materials, wrappers, and debris from the site. Any waste that must remain more than 12 hours would be properly stored until disposal. Alternative 1 would have *short-term, minor adverse impacts* on solid waste during construction, and *long-term, minor beneficial impacts* on solid waste during operation.

3.9.3.2 Alternative 2: Net-Zero Alternative

Implementation of Alternative 2 would result in the same construction impacts and similar but fewer operational impacts to utilities and infrastructure as Alternative 1, due to the installation and operation of net-zero technologies to conserve energy, potable water, and/or wastewater instead of relying on nonrenewable resources. Installation and use of solar PV panels and a BESS would result in a decrease of consumption of electricity from the power grid relative to Alternative 1. The use of an AWG could produce up to approximately 1,300 gallons of water per day, although the size of AWG installed would depend on cost and feasibility given site conditions. Although operation of an AWG could result in increased energy needs, the proposed solar PV system could be designed to compensate for and offset this potential increase. Lastly, while solid sanitary waste would still need to be hauled off-site and disposed, the proposed VF system would be able to handle all wastewater requirements and would be able to remove up to 99 percent of contaminants. Prior to installing the VF system, DHS would obtain a permit for an on-site sewage facility from TCEQ (TCEQ 2023a). The treated wastewater could be reused for irrigation and landscaping where feasible. The TCEQ has defined two different categories of reclaimed water; depending on the proposed reuse of wastewater, DHS may need to notify and coordinate with TCEQ prior to using reclaimed water (TCEQ 2023b). Overall, Alternative 2 would be anticipated to have *long-term, minor adverse impacts* on electric utilities due to the new facility being added to the regional grid, although potential use of a solar PV system reduces

electrical requirements compared to Alternative 1. Alternative 2 would also have *long-term, moderate beneficial impacts* on water and wastewater utilities by eliminating or reducing reliance on municipal, nonrenewable utilities. There would be *no impact* to public infrastructure, and long-term, minor beneficial impacts on solid waste.

3.9.3.3 No Action Alternative

Under the No Action Alternative, DHS would not construct the JPC and ancillary support facilities. Utilities and infrastructure would remain as described in **Section 3.9.2**. There would be *no impact* to utilities and infrastructure under the No Action Alternative.

3.10 ROADWAYS AND TRAFFIC

3.10.1 DEFINITION OF THE RESOURCE

The roadways and traffic resource is defined as the system of roadways and highways that are in the vicinity of a proposed project location and could reasonably be affected by a proposed action. Traffic relates to changes in the number of vehicles on roadways and highways as a result of a proposed action.

3.10.2 AFFECTED ENVIRONMENT

I-35 and USRT 83 are the primary north-south routes, and USRT 59 and SH 359 are the main east-west routes in Webb County, Texas. The location of the Proposed Action would be located directly off SH 20. The site resides to the south of the City of Laredo, Texas. I-35 extends for a total of 1,568 miles from the international border in Laredo, Texas to Duluth, Minnesota, with nearly 500 miles existing within the Texas border. USRT 83 covers 895 miles within Texas from the City of Brownsville to the Oklahoma border near Perryton and continues for 1,885 total miles to the Canadian border north of Westhope, North Dakota. USRT 59 runs the length of the country from Lancaster, Minnesota to Laredo, Texas. Although SH 59 runs north-south across the country, it runs east-west in Webb County, Texas. According to TxDOT, the average annual daily traffic counts for SH 20 at the site was 15,449 vehicles per day in 2022 and 12,969 vehicle per day in 2021 (TxDOT 2023a).

3.10.3 ENVIRONMENTAL CONSEQUENCES

Impacts on transportation are evaluated by how well existing roadways can accommodate changes in traffic. Adverse impacts would occur if drivers experienced high delays because the Proposed Action altered traffic patterns beyond existing lane capacity.

3.10.3.1 Alternative 1: Proposed Action

During construction, traffic within the vicinity of the proposed JPC along SH 20 would temporarily increase due to the hauling of material and debris, construction equipment, and construction worker commutes to and from the project area. Upon completion of construction activities, the number of USBP agents traveling those roads to access the JPC would increase as well. This increase in traffic volume associated with agents coming and going from the JPC would have negligible impacts on roadways and traffic as SH 20 can withstand the projected volumes. Under the Proposed Action, the JPC would have the capacity to process 500 undocumented noncitizens, with the potential to expand to 1,000. This would require additional buses, vans, and other modes of transportation used to bring undocumented noncitizens to the JPC each day. The volume and type of traffic related to those types of vehicles is dependent on undocumented noncitizen activities. Although Alternative 1 would have *short- and long-term, negligible to minor adverse impacts* on roadways and traffic adjacent to the project site, the changes in traffic levels associated with the proposed JPC would not be expected to exceed current capacity.

3.10.3.2 Alternative 2: Net-Zero Alternative

Impacts from hazardous materials at the project site would be similar to those under Alternative 1. The installation and operation of net-zero technologies would not result in additional changes to roadways and traffic. There would be *short-term, negligible to minor adverse impacts* during construction, and *long-term, negligible to minor adverse impacts* during operation under Alternative 2.

3.10.3.3 No Action Alternative

Under the No Action Alternative, DHS would not construct the JPC and ancillary support facilities. Roadways and traffic would remain as described in **Section 3.10.2**. There would be *no impact* from roadways and traffic under the No Action Alternative.

3.11 HAZARDOUS MATERIALS

3.11.1 DEFINITION OF THE RESOURCE

Hazardous materials are defined by 49 CFR Part 171.8 as hazardous substances, hazardous wastes, marine pollutants, elevated temperature materials, materials designated as hazardous in the Hazardous Materials Table (49 CFR Part 172.101), and materials that meet the defining criteria for hazard classes and divisions in 49 CFR Part 173. Hazardous wastes are defined in the Resource Conservation and Recovery Act at 42 U.S.C. 6903(5), as amended by the Hazardous and Solid Waste Amendments.

Certain types of hazardous wastes are subject to special management provisions intended to ease management burden and facilitate the recycling of such materials. These materials are called universal wastes and requirements for managing them are established in 40 CFR Part 273, Standards for Universal Waste Management. Wastes covered under the universal waste regulations include batteries, pesticides, mercury-containing equipment, lamps, and aerosol cans.

Petroleum products include crude oil or any derivative thereof, such as gasoline, diesel, or propane. They are considered hazardous materials because they present health hazards to users in the event of incidental releases or extended exposure to their vapors.

Evaluation of hazardous materials and wastes focuses on the storage, transportation, handling, and use of hazardous materials, as well as the generation, storage, transportation, handling, and disposal of hazardous wastes. In addition to being a threat to humans, the improper release or storage of hazardous materials, hazardous wastes, and petroleum products can threaten the health and well-being of wildlife species, habitats, soil systems, and water resources. Environmental contamination sites are also considered during the evaluation of hazardous materials and wastes. A site-specific Phase I Environmental Site Assessment is a comprehensive investigation of environmental contamination threats on a specific property.

Radon is a naturally occurring odorless and colorless radioactive gas found in soils and rocks that can lead to the development of lung cancer. Radon tends to accumulate in enclosed spaces, usually those that are below ground and poorly ventilated (e.g., basements). The USEPA

established a guidance radon level of 4 picocuries per liter (pCi/L) in indoor air for residences, and radon levels above this amount are considered a health risk to occupants (USEPA 1993).

Other hazardous substances that can pose a risk to human health include asbestos-containing materials, lead-based paint, and polychlorinated biphenyls, which are typically found in building materials and infrastructure. Since the project site does not contain any permanent structures, there is no potential for these substances to be present.

3.11.2 AFFECTED ENVIRONMENT

A Phase I Environmental Site Assessment was conducted in 2022 to evaluate any potential environmental risk in support of the 2022 Laredo HQ EA (GSRC 2022). It included site reconnaissance, interviews, and a records search of known hazardous waste sites and remediation activities. The assessment did not identify any recognized environmental conditions in the immediate vicinity of the subject property (GSRC 2022).

Installation and operation of the proposed JPC may involve the potential release of hazardous materials from the use of heavy construction equipment, vehicles, maintenance facilities, and fuel Aboveground Storage Tanks (ASTs). Additionally, the detection of three pipelines and a possibility of a fourth pipeline may also involve the possibility of releasing hazardous materials. All hazardous and regulated wastes and substances possibly generated by operation of the new JPC would be collected, characterized, labeled, stored, transported, and disposed of in accordance with all federal, state, and local regulations, including proper waste manifesting procedures. All other hazardous and regulated materials or substances would be handled according to materials safety data sheet instructions and would not affect water, soils, vegetation, wildlife, or the safety of USBP agents and staff.

The USEPA rates Webb County, Texas, as Radon Zone 3. Counties in Zone 3 have a predicted average indoor radon screening level that is less than 2 pCi/L, which is below the USEPA established guidance radon level of 4 pCi/L (USEPA 1993).

3.11.3 ENVIRONMENTAL CONSEQUENCES

Impacts from the use of hazardous materials would be considered adverse if they would be managed, handled, or disposed of in a way that would result in hazardous releases and site contamination.

3.11.3.1 Alternative 1: Proposed Action

Construction of the proposed JPC as described in the Proposed Action would involve the use of heavy construction equipment, which has the potential for inadvertent release of hazardous materials such as fuels, lubricants, hydraulic fluids, and other chemicals during the construction activities. Any spills or releases that might occur during construction activities would be minimized through the implementation of mitigation measures and BMPs, such as fueling only in controlled and protected areas away from surface waters, maintaining emergency spill cleanup kits at all sites during fueling operations, and maintaining all equipment in good operating condition to prevent fuel and hydraulic fluid leaks (See **Appendix C**). Construction contractors

would also be required to develop a project-specific SPCCP; and a properly licensed and certified hazardous waste disposal contractor will be used for hazardous waste disposal. The tracking of waste materials to their final destinations would be included to ensure proper disposal. Additionally, Alternative 1 would not result in the exposures of the environment or public to any hazardous materials; therefore, Alternative 1 would have *short-term, minor impacts* from the use of hazardous materials during construction activities.

Negligible amounts of hazardous materials may be used during operation of the proposed JPC and ancillary facilities as part of normal operations and for maintenance and facility cleaning. The potential impacts of hazardous and regulated materials – such as fuels, waste oils, and solvents – would be minimized by using tanks or drums within a secondary containment system that consist of impervious floors and bermed sidewalls capable of containing the volume of the largest container stored therein. The fuel ASTs installed at the new JPC would be double-walled and contained within all protective measures needed to prevent the release of any tank spills. These tanks would be inspected regularly to ensure they are operating properly and meet all applicable regulatory standards. The vehicle maintenance facility would be equipped with oil/water separators to collect any petroleum or other automotive fluids spilled, and waste automotive fluids would be collected and disposed of in accordance with state regulations. Other materials such as paints, adhesives, and cleaners would also be used during operation and maintenance activities.

Operation of the proposed JPC would generate negligible amounts of hazardous wastes; and all hazardous and regulated wastes and substances used, stored, or generated by operation of the new JPC would be collected, characterized, labeled, stored, transported, and disposed of in accordance with all federal, state, and local regulations, including proper waste manifesting procedures. All other hazardous and regulated materials or substances would be handled according to materials safety data sheet instructions and would not affect water, soils, vegetation, wildlife, or the safety of USBP agents and staff. DHS would develop and implement a site-specific SPCCP that would outline procedures in the event of a spill or release of hazardous materials or waste. No impacts from radon would occur; based on the USEPA rating of Radon Zone 3 for Webb County, it is unlikely that indoor radon screening levels greater than 2 pCi/L would be identified in new construction. The use and generation of hazardous materials and wastes during operation and maintenance of the proposed JPC would result in *long-term, minor impacts* of the environment, as the practices and regulations would withhold hazardous and regulated materials and substances would from impacting the public, groundwater, and general environment.

3.11.3.2 Alternative 2: Net-Zero Alternative

Impacts from hazardous materials at the project site would be similar to those under Alternative 1. The installation and operation of net-zero technologies would not result in additional changes to the use or generation of hazardous materials. There would be *short-term, minor adverse impacts* during construction, and *long-term, minor adverse impacts* during operation under Alternative 2.

3.11.3.3 No Action Alternative

Under the No Action Alternative, DHS would not construct the JPC and ancillary support facilities. Hazardous materials would remain as described in **Section 3.11.2**. There would be *no impact* from hazardous materials under the No Action Alternative.

3.12 SOCIOECONOMIC RESOURCES, ENVIRONMENTAL JUSTICE, AND PROTECTION OF CHILDREN

3.12.1 DEFINITION OF THE RESOURCE

Socioeconomics

Socioeconomics is defined as the basic attributes and resources associated with the human environment, particularly characteristics of population and economic activity. Regional birth and death rates and immigration and emigration affect population levels. Economic activity typically encompasses employment, personal income, and industrial or commercial growth. Changes in these fundamental socioeconomic indicators typically result in changes to additional socioeconomic indicators, such as housing availability and the provision of public services. Socioeconomic data at local, county, regional, and state levels permit characterization of baseline conditions in the context of regional and state trends.

Environmental Justice and the Protection of Children

EO 12898, *Federal Actions to Address Environmental Justice (EJ) in Minority Populations and Low-Income Populations*, directs agencies to identify and address the environmental effects of their actions on minority and low-income populations. The EO was enacted to ensure the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with the respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. CEQ defines that minority populations exist if (a) the minority population of the affected area exceeds 50 percent or (b) the minority population percentage of the affected area is meaningfully greater than the minority population percentage in the general population or other appropriate unit of geographic analysis (CEQ 1997a). CEQ also defines that low-income populations exist where there is a substantial discrepancy between a community and surrounding communities with regard to income and poverty status (CEQ 1997a). Poverty status is determined based on the U.S. Census Bureau's annual poverty measure (CEQ 1997a).

Since the finalization of the 2022 Laredo HQ EA (CBP 2022), EO 14096, *Revitalizing Our Nation's Commitment to Environmental Justice for All*, was issued in April 2023. This EO affirms that EJ is central to the implementation of our civil rights and environmental laws. For the first time, the EO provides a federal definition of environmental justice as "the just treatment and meaningful involvement of all people, regardless of income, race, color, national origin, Tribal affiliation, or disability, in agency decision-making and other Federal activities that affect human health and the environment." The EO directs agencies to consider measures to address and prevent disproportionate and adverse environmental and health impacts on communities, including the cumulative impacts on pollution and other burdens like climate change.

EO 13045, *Protection of Children from Environmental Health Risks and Safety Risks*, states that each federal agency "(a) shall make it a high priority to identify and assess environmental health risks and safety risks that may disproportionately affect children; and (b) shall ensure that its policies, programs, activities, and standards address disproportionate risks to children that result from environmental health risks or safety risks." Children might be more susceptible than adults to certain environmental effects and risks. Therefore, activities occurring near areas that could have higher concentrations of children during any given time, such as schools and childcare facilities, might further intensify potential impacts on children.

3.12.2 AFFECTED ENVIRONMENT

Socioeconomics

Demographic data, shown in **Table 3-9**, provide an overview of the socioeconomic environment in the region of interest (ROI) from that presented in the 2022 Laredo HQ EA (CBP 2022). In 2019, Webb County had an estimated population of 267,110 (U.S. Census Bureau 2023a). From 2010 to 2020, the population of Webb County grew at an average rate of 7.4 percent. In the same time frame, the population of Texas grew at an average annual rate of 15.9 percent, and the U.S. at a slower rate of 6.7 percent (U.S. Census Bureau 2023a). Additional 2019 socioeconomic information is available in the 2022 Laredo HQ EA. Since the 2022 Laredo HQ EA, Webb County has experienced a slight decrease in population (-0.03%), while the state of Texas (+0.03) and the United States (+0.02) have seen slight increases.

Table 3-9. Population, Income, Labor Force, and Unemployment Change from 2022 Laredo JPC EA.

