

**FINDING OF NO SIGNIFICANT IMPACT**  
**FINAL ENVIRONMENTAL ASSESSMENT**  
**FOR THE**  
**PROPOSED SUPPLEMENTAL AIR ROUTE SURVEILLANCE RADAR UNIT,**  
**SOUTH OF MIRANDO CITY, WEBB COUNTY, TEXAS**

---

## **Introduction**

Javelina Wind Farm, LLC., the developer of a new wind farm near the Proposed Action area (the Javelina Wind Farm), has agreed to construct a supplemental radar unit to alleviate concerns regarding the potential impairment of the functionality of the existing Air Route Surveillance Radar (ARSR)-4 Radar unit in Oilton, TX. An agreement has been reached with Javelina Wind Farm, LLC to construct a supplemental air route surveillance radar unit (the Proposed Action) for U.S. Customs and Border Protection (CBP) operation at Site 19 near the planned Javelina Wind Farm, located about 12 miles south of Mirando City on the southern edge of Webb County, TX. CBP initiated the preparation of an Environmental Assessment (EA) to analyze the potential impacts of the Proposed Action to the human and natural environments. The EA has been prepared in accordance with Council on Environmental Quality regulations that implement the National Environmental Policy Act (Title 40 Code of Federal Regulations [CFR] Parts 1500 through 1508) and the U.S. Department of Homeland Security (DHS) *Instruction Manual 023-01-001-01 Revision 1 Implementation of the National Environmental Policy Act* that is dated November 6, 2014.

## **Project History**

The U.S. Department of Defense (DoD), Federal Aviation Administration (FAA), and DHS jointly operate a system of radar units as part of the ARSR system and Joint Surveillance System (JSS) throughout the United States. The ARSR-4 Radar unit in Oilton, TX was originally built as part of the Southern Air Defense System in 1972. The ARSR-4 Radar unit is a three-dimensional radar system. The primary mission of the ARSR-4 Radar unit is to provide high quality, primary digital radar data on aircraft positions to FAA Air Route Traffic Control Centers, the DoD Sector Operations Control Center, the DoD Fleet Area Control Surveillance Facility, and the DHS CBP Office of Air and Marine (OAM) Air and Marine Operations Center (AMOC). The ARSR-4 Radar unit also provides secondary radar (beacon) data on transponder-equipped aircraft when interfaced with an Air Traffic Control Beacon Interrogator. The secondary mission of the ARSR-4 Radar unit is to detect and report weather within the coverage area in National Weather Service six-level format.

## **Purpose and Need**

The purpose of the Proposed Action is to provide a supplemental radar unit that would mitigate the potential impairment of the functionality and reduce the “clutter effects” produced by the Doppler Effect that could be experienced at the existing Oilton ARSR-4 Radar unit due to the proximity of the proposed Javelina Wind Farm once it is operational. The supplemental radar unit is critical to national security because it would mitigate the adverse effects of a future wind farm on the ability of the ARSR and JSS to accurately identify and track aircraft along the border between Texas and Mexico. The supplemental radar unit would comply with current CBP security requirements and design standards to support the critical needs of the CBP mission in Webb County, TX.

CBP OAM needs to maintain persistent awareness of potential cross-border violators and other threats to border security operating in aircraft proximate to the southwest border of the United States. CBP OAM's mission is to patrol the nation's land and sea borders to protect the American people and critical infrastructure through the coordinated use of integrated air and marine resources to detect, interdict, and prevent acts of terrorism and the unlawful movement of people, illegal drugs, and contraband toward or across the borders of the United States.

## Alternatives

**Proposed Action:** The Proposed Action consists of the construction, operation, and maintenance of a supplemental air route surveillance radar unit at Site 19. The portion of Site 19 selected for the Proposed Action consists of 2 acres as well as 8,016 linear feet of infrastructure connections (electricity, fiber optic, access road). Site 19 is located 5.4 miles west of Farm-to-Market Road 649 and is 4.2 miles southwest of Vaquillas Road. Site 19 is owned by EMB Ranchito, Ltd. The site is located on a cattle ranch that has also been developed for natural gas production.

The 2-acre Proposed Action site and the 8,016 linear feet of infrastructure connections (electricity, fiber optic, access road) would be cleared of vegetation and graded for installation of the Proposed Action components. Specific elements of the Proposed Action include the following:

- Widening an existing 1,180 feet long gravel access road.
- Installation of chain link fencing around the 2-acre site.
- Installation of a gravel or stone bed throughout the 2-acre site, with an 8 inch caliche rock base and 6 inches of compacted caliche rock subbase.
- One concrete pad that measures 13 feet long by 13 feet wide by 4 feet 6 inches thick (slightly above grade) that supports the radar tower.
- One concrete pad that is 16 feet 6 inches long by 10 feet wide by 6 inches thick that supports radar equipment.
- Installation of lighting for safety and security.
- Installation of an electrical supply line that is 5,086 linear feet long and aerially mounted on approximately 25 poles. The electrical supply line would be approximately 25 feet aboveground.
- Installation of a fiber optic communications line that is 1,750 linear feet long and buried at depths between 1 and 4 feet.
- Installation of a 10-foot-deep grounding rod would be installed for safety.

The access road, chain link fence, gravel/stone bed, concrete pads, lighting, electricity line, fiber optic communications line, and grounding rod would be maintained by Javelina Wind Farm, LLC for the duration of the property lease.

**No-Action Alternative:** Under the No-Action Alternative, a new supplemental radar unit would not be constructed at Site 19 near the Javelina Wind Farm located about 12 miles south of Mirando City on the southern edge of Webb County, TX. The 2 acres, as well as 8,016 linear feet of infrastructure connections (electricity, fiber optic, access road), would remain undisturbed. Under this alternative, the Oilton ARSR-4 Radar unit would potentially operate impaired due to interference from the proposed Javelina Wind Farm resulting in increased incidence of false tracks and targets. The No-Action Alternative would not meet the requirements of the purpose and need identified in the EA, but has been retained for comparative purposes.

## Public Involvement

The DHS Instruction Manual 023-01-001-01, Revision 1 provides the following guidance concerning the preparation and circulation of EA documents, "Where a diligent effort has been used to seek out and involve the public in the drafting of an EA and no significant impacts (including potential for an impact on the quality of the human environment that is highly controversial) have been identified, a Component can complete an EA and FONSI without circulating a draft document for public review." A preliminary coordination letter with information about this Proposed Action was sent to Federal, state, and local agencies as well as local potentially interested parties to solicit interest or comments concerning this Proposed Action on May 20, 2015. A standard 30-day comment period was provided for comments or communications of interest in this Proposed Action to be submitted. A total of seven comments were received. However, no comments were received that expressed concerns over the possible environmental impacts of the Proposed Action.

## Environmental Consequences

The following environmental resource areas were not included for detailed analysis in the EA because potential impacts of the Proposed Action were considered to be negligible or minimal: Aesthetic and Visual Resources; Agriculture; Air Quality; Geology and Soils; Hazards and Hazardous Materials; Hydrology and Water Quality; Land Use; Mineral and Gas Resources; Noise; Population, Socioeconomics, and Environmental Justice; Public Services; Recreation; Transportation and Circulation; and Utilities and Service Systems.

No impacts are anticipated to the aforementioned environmental resource areas under the No-Action Alternative as the supplemental radar unit would not be constructed or operated.

Since the Proposed Action has the potential to affect biological resources and cultural resources, these environmental resource areas were included for detailed analysis in the EA and are described below.

**Biological Resources:** The biological resources study for the Proposed Action focused on four areas: wetlands, vegetation, birds, and threatened and endangered species. No impacts to streams or Federally protected wetlands as defined by Section 404 of the Clean Water Act are anticipated, because no streams or wetland features were identified during the March 23, 2015 reconnaissance-level site visit, and the Proposed Action area is not located within the 100-year floodplain. No impacts to riparian habitat or other sensitive natural community identified by the U.S. Fish and Wildlife Service or Texas Parks and Wildlife Department are anticipated because no riparian habitat and/or sensitive natural communities were identified during the February 12, 2015 or March 23, 2015 reconnaissance-level site visits. The Proposed Action has the potential to disturb migratory birds and/or special-status threatened and endangered species. Industry-standard best management practices (BMPs) to reduce potential impacts to a minimal level are listed below.

Direct impacts to streams or Federally protected wetlands; riparian habitat and/or sensitive natural communities; Migratory Bird Treaty Act-protected bird species; or special-status threatened and endangered species would not occur under the No-Action Alternative, as no ground disturbing activities would occur. Therefore, no impacts to biological resources would occur.

**Cultural Resources:** The cultural resources survey for the Proposed Action focused on five areas: pre-history and history of the south Texas region as well as local archaeological resources and architectural history, and tribal consultations. Consultations have been conducted with Native American tribes who have areas of interest and/or ties to Webb County, Texas. Letters were sent on May 20, 2015 and solicited interest or comments concerning this Proposed Action. Three comments were received, all indicating no effects on properties of interest to those Native American tribes.

A pedestrian survey for archaeological resources resulted in the identification of a new prehistoric archaeological site (41WB798) inside the eastern part of the direct effects Area of Potential Effect (APE). Archaeological deposits and features found at Site 41WB798 have been previously disturbed by erosion, deflation, ranch roads improvements, and construction of oil and gas well pads. The site deposits and features are no longer intact and do not provide the potential for data recovery investigations. The artifact scatter and the quarry have been disturbed by natural and man-made activity and do not possess good stratigraphic context and do not retain integrity. For these reasons, the archaeological features at Site 41WB798 do not meet the minimum criteria for listing in the National Register of Historic Places under Criterion D relating to archaeological sites providing new information about prehistory. However, given the existence of prehistoric sites in the south Texas vicinity, unknown subsurface historical properties may exist within the analysis area that may be adversely affected by disturbance associated with the Proposed Action. Industry-standard BMPs to reduce potential impacts to a minimal level are listed below.

The Proposed Action is located on the historic EMB Ranchito within an operating oil and gas field situated in a currently unused parcel. One extant historic building complex is present, but it is 1.2 miles from the proposed new development and falls outside the visual effects APE. The Proposed Action has no potential direct or indirect impacts related to historic architectural resources as none exist on the EMB

Ranchito property within 0.25-miles of the visual effects APE. No impact could occur because no buildings stand within view of the Proposed Action site. Therefore, the Proposed Action will have no effect and will not approach the threshold for treatment or mitigation of any affected historic architectural resource.

Activities that require excavation, backfilling, and grading have the potential to inadvertently expose human remains, including those interred outside of formal cemeteries, as well as Native American human remains. However, no evidence exists to indicate that burials or any large prehistoric or historic occupation existed within the Proposed Action area. Unexpected discoveries of human remains are possible even in areas of low sensitivity. Industry-standard BMPs to reduce potential impacts to a minimal level are listed below.