Category	Webb County, Texas	Texas	United States
2019 Population Estimate	276,652	28,995,881	328,239,523
2022 Population Estimate / Change from 2019	267,780 / -8,872	/ +149,578	331,464,948 / +3,225,425
Average Growth Rate 2010-2019 (Percent), 2019	1.07	1.55	.68
Average Growth Rate 2010-2020 (Percent), 2022 / Change from 2019	7.4 / -0.03	15.9 / +0.03	6.7 / +0.02
Per Capita Income (U.S. Dollars); 2019	18,466	31,277	34,103
Per Capita Income (U.S. Dollars), 2022/ Change from 2019	24,485 / +6,019	38,123 / +6,846	41,804 / +7,701
Per Capita Income as a Percent of the United States (Percent), 2019	54	92	100
Per Capita Income as a Percent of the United States (Percent), 2022 / Change from 2019	59 / +5	91 / -1	100 / 0
Unemployment Rate (Percent), 2019	3.7	3.5	3.7
Unemployment Rate (Percent), 2022 / Change from 2019	3.7 / 0	4.4 / +0.9	4.3 / +0.6

Source: U.S. BLS 2020a; BLS 2020b; BLS 2020c; U.S. Census Bureau 2023a; Census Bureau 2023b; Census Bureau 2023c; Census Bureau 2019

Per capita income in the ROI is very low compared to Texas and the U.S., with average per capita income in Webb County approximately 54 percent of the U.S. From 2019 to 2022, Webb County saw a 0.33% increase to per capita income, however it is still very low compared to Texas and the U.S. The unemployment rate in Webb County (3.7 percent) is in line with both Texas and the U.S. (U.S. Census Bureau 2023a; U.S. Census Bureau 2023b; U.S. Census Bureau 2023c) and has not changed since 2019.

Impacts on socioeconomic conditions would be considered significant if they included displacement or relocation of residences or commercial buildings or increases in long-term demands for public services in excess of existing and projected capacities.

Environmental Justice and Protection of Children

Environmental justice considerations were made in the 2022 Laredo HQ EA (CBP 2022) utilizing the 2019 U.S. Census reports numbers of minority individuals and the U.S. Census

American Community Survey (ACS) for the most recent poverty estimates available. Minority populations are those persons who identify themselves as Black, Hispanic, Asian American, American Indian/Alaskan Native, Pacific Islander, or Other. Poverty status is used to define low-income. Poverty is defined as the number of people with income below poverty level, which was $27,750 for a family of four in 2022 (U.S. Department of Health and Human Services [HHS] 2023). A potential disproportionate impact may occur when the percent minority in the study area exceeds 50 percent and/or the percent low-income exceeds 20 percent of the population. Additionally, a disproportionate impact may occur when the percent minority and/or low-income in the study area are meaningfully greater than those in the region. This information has been updated to reflect the 2022 U.S. Census reports numbers of minority individuals and the U.S. Census ACS most recent poverty estimates.

Table 3-10 outlines the change of minority population from 2019 to 2022 with in the ROI. Webb County experienced a small increase in both minority population and all ages in poverty. The minority population increased from 96.4 percent to 97.9 percent, while all ages in poverty increased from 20.9 percent to 27.4 percent. These values are greater than their Texas and U.S. counterparts.

Table 3-10. Minority Population and Poverty Rates for the Region of Interest

Category	Webb County	Texas	United States
2019 Minority Population (Percent)	96.4	58.5	39.6
2022 Minority Population (Percent) / Change from 2019	97.9 / +1.5	62.9 / +4.4	43.6 / +4
2019 All Ages in Poverty (Percent)	20.9	13.6	10.5
2022 All Ages in Poverty (Percent) / Change from 2019	27.4 / +6.5	18.3 / +4.7	18.4 / +7.9

Source: U.S. Census Bureau 2023a; U.S. Census Bureau 2023b; U.S. Census Bureau 2019

To further assess environmental justice impacts on the local community from the analysis performed in the 2022 Laredo HQ EA, the USEPA Environmental Justice Screening and Mapping Tool (EJScreen) and the CEQ Climate and Economic Justice Screening Tool (CEJST) were utilized. EJScreen provides demographic socioeconomic and environmental information for a selected area. The Climate and Economic Justice Screening tool identifies disadvantaged (overburdened and underserved) areas using demographic and environmental indicators.

EJScreen identified the following environmental justice indicators for the proposed site as outlined in **Table 3-11**. The Environmental Justice Index indicators combines data on low income and people of color populations with a single environmental indicator (CEQ 1997a). Increased wildfire risk, broadband service gaps, lack of healthcare, low-income households, and households with limited English proficiency percentiles were higher in the proposed project area when compared to state and national percentiles. The EJ Screen Report for the proposed Site is included as **Appendix E**.

Table 3-11. Environmental Justice Indicators

Health Indicators					
Indicator	*Value*	*State Average*	*State Percentile*	*U.S. Average*	*U.S. Percentile*
Low Life Expectancy	19%	20%	37	20%	44
Heart Disease	5.1%	5.9%	34	6.1%	28
Asthma	10.4%	9.2%	87	10%	64
Cancer	2.5%	5.2%	3	6.1%	1
Persons with Disabilities	10.4%	12.3%	42	13.4%	33
Climate Indicators					
Flood Risk	5%	10%	53	12%	42
Wildfire Risk	98%	30%	88	14%	94
Critical Service Gaps					
Broadband Internet	26%	15%	80	14%	84
Lack of Health Insurance	33%	18%	90	9%	98
Housing Burden	N/A	N/A	N/A	N/A	N/A
Transportation Access	N/A	N/A	N/A	N/A	N/A
Food Desert	N/A	N/A	N/A	N/A	N/A
Additional Socioeconomic Indicators					
Low Income	67%	34%	89	31%	92
Limited English-Speaking Households	24%	8%	90	5%	95

NA: Not Available. Source: USEPA 2024

The Climate and Economic Justice Screening Tool identified the proposed project in U.S. Census track 48479001813, as disadvantaged because it meets more than one burden threshold and the associated socioeconomic threshold. The factors supporting this determination are: the low-income rate is above the 65th percentile, energy costs are above the 90th percentile, diabetes (share of people ages 18 years and older who have diabetes other than diabetes during pregnancy) and heart disease (share of people ages 18 years and older who have been told they have heart disease) is above the 90th percentile, lack of indoor plumbing are above the 90th percentile, the presence of Formerly Used Defense Sites, the linguistic isolation is at the 90th percentile, and individuals living in poverty exceeds the 90th percentile threshold (CEJST 2023).

3.12.3 ENVIRONMENTAL CONSEQUENCES

Impacts on socioeconomics, EJ, and protection of children were assessed to determine whether the Proposed Action and alternatives could result in any of the following major, adverse impacts:

- Substantial change in the local or regional population and in housing or public services from the increased or decreased demands of the population change
- Substantial change in the local or regional economy, employment, or business volume
- Disproportionately adverse human health and environmental impacts on minority, low-income, or child populations.

3.12.3.1 Alternative 1: Proposed Action

Socioeconomics

The data in **Table 3-9** and **3-10** indicate a decrease in total population, an increase in per capita income, and a slight increase in low-income and minority populations in Webb County from 2019, as analyzed in the 2022 Laredo HQ EA, to 2022. These changes are not considered significant. Additionally, the Proposed Action would not result in the displacement or relocation of residences or commercial buildings or increases in long-term demands for public services more than existing and projected capacities. Therefore, the socioeconomic impact determination for Alternative 1 would remain the same with *short-term, minor, beneficial impacts* in the form of jobs and income for area residents, revenues to local businesses, and sales and use taxes to Webb County.

Environmental Justice and the Protection of Children

Information on the number of minority populations and low-income populations presented in the 2022 Laredo HQ EA was compared to current Census data and supplemented with the results of EJScreen and CEJST.

Alternative 1 is located in a primarily undeveloped area within the city limits of Laredo. No homes or schools are located in the area of the proposed JPC site, with both the Larmar Bruni Vergara Middle School located 0.55 miles and a residential subdivision located 0.6 miles to the northwest of the site. Temporary increases to traffic and air quality would occur during construction and permanent increases to traffic would occur from operational activities. Potential economic benefits from employment and new residents could increase local tax revenue for public services. The Proposed Action is expected to have *no disproportionate adverse effects* on nearby communities with environmental justice concerns. There would also be *no environmental health or safety risks* that disproportionately affect children.

3.12.3.2 Alternative 2: Net-Zero Alternative

Impacts to socioeconomics and communities with environmental justice concerns around the project site would be similar to those under Alternative 1. The installation and operation of net-zero technologies would not result in additional impacts to socioeconomic conditions nor would disproportionately adversely affect EJ populations. There would be *short-term, minor beneficial impacts* to socioeconomic conditions during construction, and *no or negligible impacts* to socioeconomic conditions during operation. Alternative 2 would have *no disproportionate adverse effects* on communities with environmental justice concerns and children.

3.12.3.3 No Action Alternative

Under the No Action Alternative, DHS would not construct the JPC and ancillary support facilities. Socioeconomic and EJ conditions would remain as described in **Section 3.12.2**. There would be *no impact* to socioeconomic conditions or communities with environmental justice concerns under the No Action Alternative.

3.13 HUMAN HEALTH AND SAFETY

3.13.1 DEFINITION OF THE RESOURCE

A safe environment is one in which there is no, or an optimally reduced, potential for death, serious bodily injury or illness, or property damage. Safety addresses workers' and public health and safety during any construction, demolition, or project activities.

Construction safety is largely a matter of adhering to regulatory requirements imposed for the benefit of employees and implementation of operational practices to reduce risks of illness, injury, death, and property damage. The health and safety of on-site construction workers are safeguarded by OSHA and USEPA standards, which specify the amount and type of training required for industrial workers, the use of personal protective equipment and clothing, engineering controls, and maximum exposure limits for workplace stressors.

Safety and accident hazards can often be identified and reduced or eliminated. Necessary elements for an accident-prone situation or environment include the presence of the hazard itself together with the exposed (and possibly susceptible) population. The degree of exposure depends primarily on the proximity of the hazard to the population. Activities that can be hazardous include transportation, maintenance and repair activities, and the creation of extremely noisy environments. The proper operation, maintenance, and repair of vehicles and equipment carry important safety implications.

3.13.2 AFFECTED ENVIRONMENT

The Proposed Action may involve exposing construction workers to hazards that pose a health or safety risk. Construction site safety is largely a matter of planning, training, and adherence to regulatory requirements, which implement operational practices to reduce the risks of illness, injury, death, and property damage. OSHA issues standards that specify the amount and type of safety training required for industrial workers, the use of protective equipment and clothing, engineering controls, and maximum exposure limits with respect to workplace stressors (29 CFR Parts 1910 and 1926).

DHS personnel who work at the project site are also responsible for complying with applicable OSHA safety and health requirements, as well as DHS-specific requirements. DHS Directive 066-10, *Safety and Health Programs*, establishes DHS's policies, responsibilities, and requirements regarding safety and health programs. The purpose of DHS safety and health programs is to prevent or minimize the loss of DHS resources and to protect employees, contractors, and the visiting public from accidental death, injury, or illness by managing risks through implementation of operational risk management and response plans.

The project site is located just outside the city limits of Laredo, a major metropolitan area with various facilities to support public safety. Hospitals, police stations, and fire departments are all located within 10 miles of the project site. Easy access to the project site in the event of an emergency is provided by its location adjacent to USRT 83 and SH 20.

3.13.3 ENVIRONMENTAL CONSEQUENCES

Any increase in safety risks would be considered an adverse impact on health and safety. An impact would be considered major and adverse if a proposed action would do the following:

- Substantially increase risks associated with the safety of construction personnel, DHS personnel, or the local community.
- Substantially hinder the ability to respond to an emergency.
- Introduce a new health or safety risk for which DHS does not have adequate management and response plans in place.

3.13.3.1 Alternative 1: Proposed Action

Construction of the proposed JPC would be performed by qualified, trained, and fully equipped (including personal protective equipment) contractors with applicable licenses and certifications. Construction activities would be performed in accordance with applicable federal and state occupational safety and health regulations and requirements. Proposed construction activities would occur during daytime working hours in conditions with ample lighting and would not occur during inclement weather. All construction activities would occur within a fenced or marked perimeter and would only be accessible to authorized personnel (see **Appendix C**). Any solid or hazardous wastes generated during construction would be handled and disposed of in accordance with applicable requirements (see **Section 3.11**).

Adherence to applicable health and safety regulations and requirements during construction would minimize the potential for accidents and human injury; however, some inherent risk would remain due to the nature of the work and exposure to heavy equipment and machinery. In the event of an accident or injury, trained personnel would administer first-aid immediately, and emergency services would be contacted if necessary. A project-specific health and safety plan would also be prepared to further minimize health and safety risks. Such risks from construction work would be limited to on-site construction personnel and would not extend to the general public. Although construction would only be performed by qualified personnel, due to the inherent risks, Alternative 1 would result in *short-term, minor adverse impacts* to contractor safety during construction.

The purpose of the JPC is to aid in humanitarian efforts, including ensuring the security of undocumented non-citizens. The efficient use of space afforded by the proposed JPC would result in *long-term, moderate beneficial impacts* to public and DHS health and safety.

3.13.3.2 Alternative 2: Net-Zero Alternative

Impacts to human health and safety at the project site would be similar to those under Alternative 1. The installation and operation of net-zero technologies would not result in an increased potential for risks to health or safety. There would be *short-term, minor adverse impacts* to construction contractor safety, and *long-term, moderate beneficial impacts* to public safety during operation under Alternative 2.

3.13.3.3 No Action Alternative

Under the No Action Alternative, DHS would not construct the JPC and ancillary support facilities. The SSFs along the border were designed to be temporary structures; keeping the existing facilities in place long-term could negatively affect the health and safety of detainees, as the facilities are inadequate to safely or efficiently accommodate and process them. The No Action Alternative would result in *long-term, moderate adverse impacts* to human health and safety.

3.14 SUSTAINABILITY AND GREENING

Sustainability is defined as the means to create and maintain conditions, under which humans and nature can exist in productive harmony, that permit fulfilling social, economic, and other requirements of present and future generations of Americans (42 U.S.C. 4321 et seq.). Under 40 CFR Part 1502, agencies are directed to consider the energy requirements and conservation potential of various alternatives and mitigation measures.

Regulations shaping Federal Government sustainable planning and management practices include the Energy Policy Act (EPACT) of 2005, the EISA of 2007, CE''s 2020 *Guiding Principles for Sustainable Federal Buildings and Associated Instructions*, and EO 14057.

The EPACT focused on developing and maintaining reliable and cost-effective energy infrastructure and includes renewable energy requirements for federal agencies. EISA sets targets to reduce fossil fuel-generated energy consumption in new federal construction and major renovation projects. The Guiding Principles for High Performance Sustainable Federal Buildings integrate sustainable building practices and principles to ensure federal buildings (1) Employ Integrated Design Principles, (2) Optimize Energy Performance, (3) Protect and Conserve Water, (4) Enhance the Indoor Environmental Quality, (5) Reduce the Environmental Impact of Materials, and (6) Assess and Consider Building Resilience.

EO 14057 sets government-wide sustainability goals, which include 100 percent carbon pollution-free electricity by 2030, 100 percent zero-emission vehicle acquisitions by 2035, a net-zero emissions building portfolio by 2045, a 65 percent reduction in scope 1 and 2 GHG emissions from federal operations by 2030 from 2008 levels, net-zero emissions from federal procurement, climate resilient infrastructure and operations, and a climate- and sustainability-focused federal workforce.

DHS Directive 025-01, Rev. 01, *Sustainable Practices for Environmental, Energy and Economic Performance*, establishes a policy to develop and implement sustainable practices programs to help ensure that operations and actions are carried out in an environmentally, economically, and fiscally sound manner.