The cultural resources survey for the Proposed Action was sent to the Texas State Historic Preservation Officer (SHPO) in August 2015. The Texas SHPO determined there are no adverse effects on archaeological resource sites or historic buildings recorded within the Area of Potential Effect for the proposed 2 acre site as well as 8,016 feet of associated linear infrastructure, and concur with CBP's finding of no sites eligible listing in the National Register of Historic Places under Criterion D.

Direct impacts to significant cultural resources eligible or potentially eligible for listing in the National Register of Historic Places would not occur under the No-Action Alternative, as no ground disturbing activities would occur. Also, the inadvertent exposure of human remains would not occur under the No-Action Alternative. Therefore, no impacts to cultural resources would occur.

**Industry Standard BMPs:** Implementation of industry-standard BMP B-1: Construction Activities Outside of Breeding Season, BMP B-2: Provide Information on Ground-Nesting Birds, and BMP B-3: Consult a Qualified Biologist would further reduce construction-related impacts to a minimal level for birds protected by the Migratory Bird Treaty Act. Implementation of industry-standard BMP B-4: Provide Information About Special-Status Species, BMP B-5: Check or Cover Excavation Holes and Trenches, BMP B-6: Provide Drift Fencing, and BMP B-7: Relocation of Individuals would further reduce construction-related impacts to a minimal level for threatened and endangered species. In the event of an accidental discovery of archaeological resources, implementation of industry standard BMP C-1: Consult Qualified Professional Archaeologist would ensure the impact would not be adverse. In the event of an accidental discovery of human remains, implementation of industry standard BMP C-2: Consult Local Law Enforcement would ensure the impact would not be adverse.

## Findings and Conclusions


Based on the analysis conducted during preparation of the EA and the use of industry standard BMPs that will be incorporated as a part of the Proposed Action, it is concluded that the Proposed Action will not result in a significant adverse effect on the environment, either individually or cumulatively. Therefore, no further environmental impact analyses are warranted.

**RAFAEL M NARVAEZ**

Digitally signed by Rafael M. Narvaez, DN: cn=Rafael M. Narvaez, o=U.S. Customs and Border Protection, email=Rafael.M.Narvaez@ice.dhs.gov, c=US

Rafael Narvaez  
Lease Acquisition and Administration Manager  
Air and Marine Facilities Program Management Office  
Facilities Management Engineering  
U.S. Customs and Border Protection

Date

  
Karl H. Calvo  
Executive Director  
Facilities Management and Engineering  
U.S. Customs and Border Protection

Date

8/6/15

**FINAL**

**ENVIRONMENTAL ASSESSMENT**

**PROPOSED SUPPLEMENTAL AIR ROUTE SURVEILLANCE RADAR UNIT,**

**SOUTH OF MIRANDO CITY, WEBB COUNTY, TEXAS**

**for**

**AIR AND MARINE FACILITIES PROGRAM MANAGEMENT OFFICE**

**U.S. CUSTOMS AND BORDER PROTECTION**

**DEPARTMENT OF HOMELAND SECURITY**

**August 2015**

---

Lead Agency:

Department of Homeland Security  
U.S. Customs and Border Protection  
Air and Marine Facilities Program Management Office  
90 K Street, North East  
Suite 911, Mailstop 1400  
Washington, DC 20222-1400  
TX9999/TX12008L

## Executive Summary

This Environmental Assessment (EA) has been prepared to describe the effects of the Proposed Action and No-Action Alternative, as well as describe and evaluate the physical and natural resources located in the Proposed Action area. This EA has been prepared in accordance with Council on Environmental Quality (CEQ) regulations that implement the National Environmental Policy Act (NEPA) (Title 40 Code of Federal Regulations [CFR] Parts 1500 through 1508) and the U.S. Department of Homeland Security (DHS) *Instruction Manual 023-01-001-01 Revision 1 Implementation of the National Environmental Policy Act* that is dated November 6, 2014.

The U.S. Department of Defense (DoD), Federal Aviation Administration (FAA), and DHS jointly operate a system of radar units as part of the Air Route Surveillance Radar (ARSR) system and Joint Surveillance System (JSS) throughout the United States. Javelina Wind Farm, LLC, the developer of a new wind farm near the Proposed Action area (the Javelina Wind Farm) in Webb County, TX, has agreed to construct a supplemental radar unit for operation by Customs and Border Protection (CBP) to alleviate concerns regarding the potential impairment of the functionality of the existing ARSR-4 Radar unit in Oilton, TX.

The purpose of the Proposed Action is to provide a supplemental radar unit that would mitigate the potential impairment of functionality and reduce the “clutter effects” produced by the Doppler Effect that could be experienced at the existing Oilton ARSR-4 Radar unit due to the proximity of proposed Javelina Wind Farm once it is operational. The supplemental radar unit is critical to national security because it would mitigate the adverse effects of a future wind farm on the ability of the ARSR and JSS to accurately identify and track aircraft along the border between Texas and Mexico.

The Proposed Action consists of the construction, operation, and maintenance of a supplemental radar unit at Site 19 near the Javelina Wind Farm, located about 12 miles south of Mirando City on the southern edge of Webb County, TX. The portion of Site 19 selected for the Proposed Action consists of 2 acres as well as 8,016 linear feet of infrastructure connections (electricity, fiber optic, access road). Specific elements of the Proposed Action include the following:

- Widening an existing 1,180 feet long gravel access road.
- Installation of chain link fencing around the 2-acre site.
- Installation of a gravel or stone bed throughout the 2-acre site, with an 8 inch caliche rock base and 6 inches of compacted caliche rock subbase.
- One concrete pad that measures 13 feet long by 13 feet wide by 4 feet 6 inches thick (slightly above grade) that supports the radar tower.
- One concrete pad that is 16 feet 6 inches long by 10 feet wide by 6 inches thick that supports radar equipment.
- Installation of lighting for safety and security.
- Installation of an electrical supply line that is 5,086 linear feet long and aerially mounted on approximately 25 poles. The electrical supply line would be approximately 25 feet aboveground.
- Installation of a fiber optic communications line that is 1,750 linear feet long and buried at depths between 1 and 4 feet.
- Installation of a 10-foot-deep grounding rod would be installed for safety.

The following environmental resource areas were not included for detailed analysis in this EA because potential impacts of the Proposed Action were considered to be negligible or minimal: Aesthetic and Visual Resources; Agriculture; Air Quality; Geology and Soils; Hazards and Hazardous Materials; Hydrology and Water Quality; Land Use; Mineral and Gas Resources; Noise; Population, Socioeconomics, and Environmental Justice; Public Services; Recreation; Transportation and Circulation; and Utilities and Service Systems. However, since the Proposed Action has the potential to affect biological resources and cultural resources, these environmental resource areas are included for detailed analysis in this EA. A summary of potential impacts that are associated with the Proposed Action and No-Action Alternative are provided in **Table ES-1**. Impacts are classified as either of the following: (1) no/negligible impacts; (2) minimal impacts; or (3) potentially adverse impacts to the environmental.

**Table ES-1: Impact Summary**

<b>Resource Area</b>	<b>Proposed Action</b>	<b>No-Action Alternative</b>
Aesthetic and Visual Resources	Temporary construction and minimal permanent impacts.	No Impact
Agriculture	Negligible construction and permanent impacts.	No Impact
Air Quality	Temporary construction and minimal permanent impacts.	No Impact
Geology and Soils	Minimal construction and permanent impacts.	No Impact
Hazards and Hazardous Materials	Temporary construction and minimal permanent impacts. Employ industry-standard best management practice (BMP) to contact all pipeline and production company representatives prior to construction to identifying all surface and subsurface pipelines.	No Impact
Hydrology and Water Quality	No construction or permanent impacts. Employ industry-standard BMP to erect silt fencing during construction.	No Impact
Land Use	Minimal construction and permanent impacts.	No Impact
Mineral and Gas Resources	No construction or permanent impacts.	No Impact
Noise	Temporary construction and minimal permanent impacts.	No Impact
Population, Socioeconomics, and Environmental Justice	No construction or permanent impacts.	No Impact
Public Services	Minimal construction impacts. No permanent impacts.	No Impact
Recreation	No construction or permanent impacts.	No Impact
Transportation and Circulation	Minimal construction impacts. No permanent impacts.	No Impact
Utilities and Service Systems	Minimal construction and permanent impacts.	No Impact
Biological Resources	No impacts to Proposed Action area hydrology or vegetation. Minimal construction impacts to birds and threatened/endangered species with the following industry-standard BMPs: BMP B-1: Construction Activities Outside of Breeding Season, BMP B-2: Provide Information on Ground-Nesting Birds, BMP B-3: Consult a Qualified Biologist, BMP B-4: Provide Information About Special-Status Species, BMP B-5: Check or Cover Excavation Holes and Trenches, BMP B-6: Provide Drift Fencing, and BMP B-7: Relocation of Individuals. No permanent impacts.	No Impact
Cultural Resources	No impacts to Proposed Action area architectural history. Minimal construction impacts to archaeology and human remains with the following industry-standard BMPs: BMP C-1: Consult Qualified Professional Archaeologist and BMP C-2: Consult Local Law Enforcement. No permanent impacts.	No Impact

# TABLE OF CONTENTS

Section 1	Introduction.....	1
1.1	Summary of Environmental Study Requirements .....	1
1.2	Background .....	1
1.3	Purpose of and Need for Action .....	2
1.3.1	Purpose of Proposed Action .....	2
1.3.2	Need for Proposed Action .....	3
1.4	Decisions Needed .....	4
1.5	Authorizing Actions .....	4
1.6	Public Involvement.....	4
Section 2	Description of Proposed Action and Alternatives.....	6
2.1	Siting Process .....	6
2.2	Alternatives Retained for Detailed Analysis .....	7
2.2.1	Proposed Action.....	7
2.2.2	No-Action Alternative .....	9
2.3	Alternatives Considered and Dismissed from Detailed Analysis .....	9
Section 3	Affected Environment and Environmental Consequences .....	10
3.1	Environmental Resource Areas Eliminated from Detailed Consideration .....	10
3.1.1	Aesthetic and Visual Resources .....	10
3.1.2	Agriculture .....	10
3.1.3	Air Quality.....	11
3.1.4	Geology and Soils .....	11
3.1.5	Hazards and Hazardous Materials.....	12
3.1.6	Hydrology and Water Quality .....	12
3.1.7	Land Use .....	13
3.1.8	Mineral and Gas Resources.....	13
3.1.9	Noise .....	13
3.1.10	Population, Socioeconomics, and Environmental Justice.....	14
3.1.11	Public Services.....	15
3.1.12	Recreation .....	15
3.1.13	Transportation and Circulation.....	16
3.1.14	Utilities and Service Systems.....	16
3.2	Environmental Resource Areas Requiring Detailed Evaluation.....	16
3.2.1	Biological Resources.....	16
3.2.2	Cultural Resources.....	20
Section 4	Other NEPA Considerations .....	27
4.1	Cumulative Impacts.....	27
4.2	Possible Conflicts between the Proposed Action and the Objectives of Federal, State and Local Land Use Plans, Policies and Controls.....	28
4.3	Energy Requirements and Conservation Potential of Various Alternatives.....	28
4.4	The Relationship between Local Short-term Use of the Environment and Maintenance and Enhancement of Long-term Productivity.....	28
4.5	Best Management Practices to Diminish Environmental Impacts .....	28
4.6	Probable and Unavoidable Adverse Environmental Effects .....	28
Section 5	List of Preparers.....	29
Section 6	Persons and Agencies Consulted .....	30
Section 7	References .....	32



## TABLE OF CONTENTS (continued)

### List of Figures

Figure 1: Supplemental Radar Unit Vicinity and Location .....	2
Figure 2: Supplemental Radar Unit Site Plan .....	8
Figure 3: Oilton ARSR-4 Radar Unit .....	9

### List of Tables

Table 1: Comment Summary .....	4
Table 2: Population, Socioeconomic, and Environmental Justice Characteristics .....	15

### List of Appendices

Appendix A: Farmland Conversion Impact Rating  
Appendix B: Phase 1 Environmental Site Assessment  
Appendix C: Biology Resources Study  
Appendix D: Cultural Resources Survey  
Appendix E: Consultation Letters

### List of Abbreviations, Acronyms, and Initialisms

AD	Anno Domini
AMF PMO	Air and Marine Facilities Program Management Office
AMOC	Air and Marine Operations Center
ARSR	Air Route Surveillance Radar
BMP	best management practice
BP	Before the Present
CBP	U.S. Customs and Border Protection
CFR	Code of Federal Regulations
CEQ	Council on Environmental Quality
EJ	Environmental Justice
EO	Executive Order
ESA	Endangered Species Act
DoD	U.S. Department of Defense
DHS	U.S. Department of Homeland Security
EA	Environmental Assessment
EED	Environmental and Energy Division
FAA	Federal Aviation Administration
IPaC	Information, Planning, and Consultation
JSS	Joint Surveillance System
MBTA	Migratory Bird Treaty Act
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
OAM	Office of Air and Marine
SAL	State Antiquities Landmark
SHPO	State Historic Preservation Officer
TPWD	Texas Parks and Wildlife Department
TXNDD	Texas Natural Diversity Database
USC	United States Code
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey

## Section 1 Introduction

The National Environmental Policy Act (NEPA) requires that Federal agencies consider potential environmental consequences of proposed and alternative actions in their decision-making process. NEPA encourages Federal agencies to protect, restore, and enhance the environment through well-informed decisions. The Council on Environmental Quality (CEQ) was established under NEPA for the purpose of implementing and overseeing Federal policies as they relate to this process. The CEQ regulations provide the implementation guidelines for NEPA, and require Federal agencies to develop agency-specific NEPA guidelines.

### 1.1 Summary of Environmental Study Requirements

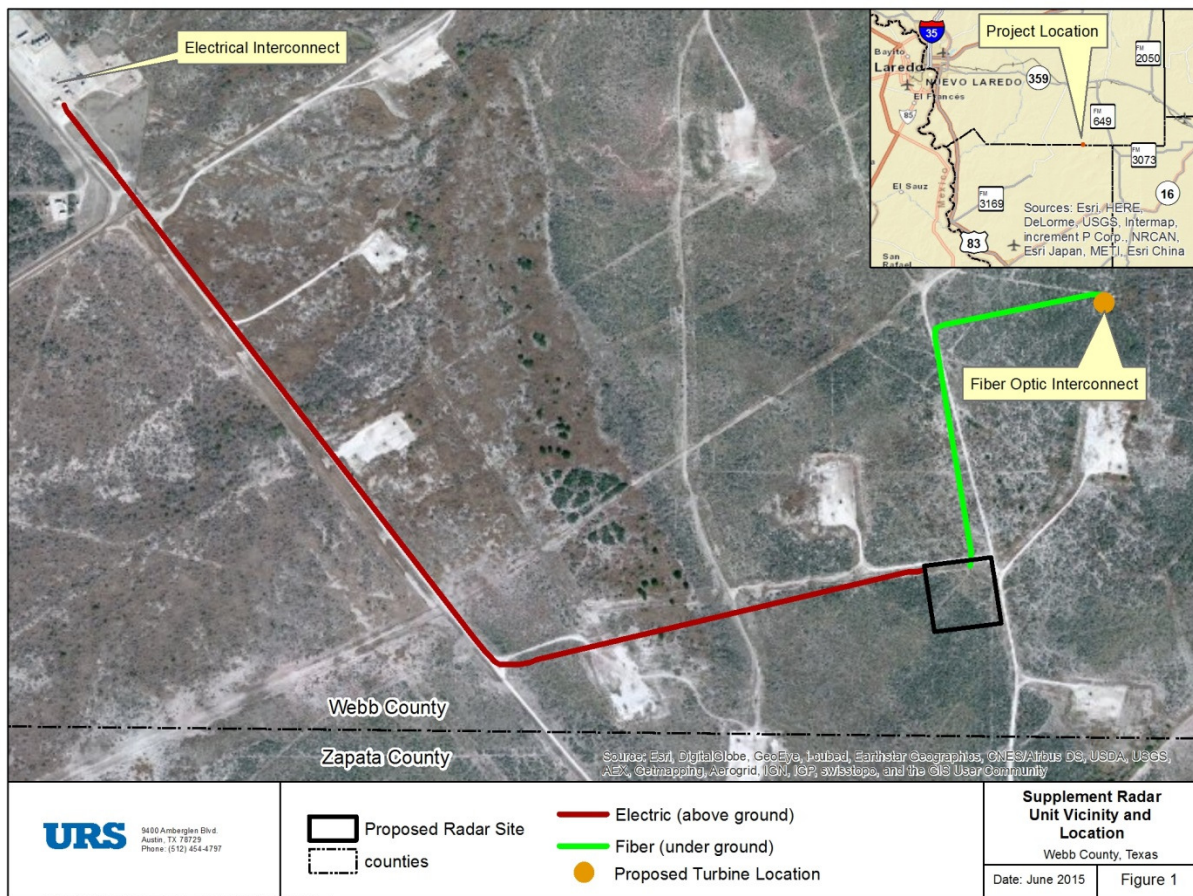
U.S. Customs and Border Protection (CBP), a component of the U.S. Department of Homeland Security (DHS), has initiated the preparation of an Environmental Assessment (EA) to analyze the potential impacts of the Proposed Action to the human and natural environments. The Proposed Action under consideration in this EA is the construction and operation of a supplemental radar unit near the Javelina Wind Farm in Webb County, TX. This EA has been prepared in accordance with CEQ regulations that implement NEPA (Title 40 Code of Federal Regulations [CFR] Parts 1500 through 1508) and the DHS *Instruction Manual 023-01-001-01 Revision 1 Implementation of the National Environmental Policy Act* that is dated November 6, 2014.

### 1.2 Background

The U.S. Department of Defense (DoD), Federal Aviation Administration (FAA), and DHS jointly operate a system of radar units as part of the Air Route Surveillance Radar (ARSR) system and Joint Surveillance System (JSS) throughout the United States. The ARSR-4 Radar unit in Oilton, TX was originally built as part of the Southern Air Defense System in 1972. The ARSR-4 Radar unit is a three-dimensional radar system. The ARSR-4 Radar unit replaced the ARSR-1 and ARSR-2 radar systems and also established radar coverage at new locations in southwest Texas. The primary mission of the ARSR-4 Radar unit is to provide high quality, primary digital radar data on aircraft positions to FAA Air Route Traffic Control Centers, the DoD Sector Operations Control Center, the DoD Fleet Area Control Surveillance Facility, and the CBP Office of Air and Marine (OAM) Air and Marine Operations Center (AMOC). The ARSR-4 Radar unit also provides secondary radar (beacon) data on transponder-equipped aircraft when interfaced with an Air Traffic Control Beacon Interrogator. The secondary mission of the ARSR-4 Radar unit is to detect and report weather within the coverage area in National Weather Service six-level format.

Javelina Wind Farm, LLC, the developer of a new wind farm in the Proposed Action area (the Javelina Wind Farm), has agreed to construct a supplemental radar unit to alleviate concerns regarding the potential impairment of functionality of the existing ARSR-4 Radar unit in Oilton, TX. An agreement has been reached to construct a supplemental radar unit at Site 19 near the Javelina Wind Farm, located about 12 miles south of Mirando City on the southern edge of Webb County, TX for CBP to operate. Refer to **Figure 1** for the vicinity and location of the proposed supplemental radar unit.

**Figure 1: Supplemental Radar Unit Vicinity and Location**



## 1.3 Purpose of and Need for Action

This section of the EA describes the purpose of and need for the Proposed Action and identifies the Federal approvals requested (e.g., permits, licenses, entitlements, or other actions requested by the various resource agencies) that are required to implement the Proposed Action. The identification of a Proposed Action's purpose and need is the primary foundation for the identification of potential and feasible alternatives, and the evaluation of impacts resulting from those alternatives. The Federal action being considered in this EA is the construction and operation of the supplemental radar unit near the Javelina Wind Farm in Webb County, TX.

### 1.3.1 Purpose of Proposed Action

The purpose of the Proposed Action is to provide a supplemental radar unit that would mitigate the potential impairment of functionality and reduce the "clutter effects" produced by the Doppler Effect that could be experienced at the existing Oilton ARSR-4 Radar unit due to the proximity of the proposed Javelina Wind Farm once it is operational. The supplemental radar unit is critical to national security because it would mitigate the adverse effects of a future wind farm on the ability of the ARSR and JSS to accurately identify and track aircraft along the border between Texas and Mexico. The supplemental radar unit would comply with current CBP security requirements and design standards to support the critical needs of the CBP mission in Webb County, TX.

### 1.3.2 Need for Proposed Action

CBP OAM needs to maintain persistent awareness of potential cross-border violators and other threats to border security operating in aircraft proximate to the southwest border of the United States. CBP OAM's mission is to patrol the nation's land and sea borders to protect the American people and critical infrastructure through the coordinated use of integrated air and marine resources to detect, interdict, and prevent acts of terrorism and the unlawful movement of people, illegal drugs, and contraband toward or across the borders of the United States.