3.14.1 AFFECTED ENVIRONMENT

It is the practice of DHS to apply sustainable development concepts to the planning, design, construction, and major alteration of facilities and infrastructure projects, consistent with budget and mission requirements. A sustainable facility achieves optimum resource efficiency and

constructability while minimizing adverse impacts to the built and natural environments throughout its life cycle. Sustainable buildings can save energy and protect the environment while providing a more inviting and productive work environment for employees. This can be achieved with little or no adverse impact on the traditional project goals of cost, quality, and schedule. DHS is committed to responsible environmental stewardship by incorporating principles of sustainable facility design and energy efficiency into its projects. DHS's progress toward meeting its sustainability targets for reduced GHG emissions, reduced energy and water consumption, reduced waste generation, and efficient building performance is reported in the DHS Sustainability Plan (DHS 2022).

The proposed JPC design and construction would meet USBP facilities guidelines and security standards. The new facilities would be designed to comply with the CEQ's 2020 *Guiding Principles for Sustainable Federal Buildings and Associated Instructions*. In accordance with EO 14057, new construction and modernization projects greater than 25,000 gross square feet entering the design phase in Fiscal Year 2022 and beyond would be designed to be net-zero emissions by 2030, and where feasible, net-zero for potable water and wastewater.

3.14.2 ENVIRONMENTAL CONSEQUENCES

Impacts to sustainability and greening efforts would be considered adverse if they did not comply with the planning, design, and construction guidelines established in federal and agency regulations, and did not embrace suggestions and guidance to apply sustainable development principles.

3.14.2.1 Alternative 1: Proposed Action

The proposed new JPC facility would meet mission requirements while incorporating sustainability by reducing consumption of energy, water, and raw materials. Long-term, moderate, adverse impacts would be expected from the disturbance of green and undeveloped spaces that would occur to accommodate construction and operation of the proposed JPC. Compliance with the Guiding Principles, NEPA, EISA, EPACT, Eos 13834 and 14057, and DHS's sustainability and performance policies would be met through incorporation of sustainable development strategies and technologies into the design, construction, operation, and maintenance of the proposed JPC. Alternative 1 would have *long-term, minor beneficial and minor adverse impacts* on sustainability and greening.

3.14.2.2 Alternative 2: Net-Zero Alternative

Impacts to sustainability and greening under Alternative 2 would be similar to, but greater than, those under Alternative 1. The addition of specific net-zero technologies such as a solar PV system, AWG, and VF system, would further reduce the extent to which DHS relies on traditional, nonrenewable utilities and resources. Specifically, the use of PV and BESS may allow CFE to provide between 36 and 77 percent of annual energy consumed at the JPC. Installation of these technologies under Alternative 2 would help meet the goals established in EO 14057 by allowing the proposed JPC to be net-zero for emissions, potable water, and/or wastewater. Alternative 2 would have *long-term, moderate beneficial and minor adverse impacts* on sustainability and greening.

3.14.2.3 No Action Alternative

Under the No Action Alternative, DHS would not construct the JPC and ancillary support facilities, and DHS personnel would continue to use other existing processing facilities. DHS would continue to incorporate environmentally sustainable practices (e.g., solid waste recycling, energy, and water conservation practices) where possible into the daily operation and maintenance of the existing facilities. However, these processing facilities do not incorporate the same green building features that a new building would, and the existing technologies and infrastructure would limit the capacity for expanding sustainable practices and compliance with sustainability regulations. The No Action Alternative would have *long-term, minor adverse impacts* on sustainability and greening.

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4. CUMULATIVE IMPACTS

4.1 CUMULATIVE IMPACTS

CEQ defines cumulative impacts as the "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" (40 CFR Part 1508.1(g)(3)). Cumulative impacts can result from individually minor but collectively significant past, present, and foreseeable future actions. Informed decision-making is served by consideration of cumulative impacts resulting from projects that are proposed, under construction, recently completed, or anticipated to be implemented in the reasonably foreseeable future.

This cumulative impacts analysis summarizes expected environmental impacts from the combined impacts of past, present, and reasonably foreseeable future projects in accordance with CEQ regulations implementing NEPA and CEQ guidance on cumulative effects (CEQ 1997b). The geographic scope of the analysis varies by resource area. For example, the geographic scope of cumulative impacts on resources such as soils are narrow and focused on the location of the resource. The geographic scope of air quality and wildlife and sensitive species is broader and considers more off-site activities. Projects that were considered for this analysis were identified by reviewing DHS documents; news releases and published media reports; and publicly available information and reports from federal, state, and local agencies. Projects that do not occur in proximity (i.e., within several miles) of the project site would not contribute to a cumulative impact and are generally not evaluated further.

4.1.1 PAST, PRESENT, AND REASONABLY FORESEEABLE FUTURE ACTIONS

Recent, ongoing, and reasonably foreseeable proposed projects were identified in the development of this SEA. These projects include CBP projects, as well as other agencies that could have projects within the geographic baseline of the Proposed Action. If a proposed project presumptively would have effects that are reasonably foreseeable and have a close causal relationship with the Proposed Action or alternatives it is included in the affected environment and consequences section of this SEA. However, if the effects of the proposed project are remote in time, geographically remote, or would be a result of a lengthy causal chain the proposed project was not included in the affected environment and consequences section of this SEA per 40 CFR §1508.1(g).

The following projects were reviewed and CBP has determined that the effects of these projects are remote in time, geographically remote, or would be a result of a lengthy causal chain and are not included in the environmental consequences section of this SEA.

CBP Projects

- Construction of a new Laredo Air Branch facility at the Laredo International Airport.
- Construction of a new Freer Border Patrol Station and Checkpoint.

- Construction of the Freer Checkpoint Health and Life Safety Improvements on a 10-acre site, which will include signage and safety measures to address access and egress traffic, additional secure parking, equipment storage, relocating vehicle lift inspection equipment, and a vehicle impound area.
- Maintenance and repair of tactical infrastructure along the U.S.-Mexico international border in the El Paso, Big Bend, Del Rio, Laredo, and Rio Grande Valley sectors.
- Maintenance and repair of 32 remote video surveillance system (RVSS) towers and associated roads within the Falfurrias, Brownsville, Harlingen, Fort Brown, and Kingsville Station's AORs–- 11 RVSS relocatable towers remain to be deployed. Three fixed towers remain to be constructed.
- Maintenance and repair of 40 RVSS and three relay towers and associated roads within the Rio Grande city, McAllen, and Weslaco Stations' AORs – 12 RVSS relocatable towers remain to be deployed.
- Maintenance and repair of 70 RVSS and 14 relay towers and associated roads within the Laredo North, Laredo South, Laredo West, Zapata, Cotulla, Hebbronville, and Freer Stations' AORs – 5 relocatable towers remain to be deployed.
- Construction of approximately 65 miles of border wall in the Rio Grande Valley Sector.
- The Laredo SSF in which this SEA is being developed to ease over-crowding.
- The Laredo C-29 project addressed health, life, and safety issues that included adding a 7th inspection land and an impound lot.

CBP determined not to include these ongoing and planned projects for discussion in the environmental consequences section of this EA because the potential effects of these projects are geographically remote (i.e., over 20 miles), remote in time, or the result of a lengthy causal chain when considering effects relating to the Proposed Action.

Other Agencies and Entities with Projects in the ROI

Multiple highway repair projects have been identified by the Texas Department of Transportation (TxDOT) to be completed within the next few years (TxDOT 2023b). USRT 83 and SH 20 are both identified on the TxDOT Project Tracker as sites for potential projects. A stretch of USRT 83 requires a seal coat be applied to the road surface. The coating would be applied to approximately five miles of USRT 83. The estimated start and finish date for this work is yet to be determined (TxDOT 2023b).

A stretch of SH 20 that runs adjacent to the Site is scheduled for light pole installation to illuminate an approximately 3-mile stretch of the highway. The estimated start and finish date for this work is yet to-be-determined (TxDOT 2023b).

4.1.2 CUMULATIVE ANALYSIS BY RESOURCE AREA

A cumulative impacts analysis must be conducted within the context of the resource areas. The magnitude and context of the impact on a resource area depends on whether the cumulative effects exceed the capacity of a resource to sustain itself and remain productive (CEQ 1997b). The following discusses potential cumulative impacts that could occur from implementing the Proposed Action and other present and reasonably foreseeable future actions. No major, adverse,

cumulative impacts were identified in the cumulative impacts analysis. Similar results would be expected with the implementation of the Proposed Action and No Action Alternative. Impacts resulting from the implementation of the Proposed Action would be expected to be greater than the No Action Alternative; however, the difference would not be significant.

4.1.2.1 Land Use

As discussed in Section 3.2. the project area consists predominately of shrubland and native grasses used for cattle grazing, none of the soils found within the proposed area(s) is prime farmland. Cumulative impacts would include impacts on land uses from other nearby projects in the vicinity of the Proposed Action. Since the Proposed Action is occurring on an undeveloped area and would result in new loss of agricultural land, the implementation of either Alternative would contribute to additive effects on land use. Short- and long-term, moderate, cumulative impacts on land use are expected from the additive effects of the Proposed Action in combination with present and reasonably foreseeable future actions. Constructions of the proposed JPC and ancillary support facilities would alter land use and introduce new structures to undeveloped land. The Proposed Action would convert agricultural land to a non-agricultural use, although it would not convert any land designated prime farmland or farmland of statewide importance by the FPPA, however would still contribute to cumulative land use impacts. Past activities that have most affected land use are the development of previously undeveloped land, particularly agricultural land. Selective maintenance and repair activities would be expected to result in generally negligible adverse effects on land use. Under the work plan, adherence to BMPs would be utilized to ensure any adverse impacts from land use changes would be considered negligible. An example of a BMP is notifying the coordinating with all landowners with property adjacent to the proposed JPC project area in advance of construction to discuss the construction schedule and any potential concerns. Negligible impacts on land use would be expected from present and reasonably foreseeable future actions when considered in conjunction with the Proposed Action.

4.1.2.2 Soils

cumulative impacts would include impacts on soils from other nearby projects involving vegetation clearing and soil disturbance from construction activities, such as grading, contouring, trenching, and the increase of impervious surfaces. Since the Proposed Action is occurring on an undeveloped site and would result in new loss of native soils, the implementation of either Alternative would contribute to additive effects on soils. Minor effects from erosion may occur, although these would be minimized with BMPs and have minimal potential to combine with soil impacts from present and reasonably foreseeable future actions.

4.1.2.3 Biological Resources

Construction activities under the Proposed Action, as well as present and reasonably foreseeable future projects in the area, would result in impacts on vegetation. Impacts would occur through crushing and soil compaction during ground-disturbing activities. In addition, invasive species which prefer disturbed areas could establish via recruitment. However, since only approximately 100 acres of native vegetation out of a wide expanse of shrubland and grassy ranch land, in conjunction with other past, ongoing, and proposed regional projects, would be permanently

disturbed (with the exception of less than an acre of palustrine forested wetland vegetation that would be avoided), Alternative 1 would not create a significant impact on vegetative habitat in the region.

Adverse impacts on vegetation would be minimized through the use of appropriate BMPs, such as cleaning construction equipment prior to entering the project area and measures would be implemented to help prevent and control dissemination of invasive plant species during ground-disturbing activities. Revegetation of disturbed sites with native vegetation would further reduce the establishment of invasive species and support the native plant community on the installation.

Construction activities under the Proposed Action, as well as present and reasonably foreseeable future project in the area, would result in impacts on wildlife. Impacts on wildlife could occur from construction and operational noise, vehicle traffic, and facility lighting. Project activities that require heavy equipment could cause mobile mammals, reptiles, and birds, including breeding migratory birds, to temporarily relocate to nearby similar habitat. This disturbance is expected to be minor, and it is assumed that displaced wildlife would return to areas that had not been improved soon after activities conclude or would move to adjacent areas of similar habitat. Adverse impacts on wildlife would be minimized through the use of appropriate BMPs, such as conducting surveys prior to any construction activities taking place and scheduling project activities to occur outside of the nesting season of March 15 to September 15 in order to reduce impacts on migratory birds and utilizing down shielding to minimize lighting impacts. Although growth and development can be expected to continue within the surrounding areas, significant adverse impacts on these resources would not be expected. Where construction schedules overlap, increased noise, lighting, and human activity could disturb wildlife in the area, however, these impacts would attenuate with distance. Therefore, the Proposed Action, when combined with other actions in nearby areas, would not result in a significant cumulative impact on biological resources.

4.1.2.4 Water Resources

The Proposed Action would result in an increase in impervious surfaces on the proposed tract, less indirect demand for groundwater and an on-site stormwater management system. The use of groundwater for potable water would still be required under Alternative 1, however, and if stormwater flow is not adequately contained or managed, it could convey pollutants from impervious surfaces into downstream waters. Implementation of Alternative 2 would install an AWG system that could result in an additional decrease in reliance on groundwater resources, thereby increasing availability for other uses. Present and reasonably foreseeable future actions would contribute to changes in water availability, although any increases would be partially offset by decreases under Alternative 1 and to a larger extent under Alternative 2. Any increase in impervious surfaces from present and reasonably foreseeable future actions would prevent stormwater infiltration; however, infrastructure improvements by water utilities would alleviate stormwater concerns in some areas of Laredo. Negligible impacts to water resources would be expected from present and reasonably foreseeable future actions when considered in conjunction with the Proposed Action.

4.1.2.5 Air Quality

The Proposed Action would involve construction activities that would result primarily in emissions of PM_{10}, although emissions of other criteria pollutants would also occur, both during construction and operation of the proposed JPC. No emissions would exceed established PSD thresholds, either under Alternative 1 or Alternative 2, although operational emissions would be slightly lower under Alternative 2 due to the use of a net-zero solar PV system. Other present and reasonably foreseeable future actions would also contribute to polluting emissions but would not be required to complete a General Conformity analysis since they are not federal projects. Therefore, cumulative effects on air quality would not be significant, but the Proposed Action in combination with construction of present and reasonably foreseeable future actions may result in moderate adverse impacts to air quality.

4.1.2.6 Noise

Noise occurring during construction and demobilization activities under both Alternative 1 and Alternative 2 would be temporary and would largely attenuate below 65 dBA between 500 to 1,500 feet from the source. Noise occurring during operation generally would be similar to the existing ambient noise environment, except for infrequent helicopter operations. Other proposed projects in the area would also be expected to generate noise during construction and operation activities, but most are not located sufficiently close to the project site to generate additive effects on the existing noise environment.

4.1.2.7 Cultural Resources

As discussed in **Section 3.8,** nine archaeological sites were identified during previous investigations within one mile of the proposed project area. The proposed project would not result in cumulative effects to these sites as existing roadways would be utilized resulting in no disturbance. Site 41WB624 extends into the proposed project area; this portion of the site does not have a NRHP determination. TxDOT's future I-2 project would impact site 41WB624, for which that portion, located within the proposed right-of-way, was determined ineligible for the NRHP. The site could potentially extend to the east of the previously surveyed TxDOT right-of-way, which could potentially be eligible for the NRHP. However, the part of the site located in the proposed project area (Alternative 1 and 2), would be bifurcated by I-2 construction thus impacting the integrity of 41WB624 should the portion in the proposed project area be eligible for listing in the NRHP. DHS is currently coordinating with the THC and Tribes on the extent of site 41WB624 into the proposed project area and a NRHP determination, but has determined the proposed project would not result in cumulative effects on cultural resources. There is potential for the inadvertent discovery of cultural resources and human remains during construction; however, discoveries would be mitigated through the implementation of BMPs, including appropriate notification to the SHPO and interested tribal nations and monitoring of construction activities.