The majority of research concerning the impact of wind farms on ARSR and JSS has concentrated on Primary Surveillance Radar. Primary Surveillance Radars provide range, bearing, and velocity of non-cooperative air targets within several tens of kilometers. The key parameters of interest in assessing the impact to ARSR and JSS are reduction of probability of detection and production of false tracks and targets. For example, in a trial involving flying an Apache helicopter near a wind farm, the probability of detection was reduced by 6%–25% and 18–25 false tracks were initiated per radar scan. There are a number of ways these key parameters may be affected (CBP, 2015):

- Clutter: Unwanted echoes are considered as “clutter,” and they may reduce the detection capability of the radar. The wind turbine presents a large physical target, and therefore a large amount of energy is reflected back towards the radar. Much of the wind turbine structure is static and therefore the return can be significantly reduced by conventional Doppler radar processing, although this may not entirely suppress the reflections. The wind turbine blades rotate with large tip speeds, which provide a significant Doppler radar profile and would not be rejected.
- Range Sidelobe Effects: ARSR and JSS use pulse compression and suffer from the appearance of range sidelobes. Returns from large objects, such as a wind turbine, can leak in through the sidelobes, causing a smearing of the wind turbine return in range.
- Detection Shadowing: Constant False Alarm Rate processing uses a sliding window to provide a varying threshold with range based on the local clutter levels. Since the wind farm appears as a large clutter return, the threshold is raised, reducing radar detection sensitivity around the wind farm. The threshold is also raised around the vicinity of the wind farm due to the Constant False Alarm Rate window range extent. This effect, coupled with the range sidelobe effects mentioned above, causes detection shadowing around the wind farm.
- Ghost Targets: The wind farm towers produce large specular returns and can create a multipath environment. It is reported that this can result in false “ghost” targets appearing.
- Operation: ARSR and JSS form the sensors within a safety critical system and are therefore highly regulated. There is currently a set of rules by which air traffic controllers operate based on decades of experience. Although possible, any modifications or updates to the regulations are not desirable and may be extremely expensive. Flight rules may be modified but this may be a lengthy and costly process. In some cases regulations would prohibit the placement of a wind farm. As an example, the regulations for the air traffic controller is that when providing Radar Advisory Service in uncontrolled airspace, the aircraft should be guided such that there is a 5 nautical mile separation from any clutter that appears on the radar screen. Placing a wind farm near the approach of an airport so that it causes clutter would require the controller to modify the regulations to provide Radar Advisory Service. This case is not always possible.

Construction and operation of the Proposed Action is expected to increase the probability of detection using the new Site 19 unit and reduce the number of false tracks and targets of the existing Oilton ARSR-4 Radar unit, as well as alleviate the concerns of the key parameters described above.

## 1.4 Decisions Needed

CBP is taking the necessary administrative and physical actions to develop, operate, and maintain the Site 19 supplemental radar unit.

## 1.5 Authorizing Actions

The following compliance requirements were evaluated as part of this EA, and carried out in assessing the Proposed Action and No-Action Alternative:

- NEPA of 1969 (Public Law 91-190; 42 United States Code [USC] 4321)
- Endangered Species Act (Public Law 85-624; 16 USC 661, 664 note, 1008 note)
- Migratory Bird Treaty Act of 1918 (16 USC 703-712; Ch. 128)
- National Historic Preservation Act of 1966, Section 106 (Public Law 89-665; 16 USC 470(f))
- Executive Order (EO) 12898 Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations (February 11, 1994)
- EO 13045 Protection of Children From Environmental Health and Safety Risks (April 21, 1997)
- EO 13186 Responsibilities of Federal Agencies To Protect Migratory Birds (January 10, 2001)
- Texas Historical Commission (Texas Government Code 442)

## 1.6 Public Involvement

A preliminary coordination letter with information about the Proposed Action was sent to Federal, state, and local agencies as well as local potentially interested parties to solicit interest or comments concerning this Proposed Action on May 20, 2015. A standard 30-day comment period was provided for comments or communications of interest in this Proposed Action to be submitted. A total of seven comments were received. However, no comments were received that expressed concerns over the possible environmental impacts of the Proposed Action. A summary of the comments and where they are addressed in this EA is provided below in **Table 1**.

**Table 1: Comment Summary**

Commenter	Summary	Where Comment Addressed in EA
U.S. Fish and Wildlife Service	<ul style="list-style-type: none"><li>• Requested use of Information, Planning, and Consultation (IPaC) decision support system to streamline environmental review process.</li></ul>	<ul style="list-style-type: none"><li>• Section 3.2.1</li></ul>
Comanche Nation of Oklahoma	<ul style="list-style-type: none"><li>• No properties in vicinity of Proposed Action.</li></ul>	<ul style="list-style-type: none"><li>• Not applicable</li></ul>
Alabama-Coushatta Tribe of Texas	<ul style="list-style-type: none"><li>• No properties in vicinity of Proposed Action.</li></ul>	<ul style="list-style-type: none"><li>• Not applicable</li></ul>
Texas State Historic Preservation Officer	<ul style="list-style-type: none"><li>• Request Proposed Action area be surveyed by Secretary of the Interior qualified professional archaeologist.</li><li>• Section 106 concurrence</li></ul>	<ul style="list-style-type: none"><li>• Section 3.2.2</li><li>• Section 3.2.2</li></ul>
Watt Beckworth Thompson Henneman & Sullivan LLP	<ul style="list-style-type: none"><li>• Jacalon Ranch Airport interference.</li><li>• Future wind farm construction/operation.</li></ul>	<ul style="list-style-type: none"><li>• Section 3.1.13</li><li>• Section 4.1</li></ul>
Texas Parks and Wildlife Department	<ul style="list-style-type: none"><li>• Locate Propose Action to avoid clearing dense vegetation.</li><li>• Avoid site clearing activities between April 1-July 15.</li><li>• Use of bird flight diverter for electrical line.</li><li>• Cover excavation areas when not in use.</li><li>• Avoid disturbance to reticulate collard lizard, Texas horned lizard, Texas indigo snake, &amp; Texas tortoise.</li></ul>	<ul style="list-style-type: none"><li>• Section 3.2.1</li><li>• Section 3.2.1</li><li>• Section 3.2.1</li><li>• Section 3.2.1</li></ul>
Ysleta del Sur Pueblo	<ul style="list-style-type: none"><li>• No properties in vicinity of Proposed Action.</li></ul>	<ul style="list-style-type: none"><li>• Not applicable</li></ul>

In accordance with DHS Instruction Manual 023-01-001-01 Revision 1 Implementation of the National Environmental Policy Act, Section V.G. Public Involvement and Section IV,C,6 Public Involvement Process Involving an EA, CBP has determined that there has been sufficient input by interested parties for the Proposed Action to confirm lack of concerns for significant environmental impacts. As such, CBP is issuing this Final EA for the proposed supplemental air route surveillance radar unit, south of Mirando City, Webb County, Texas.

## Section 2 Description of Proposed Action and Alternatives

CEQ regulations implementing NEPA (40 CFR 1500.2; 40 CFR 1502.14 and 1505.1) stipulate that alternatives be considered in relevant environmental documents supporting a decision by a Federal agency. The intent of the alternatives evaluation is to ensure that alternatives have been considered that may enhance environmental quality or may have a less detrimental effect on the environment.

### 2.1 Siting Process

The alternatives siting process used a two-level evaluation process. Using this multi-level screening process, a wide range of alternatives were carefully considered and evaluated. The Level 1 analysis identified those alternatives that would meet the purpose of and need for the Proposed Action. The Level 2 siting process addressed key environmental, constructability, and operational issues. At the conclusion of the Level 2 screening, those alternatives that remained were carried forward for detailed environmental analysis in subsequent sections of this EA. An overview of the screening criteria is provided below.

The Level 1 analysis focused on the ability of the identified alternatives to satisfy the purpose and need criteria for the Proposed Action. Key evaluation criteria included the following:

- Assist CBP OAM and the AMOC to provide for air domain awareness in support of CBP's mission of securing the borders of the United States.
- Mitigate the impairment of functionality of the existing Oilton ARSR-4 Radar unit.
- Increase of probability of detection, and reduce the number of false tracks and targets of the Oilton ARSR-4 Radar unit.
- Comply with current CBP security requirements and design standards.

Potential alternatives were identified and evaluated according to the Level 1 criteria. Alternatives that did not fully meet the purpose and need criteria were eliminated from further consideration in this EA.

The Level 2 analysis was designed to determine which alternatives were considered to be feasible with respect to operations, constructability, and environmental considerations. The Level 2 criteria are listed below.

- Operations: This considered maintenance of and access to the supplemental radar unit site.
- Constructability: This included availability of required construction technology, materials and resources, geotechnical considerations, and similar physical factors.
- Environmental: This considered whether each alternative would involve environmental impacts that would be clearly unacceptable or substantially greater than those of other available alternatives, or would clearly violate applicable Federal environmental regulations.

Radar units that support the ARSR and JSS are located to provide valid information in support of CBP's mission. The radar signal patterns are circular, resulting in potential coverage gaps between adjacent units. Overlap of coverage areas is required to support reliable radar reception. These requirements, along with the regional topography, dictate the radar's general location and minimum height. Meeting these initial operational requirements is one step in the siting process.

When radar coverage is degraded, options to compensate are limited. Existing radar locations are reviewed to determine if they can be enhanced to provide sufficient coverage. If no existing radar sites are suitable for enhancement, based on operational requirements discussed above, open land where a new facility is required. The priority for selecting land for the construction of a new supplemental radar unit is a function of the constructability to build and maintain the unit over its lifetime and the difficulty of implementation. CBP prefers the following priorities for site selection: (1) DHS-controlled land; (2) land controlled by another Federal agency; (3) lease of non-Federally owned land; and (4) acquisition of new land. Meeting these constructability issues is another step in the siting process.

Once a site is selected, CBP conducts a preliminary environmental site assessment to determine if the site has the following: (1) no/negligible impacts; (2) minimal impacts; or (3) potentially adverse impacts to the environmental area considered. Those sites that do not present potentially adverse impacts are recommended for detailed environmental analysis. Meeting these environmental issues is yet another step in the siting process. Those alternatives having extensive operational, constructability, and environmental issues were considered to be infeasible and were not recommended for additional analysis in this EA.

## 2.2 Alternatives Retained for Detailed Analysis

Based on the results of the multi-level screening process described in **Section 2.1**, the location of existing radar facilities, and configuration of the Javelina Wind Farm, CBP determined that none of the other potential sites were practicable for further consideration as alternatives. Therefore, only the Proposed Action and No-Action Alternative were analyzed comprehensively in this EA, and are explained in detail below. In accordance with CEQ regulations, the No-Action Alternative has been retained for detailed analysis in subsequent sections of this EA as a baseline for comparison, and to present any potential environmental impacts that may occur without implementation of the Proposed Action.

### 2.2.1 Proposed Action

The Proposed Action consists of the construction, operation, and maintenance of a supplemental radar unit for operation by CBP at Site 19 near the Javelina Wind Farm, located about 12 miles south of Mirando City on the southern edge of Webb County, TX. The portion of Site 19 selected for the Proposed Action consists of 2 acres as well as 8,016 linear feet of infrastructure connections (electricity, fiber optic, access road). Site 19 is located 5.4 miles west of Farm-to-Market Road 649 and is 4.2 miles southwest of Vaquillas Road. Site 19 is owned by EMB Ranchito, Ltd. The site is located on a cattle ranch that has also been developed for natural gas production.