4.1.2.8 Roadways and Traffic

The Proposed Action, as well as present and reasonably foreseeable future actions within the city of Laredo including various TxDOT projects would utilize BMPs and limit alterations to existing

roadways and traffic patterns wherever possible. The Proposed Action is within the project area of TxDOT's future I-2, an approximately 130-mile corridor which includes SH 20 and its intersection with US 59 in east Laredo (TxDOT 2022). Additionally, the TxDOT project tracker identifies I-35 widening and interchange improvements, corridor projects, and a proposed feasibility study for an upcoming roadway (TxDOT 2023b). The I-35 improvements would consist of realignment and widening of the three existing lanes and shoulders, introduction of concrete traffic barriers, frontage road widening and introduction of turning lanes, construction of a new interchange with elevated crossover bridges, various Uniroyal interchange improvements, entrance/exit ramp relocation, and removal of former TxDOT rest areas (TxDOT 2023b). Corridor projects relating to the major routes consist of adding travel lanes to the USRT 59-Shiloh Road loop, completing the design for five I-35/ USRT 59 direct connectors, reconstructing railroad crossings at the USRT 83 intersection and Union Pacific Railroad crossing, and the I-35 projects explain in this section (TxDOT 2023b). It is anticipated that the I-35 roadwork and the Proposed Action would not result in cumulative impacts. The Proposed Action, when combined with other present and reasonably foreseeable future actions would not result in a significant cumulative impact on roadways and traffic.

4.1.2.9 Utilities and Infrastructure

Public utilities connections would be installed under the Proposed Action, and present and reasonably foreseeable future development actions may also require new utility connections and waste disposal, representing an increase in demand. Demand on utilities and public infrastructure would be offset by projects proposed by AEP Texas and the City of Laredo to improve access, availability, and reliability of electric, water, and wastewater systems. Additionally, the Proposed Action would result in improved water conservation and energy efficiency from the implementation of sustainable building features. The use of net-zero technologies such as solar technology, a VF wastewater filtration system, and an AWG system under Alternative 2 would reduce the demand of the for electric, water, and wastewater utilities, respectively, but would not likely offset impacts from other projects. Negligible, long-term impacts to utilities and infrastructure would be expected from Alternative 1 or Alternative 2 in combination with present and reasonably foreseeable future actions.

4.1.2.10 Hazardous Materials

The Proposed Action would use some hazardous materials in daily operations and maintenance activities and would not generate substantial quantities of hazardous wastes. Other proposed projects would also not be expected to generate large quantities of hazardous wastes and would only use hazardous materials as needed. All projects would be expected to incorporate BMPs and environmental protection measures to limit and control hazardous materials. Implementation of either Alternative 1 or Alternative 2 would result in minor adverse cumulative effects on hazardous materials when considered in conjunction with present and reasonably foreseeable future actions.

4.1.2.11 Socioeconomic Resources, Environmental Justice, and Protection of Children

Implementation of the Proposed Action would be expected to have some beneficial impacts on socioeconomic conditions from revenue flows to the local economy. Other present and

reasonably foreseeable future actions would likely contribute similar effects from creating jobs, hiring local contractors, and the purchase of goods and services. Beneficial impacts to socioeconomic resources would be expected from Alternative 1 or Alternative 2 in combination with present and reasonably foreseeable future actions.

The proposed JPC would be located in a rural area, with limited residential structures located nearby and would have similar impacts on the surrounding community as described above. With no homes located in the area of the proposed JPC, the Proposed Action would not result in disproportionately high and adverse human health or environmental effects on minority populations and low-income populations. It is located in a primarily undeveloped area within the city limits of Laredo with the closest residential housing located approximately 0.78 mile northeast of the project site.

4.1.2.12 Human Health and Safety

Construction and demobilization activities occurring under the Proposed Action may pose risks to contractor health and safety. Similar risks would be faced by contractors hired to work on other present and reasonably foreseeable future actions. These risks would be limited to personnel who have been trained and licensed to perform such work and would not extend to the general public. Contractors would comply with all safety regulations and requirements to minimize the potential for adverse effects. Minor adverse impacts to human health and safety would be expected from Alternative 1 or Alternative 2 in combination with present and reasonably foreseeable future actions.

4.1.2.13 Sustainability and Greening

The Proposed Action would incorporate sustainable design with the goal of reducing water usage and improving energy efficiency. Other present and reasonably foreseeable future projects would not be expected to incorporate sustainable design elements, given the public infrastructure-focused nature of the proposals (as opposed to the construction of buildings). Although implementation of either Alternative 1 or Alternative 2 may benefit sustainability and greening by incorporating those principles in construction and operation, and the use of net-zero technologies under Alternative 2 would increase the availability of electric, water, and wastewater utilities for other uses, it would not likely offset impacts from other projects. While the Proposed Action would contribute beneficial effects to sustainability and greening, potential effects from present and reasonably foreseeably future actions would likely be adverse and minor.

4.2 RELATIONSHIP BETWEEN THE SHORT-TERM USE OF THE ENVIRONMENT AND LONG-TERM PRODUCTIVITY

Short-term uses of the biophysical components of the human environment include direct construction-related disturbances and direct impacts associated with an increase in population and activity that occurs over a period of less than five years. Long-term uses of the human environment include those impacts that occur over a period of more than five years, including permanent resource loss.

Proposed construction and disturbance activities would be confined to the proposed 100-acre parcel. The development of this land would permanently remove a portion of the natural resources, such as vegetation, wildlife habitat, and agricultural resources and important farmland soils.

4.3 UNAVOIDABLE ADVERSE IMPACTS

Unavoidable adverse impacts are related to the use of non-renewable resources and the impacts that the use of these resources would have on future generations. Unavoidable adverse impacts primarily result from the use or destruction of a specific resource that cannot be replaced within a reasonable timeframe (e.g., energy and minerals). The irreversible and irretrievable commitments of resources that would result from implementation of the Proposed Action involve the consumption of material resources used for construction, energy resources, biological resources, and human labor resources. The use of these resources is considered to be permanent.

Material Resources. The Proposed Action would result in short-term, minor, adverse impacts on material resources. Material resources used for the construction of Proposed Action would potentially include building materials, concrete and asphalt, and various construction materials and supplies. Materials that would be consumed are not in short supply, would not limit other unrelated construction activities, and would not be considered significant.

Energy Resources. The Proposed Action would result in short- and long-term, minor, adverse impacts on energy resources. Energy resources, including petroleum-based products (e.g., gasoline and diesel), used for the Proposed Action would be irretrievably lost. During construction and maintenance activities, gasoline and diesel would be used for the operation of vehicles and construction equipment. However, consumption of these energy resources would not place a significant demand on their availability in the region. Therefore, less-than-significant impacts would be expected.

Human Resources. The use of human resources for construction and maintenance activities is considered an irretrievable loss only in that it would preclude such personnel from engaging in other work activities. However, the use of human resources for the Proposed Action represents employment opportunities and is considered beneficial.

Health and Safety. The Proposed Action would result in short-term, minor, adverse impacts on contractor safety as construction would expose contractors to safety and health risks. However, workers would take the necessary precautions to limit hazard risks.

Water Resources. The Proposed Action would cause unavoidable impacts to water resources and availability because water would be required during construction of the JPC and eventual operation. Adverse impacts would be minimized to the greatest extent possible through the implementation of BMPs and water conservation practices.

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APPENDIX A

Public Involvement and Agency Coordination

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APPENDIX B

JPC Standard Design

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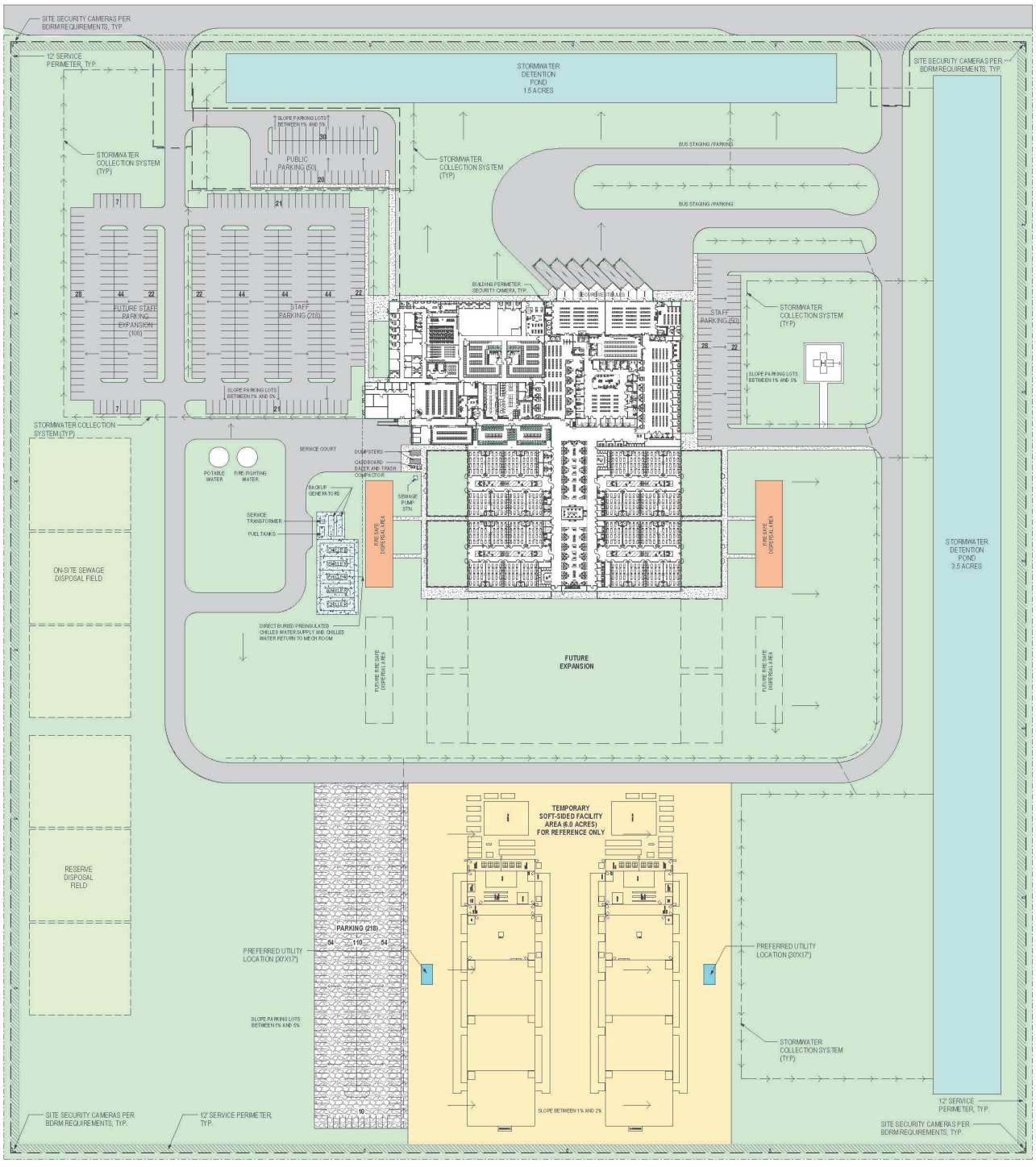
NOTE: PERIMETER AROUND BUILDING BESIDES DOORWAY AND LOADING DOCKS SHALL BE AT ELEVATION 6 TO 12 INCHES BELOW THE FIRST FLOOR ELEVATION



SITE LEGEND

- ASPHALT
- CONCRETE
- GRAVEL
- LANDSCAPING
- DETENTION POND
- FIRE DISPERSAL SAFE AREA
- TEMPORARY SOFT-SIDED OPERATIONAL AREA
- PREFERRED UTILITY LOCATION:
  - SANITARY SEWER
  - WATER - SEPARATE METERED SERVICE
  - FIRE SUPPRESSION
  - POWER - SEPARATE METERED SERVICE
  - DATA - EMPTY UNDERGROUND CONDUIT RACEWAY TO BUILDING TER
  - SECURITY
- 12' SERVICE PERIMETER
- SECURITY CAMERA
- FENCE LINE

Project Title
DEPARTMENT OF HOMELAND SECURITY, CUSTOMS AND BORDER PROTECTION
JOINT PROCESSING CENTER DESIGN STANDARD

Sheet Title
SITE PLAN

Scale
1" = 60'-0"

Date
03/17/2023

Wood HDR
A Joint Venture Partnership

APPENDIX C

Best Management Practices

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APPENDIX C: BEST MANAGEMENT PRACTICES

This appendix describes those measures that will be implemented to reduce or eliminate potential adverse impacts on the human and natural environments. Many of these measures have been incorporated as standard operating procedures by the Department of Homeland Security (DHS) on past projects. Best management practices (BMPs) will be presented for each resource category that would be potentially affected. It should be emphasized that these are general BMPs and the development of specific BMPs will be required for certain activities implemented under the action alternatives. The proposed BMPs will be coordinated through the appropriate agencies as required.

It is federal policy to reduce adverse impacts through the sequence of avoidance, minimization, and finally, compensation. Compensation varies and includes activities such as restoration in other areas, acquisition of lands, etc., and is typically coordinated with the appropriate federal and state resource agencies.

GENERAL PROJECT PLANNING CONSIDERATIONS

1. If required, night-vision-friendly strobe lights necessary for DHS operational needs will use the minimum wattage and number of flashes per minute necessary to ensure operational safety.
2. Avoid contamination of ground and surface waters by storing concrete wash water, and any water that has been contaminated with construction materials, oils, equipment residue, etc., in closed containers on-site until removed for disposal. This wash water is toxic to wildlife. Storage tanks must have proper air space (to avoid rainfall-induced overtopping), be on-ground containers, and be located in upland areas instead of washes.
3. Avoid lighting impacts during the night by conducting construction and maintenance activities during daylight hours only. If night lighting is unavoidable, 1) use special bulbs designed to ensure no increase in ambient light conditions, 2) minimize the number of lights used, 3) place lights on poles pointed down toward the ground, with shields on lights to prevent light from going up into sky, or out laterally into landscape, and 4) selectively place lights so they are directed away from all native vegetative communities.
4. All heavy equipment will be cleaned/power-washed prior to delivery onsite to ensure that invasive plant seeds are not brought into the project area.
5. Imported materials such as fill and gravel must be from a clean source, obtained from existing developed or previously used sources, and not from undisturbed areas adjacent to the project area. Materials will be weed free.
6. DHS will ensure that all construction will follow DHS Directive 025-01 for *Sustainable Practices for Environmental, Energy, and Transportation Management*.
7. DHS will place drip pans under parked equipment and establish containment zones when refueling vehicles or equipment.

SOILS

1. Clearly demarcate the perimeter of all areas to be disturbed using flagging or temporary construction fencing. Do not allow any disturbance outside that perimeter.
2. The area of disturbance will be minimized by limiting deliveries of materials and equipment to only those needed for effective project implementation.
3. Within the designated disturbance area, grading or soil removal will be limited to areas where this activity is needed to provide the ground conditions necessary for construction or maintenance activities.
4. Employ appropriate construction and stabilization techniques, such as installation of silt fencing, sediment traps, and application of water to disturbed soils to reduce dust. DHS and its construction contractors would develop and implement a Stormwater Pollution Prevention Plan (SWPPP) to further manage erosion and stormwater discharge.
5. Rehabilitation will include recovering disturbed areas with compacted stone material (i.e., rocks) to reduce erosion.