The 2-acre Proposed Action site and the 8,016 linear feet of infrastructure connections (electricity, fiber optic, access road), would be cleared of vegetation and graded for installation of the following components, as shown on **Figure 2**:

- An existing 1,180 feet long gravel access road would be widened to 12 feet wide, with an additional 2-foot-wide cleared section to either side of the road.
- Chain link fence that is located 50 feet away from radar equipment concrete pads that conforms to Unified Facilities Criteria 4-022-03, Security Fences and Gates. The fence would have one single swing gate that can be padlocked for security. Note Unified Facilities Criteria (refer to [http://www.wbdg.org/ccb/browse\\_cat.php?c=4](http://www.wbdg.org/ccb/browse_cat.php?c=4)) or local standards shall be used as applicable and would depend on the fencing that is ultimately selected by CBP. The chain link fence would be 280 feet long on the north and south sides and 310 feet long on the east and west sides.
- Gravel or stone bed throughout the 2-acre site that has an 8 inch caliche rock base with at least 6 inches of compacted caliche rock subbase. The bed would extend 2 feet beyond the fence perimeter.
- One concrete pad that measures 13 feet long by 13 feet wide by 4 feet 6 inches thick (slightly above grade) that supports the radar tower. The radar tower will have a maximum height of 40 feet. Note that the concrete pad is based on accommodating either a C Speed LightWave or Terma Scanner 4002 radar unit.
- One concrete pad that is 16 feet 6 inches long by 10 feet wide by 6 inches thick that supports radar equipment. Note that the concrete pad is based on accommodating either a C Speed LightWave or Terma Scanner 4002 radar unit.
- Lighting would be installed for safety and security reasons at the 2-acre supplemental radar site, and be mounted on lamp posts with directional shielding to aim the light toward the ground. Motion sensors would be installed as well as a manual bypass switch.
- Electrical supply line that is 5,086 linear feet long, aerially mounted on approximately 25 poles, and would be connected to an existing oil/gas facility. The electrical supply line would be

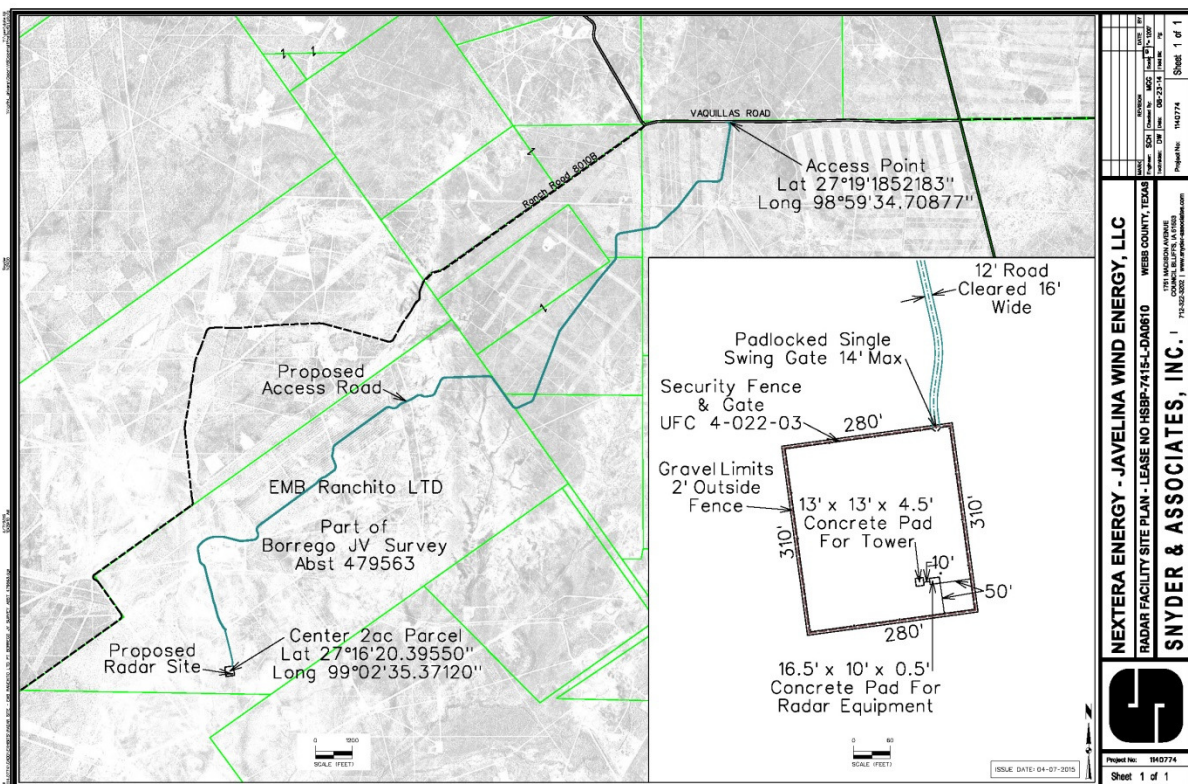


approximately 25 feet aboveground. The electrical supply line is considered to be a local electrical distribution line similar to others in the area. The electrical connection would run due west of the supplemental radar site for 1,850 feet and then northwesterly for 3,236 feet. The electrical supply line would have a 15-foot-wide utility easement. Note the prime electricity requirements are to be determined and would depend on the system(s) that are ultimately selected by CBP.

- Fiber optic communications line that would be 1,750 linear feet long and buried at depths between 1 and 4 feet, depending on terrain and infrastructure that needs to be avoided (such as existing pipelines). The fiber optic connection would run due north of the supplemental radar site for 1,097 feet and then easterly for 653 feet. The fiber optic connection has a 15-foot-wide utility easement.
- A 10-foot-deep grounding rod would be installed for safety.

The access road, chain link fence, gravel/stone bed, concrete pads, lighting, electricity line, fiber optic communications line, and grounding rod would be maintained by Javelina Wind Farm, LLC for the duration of the property lease.

**Figure 2: Supplemental Radar Unit Site Plan**



Source: Snyder & Associates, 2015

When complete, the Proposed Action site would look similar, but smaller, as compared to the Oilton ARSR-4 Radar unit as shown on **Figure 3**.

**Figure 3: Oilton ARSR-4 Radar Unit**



Source: Photo Image from Google, 2014

### **2.2.2 No-Action Alternative**

Under the No-Action Alternative, a new supplemental radar unit would not be constructed at Site 19 near the Javelina Wind Farm located about 12 miles south of Mirando City on the southern edge of Webb County, TX. The 2 acres, as well as 8,016 linear feet of infrastructure connections (electricity, fiber optic, access road), would remain undisturbed. Under this alternative, the Oilton ARSR-4 Radar unit would potentially operate impaired due to interference from the proposed Javelina Wind Farm resulting in increased incidence of false tracks and targets. The No-Action Alternative would not meet the requirements of the purpose and need identified in this EA, but has been retained for comparative purposes.

## **2.3 Alternatives Considered and Dismissed from Detailed Analysis**

Javelina Wind Farm, LLC followed an exhaustive siting process to determine the location for the Proposed Action to mitigate the potential impairment of functionality of the existing Oilton ARSR-4 Radar unit. A total of 19 different sites were evaluated based on factors such as proximity of the planned Javelina Wind Farm, area elevation, line of sight, environmental constraints, and land ownership. Sites 1 through 17 were considered not feasible for multiple reasons regarding the aforementioned factors, and were dismissed from further analysis. Site 18 is further discussed below.

Site 18 was considered, but dismissed, for the supplemental radar unit location. Site 18 is located approximately 50 feet northeast of the Proposed Action site, across an access road. While Site 18 has similar features to the Proposed Action site, it was dismissed from consideration due to the presence of surface artifacts (i.e., sensitive cultural resources).

## **Section 3 Affected Environment and Environmental Consequences**

This section describes affected environment or baseline conditions at the supplemental radar unit site for resources potentially affected by the Proposed Action and the No-Action Alternative. Information for this section was derived from a review of available relevant literature as well as reconnaissance visits conducted on February 12, March 16-18, March 23-24, and April 7-8, 2015. This section is organized by individual environmental resource area, and includes descriptions of the potentially affected resource. Within this section, environmental consequences are presented for each alternative for those environmental resource areas identified as meriting a detailed study. The first sub-section examines those environmental resource areas eliminated from detailed consideration (**Section 3.1**), while the second sub-section evaluates those environmental resource areas requiring detailed evaluation in this EA (**Section 3.2**).

### **3.1 Environmental Resource Areas Eliminated from Detailed Consideration**

The following environmental resource areas were not included for detailed analysis in this EA because potential impacts of the Proposed Action were considered to be negligible or minimal: Aesthetic and Visual Resources; Agriculture; Air Quality; Geology and Soils; Hazards and Hazardous Materials; Hydrology and Water Quality; Land Use; Mineral and Gas Resources; Noise; Population, Socioeconomics, and Environmental Justice; Public Services; Recreation; Transportation and Circulation; and Utilities and Service Systems. Each environmental resource is further explained below.

No impacts are anticipated to the aforementioned environmental resource areas under the No-Action Alternative as the supplemental radar unit would not be constructed or operated.

#### **3.1.1 Aesthetic and Visual Resources**

Impacts to aesthetic and visual resources occur as a result of noticeable changes in the environment that affect viewsheds and/or view corridors. The dominance of a visual change and level of viewer sensitivity generally determine the significance of a visual impact at a specific location. The area surrounding the Proposed Action site is rural and relatively flat, with Texas-Tamaulipan thornscrub habitat and a low population density. There are a limited number of people with a direct line-of-sight to the Proposed Action location, given its rural nature and proximity from major roadways. There are several wind farms that have already been developed in the area since 2010 and 2012, which have a similar visual impact to the Proposed Action.

During construction, temporary visual impacts would be associated with construction equipment and trucks, which are often already seen in the area due to ongoing oil and gas activities. The additional construction equipment and trucks associated with the Proposed Action are expected to be negligible due to the short-term construction period. During operation, visual impacts would be associated with the new supplemental radar unit tower at 40 feet high and several low-rise ancillary buildings. Although the Proposed Action would introduce a new radar unit tower where one currently does not exist, its placement is not out of character in the area given the existing wind turbines and ongoing oil/gas activities. Additionally, the limited number of people with a direct line of sight would not change overall viewer sensitivity. Because the impacts associated with the Proposed Action are considered to be minimal regarding visual change and level of viewer sensitivity, this environmental resource area is eliminated from detailed analysis in this EA.