BIOLOGICAL RESOURCES

1. Obtain materials such as gravel, topsoil, or fill from existing developed or previously used sources that are compatible with the project area and are from legally permitted sites. Do not use materials from undisturbed areas adjacent to the project area.
2. Visible space beneath all heavy equipment must be checked for wildlife prior to moving the equipment.
3. All contractors, work crews, and DHS personnel in the field performing construction and maintenance activities will receive environmental awareness training. Photographs of potentially affected special status species will be incorporated into the environmental awareness training and posted in the contractor and resident engineer's offices where they will remain through the duration of the project, and copies will be made available that can be carried while conducting proposed activities.
4. Construction and site personnel will be trained for encounters with protected species. If a sighting occurs, a qualified biologist will be notified and consulted on the appropriate action.
5. The Migratory Bird Treaty Act (MBTA) (16 U.S.C. §§ 703-712, [1918, as amended 1936, 1960, 1968, 1969, 1974, 1978, 1986 and 1998]) requires that federal agencies coordinate with the United States (U.S.) Fish and Wildlife Service (USFWS) if a construction activity would result in the take of a migratory bird. If construction or clearing activities are scheduled during the nesting season (March 15 through September 15), potential nesting habitats will be surveyed no more than five days prior to planned clearing or construction to identify birds, active nests, and eggs. If active nests are located during surveys, a 150-foot buffer of vegetation will remain around songbird nests until young have fledged or the nest is abandoned. A larger vegetation buffer of 500 feet

will remain around the nest sites of other species such as water birds and raptors. If construction activities will result in the take of a migratory bird, then coordination with the USFWS and the Texas Parks and Wildlife Department (TPWD) will be required and applicable permits would be obtained prior to construction or clearing activities.

6. For encounters with rare species (including state-listed species) that will not readily leave the work area, TPWD recommends an authorized individual translocate the animal. Translocations of reptiles should be the minimum distance possible from the work area. Ideally, individuals to be relocated should be transported to the closest suitable habitat outside of the active construction area; preferably within 100 to 200 yards and not greater than one mile from the capture site. State-listed species may only be handled by persons with appropriate authorization from the TPWD Wildlife Permits Office.
7. DHS will not, for any length of time, permit any pets inside the project area or adjacent native habitats. This BMP does not pertain to law enforcement animals.
8. A "No Kill Wildlife Policy" will be implemented during construction and operation of the project site to prevent inadvertently killing protected species that may be mistaken for common species.

WATER RESOURCES

1. Wastewater is to be stored in closed containers on-site until removed for disposal. Wastewater is water used for project purposes that is contaminated with construction materials or from cleaning equipment and thus carries oils or other toxic materials or other contaminants as defined by federal or state regulations.
2. Avoid contamination of ground and surface waters by collecting concrete wash water in open containers and disposing of it off-site.
3. Cease work during heavy rains and do not resume work until conditions are suitable for the movement of equipment and materials.
4. All construction and maintenance contractors and personnel will review the DHS-approved spill protection plan and implement it during construction and maintenance activities.
5. Construction contractors will develop and implement a project-specific SWPPP to manage erosion and stormwater discharge.
6. Wastewater from pressure washing must be collected. A ground pit or sump can be used to collect the wastewater. Wastewater from pressure washing must not be discharged into any surface water.
7. If soaps or detergents are used, the wastewater and solids must be pumped or cleaned out and disposed of in an approved facility. If no soaps or detergents are used, the wastewater must first be filtered or screened to remove solids before being allowed to flow off-site. Detergents and cleaning solutions must not be sprayed over or discharged into surface waters.

AIR QUALITY

1. Soil watering will be utilized to minimize airborne particulate matter created during construction activities. Bare ground may be covered with hay or straw to lessen wind erosion during the time between construction and the re-covering of temporary impact areas with compacted stone material. All construction equipment and vehicles will be kept in good operating condition to minimize exhaust emissions.
2. Construction activities will comply with Texas Administrative Code Rule §111.143 and Rule §111.145 to control and minimize fugitive dust emissions.
3. Mitigation measures will be incorporated to ensure that PM_{10} emission levels do not rise above the *de minimis* threshold as required per 40 CFR 51.853(b)(1). Measures shall include dust suppression methods to minimize airborne particulate matter that will be created during construction activities. Standard construction BMPs, such as routine watering of the access roads, shall be used to control fugitive dust during the construction phases of the proposed project. Additionally, all construction equipment and vehicles shall be required to be kept in good operating condition to minimize exhaust emissions. Equipment and vehicles used on the project site must be well-maintained and use diesel particulate filters to reduce particulate matter emissions. If a contractor expects significant dust/emissions on their specific site, they must provide methods to reduce airborne particulate matter for their site.

NOISE

1. All generators and heavy construction equipment will have an attached muffler or use other noise-abatement methods, such as turning off idling equipment when not in use, in accordance with industry standards.
2. Avoid noise impacts during the night by conducting construction and maintenance activities during daylight working hours only (e.g., 7:00 a.m. to 5:00 p.m.).
3. All Occupational Safety and Health Administration (OSHA) requirements and standards will be followed to reduce noise exposure for construction contractors, DHS personnel, and migrants on-site. To lessen noise impacts on the local wildlife communities, construction will only occur during daylight hours. All motor vehicles will be properly maintained to reduce the potential for vehicle-related noise.

CULTURAL RESOURCES

1. In the event of an unanticipated discovery during proposed construction activities, work would cease in the immediate area and the Texas Historical Commission and interested tribal nations would be consulted on actions necessary to protect the cultural materials.

HAZARDOUS MATERIALS

1. BMPs will be implemented as standard operating procedures during all construction activities, and will include proper handling, storage, and/or disposal of hazardous and/or regulated materials. To minimize potential impacts from hazardous and regulated

materials, all fuels, waste oils, and solvents will be collected and stored in tanks or drums within a secondary containment system that consists of an impervious floor and bermed sidewalls capable of containing the volume of the largest container stored therein. The refueling of machinery will be completed in accordance with accepted industry and regulatory guidelines, will be completed only in controlled areas, and all vehicles will have drip pans during storage to contain minor spills and drips. Although it is unlikely that a major spill would occur, any spill of reportable quantities will be contained immediately within an earthen dike, and the application of an absorbent (e.g., granular, pillow, sock) will be used to absorb and contain the spill.

2. DHS will store gasoline and diesel in aboveground storage tanks that are regularly inspected to ensure proper operation and compliance with regulatory standards. These tanks will be double-walled and will include leak detection infrastructure.

3. DHS will contain non-hazardous waste materials and other discarded materials, such as construction waste, until removed from the construction and maintenance sites. This will assist in keeping the project area and surroundings free of litter and reduce the amount of disturbed area needed for waste storage.

4. DHS will minimize site disturbance and avoid attracting predators by promptly removing waste materials, wrappers, and debris from the site. Any waste that must remain more than 12 hours should be properly stored until disposal.

5. All waste oil and solvents will be recycled. All non-recyclable hazardous and regulated wastes will be collected, characterized, labeled, stored, transported, and disposed of in accordance with all applicable federal, state, and local regulations, including proper waste manifesting procedures.

6. Solid waste receptacles will be maintained at the project site. Non-hazardous solid waste (trash and waste construction materials) will be collected and deposited in on-site receptacles. Solid waste will be collected and disposed of by a local waste disposal contractor.

7. Disposal of used batteries or other small quantities of hazardous waste will be handled, managed, maintained, stored, and disposed of in accordance with applicable Federal and state rules and regulations for the management, storage, and disposal of hazardous materials, hazardous waste, and universal waste. Additionally, to the extent practicable, all batteries will be recycled locally.

8. All rainwater collected in secondary containment will be pumped out, and secondary containment will have netting to minimize exposure to wildlife.

9. A properly licensed and certified hazardous waste disposal contractor will be used for hazardous waste disposal, and manifests will be traced to final destinations to ensure proper disposal is accomplished.

10. Develop a project-specific Spill Prevention, Control, and Countermeasure Plan to address impacts and establish procedures for cleaning up inadvertent releases or spills of hazardous materials.

PROTECTION OF CHILDREN

1. Protect migrant children who may be present on-site while being processed from active construction work by ensuring they are supervised, keeping children inside and protected from airborne dust, providing ear plugs as appropriate, and posting warning signs at construction sites in both English and Spanish.

HUMAN HEALTH AND SAFETY

1. All construction work will be performed by trained, qualified, and fully equipped contractors with appropriate licenses and certifications.
2. DHS and its contractors will be responsible for assessing potential hazardous workplace conditions; monitoring employee exposure to workplace chemical, physical, and biological agents, and ergonomic stressors; recommending and evaluating controls to ensure exposure to personnel is eliminated or adequately controlled; and ensuring a health and safety program is in place to perform occupational health physicals for those workers subject to the use of respiratory protection, or engaged in hazardous waste, or other work requiring medical monitoring.
3. Ensure workers are provided with and are utilizing personal protective equipment (PPE) such as ear protection, steel-toed boots, hard hats, gloves, and other appropriate safety products. All OSHA requirements for worker safety will be followed.
4. A project-specific Health and Safety Plan will be prepared detailing all potential hazards and site-specific guidance to ensure potential safety risks are minimized. The plan would include emergency response and evacuation procedures; operating manuals; PPE recommendations; procedures for handling, storing, and disposing of hazardous materials and wastes, to include universal wastes; information on the effects and symptoms of potential exposures; and guidance with respect to hazardous identification.
5. Active construction sites will be contained within a fenced or clearly marked perimeter that would only be accessible to authorized personnel.

APPENDIX D

Air Quality Calculations

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Appendix C: Air Quality Calculations

1.1 Emissions Estimations Methodology

DHS has considered net emissions generated from all sources of air emissions that may be associated with the Proposed Action. More specifically, project-related direct emissions would result from the following:

- *Site preparation and construction activities* – Use of heavy construction equipment, worker vehicles traveling to and from the project area, use of paints and architectural coatings, paving off gases, and fugitive dust from ground disturbance.
- *Operational activities* – Use of emergency generators, fuel dispensing activities, and new personnel commuting to and from the JPC daily.

Emissions factors are representative values that attempt to relate the quantity of a pollutant released with the activity associated with the release of that pollutant. These factors are usually expressed as the weight of pollutant emitted per unit weight, volume, distance, or duration of the pollutant emitting activity. In most cases, these factors are simply an average of all available data of acceptable quality and are generally assumed to be representative of long-term averages for all emitters in the source category. The emission factors presented in this appendix are generally from the *Compilation of Air Pollutant Emission Factors* (AP-42) and *WebFIRE* (USEPA's online emissions factor database).

All direct and indirect emissions associated with the Proposed Action were estimated. Construction emissions were estimated using predicted equipment use for site grading, trenching/excavation, construction, architectural coatings, and paving. Operational emissions were estimated using predicted equipment use for facility operation. Operational equipment considered includes emergency generators (assume four generators) and fuel dispensing (assume two fuel storage tanks). Given the relatively hot climate of the region, it was assumed a heat pump or electric heating system will be installed at the JPC to supply heat, and no natural gas-, propane-, or oil-fired heaters would be needed. It is assumed two above ground gasoline storage tanks (16 feet in length and seven feet in diameter) would be needed to provide gasoline vehicles.

The construction period would involve the use of various non-road equipment, power generators, and trucks. Pieces of equipment to be used for facility construction include, but are not limited to, backhoes, loaders, excavators, air compressors, chain saws, chipping machines, dozers, cranes, pavers, graders, rollers, and heavy trucks. Information regarding the number of pieces and types of construction equipment to be used on the project, the schedule for deployment of equipment (monthly and annually), and the approximate daily operating time (including power level or usage factor) were estimated for each individual construction project based on a schedule of construction activity.

The following on-road vehicle type abbreviations and their definitions are used throughout this appendix.

LDGV: Light-Duty Gasoline Vehicle (Passenger Cars)
LDGT: Light-Duty Gasoline Truck (0–8,500 Pounds Gross Vehicle Weight Rating [GVWR])
HDGV: Heavy-Duty Gasoline Vehicle (8,501 to > 60,000 Pounds GVWR)
LDDV: Light-Duty Diesel Vehicle (Passenger Cars)
LDDT: Light-Duty Diesel Truck (0–8,500 Pounds GVWR)
HDDV: Heavy-Duty Diesel Vehicle (8,501 to > 60,000 Pounds GVWR)
MC: Motorcycles (Gasoline)

1.1.1 Construction – Site Grading Phase

1.1.1.1 Assumptions

Average days worked per week: 5

Construction Exhaust

Equipment Name	Number Of Equipment	Hours Per Day
Excavators Composite	1	8
Graders Composite	1	8
Other Construction Equipment Composite	1	8
Rubber Tired Dozers Composite	1	8
Scrapers Composite	3	8
Tractors/Loaders/Backhoes Composite	3	8

Vehicle Exhaust

Average Hauling Truck Capacity (yd^3): 20
Average Hauling Truck Round Trip Commute (mile): 20

Vehicle Exhaust Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

Worker Trips

Average Worker Round Trip Commute (mile): 20

Worker Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	50.00	50.00	0	0	0	0	0

1.1.1.2 Emission Factors

Construction Exhaust Emission Factors (lb/hour)

Excavators Composite								
	VOC	**SO_X**	**NO_X**	**CO**	**PM_{10}**	**$PM_{2.5}$**	**CH_4**	**CO_2e**
Emission Factors	0.0559	0.0013	0.2269	0.5086	0.0086	0.0086	0.0050	119.70
Graders Composite								
	VOC	**SO_X**	**NO_X**	**CO**	**PM_{10}**	**$PM_{2.5}$**	**CH_4**	**CO_2e**
Emission Factors	0.0676	0.0014	0.3314	0.5695	0.0147	0.0147	0.0061	132.89
Other Construction Equipment Composite								
	VOC	**SO_X**	**NO_X**	**CO**	**PM_{10}**	**$PM_{2.5}$**	**CH_4**	**CO_2e**
Emission Factors	0.0442	0.0012	0.2021	0.3473	0.0068	0.0068	0.0039	122.60
Rubber Tired Dozers Composite								
	VOC	**SO_X**	**NO_X**	**CO**	**PM_{10}**	**$PM_{2.5}$**	**CH_4**	**CO_2e**
Emission Factors	0.1671	0.0024	1.0824	0.6620	0.0418	0.0418	0.0150	239.45
Scrapers Composite								
	VOC	**SO_X**	**NO_X**	**CO**	**PM_{10}**	**$PM_{2.5}$**	**CH_4**	**CO_2e**
Emission Factors	0.1495	0.0026	0.8387	0.7186	0.0334	0.0334	0.0134	262.81
Tractors/Loaders/Backhoes Composite								
	VOC	**SO_X**	**NO_X**	**CO**	**PM_{10}**	**$PM_{2.5}$**	**CH_4**	**CO_2e**
Emission Factors	0.0335	0.0007	0.1857	0.3586	0.0058	0.0058	0.0030	66.872

Vehicle Exhaust & Worker Trips Emission Factors (grams/mile)

	VOC	SO_X	NO_X	CO	PM_{10}	$PM_{2.5}$	Pb	NH_3	CO_2e
LDGV	000.192	000.002	000.099	002.870	000.004	000.004	000.000	000.024	00303.869
LDGT	000.209	000.003	000.175	003.239	000.006	000.005	000.000	000.026	00396.310
HDGV	000.856	000.006	000.851	013.446	000.024	000.021	000.000	000.051	00912.039
LDDV	000.074	000.001	000.080	003.109	000.003	000.002	000.000	000.008	00307.078
LDDT	000.081	000.001	000.120	002.137	000.003	000.003	000.000	000.009	00358.668
HDDV	000.118	000.004	002.424	001.549	000.042	000.039	000.000	000.032	01234.892
MC	002.457	000.003	000.660	012.092	000.022	000.020	000.000	000.054	00389.894

1.1.1.3 Formulas

Fugitive Dust Emissions per Phase

$PM10_{FD} = (20 * ACRE * WD) / 2000$

$PM10_{FD}$: Fugitive Dust PM_{10} Emissions (TONs)

20: Conversion Factor Acre Day to pounds (20 lb / 1 Acre Day)

ACRE: Total acres (acres)

WD: Number of Total Workdays (days)

2000: Conversion Factor pounds to tons

Construction Exhaust Emissions per Phase

$CEE_{POL} = (NE * WD * H * EF_{POL}) / 2000$

CEE_{POL}: Construction Exhaust Emissions (TONs)