#### **3.1.2 Agriculture**

The land at and surrounding the Proposed Action site is used for livestock grazing, and has been so used for over 100 years. Due to the presence of existing Texas-Tamaulipan thornscrub habitat and lack of suitable soils, this area has not historically been used for row crop agriculture. The lack of surface water in the area further contributes to this area being used for livestock grazing. Additionally, the Webb



County Soil Survey indicates there are no special-status farmlands at the Proposed Action site (NRCS, 2015).

Per the requirements of the Farmland Protection Policy Act of 1984, the evaluation of the significance of the conversion of farmland to non-agricultural uses was performed using Form AD-1006. CBP determined that no land would be converted from agriculture as no Prime, Unique, Statewide or Local Important Farmland exists at the site. Since the Proposed Action would not convert any land from agriculture, no adverse impact occurs regarding the conversion of agricultural land to a non-agricultural use. A copy of the completed NRCS Form AD-1006 for the Proposed Action is contained in **Appendix A**. Therefore, impacts associated with the Proposed Action are considered to be negligible regarding the conversion of agricultural land to a non-agricultural use, and this environmental resource area is eliminated from detailed analysis in this EA.

### **3.1.3 Air Quality**

Impacts to air quality are generally caused by the emission of criteria air pollutants (carbon monoxide, lead, nitrogen dioxide, volatile organic compounds, sulfur dioxide, and particulate matter) associated with the use of construction equipment including bulldozers, backhoes, and heavy duty haul trucks, as well as operation of mobile sources, including passenger automobiles. The location of the Proposed Action site is within the Brownsville-Laredo Intrastate Air Quality Control Region. As of July 1, 2014, this region was in attainment for the National Ambient Air Quality Standards regarding the aforementioned criteria air pollutants (EPA, 2014).

During construction, temporary impacts to air quality are anticipated from on- and off-road equipment exhaust. Construction activities would be associated with site preparation, land clearing/grading, and material handling. These activities often result in an increase of particulate matter dust in the immediate vicinity, and cease once the construction period ends. An industry-standard best management practice (BMP) used to control the spread of particulate matter dust during the construction period is the use of water spraying, and this BMP would be used by the selected contractor when conditions warrant. During operations, the Proposed Action would be operated remotely, thus limiting the number of vehicles that would visit the area. It is reasonable to conclude that a small number of vehicles would access the Proposed Action site to conduct routine or emergency maintenance, as needed, but the number of vehicle trips would be small. Because the impacts associated with the Proposed Action are considered to be minimal regarding air quality, and the region is in attainment for the National Ambient Air Quality Standards, this environmental resource area is eliminated from detailed analysis in this EA.

### **3.1.4 Geology and Soils**

The Webb County Soil Survey indicates that soil conditions at the Proposed Action site are somewhat to very limited for small commercial metal buildings on a reinforced concrete slab (NRCS, 2015). Engineering controls would be needed to adequately support construction and operation of the Proposed Action in these soil conditions. Soils in this area have a high shrink-swell potential and a short depth to soft bedrock. The selected contractor would use necessary engineering controls used to support construction of the Proposed Action, and take the local soil limitations into account during design. The Proposed Action site would be cleared and graded for installation of the supplemental radar unit. Minimal impacts are anticipated with the installation of the 8 inch caliche rock base and the 6 inches of compacted caliche rock subbase at the 2-acre site. As a result, excavation is anticipated to be minimal. Additionally, minimal impacts are anticipated with the installation of the aerially-mounted, 5,086 linear feet long electrical supply line. Furthermore, minimal impacts are anticipated with the installation of the buried, 1,750 linear feet long fiber optic communications line. Finally, no known unique geologic features are present at the Proposed Action site. Because the impacts associated with the Proposed Action are considered to be minimal with respect to geology and soils and a large amount of excavation and grading/clearing would not occur, this environmental resource area is eliminated from detailed analysis in this EA.

### 3.1.5 Hazards and Hazardous Materials

In order to assess the potential for hazards and hazardous materials impacts in the vicinity of the Proposed Action site, an environmental database report of Federal, tribal, state, and local regulatory agency file information was generated by GeoSearch on April 10, 2015. The search radius of 1-mile included the 2-acre Proposed Action site, as well as the electricity line, fiber optic communications line, and access road. The results of the GeoSearch database report concluded that no known hazard or hazardous materials sites were found within a 1-mile search radius (GeoSearch, 2015). Refer to **Appendix B** for a copy of the GeoSearch database search.

To supplement the GeoSearch database review, a site reconnaissance of the Proposed Action area was conducted on March 23, 2015. The site reconnaissance was limited to a visual assessment of conditions at the subject property on the day of the visit. URS/AECOM scientists also made observations of land uses of surrounding properties within 1/2-mile of the subject property. Land use of adjacent properties consists of either open space, livestock grazing areas, and widely dispersed oil/gas wells. The reconnaissance survey of surrounding properties was limited to those properties that were publicly accessible or could be observed visually, to the extent feasible. No known hazard or hazardous materials sites were observed at the Proposed Action site or within the 1/2-mile search radius during the site reconnaissance. However, widely dispersed oil/gas wells are located within the 1/2-mile search radius, but would not be disturbed by construction or operation of the Proposed Action. Therefore, the Proposed Action would not involve the acquisition of known unresolved contamination areas that could affect construction where CBP could reasonably expect to assume liability for corrective action upon lease of the site.

Due to presence of oil and gas operations on and surrounding the Proposed Action site, an industry-standard BMP is to contact all pipeline and production company representatives operating flowlines, gathering lines, and pipelines across and immediately adjacent to the Proposed Action site prior to commencement of construction activities for the purpose of definitively identifying all surface and subsurface pipelines to avoid a spill or release during construction activities.

Construction activities have the potential to result in equipment leaks or spills of fuel or hydraulic fluid; outdoor storage of construction materials; or spills of paints, solvents, or other potentially hazardous materials commonly used in construction. Industry-standard BMPs used to prevent and control leaks or spills include the use of drip pans and absorbent mats at refueling locations and following Federal, state, and local regulations regarding the storage/use of construction materials. These BMPs would be used by the selected contractor. During operations, the Proposed Action would be operated remotely, thus limiting the number of vehicles that would visit the area. However, a chemical fire suppression system would be used at the Proposed Action site, as no water service is available. Adherence to the Federal, state, and local regulations regarding the use of the chemical fire suppression system would minimize any potential spill or release. Because the impacts associated with the Proposed Action are considered to be minimal regarding hazards and hazardous materials sites, this environmental resource area is eliminated from detailed analysis in this EA.

### 3.1.6 Hydrology and Water Quality

A review of the U.S. Geological Survey (USGS) quadrangle Agua Azul Creek East, TX indicates there are no streams at the Proposed Action site or within 1/4-mile (USGS, 1980). However, according to the USGS National Hydrography Data, the closest stream to the Proposed Action area is an intermittent stream located 1,260 linear feet to the north. Additionally, a review of the Federal Emergency Management Administration digital Flood Insurance Rate Maps and floodplain panel 48479C1650C indicates the closest floodplain boundary is 3,005 linear feet north of the Proposed Action site (FEMA, 2008). Thus, there are no hydrology or water features that would be adversely affected by the Proposed Action.

Impacts to hydrology and water quality features are generally associated with discharges to surface or groundwater; changes to surface or groundwater quality; modification of the surface or groundwater flow;

or construction in the floodplain. Since there are no hydrology or water quality features at the Proposed Action site or within 1/4-mile, impacts associated with construction and operation would not exist. However, the selected contractor would use silt fencing around construction areas to further reduce the potential for erosion and/or siltation, which is considered an industry-standard BMP. Because there are no impacts to hydrology and water quality features as a result of the Proposed Action, this environmental resource area is eliminated from detailed analysis in this EA.

### **3.1.7 Land Use**

Previous and current land use at the Proposed Action Site is pasture land for livestock grazing. A March 23, 2015 site reconnaissance observed land uses of the surrounding properties within 1/2-mile of the subject property consist of either open space, livestock grazing areas, and widely dispersed oil/gas wells.

Land use impacts result from changes in land use, conditions that affect surrounding land uses, or that restrict access to specific land uses or locations. Construction and operation of the Proposed Action would convert 2 acres from pasture land to developed land, resulting in a minimal impact. In addition, installation of the electricity line would not result in a change in land use as it would be aerially mounted. Similarly, installation of the fiber optic communications line would be buried and not affect surface land uses. As a result of the focused land use changes, no modifications in surrounding land uses are anticipated with the Proposed Action, and access to specific land use or locations would be unaffected. Because the impacts associated with the Proposed Action are considered to be minimal regarding land use changes, this environmental resource area is eliminated from detailed analysis in this EA.

### **3.1.8 Mineral and Gas Resources**

The Proposed Action site is located inside an operating oil and gas field associated with the Eagle Ford Shale area of southwestern Texas. The Eagle Ford Shale is a hydrocarbon-producing geological formation extending over 26 counties, including Webb County.

Impacts to mineral and gas resources would result from the loss of availability of a known mineral and gas resource or loss of availability of a locally-important mineral and gas resource recovery. There are no active quarries for minerals within 1-mile of the Proposed Project site. Also, as a result of the focused land use changes, neither the construction nor the operation of the Proposed Action would preclude or disrupt development of mineral and gas resources in the region. Because there are no impacts to mineral and gas resources as a result of the Proposed Action, this environmental resource area is eliminated from detailed analysis in this EA.

### **3.1.9 Noise**

Noise impacts are associated with perceptible changes in noise conditions affecting sensitive land uses. Noise is generally defined as loud, unpleasant, unexpected, or undesired sound that is typically associated with human activity and that interferes with or disrupts normal activities. There are no sensitive receptors such as schools, nursing homes, libraries, or residential homes within 1-mile of the Proposed Action site. Normal noise-related activities in the vicinity of the Proposed Action site consist of wind turbine operation and oil/gas activities.

During construction, temporary noise impacts are anticipated from on- and off-road equipment. Construction activities are associated with site preparation, land clearing/grading, and material handling. These activities often result in a temporary increase in noise in the immediate vicinity, and cease once the construction period ends. During operations, noise associated with the Proposed Action is the rotation of the supplemental radar unit antenna and the periodic backup generator being run for testing and maintenance. The Proposed Action would be operated remotely, thus limiting the number of maintenance personnel to the area. It is reasonable to conclude that a small number of maintenance personnel would access the Proposed Action site to conduct routine or emergency service, as needed, but the number of maintenance personnel would be small. Because the impacts associated with the

Proposed Action are considered to be minimal regarding noise and there are no sensitive receptors within 1-mile, this environmental resource area is eliminated from detailed analysis in this EA.

### **3.1.10 Population, Socioeconomics, and Environmental Justice**

Population, socioeconomic, and environmental justice characteristics in the Proposed Action area are based on the year 2013 U.S. Census Bureau data, and presented in **Table 2**. The Proposed Action area is located in Census Tract 18.13 in Webb County. The number of persons and housing units in Census Tract 18.13 is quite small compared to Webb County. However, both areas have similar employment characteristics, with Census Tract 18.13 having a slightly higher unemployment rate.