NE: Number of Equipment

WD: Number of Total Workdays (days)

H: Hours Worked per Day (hours)

EF_{POL}: Emission Factor for Pollutant (lb/hour)

2000: Conversion Factor pounds to tons

Vehicle Exhaust Emissions per Phase

$VMT_{VE} = (HA_{OnSite} + HA_{OffSite}) * (1 / HC) * HT$

VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)

HA_{OnSite}: Amount of Material to be Hauled On-Site (yd^3)

$HA_{OffSite}$: Amount of Material to be Hauled Off-Site (yd^3)

HC: Average Hauling Truck Capacity (yd^3)

(1 / HC): Conversion Factor cubic yards to trips (1 trip / HC yd^3)

HT: Average Hauling Truck Round Trip Commute (mile/trip)

$V_{POL} = (VMT_{VE} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)

VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)

0.002205: Conversion Factor grams to pounds

EF_{POL}: Emission Factor for Pollutant (grams/mile)

VM: Vehicle Exhaust On Road Vehicle Mixture (%)

2000: Conversion Factor pounds to tons

Worker Trips Emissions per Phase

$VMT_{WT} = WD * WT * 1.25 * NE$

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)

WD: Number of Total Workdays (days)

WT: Average Worker Round Trip Commute (mile)

1.25: Conversion Factor Number of Construction Equipment to Number of Workers

NE: Number of Construction Equipment

V_{POL} = (VMT_{WT} * 0.002205 * EF_{POL} * VM) / 2000

V_{POL}: Vehicle Emissions (TONs)

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)

0.002205: Conversion Factor grams to pounds

EF_{POL}: Emission Factor for Pollutant (grams/mile)

VM: Worker Trips On Road Vehicle Mixture (%)

2000: Conversion Factor pounds to tons

1.1.2 Construction – Trenching/Excavating Phase

1.1.2.1 Assumptions

Average Days worked per week: 5

Construction Exhaust

Equipment Name	Number Of Equipment	Hours Per Day
Excavators Composite	2	8
Other General Industrial Equipment Composite	1	8
Tractors/Loaders/Backhoes Composite	1	8

Vehicle Exhaust

Average Hauling Truck Capacity (yd^3): 20

Average Hauling Truck Round Trip Commute (mile): 20

Vehicle Exhaust Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

Worker Trips

Average Worker Round Trip Commute (mile): 20

Worker Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	50.00	50.00	0	0	0	0	0

1.1.2.2 Emission Factors

Construction Exhaust Emission Factors (lb/hour)

Excavators Composite								
	VOC	**SO_X**	**NO_X**	**CO**	**PM_{10}**	**$PM_{2.5}$**	**CH_4**	**CO_2e**
Emission Factors	0.0559	0.0013	0.2269	0.5086	0.0086	0.0086	0.0050	119.70
Graders Composite								
	VOC	**SO_X**	**NO_X**	**CO**	**PM_{10}**	**$PM_{2.5}$**	**CH_4**	**CO_2e**

Emission Factors	0.0676	0.0014	0.3314	0.5695	0.0147	0.0147	0.0061	132.89

Other Construction Equipment Composite								
	VOC	**SO_X**	**NO_X**	**CO**	**PM_{10}**	**$PM_{2.5}$**	**CH_4**	**CO_2e**
Emission Factors	0.0442	0.0012	0.2021	0.3473	0.0068	0.0068	0.0039	122.60
Rubber Tired Dozers Composite								
	VOC	**SO_X**	**NO_X**	**CO**	**PM_{10}**	**$PM_{2.5}$**	**CH_4**	**CO_2e**
Emission Factors	0.1671	0.0024	1.0824	0.6620	0.0418	0.0418	0.0150	239.45
Scrapers Composite								
	VOC	**SO_X**	**NO_X**	**CO**	**PM_{10}**	**$PM_{2.5}$**	**CH_4**	**CO_2e**
Emission Factors	0.1495	0.0026	0.8387	0.7186	0.0334	0.0334	0.0134	262.81
Tractors/Loaders/Backhoes Composite								
	VOC	**SO_X**	**NO_X**	**CO**	**PM_{10}**	**$PM_{2.5}$**	**CH_4**	**CO_2e**
Emission Factors	0.0335	0.0007	0.1857	0.3586	0.0058	0.0058	0.0030	66.872

Vehicle Exhaust & Worker Trips Emission Factors (grams/mile)

	VOC	**SO_X**	**NO_X**	**CO**	**PM_{10}**	**$PM_{2.5}$**	**Pb**	**NH_3**	**CO_2e**
LDGV	000.192	000.002	000.099	002.870	000.004	000.004	000.000	000.024	00303.869
LDGT	000.209	000.003	000.175	003.239	000.006	000.005	000.000	000.026	00396.310
HDGV	000.856	000.006	000.851	013.446	000.024	000.021	000.000	000.051	00912.039
LDDV	000.074	000.001	000.080	003.109	000.003	000.002	000.000	000.008	00307.078
LDDT	000.081	000.001	000.120	002.137	000.003	000.003	000.000	000.009	00358.668
HDDV	000.118	000.004	002.424	001.549	000.042	000.039	000.000	000.032	01234.892
MC	002.457	000.003	000.660	012.092	000.022	000.020	000.000	000.054	00389.894

1.1.2.3 Formulas

Fugitive Dust Emissions per Phase

$PM10_{FD} = (20 * ACRE * WD) / 2000$

$PM10_{FD}$: Fugitive Dust PM_{10} Emissions (TONs)

20: Conversion Factor Acre Day to pounds (20 lb / 1 Acre Day)

ACRE: Total acres (acres)

WD: Number of Total Workdays (days)

2000: Conversion Factor pounds to tons

Construction Exhaust Emissions per Phase

$CEE_{POL} = (NE * WD * H * EF_{POL}) / 2000$

CEE_{POL}: Construction Exhaust Emissions (TONs)

NE: Number of Equipment

WD: Number of Total Workdays (days)

H: Hours Worked per Day (hours)

EF_{POL}: Emission Factor for Pollutant (lb/hour)

2000: Conversion Factor pounds to tons

Vehicle Exhaust Emissions per Phase

$VMT_{VE} = (HA_{OnSite} + HA_{OffSite}) * (1 / HC) * HT$

VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)

HA_{OnSite}: Amount of Material to be Hauled On-Site (yd^3)

$HA_{OffSite}$: Amount of Material to be Hauled Off-Site (yd^3)

HC: Average Hauling Truck Capacity (yd^3)

(1 / HC): Conversion Factor cubic yards to trips (1 trip / HC yd^3)

HT: Average Hauling Truck Round Trip Commute (mile/trip)

$V_{POL} = (VMT_{VE} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)

VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)

0.002205: Conversion Factor grams to pounds

EF_{POL}: Emission Factor for Pollutant (grams/mile)

VM: Vehicle Exhaust On Road Vehicle Mixture (%)

2000: Conversion Factor pounds to tons

Worker Trips Emissions per Phase

$VMT_{WT} = WD * WT * 1.25 * NE$

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)

WD: Number of Total Workdays (days)

WT: Average Worker Round Trip Commute (mile)

1.25: Conversion Factor Number of Construction Equipment to Number of Works

NE: Number of Construction Equipment

$V_{POL} = (VMT_{WT} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)

VMT_{VE}: Worker Trips Vehicle Miles Travel (miles)

0.002205: Conversion Factor grams to pounds

EF_{POL}: Emission Factor for Pollutant (grams/mile)

VM: Worker Trips On Road Vehicle Mixture (%)

2000: Conversion Factor pounds to tons

1.1.3 Construction – Building Construction Phase

1.1.3.1 Assumptions

Average Days worked per week: 5

Construction Exhaust

Equipment Name	Number Of Equipment	Hours Per Day
Cranes Composite	1	6
Forklifts Composite	2	6

Equipment Name	Number Of Equipment	Hours Per Day
Generator Sets Composite	1	8
Tractors/Loaders/Backhoes Composite	1	8
Welders Composite	3	8

Vehicle Exhaust

Average Hauling Truck Round Trip Commute (mile): 20

Vehicle Exhaust Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

Worker Trips

Average Worker Round Trip Commute (mile): 20

Worker Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	50.00	50.00	0	0	0	0	0

Vendor Trips

Average Vendor Round Trip Commute (mile): 40

Vendor Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

1.1.3.2 Emission Factors

Construction Exhaust Emission Factors (lb/hour)

Cranes Composite								
	VOC	**SO_X**	**NO_X**	**CO**	**PM_{10}**	**$PM_{2.5}$**	**CH_4**	**CO_2e**
Emission Factors	0.0680	0.0013	0.4222	0.3737	0.0143	0.0143	0.0061	128.77
Forklifts Composite								
	VOC	**SO_X**	**NO_X**	**CO**	**PM_{10}**	**$PM_{2.5}$**	**CH_4**	**CO_2e**
Emission Factors	0.0236	0.0006	0.0859	0.2147	0.0025	0.0025	0.0021	54.449
Generator Sets Composite								
	VOC	**SO_X**	**NO_X**	**CO**	**PM_{10}**	**$PM_{2.5}$**	**CH_4**	**CO_2e**
Emission Factors	0.0287	0.0006	0.2329	0.2666	0.0080	0.0080	0.0025	61.057
Tractors/Loaders/Backhoes Composite								
	VOC	**SO_X**	**NO_X**	**CO**	**PM_{10}**	**$PM_{2.5}$**	**CH_4**	**CO_2e**
Emission Factors	0.0335	0.0007	0.1857	0.3586	0.0058	0.0058	0.0030	66.872
Welders Composite								
	VOC	**SO_X**	**NO_X**	**CO**	**PM_{10}**	**$PM_{2.5}$**	**CH_4**	**CO_2e**
Emission Factors	0.0214	0.0003	0.1373	0.1745	0.0051	0.0051	0.0019	25.650

Vehicle Exhaust & Worker Trips Emission Factors (grams/mile)

	VOC	SO_X	NO_X	CO	PM_{10}	$PM_{2.5}$	Pb	NH_3	CO_2e
LDGV	000.192	000.002	000.099	002.870	000.004	000.004	000.000	000.024	00303.869
LDGT	000.209	000.003	000.175	003.239	000.006	000.005	000.000	000.026	00396.310
HDGV	000.856	000.006	000.851	013.446	000.024	000.021	000.000	000.051	00912.039
LDDV	000.074	000.001	000.080	003.109	000.003	000.002	000.000	000.008	00307.078
LDDT	000.081	000.001	000.120	002.137	000.003	000.003	000.000	000.009	00358.668
HDDV	000.118	000.004	002.424	001.549	000.042	000.039	000.000	000.032	01234.892
MC	002.457	000.003	000.660	012.092	000.022	000.020	000.000	000.054	00389.894

1.1.3.3 Formulas

Construction Exhaust Emissions per Phase

$CEE_{POL} = (NE * WD * H * EF_{POL}) / 2000$

CEE_{POL}: Construction Exhaust Emissions (TONs)

NE: Number of Equipment

WD: Number of Total Workdays (days)

H: Hours Worked per Day (hours)

EF_{POL}: Emission Factor for Pollutant (lb/hour)

2000: Conversion Factor pounds to tons

Vehicle Exhaust Emissions per Phase

$VMT_{VE} = BA * BH * (0.42 / 1000) * HT$

VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)

BA: Area of Building (ft^2)

BH: Height of Building (ft)

(0.42 / 1000): Conversion Factor ft^3 to trips (0.42 trip / 1,000 ft^3)

HT: Average Hauling Truck Round Trip Commute (mile/trip)

$V_{POL} = (VMT_{VE} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)

VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)

0.002205: Conversion Factor grams to pounds

EF_{POL}: Emission Factor for Pollutant (grams/mile)

VM: Worker Trips On Road Vehicle Mixture (%)

2000: Conversion Factor pounds to tons

Worker Trips Emissions per Phase

$VMT_{WT} = WD * WT * 1.25 * NE$

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)

WD: Number of Total Workdays (days)

WT: Average Worker Round Trip Commute (mile)

1.25: Conversion Factor Number of Construction Equipment to Number of Works

NE: Number of Construction Equipment

$V_{POL} = (VMT_{WT} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)

0.002205: Conversion Factor grams to pounds

EF_{POL}: Emission Factor for Pollutant (grams/mile)

VM: Worker Trips On Road Vehicle Mixture (%)

2000: Conversion Factor pounds to tons

Vendor Trips Emissions per Phase

$VMT_{VT} = BA * BH * (0.38 / 1000) * HT$

VMT_{VT}: Vendor Trips Vehicle Miles Travel (miles)

BA: Area of Building (ft^2)

BH: Height of Building (ft)

(0.38 / 1000): Conversion Factor ft^3 to trips (0.38 trip / 1,000 ft^3)

HT: Average Hauling Truck Round Trip Commute (mile/trip)

$V_{POL} = (VMT_{VT} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)

VMT_{VT}: Vendor Trips Vehicle Miles Travel (miles)

0.002205: Conversion Factor grams to pounds

EF_{POL}: Emission Factor for Pollutant (grams/mile)

VM: Vendor Trips On Road Vehicle Mixture (%)

2000: Conversion Factor pounds to tons

1.1.4 Construction – Architectural Coatings Phase

1.1.4.1 Assumptions

Average Days worked per week: 5

Worker Trips

Average Worker Round Trip Commute (mile): 20

Worker Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	50.00	50.00	0	0	0	0	0

1.1.4.2 Emission Factors

Worker Trips Emission Factors (grams/mile)

	VOC	SO_X	NO_X	CO	PM_{10}	$PM_{2.5}$	Pb	NH_3	CO_2e
LDGV	000.192	000.002	000.099	002.870	000.004	000.004	000.000	000.024	00303.869
LDGT	000.209	000.003	000.175	003.239	000.006	000.005	000.000	000.026	00396.310
HDGV	000.856	000.006	000.851	013.446	000.024	000.021	000.000	000.051	00912.039

	VOC	SO_X	NO_X	CO	PM_{10}	$PM_{2.5}$	Pb	NH_3	CO_2e
LDDV	000.074	000.001	000.080	003.109	000.003	000.002	000.000	000.008	00307.078
LDDT	000.081	000.001	000.120	002.137	000.003	000.003	000.000	000.009	00358.668
HDDV	000.118	000.004	002.424	001.549	000.042	000.039	000.000	000.032	01234.892
MC	002.457	000.003	000.660	012.092	000.022	000.020	000.000	000.054	00389.894

1.1.4.3 Formulas

Worker Trips Emissions per Phase

$VMT_{WT} = (1 * WT * PA) / 800$

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)

1: Conversion Factor man days to trips (1 trip / 1 man * day)

WT: Average Worker Round Trip Commute (mile)

PA: Paint Area (ft^2)

800: Conversion Factor square feet to man days (1 ft^2 / 1 man * day)

$V_{POL} = (VMT_{WT} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)

0.002205: Conversion Factor grams to pounds

EF_{POL}: Emission Factor for Pollutant (grams/mile)

VM: Worker Trips On Road Vehicle Mixture (%)

2000: Conversion Factor pounds to tons

Off-Gassing Emissions per Phase

$VOC_{AC} = (AB * 2.0 * 0.0116) / 2000.0$

VOC_{AC}: Architectural Coating VOC Emissions (TONs)

BA: Area of Building (ft^2)

2.0: Conversion Factor total area to coated area (2.0 ft^2 coated area / total area)

0.0116: Emission Factor (lb/ft^2)

2000: Conversion Factor pounds to tons

1.1.5 Construction – Paving Phase

1.1.5.1 Assumptions

Average Days worked per week: 5

Construction Exhaust

Equipment Name	Number Of Equipment	Hours Per Day
Pavers Composite	1	8
Paving Equipment Composite	2	8
Rollers Composite	2	6