Construction of the Proposed Action would, however, result in a temporary increase in expenditures that would improve the local tax base through the purchase of materials and the need for temporary lodging. Construction and operation of the Proposed Action would not divide an established community as none exist at the site, nor would it induce substantial population growth as this action would not implement housing or employment that would entice people to relocate. Construction and operation of the Proposed Action would also not displace a substantial number of people or housing, as none exist at the site. The Proposed Action would not negatively affect property values in the area. However, construction of the Proposed Action would result in a temporary increase in expenditures that would improve the local tax base through the purchase of materials and the need for temporary lodging. Because there are no impacts to population or socioeconomic conditions as a result of the Proposed Action, this environmental resource area is eliminated from detailed analysis in this EA.

Environmental justice (EJ) impacts are associated with disproportionately high and adverse human health or environmental effects on minority and low-income populations. EO 12898 on EJ requires that each Federal agency address disproportionately high and adverse health or environmental effects of its programs, policies, and activities on minority populations and low-income populations. EO 12898 was designed to supplement Title VI of the Civil Rights Act of 1964. In addition, EO 12898 is supplemented by more than 30 Federal statutes, regulations, executive orders, and directives regarding nondiscrimination. In order for a location to be considered a potential EJ area of concern, the minority population of the area must be "meaningfully greater" than that of the respective county. Additionally, a location with an income level below the U.S. Department of Health and Human Services Poverty Guidelines or a poverty level that is "meaningfully greater" than that of the respective county is identified as a potential EJ area of concern.

The racial breakdown of Census Tract 18.13 and Webb County, as presented in **Table 2**, are primarily classified as white, with smaller amounts of minority populations as defined by the U.S. Census Bureau. In no case are the U.S. Census Bureau-defined minority populations of Census Tract 18.13 meaningfully greater than the respective minority populations of Webb County. Therefore, there are no minority EJ areas of concern. It should be noted that southwestern Texas has a predominantly Hispanic or Latino population. Information regarding Hispanic or Latino population is also provided in **Table 2**.

As required by EO 12898, and for the purposes of this analysis, low-income is defined based on the 2013 Health and Human Services Poverty Guidelines for a family of four within the 48 contiguous states at \$23,550 (DHHS, 2013). This value is then compared to the 2013 median household income value for the Census Tract 18.13 to determine low-income population EJ areas of concern. The median household income of Census Tract 18.13, as shown in **Table 2**, is far above \$23,550. Additionally, the number of persons below the poverty level in Census Tract 18.13 is not meaningfully greater than the respective poverty level of Webb County. Therefore, there are no low-income EJ areas of concern.

Due to the remote location of the Proposed Action site and lack of nearby population, there is no conflict with EO 13045 Protection of Children From Environmental Health and Safety Risks.

Because there are no impacts to EJ areas of concern as a result of the Proposed Action, this environmental resource area is eliminated from detailed analysis in this EA.

**Table 2: Population, Socioeconomic, and Environmental Justice Characteristics**

	<b>Census Tract 18.13</b>	<b>Webb County</b>
Population	908	254,829
Housing Units	461	74,356
<b>Employment</b>		
Major Employment by Industry	Educational Services, and Health Care and Social Assistance (28.5%), Construction (20.8%), and Agriculture, Forestry, Fishing and Hunting, and Mining (15.1%)	Educational Services, and Health Care and Social Assistance (25.6%), Transportation and warehousing, and utilities (13.6%), and Retail Trade (13.1%)
Unemployment Rate	8.9%	6.9%
<b>Race<sup>1</sup></b>		
White	97.6%	93.5%
African American	0.7%	0.4%
American Indian and Alaska Native	0.0%	0.4%
Asian	0.0%	0.6%
Native Hawaiian and Other Pacific Islander	0.0%	0.0%
Persons Reporting Other Race(s)	1.8%	4.4%
Persons Reporting Two or More Races	0.0%	0.7%
Persons of Hispanic or Latino Origin <sup>2</sup>	92.7%	95.5%
<b>Income</b>		
Median Household Income	\$38,750	\$39,449
Persons Below Poverty Level	26.0	31.4
Sources: U.S. Census Bureau 2013a; U.S. Census Bureau 2013b		
Notes		
<sup>1</sup> These data are based on U.S. Census Bureau figures that, due to rounding, may total slightly more or less than 100 percent regarding race.		
<sup>2</sup> People who identify their origin as Hispanic or Latino may be of any race. Thus, the percent Hispanic or Latino should <u>not</u> be added to the race as percentage of population categories.		

### 3.1.11 Public Services

Impacts to public services affect service levels of schools, police, and fire protection. Public health and safety impacts are also associated with increases in hazardous conditions at any one location associated with the Proposed Action. Construction and operation of the Proposed Action would have no impact on schools because none exist within 1-mile of the site. Levels of police and fire protection services would be unaffected by the Proposed Action as no major facilities that would require additional service are being implemented. During construction, minimal temporary impacts could occur to police and fire protection services due to restricted access caused by construction equipment. An industry-standard BMP is to create a site safety plan that minimizes access restrictions. No impacts to police or fire protection services are expected during operation of the Proposed Action. Because the impacts associated with the Proposed Action are considered to be minimal regarding public services, this environmental resource area is eliminated from detailed analysis in this EA.

### 3.1.12 Recreation

Impacts to recreational areas affect the use or visual enjoyment of those facilities. There are no recreational areas within 5 miles of the Proposed Action site that would suffer a loss of use or visual enjoyment. Because there are no impacts to recreational areas as a result of the Proposed Action, this environmental resource area is eliminated from detailed analysis in this EA.



### **3.1.13 Transportation and Circulation**

Transportation and circulation impacts are typically associated with increases in roadway traffic volumes and intersection capacities. The construction phase of the Proposed Action would result in temporary impacts to area roadways due to an increase in construction-related vehicles. However, these impacts are expected to be minimal due to the focused nature of the Proposed Action and would cease when the construction period ends. Because the Proposed Action is expected to be unmanned and fully automated, the operations phase would have no impact on area roadways. It is reasonable to conclude that a small number of maintenance personnel would access the Proposed Action site to conduct routine or emergency service, as needed, but the number of maintenance personnel would be small. Because the impacts associated with the Proposed Action are considered to be minimal regarding transportation and circulation, this environmental resource area is eliminated from detailed analysis in this EA.

There is one private airstrip in the area at Jacalon Ranch, which has two runways, one of which is 3,975 feet long and the other is 2,200 feet long. With respect to potential impacts to operation of the private airstrip, the Proposed Action would not result in additional airspace restrictions being implemented. The Proposed Action site is over 4.25 miles from the private airstrip, and the actual operation of the supplemental radar unit would not be an issue relative to over-flying aircraft. The proposed supplemental radar unit is only 40 feet tall. Thus, when compared to the adjacent wind turbines in the area, which are in excess of 300 feet tall, there should be no requirement for additional restrictions. Accordingly, the Proposed Action would not impact the operation of the private airstrip on the Jacalon Ranch.

### **3.1.14 Utilities and Service Systems**

Impacts to utilities and service systems are generally associated with exceeding the capacity of water, wastewater, and/or stormwater systems; result in the need for upgrades to electrical systems to provide power; or increase the need for landfill-related services. No impacts to water, wastewater, stormwater, and/or electrical systems are expected during construction of the Proposed Action as these services are not expected to be used. However, a minimal temporary impact regarding the need for additional landfill services related to the disposal of construction materials is anticipated but considered small due to the focused nature of the Proposed Action. Operation of the Proposed Action would require an electrical connection to an existing oil/gas facility. The electricity requirements for the Proposed Action are not considered to be large, and this impact is expected to be minimal. No impacts to water, wastewater, stormwater, and/or landfill systems are expected during operation of the Proposed Action as these services are not expected to be used. Because the impacts associated with the Proposed Action are considered to be minimal regarding utilities and service systems, this environmental resource area is eliminated from detailed analysis in this EA.

## **3.2 Environmental Resource Areas Requiring Detailed Evaluation**

Since the Proposed Action and/or No-Action Alternative have the potential to affect biological resources and cultural resources, these environmental resource areas are included for detailed analysis in this EA.

### **3.2.1 Biological Resources**

The U.S. Fish and Wildlife Service (USFWS) has legislative authority to prohibit, unless permitted by regulations, the kill, capture, collection, possession, buying, selling, trading, or transport of any migratory bird, nest, young, feather, or egg in part or in whole. The Migratory Bird Treaty Act (MBTA) of 1918 and its subsequent amendments (16 USC 703-712) give the Federal legislative authority for protection of migratory bird species. Regulations supporting this Act are codified and regularly updated in 50 CFR Parts 10 and 21.

The USFWS has legislative authority to list and monitor the status of species whose populations are considered to be imperiled. This Federal legislative authority for the protection of threatened and endangered species issues derives from the Endangered Species Act (ESA) of 1973, and its subsequent amendments. Regulations supporting this Act are codified and regularly updated in 50 CFR Sections

17.11 and 17.12. The Federal process stratifies potential candidates based upon the species biological vulnerability. Species listed as endangered or threatened by the Federal government are provided full protection under the law, including direct and indirect (habitat) impacts.

Endangered species legislation was passed in Texas in 1973. Subsequent revisions to the Texas Parks and Wildlife Department (TPWD) code in 1975, 1981, and 1985 established a state regulatory vehicle for the management and protection of state-listed threatened and endangered species. The TPWD has the authority to formulate lists of threatened and endangered fish and wildlife species and to regulate the taking or possession of those species. The TPWD also has the authority to designate plant species as threatened or endangered and to prohibit commercial collection or sale of these species without permits. Unlike the Federally listed species, there is no protection of habitat afforded to species that are only listed by the state. The Texas Natural Diversity Database (TXNDD) catalogs, monitors, and provides information on rare species and communities of concern.

A reconnaissance-level visit of the Proposed Action area was conducted on March 23, 2015 by a URS/AECOM qualified biologist to identify wetland and stream features, as well as conduct a vegetation survey for special-status species, notably the ashy dogweed (*Thymophylla tephroleuca*) and Johnston's frankenia (*Frankenia johnstonii*) which are two Federally-listed plant species.

A URS/AECOM qualified biologist submitted the Proposed Action to the USFWS IPaC system on June 8, 2015 to assist with the environmental review process.

### **3.2.1.1 Affected Environment**

#### **3.2.1.1.1 Wetlands**

According to the USGS National Hydrography Data, USFWS National Wetland Inventory maps, and the reconnaissance-level visit, no water features or wetlands are present within the Proposed Action area. A review of the Federal Emergency Management Administration digital Flood Insurance Rate Maps and floodplain panel 48479C1650C indicates the Proposed Action area is not located within the 100-year floodplain (FEMA, 2008).