Vehicle Exhaust

Average Hauling Truck Round Trip Commute (mile): 20

Vehicle Exhaust Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

Worker Trips

Average Worker Round Trip Commute (mile): 20

Worker Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	50.00	50.00	0	0	0	0	0

1.1.5.2 Emission Factors

Construction Exhaust Emission Factors (lb/hour)

Other Construction Equipment Composite								
	VOC	SO_X	NO_X	CO	PM_{10}	$PM_{2.5}$	CH_4	CO_2e
Emission Factors	0.0442	0.0012	0.2021	0.3473	0.0068	0.0068	0.0039	122.60

Vehicle Exhaust & Worker Trips Emission Factors (grams/mile)

	VOC	SO_x	NO_x	CO	PM_{10}	$PM_{2.5}$	Pb	NH_3	CO_2e
LDGV	000.192	000.002	000.099	002.870	000.004	000.004	000.000	000.024	00303.869
LDGT	000.209	000.003	000.175	003.239	000.006	000.005	000.000	000.026	00396.310
HDGV	000.856	000.006	000.851	013.446	000.024	000.021	000.000	000.051	00912.039
LDDV	000.074	000.001	000.080	003.109	000.003	000.002	000.000	000.008	00307.078
LDDT	000.081	000.001	000.120	002.137	000.003	000.003	000.000	000.009	00358.668
HDDV	000.118	000.004	002.424	001.549	000.042	000.039	000.000	000.032	01234.892
MC	002.457	000.003	000.660	012.092	000.022	000.020	000.000	000.054	00389.894

1.1.5.3 Formulas

Construction Exhaust Emissions per Phase

$CEE_{POL} = (NE * WD * H * EF_{POL}) / 2000$

CEE_{POL}: Construction Exhaust Emissions (TONs)

NE: Number of Equipment

WD: Number of Total Workdays (days)

H: Hours Worked per Day (hours)

EF_{POL}: Emission Factor for Pollutant (lb/hour)

2000: Conversion Factor pounds to tons

Vehicle Exhaust Emissions per Phase

$VMT_{VE} = PA * 0.25 * (1 / 27) * (1 / HC) * HT$

VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)

PA: Paving Area (ft^2)

0.25: Thickness of Paving Area (ft)

(1 / 27): Conversion Factor cubic feet to cubic yards (1 yd^3 / 27 ft^3)

HC: Average Hauling Truck Capacity (yd^3)
(1 / HC): Conversion Factor cubic yards to trips (1 trip / HC yd^3)
HT: Average Hauling Truck Round Trip Commute (mile/trip)

$V_{POL} = (VMT_{VE} * 0.002205 * EF_{POL} * VM) / 2000$
V_{POL}: Vehicle Emissions (TONs)
VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Vehicle Exhaust On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

Worker Trips Emissions per Phase

$VMT_{WT} = WD * WT * 1.25 * NE$
VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
WD: Number of Total Workdays (days)
WT: Average Worker Round Trip Commute (mile)
1.25: Conversion Factor Number of Construction Equipment to Number of Works
NE: Number of Construction Equipment

$V_{POL} = (VMT_{WT} * 0.002205 * EF_{POL} * VM) / 2000$
V_{POL}: Vehicle Emissions (TONs)
VMT_{VE}: Worker Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

Off-Gassing Emissions per Phase

$VOC_P = (2.62 * PA) / 43,560$
VOC_P: Paving VOC Emissions (TONs)
2.62: Emission Factor (lb/acre)
PA: Paving Area (ft^2)
43560: Conversion Factor square feet to acre (43,560 ft^2 / acre)

1.1.6 Operation – Personnel

1.1.6.1 Assumptions

Average Personnel Round Trip Commute (mile): 20
Personnel Work Schedule:
Full-Time Personnel: 5 Days Per Week

1.1.6.2 Emission Factors

On Road Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	37.55	60.32	0	0.03	0.2	0	1.9

On Road Vehicle Emission Factors (grams/mile)

	VOC	SO_X	NO_X	CO	PM_{10}	$PM_{2.5}$	Pb	NH_3	CO_2e
LDGV	000.221	000.001	000.100	003.291	000.004	000.003	000.000	000.024	00309.498
LDGT	000.230	000.002	000.178	003.679	000.005	000.005	000.000	000.026	00401.828
HDGV	000.960	000.004	000.856	014.076	000.024	000.021	000.000	000.051	00923.477
LDDV	000.058	000.001	000.086	003.577	000.003	000.002	000.000	000.008	00314.547
LDDT	000.064	000.001	000.129	002.423	000.003	000.003	000.000	000.008	00365.414
HDDV	000.101	000.004	002.540	001.568	000.042	000.039	000.000	000.032	01254.683
MC	003.166	000.002	000.720	012.654	000.023	000.021	000.000	000.053	00388.847

1.1.6.3 Formulas

Personnel Vehicle Miles Travel for Work Days per Year

$VMT_P = NP * WD * AC$

VMT_P: Personnel Vehicle Miles Travel (miles/year)

NP: Number of Personnel

WD: Work Days per Year

AC: Average Commute (miles)

Vehicle Emissions per Year

$V_{POL} = (VMT_{Total} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)

VMT_P: Personnel Vehicle Miles Travel per Year (miles)

0.002205: Conversion Factor grams to pounds

EF_{POL}: Emission Factor for Pollutant (grams/mile)

VM: Personnel On Road Vehicle Mixture (%)

2000: Conversion Factor pounds to tons

1.1.7 Operation – Emergency Generator

1.1.7.1 Assumptions

Type of Fuel used in Emergency Generator: Diesel

Emergency Generator's Horsepower: 135

Average Operating Hours Per Year (hours): 30

1.1.7.2 Emission Factors

Emergency Generators Emission Factor (lb/hp-hr)

VOC	SO_X	NO_X	CO	PM_{10}	$PM_{2.5}$	Pb	NH_3	CO_2e
0.00279	0.00235	0.0115	0.00768	0.00251	0.00251	000.000	000.000	1.33

1.1.7.3 Formulas

Emergency Generator Emissions per Year

AEPOL= (NGEN * HP * OT * EFPOL) / 2000

AEPOL: Activity Emissions (TONs per Year)
NGEN: Number of Emergency Generators
HP: Emergency Generator's Horsepower (hp)
OT: Average Operating Hours Per Year (hours)
EFPOL: Emission Factor for Pollutant (lb/hp-hr)

1.1.8 Operation - Tanks

1.1.8.1 Assumptions

Chemical

Chemical Name: Gasoline (RVP 9)
Chemical Category: Petroleum Distillates
Chemical Density: 5.6
Vapor Molecular Weight (lb/lb-mole): 67
Stock Vapor Density (lb/ft3): 0.0508889883159548
Vapor Pressure: 4.19185
Vapor Space Expansion Factor (dimensionless): 0.068

Tank

Type of Tank: Horizontal Tank
Tank Length (ft): 16
Tank Diameter (ft): 7
Annual Net Throughput (gallon/year): 30,000

1.1.8.2 Formulas

Vapor Space Volume

VSV = ([PI / 4] * D^2 * L) / 2

VSV: Vapor Space Volume (ft^3)
PI: PI Math Constant
D^2: Tank Diameter (ft)
L: Tank Length (ft)

2: Convertion Factor (Vapor Space Volume is assumed to be one-half of the tank volume)

Vented Vapor Saturation Factor

VVSF = 1 / (1 + (0.053 * VP * L / 2))

VVSF: Vented Vapor Saturation Factor (dimensionless)
0.053: Constant
VP: Vapor Pressure (psia)
L: Tank Length (ft)

Standing Storage Loss per Year

SSL_{VOC} = (365 * VSV * SVD * VSEF * VVSF) / 2000

SSL_{VOC}: Standing Storage Loss Emissions (TONs)
365: Number of Daily Events in a Year (Constant)
VSV: Vapor Space Volume (ft^3)
SVD: Stock Vapor Density (lb/ft^3)
VSEF: Vapor Space Expansion Factor (dimensionless)
VVSF: Vented Vapor Saturation Factor (dimensionless)
2000: Conversion Factor pounds to tons

Number of Turnovers per Year

NT = (7.48 * ANT) / ((PI / 4.0) * D * L)

NT: Number of Turnovers per Year
7.48: Constant
ANT: Annual Net Throughput
PI: PI Math Constant
D: Tank Diameter (ft)
L: Tank Length (ft)

Working Loss Turnover (Saturation) Factor per Year

WLSF = (18 + NT) / (6 * NT)

WLSF: Working Loss Turnover (Saturation) Factor per Year
18: Constant
NT: Number of Turnovers per Year
6: Constant

Working Loss per Year

WL_{VOC} = (0.0010 * VMW * VP * ANT * WLSF) / 2000

0.0010: Constant
VMW: Vapor Molecular Weight (lb/lb-mole)
VP: Vapor Pressure (psia)
ANT: Annual Net Throughput

WLSF: Working Loss Turnover (Saturation) Factor
2000: Conversion Factor pounds to tons

1.2 Alternative 1 Air Emissions Analysis

Action Location

State: Texas
County: Webb
Regulatory Areas: Laredo, TX

Construction Period

Start: February 2024
End: December 2029

1.2.1 Action Description

The Proposed Action is to construct, operate, and maintain a JPC in Webb County, Texas on an approximately 100-acre property. Alternative 1 would include acquisition of an approximately 100-acre parcel with construction of the JPC. Alternative 2 would include the same acquisition of an approximate 100-acre parcel with construction of the JPC with net-zero carbon emission technologies including solar panels, a vermifiltration wastewater filtration system, an atmospheric water generator, and associated equipment. The JPC would be approximately 200,000 ft^2 and would accommodate 200 staff. The JPC would include additional support facilities and structures including public and private parking areas, a temporary fuel island with aboveground storage tanks, stormwater management system, roadways, emergency generators, and all necessary utilities.

For the purposes of this analysis, it was assumed 85 percent of the 100-acre site would be developed (65 percent structures and 20 percent pavement). The JPC would be constructed over an 11-month construction period from February 2024 through December 2024. The rest of the site would be developed over the next 5 years (i.e., 2025 through 2029).

The analysis also assumes the following: (1) no earth materials are required to be hauled on- or off-site due to site grading or trenching, excavated spoils will be used on-site and (2) if required, a heat pump or electric heating system will be installed at the JPC to supply heat; natural gas-, propane-, or oil-fired heaters would not be used.

1.2.1.1 JPC Construction

The JPC would be constructed over an 11-month construction period from February 2024 through December 2024. It was assumed the JPC site would cover approximately 7 acres and would include the 200,000-ft^2 JPC and approximately 1.4 acres of pavement (e.g., parking, driveways, paved storage, sidewalks).

Site grading would occur on approximately 7 acres (304,920 ft^2). Site grading would begin in February 2024 and last approximately 2 months.

Trenching for site utilities (approximately 1,750 linear feet) and perimeter fencing (approximately 2,500 linear feet) would occur on an area totaling approximately 7,750 ft^2. A 3-foot trench width for utilities and a 1-foot trench width for perimeter fencing was assumed. Trenching would begin in April 2024 and last approximately 1 month.

Construction would include the 200,000 ft^2 JPC. Construction would begin in May 2024 and last approximately 6 months.

Architectural coatings would be applied to the JPC, for a total of 200,000 ft^2. Architectural coating application would begin in October 2024 and last approximately 1 month.

Paving for parking, driveways, paved storage, and sidewalks would occur on approximately 1.4 acres (60,984 ft^2). Paving would begin in November 2024 and last approximately 2 months.

1.2.1.2 Ancillary Support Facilities Construction

The rest of the 100-acre site (i.e., 93 acres) would be developed for support facilities and structures. It was assumed 65 percent of the site would contain structures (60.45 acres) and 20 percent of the site would contain pavement (18.6 acres). For the purposes of this analysis, the site would be developed over a 5-year period from 2025 through 2029.

Site grading would occur on approximately 93 acres (4,051,000 ft^2). Site grading would begin in January 2025 and last approximately 6 months.

Trenching for site utilities (approximately 3,000 linear feet) and perimeter fencing (approximately 5,000 linear feet) would occur on an area totaling approximately 14,000 ft^2. A 3-foot trench width for utilities and a 1-foot trench width for perimeter fencing was assumed. Trenching would begin in July 2025 and last approximately 6 months.

Construction would include approximately 60.45 acres of structures (2,633,202 ft^2). A 12-foot building height was assumed for all structures. Construction would begin in January 2026 and last approximately 3 years.

Architectural coatings would be applied to all structures, for a total of 2,633,202 ft^2. Architectural coating application would begin in January 2029 and last approximately 3 months.

Paving for parking, driveways, paved storage, and sidewalks would occur on approximately 18.6 acres (810,216 ft^2). Paving would begin in April 2029 and last approximately 9 months.

1.2.1.3 Personnel

The JPC would accommodate 200 personnel. To equate operational emissions, it was assumed personnel would commute to the JPC starting in 2030.

1.2.1.4 Emergency Generators

Four diesel generators would be installed at the JPC. To equate operational emissions, it was assumed diesel generators would become operational in 2030.

1.2.1.5 Tanks

It was assumed two 5,000-gallon aboveground storage tanks would be installed for the temporary fuel island. It was assumed each tank would service 50 vehicles per month (50 gallons per vehicle per month) year round, for a total of 30,000 gallons per year. To equate operational emissions, it was assumed fuel dispensing would begin in 2030.

1.2.2 Assumptions

1.2.2.1 JPC Construction

Site Grading Phase

Start: March 2024
Phase duration: 2 months
Area of site to be graded (ft^2): 304,920
Amount of material to be hauled offsite (yd^3): 0

Trenching/Excavating Phase

Start: May 2024
Phase duration: 1 month
Area of site to be trenched/excavated (ft^2): 8,000
Amount of material to be hauled on or offsite (yd^3): 0

Building Construction Phase

Start: June 2024
Phase duration: 6 months
Area of building (ft^2): 200,000
Height of building (ft): 20

Architectural Coatings Phase

Start: November 2024
Phase duration: 1 month
Total square footage (ft^2): 200,000

Paving Phase

Start: November 2024
Phase duration: 2 months
Paving area (ft^2): 810,216

1.2.2.2 Ancillary Support Facilities Construction

Site Grading Phase

Start: January 2025

Phase duration: 6 months
Area of site to be graded (ft^2): 4,051,000
Amount of material to be hauled offsite (yd^3): 0

Trenching/Excavating Phase
Start: July 2025
Phase duration: 6 months
Area of site to be trenched/excavated (ft^2): 14,000
Amount of material to be hauled on or offsite (yd^3): 0

Building Construction Phase
Start: January 2026
Phase duration: 36 months
Area of building (ft^2): 2,633,202
Height of building (ft): 12

Architectural Coatings Phase
Start: January 2029
Phase duration: 3 months
Total square footage (ft^2): 2,633,202

Paving Phase
Start: April 2029
Phase duration: 9 months
Paving area (ft^2): 291,852

1.2.2.3 Operations

Personnel - Addition of 200 Personnel
Start: January 2030
End: Indefinite
Full-Time Personnel: 200

Emergency Generator – Addition of 4 Emergency Generators
Start: January 2030
End: Indefinite
Type of Fuel used in Emergency Generator: Diesel
Number of Emergency Generators: 4

Tanks – Fuel Storage and Dispensing (Tank 1)
Start: January 2030
End: Indefinite
Type of Tank: Horizontal Tank
Tank Length (ft): 16

Tank Diameter (ft): 7
Annual Net Throughput (gallon/year): 30,000

Tanks – Fuel Storage and Dispensing (Tank 2)

Start: January 2030
End: Indefinite
Type of Tank: Horizontal Tank
Tank Length (ft): 16
Tank Diameter (ft): 7
Annual Net Throughput (gallon/year): 30,000

1.2.3 Alternative 1 Emissions Summary

Alternative 1 Total Estimated Construction Emissions – JPC Construction (tons)

	VOC	SO_X	NO_X	CO	PM_{10}	$PM_{2.5}$	Pb	NH_3	CO_2e
Emissions	6.3	0.006	1.9	2.42	2.836	0.063	<0.001	0.005	563.08

Alternative 1 Total Estimated Construction Emissions – Ancillary Support Facilities Construction (tons)

	VOC	SO_X	NO_X	CO	PM_{10}	$PM_{2.5}$	Pb	NH_3	CO_2e
Emissions	49.798	0.0389	13.441	14.909	111.9733	0.3618	0	0.088	5733.49

Alternative 1 Estimated Operations Emissions – Addition of Personnel (tons)

	VOC	SO_X	NO_X	CO	PM_{10}	$PM_{2.5}$	Pb	NH_3	CO_2e
Emissions	0.323365	0.00186	0.182176	4.243897	0.005689	0.005215	0.000	0.029491	420.6

Alternative 1 Estimated Operations Emissions – Addition of Emergency Generators (tons)

	VOC	SO_X	NO_X	CO	PM_{10}	$PM_{2.5}$	Pb	NH_3	CO_2e
Emissions	0.022599	0.019035	0.09315	0.062208	0.020331	0.020331	0.000	0.000	10.8

Alternative 1 Estimated Operations Emissions – Two Fuel Storage and Dispensing Tanks

	VOC	SO_X	NO_X	CO	PM_{10}	$PM_{2.5}$	Pb	NH_3	CO_2e
Emissions	1.613643	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Alternative 1 Total Estimated Emissions by Year (tpy)

	VOC	SO_X	NO_X	CO	PM_{10}	$PM_{2.5}$	Pb	NH_3	CO_2e
2024	6.3	0.006	1.9	2.42	2.836	0.063	<0.001	0.005	563.08
2025	0.555	0.010	2.779	3.672	111.71	0.106	<0.001	0.002	997.09
2026	0.330	0.0083	3.329	3.270	0.0801	0.0776	<0.001	0.028	1433.80
2027	0.330	0.0083	3.329	3.270	0.0801	0.0776	<0.001	0.028	1433.80
2028	0.330	0.0083	3.329	3.270	0.0801	0.0776	<0.001	0.028	1433.80
2029	48.253	0.004	0.675	1.427	0.023	0.023	<0.001	0.002	434.996
2030 (steady state)	2.056	0.021	0.275	4.306	0.026	0.026	<0.001	0.029	431.4

1.3 Alternative 2 Air Emissions Analysis

Action Location

State: Texas
County: Webb
Regulatory Areas: Laredo, TX

Construction Period

Start: February 2024
End: December 2029

1.3.1 Action Description

The Proposed Action is the same as described in Alternative 1, except that emergency generators would not be needed as emergency power would be provided by the solar battery system. Therefore, all assumptions and calculations used in Alternative 1 would be the same for Alternative 2 and the total estimated emissions are the same as in Alternative 1 for 2024 to 2029. The emissions for 2030 would be slightly reduced with the removal of emergency generators

Alternative 2 Total Estimated Emissions by Year (tpy)

	VOC	SO_X	NO_X	CO	PM_{10}	$PM_{2.5}$	Pb	NH_3	CO_2e
2024	6.3	0.006	1.9	2.42	2.836	0.063	<0.001	0.005	563.08
2025	0.555	0.010	2.779	3.672	111.71	0.106	<0.001	0.002	997.09
2026	0.330	0.0083	3.329	3.270	0.0801	0.0776	<0.001	0.028	1433.80
2027	0.330	0.0083	3.329	3.270	0.0801	0.0776	<0.001	0.028	1433.80
2028	0.330	0.0083	3.329	3.270	0.0801	0.0776	<0.001	0.028	1433.80
2029	48.253	0.004	0.675	1.427	0.023	0.023	<0.001	0.002	434.996
2030 (steady state)	2.034	0.002	0.182	4.244	0.006	0.005	<0.001	0.029	420.6

APPENDIX E

Environmental Justice Screening Tool

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EJScreen Community Report

This report provides environmental and socioeconomic information for user-defined areas, and combines that data into environmental justice and supplemental indexes.

Laredo, TX

2 miles Ring around the Area
Population: 12,806
Area in square miles: 16.20

A3 Landscape

LANGUAGES SPOKEN AT HOME

LANGUAGE	PERCENT
English	4%
Spanish	96%
Total Non-English	96%

COMMUNITY INFORMATION

- Low income: 67 percent
- People of color: 99 percent
- Less than high school education: 40 percent
- Limited English households: 24 percent
- Unemployment: 8 percent
- Persons with disabilities: 12 percent
- Male: 49 percent
- Female: 51 percent
- 78 years — Average life expectancy
- $12,404 — Per capita income
- Number of households: 3,139
- Owner occupied: 76 percent

BREAKDOWN BY RACE

- White: 1%
- Black: 0%
- American Indian: 0%
- Asian: 0%
- Hawaiian/Pacific Islander: 0%
- Other race: 0%
- Two or more races: 0%
- Hispanic: 99%

BREAKDOWN BY AGE

From Ages 1 to 4	10%
From Ages 1 to 18	43%
From Ages 18 and up	57%
From Ages 65 and up	4%

LIMITED ENGLISH SPEAKING BREAKDOWN

Speak Spanish	100%
Speak Other Indo-European Languages	0%
Speak Asian-Pacific Island Languages	0%
Speak Other Languages	0%

Notes: Numbers may not sum to totals due to rounding. Hispanic population can be of any race.
Source: U.S. Census Bureau, American Community Survey (ACS) 2017 -2021. Life expectancy data comes from the Centers for Disease Control.

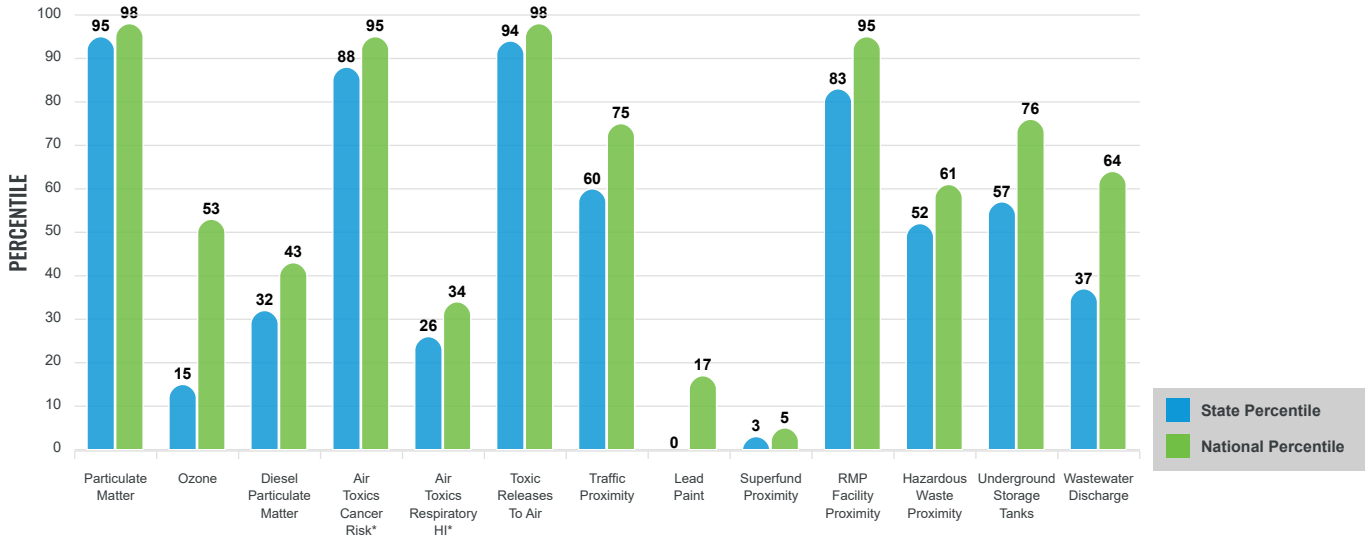
Environmental Justice & Supplemental Indexes

The environmental justice and supplemental indexes are a combination of environmental and socioeconomic information. There are thirteen EJ indexes and supplemental indexes in EJScreen reflecting the 13 environmental indicators. The indexes for a selected area are compared to those for all other locations in the state or nation. For more information and calculation details on the EJ and supplemental indexes, please visit the EJScreen website.

EJ INDEXES

The EJ indexes help users screen for potential EJ concerns. To do this, the EJ index combines data on low income and people of color populations with a single environmental indicator.

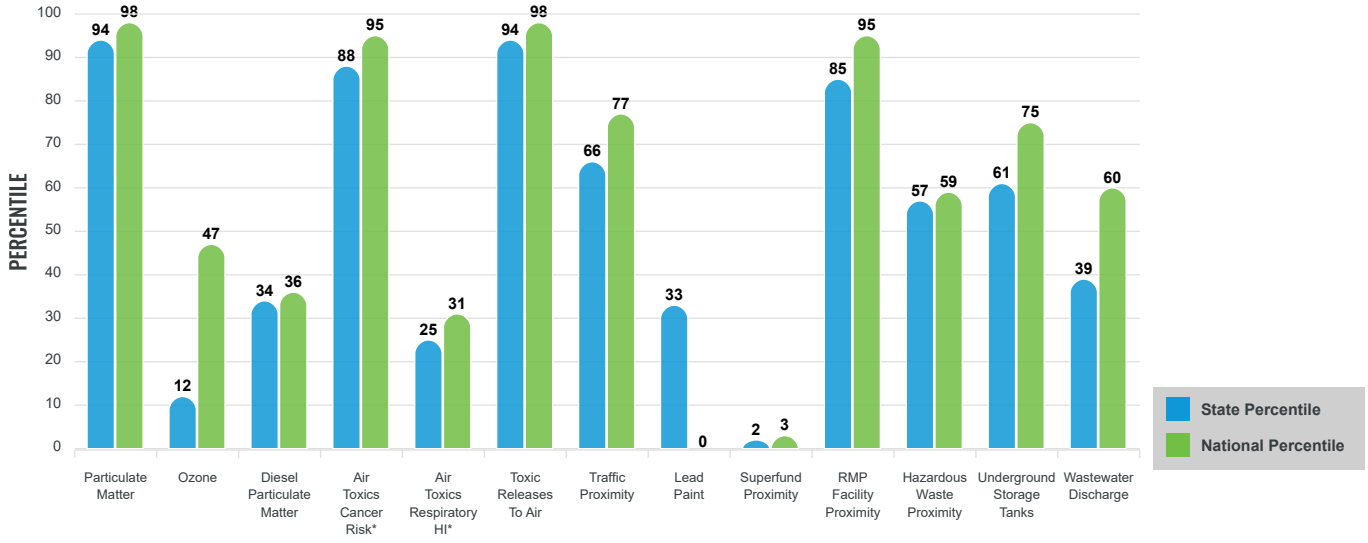
EJ INDEXES FOR THE SELECTED LOCATION



SUPPLEMENTAL INDEXES

The supplemental indexes offer a different perspective on community-level vulnerability. They combine data on percent low-income, percent linguistically isolated, percent less than high school education, percent unemployed, and low life expectancy with a single environmental indicator.

SUPPLEMENTAL INDEXES FOR THE SELECTED LOCATION



These percentiles provide perspective on how the selected block group or buffer area compares to the entire state or nation.

Report for 2 miles Ring around the Area

EJScreen Environmental and Socioeconomic Indicators Data

SELECTED VARIABLES	VALUE	STATE AVERAGE	PERCENTILE IN STATE	USA AVERAGE	PERCENTILE IN USA
POLLUTION AND SOURCES					
Particulate Matter (µg/m^3)	10.2	9.11	85	8.08	93
Ozone (ppb)	56.6	64.6	5	61.6	16
Diesel Particulate Matter (µg/m^3)	0.0855	0.218	12	0.261	11
Air Toxics Cancer Risk* (lifetime risk per million)	30	28	1	25	5
Air Toxics Respiratory HI*	0.2	0.3	1	0.31	4
Toxic Releases to Air	5,900	12,000	76	4,600	88
Traffic Proximity (daily traffic count/distance to road)	45	150	33	210	38
Lead Paint (% Pre-1960 Housing)	0.0083	0.17	34	0.3	0
Superfund Proximity (site count/km distance)	0.0051	0.085	1	0.13	1
RMP Facility Proximity (facility count/km distance)	0.45	0.63	61	0.43	74
Hazardous Waste Proximity (facility count/km distance)	0.11	0.75	24	1.9	22
Underground Storage Tanks (count/km^2)	0.59	2.3	32	3.9	41
Wastewater Discharge (toxicity-weighted concentration/m distance)	3E-05	0.91	16	22	23
SOCIOECONOMIC INDICATORS					
Demographic Index	83%	46%	93	35%	96
Supplemental Demographic Index	31%	17%	91	14%	95
People of Color	99%	58%	93	39%	96
Low Income	67%	34%	89	31%	92
Unemployment Rate	8%	5%	74	6%	73
Limited English Speaking Households	24%	8%	90	5%	95
Less Than High School Education	40%	16%	89	12%	96
Under Age 5	10%	6%	81	6%	86
Over Age 64	4%	14%	13	17%	7
Low Life Expectancy	19%	20%	37	20%	44

*Diesel particulate matter, air toxics cancer risk, and air toxics respiratory hazard index are from the EPA's Air Toxics Data Update, which is the Agency's ongoing, comprehensive evaluation of air toxics in the United States. This effort aims to prioritize air toxics, emission sources, and locations of interest for further study. It is important to remember that the air toxics data presented here provide broad estimates of health risks over geographic areas of the country, not definitive risks to specific individuals or locations. Cancer risks and hazard indices from the Air Toxics Data Update are reported to one significant figure and any additional significant figures here are due to rounding. More information on the Air Toxics Data Update can be found at: https://www.epa.gov/haps/air-toxics-data-update.

Sites reporting to EPA within defined area:

Superfund 0
Hazardous Waste, Treatment, Storage, and Disposal Facilities 0
Water Dischargers 9
Air Pollution 0
Brownfields 0
Toxic Release Inventory 0

Other community features within defined area:

Schools 7
Hospitals 0
Places of Worship 0

Other environmental data:

Air Non-attainment ..... No
Impaired Waters ..... No

Selected location contains American Indian Reservation Lands* ..... No
Selected location contains a "Justice40 (CEJST)" disadvantaged community ..... Yes
Selected location contains an EPA IRA disadvantaged community ..... Yes

Report for 2 miles Ring around the Area

EJScreen Environmental and Socioeconomic Indicators Data

HEALTH INDICATORS

INDICATOR	VALUE	STATE AVERAGE	STATE PERCENTILE	US AVERAGE	US PERCENTILE
Low Life Expectancy	19%	20%	37	20%	44
Heart Disease	5.1	5.9	34	6.1	28
Asthma	10.4	9.2	87	10	64
Cancer	2.5	5.2	3	6.1	1
Persons with Disabilities	10.1%	12.3%	40	13.4%	33

CLIMATE INDICATORS

INDICATOR	VALUE	STATE AVERAGE	STATE PERCENTILE	US AVERAGE	US PERCENTILE
Flood Risk	5%	10%	53	12%	42
Wildfire Risk	98%	30%	88	14%	94

CRITICAL SERVICE GAPS

INDICATOR	VALUE	STATE AVERAGE	STATE PERCENTILE	US AVERAGE	US PERCENTILE
Broadband Internet	26%	15%	80	14%	84
Lack of Health Insurance	33%	18%	90	9%	98
Housing Burden	Yes	N/A	N/A	N/A	N/A
Transportation Access	Yes	N/A	N/A	N/A	N/A
Food Desert	Yes	N/A	N/A	N/A	N/A

Report for 2 miles Ring around the Area