#### **3.2.1.1.2 Vegetation**

The Proposed Action area falls within the Texas-Tamaulipan Thornscrub Level IV Ecoregion of the Southern Texas Plains Level III Ecoregion of Texas (Griffith, *et al.*, 2004). The vegetation consists of a mixture of thorn woodland and thorn shrubland. According to the Ecological Mapping Systems of Texas, the Proposed Action area contains three vegetation types (Elliott, *et al.*, 2014). Approximately 65 percent of the Proposed Action area is comprised of South Texas: Clayey Mesquite Mixed Shrubland, approximately 30 percent is comprised of South Texas: Disturbance Grassland, and the remaining 5 percent are comprised of Urban High Intensity.

The vegetation within the Proposed Action area was brush cut prior to the March 23, 2015 reconnaissance-level visit, outside of the April 1 to July 15 migratory bird nesting season. Based on a previous reconnaissance visit to the site on February 12, 2015, vegetation was consistent with that of the surrounding area and was consistent with the vegetation described by the Ecological Mapping Systems of Texas, South Texas: Clayey Mesquite Mixed Shrubland.

#### **3.2.1.1.3 Birds**

There are numerous avian species with potential to occur in Webb County. URS/AECOM qualified biologists have conducted bird surveys in the region since September, 2012. Avian species with the greatest likelihood of occurring within the Proposed Action area are listed in **Appendix C**.

None of the species observed in the Proposed Action area are considered candidate, threatened, or endangered species by the USFWS. Of the 108 species that have been observed in the region, one species, the White-tailed Hawk, is considered threatened by the TPWD (TPWD, 2015a).

#### **3.2.1.1.4 Threatened and Endangered Species**

There are 24 species listed as Federal and/or state threatened, endangered, or candidate that have the potential to or have historically occurred within Webb County. No critical habitat designated by USFWS is located in or adjacent to the Proposed Action area.

TPWD's TXNDD was reviewed on March 12, 2015 to assess the potential for listed threatened and endangered species to occur in the Proposed Action area. Based on the findings, no elements of occurrence for Federal or state-listed species were present within the immediate Proposed Action area (TPWD, 2015b). These results, based on limitations of the TXNDD, do not mean that there is an absence of endangered, threatened, or rare species and should not be used for presence/absence determinations. The species with the potential to occur in the Proposed Action area are the black bear (*Ursus americanus*), jaguarondi (*Herpailurus yaguarondi*), ocelot (*Leopardus pardalis*), white-nosed coati (*Nasua narica*), reticulate collared lizard (*Crotaphytus reticulatus*), Texas horned lizard (*Phrynosoma cornutum*), Texas indigo snake (*Drymarchon melanurus erebennus*), Texas tortoise (*Gopherus berlandieri*), ashly dogweed, and Johnston's frankenia. However, during the March 23, 2015 reconnaissance-level site visit, URS/AECOM qualified biologists did not observe any these 10 species at the Proposed Action site. For additional information on these species, refer to **Appendix C**.

#### **3.2.1.2 Significance Criteria**

Adverse impacts would occur with respect to biological resources if the Proposed Action would result in any of the following:

- Have a substantial adverse effect on Federally protected wetlands, as defined by Section 404 of the Clean Water Act through direct removal, filling, hydrological interruption, or other means.
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified by the USFWS or TPWD.
- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species by the USFWS or TPWD.

#### **3.2.1.3 Environmental Consequences**

##### **3.2.1.3.1 Proposed Action**

###### **3.2.1.3.1.1 Wetlands**

Activities that require the movement of soil through excavation, backfilling, and grading, the removal of existing vegetation, or new construction have the potential to adversely affect streams, wetlands, and floodplains. However, no streams or wetland features were identified during the March 23, 2015 reconnaissance-level site visit and the Proposed Action area is not located within the 100-year floodplain. Therefore, no impacts regarding streams or Federally protected wetlands as defined by Section 404 of the Clean Water Act are anticipated.

###### **3.2.1.3.1.2 Vegetation**

Activities that require the removal of existing vegetation have the potential to adversely affect riparian habitat and/or sensitive natural communities. The majority of the vegetation within the Proposed Action area has already been disturbed as a result of the inadvertent hydro-axing prior to the March 23, 2015 reconnaissance-level site visit, which is outside of the April 1 to July 15 migratory bird nesting season. Where necessary, all remaining trees, brush, and undergrowth would be removed to accommodate the Proposed Action on the 2-acre site as well as 8,016 linear feet of infrastructure connections. However, no

riparian habitat and/or sensitive natural communities were identified during the February 12, 2015 or March 23, 2015 reconnaissance-level site visits. Therefore, no impacts to riparian habitat or other sensitive natural community identified by the USFWS or TPWD are anticipated.

### **3.2.1.3.1.3 Birds**

Activities that require excavation, grading, removal of existing vegetation, or new construction have the potential to affect MBTA-protected bird species through habitat alteration, direct mortality of individuals, eggs, or young, and destruction of nests. Given the potential for occurrence of migratory birds within the Proposed Action area, the following industry-standard BMPs during construction would ensure the impacts would not be adverse.

**BMP B-1: Construction Activities Outside of Breeding Season.** In accordance with the MBTA, construction activities and vegetation clearing shall be conducted outside peak-nesting seasons (March-August) to avoid any adverse effects to the migratory birds and their habitat. If construction and vegetation clearing occurs from March through August, construction personnel shall be made aware of MBTA species, their habits, regulatory status, and environmental staff clearing areas for construction shall take these species into account. In the event of the discovery, it is recommended that Proposed Action activities in the vicinity of the species be immediately stopped and a qualified biologist consulted to assess the presence of the species to provide proper management recommendations. Work may proceed on other parts of the Proposed Action while the species is evaluated.

**BMP B-2: Provide Information on Ground-Nesting Birds.** Ground-nesting species, such as killdeer (*Charadrius vociferus*), have the potential to be found on the Proposed Action site. Construction personnel shall be made aware of these species, their habits, regulatory status, and environmental staff clearing areas for construction shall take these species into account. In the event of the discovery, it is recommended that Proposed Action activities in the vicinity of the species be immediately stopped and a qualified biologist consulted to assess the presence of the species to provide proper management recommendations. Work may proceed on other parts of the Proposed Action while the species is evaluated.

**BMP B-3: Consult a Qualified Biologist.** In the event that migratory birds or their nests are present prior to or during construction, actions shall be implemented to ensure migratory birds, their nests, eggs, and young will not be harmed. This can be achieved by establishing buffer distances from the nests in which clearing and construction shall not occur until the nests are no longer active. These distances will be determined on a case-by-case basis as different birds require varying buffer distances (i.e., raptor or passerine). Consultation with a qualified biologist will be necessary to determine these buffer distances.

The Proposed Action would result in the construction of an electrical supply line that is 5,086 linear feet long and aerially mounted on approximately 25 poles. The electrical supply line would be approximately 25 feet aboveground. The electrical supply line is considered to be a local electrical distribution line similar to others in the area. Thus, when compared to the adjacent wind turbines in the area, which are in excess of 300 feet tall, and the existence of similar local electrical distribution lines, the use of bird flight diverters is not anticipated to be needed to reduce impacts.

### **3.2.1.3.1.4 Threatened and Endangered Species**

Activities that require excavation, grading, removal of existing vegetation, the conversion of native grazing lands to farms and improved pastures, movement of machinery, or new construction have the potential to adversely affect special-status threatened and endangered species through habitat alteration and direct mortality. Given the potential for occurrence of threatened and endangered species within the Proposed Action area, the following industry-standard BMPs during construction would ensure the impacts would not be adverse.

**BMP B-4: Provide Information About Special-Status Species.** Construction personnel shall be educated on the potential presence of the special-status species, avoidance measures, and beneficial practices. Beneficial practices shall include limiting ground disturbance, excluding the use of detrimental seed mixes, avoiding direct mortality, establishing and posting speed limits on newly created roads, and enforcing automobile speed limits. Revegetation efforts shall exclude mat-forming grasses, such as buffelgrass (*Pennisetum ciliare*), to the greatest extent practicable.

**BMP B-5: Check or Cover Excavation Holes and Trenches.** For the reticulate collared lizard, Texas tortoise, Texas indigo snake, and Texas horned lizard from March to September, or when warm weather occurs during October to February, any excavations, holes or trenches created during construction shall be covered overnight or inspected every morning to ensure no individuals have been trapped. Additionally, it is recommended that site construction and routine road maintenance proceed with caution, especially when ambient temperatures are low. These species are less active during low temperatures and are less able to avoid construction equipment. Additionally, Texas horned lizards are known to rest and bed on roadsides, and the grading of roads can kill or uncover them, which can expose them to predators during low temperatures.

**BMP B-6: Provide Drift Fencing.** Placement of drift fencing to keep the reticulate collared lizard, Texas tortoise, Texas indigo snake, and Texas horned lizard from entering the construction area shall be considered. The fence shall be buried at least six (6) inches deep and be least 24 inches high. It shall be maintained during the construction period and only removed after the construction is completed and the disturbed site has been revegetated.

**BMP B-7: Relocation of Individuals.** It is recommended that a qualified biological monitor sweep the construction site ahead of construction equipment during the initial clearing of the site in order to relocate any individuals found outside of the project site.

#### **3.2.1.3.1.5 Synopsis**

The potential impact of the Proposed Action could result in the disturbance of migratory birds and/or special-status threatened and endangered species. Implementation of industry-standard **BMP B-1: Construction Activities Outside of Breeding Season**, **BMP B-2: Provide Information on Ground-Nesting Birds**, **BMP B-3: Consult a Qualified Biologist**, **BMP B-4: Provide Information About Special-Status Species**, **BMP B-5: Check or Cover Excavation Holes and Trenches**, **BMP B-6: Provide Drift Fencing**, and **BMP B-7: Relocation of Individuals** would reduce potential construction-related impacts to a minimal level.

#### **3.2.1.3.2 No-Action Alternative**

Direct impacts to streams or Federally protected wetlands; riparian habitat and/or sensitive natural communities; MBTA-protected bird species; or special-status threatened and endangered species would not occur under the No-Action Alternative, as no ground disturbing activities would occur. Therefore, no impacts to biological resources would occur.

#### **3.2.2 Cultural Resources**

Cultural resources are broadly defined as buildings, sites, structures, landscapes, or objects, each of which may have historical, architectural, archaeological, cultural, or scientific importance (McGimsey and Davis 1977; NPS, 1998). Numerous Federal and state laws, regulations, and policies govern the protection and management of cultural resources. Historical properties for the purposes of NEPA and/or Section 106 of the National Historic Preservation Act (NHPA) refer to those cultural resources that are listed in, or have been evaluated as being eligible for listing in the National Register of Historic Places (NRHP).

Subsequent amendments to the NHPA designate the State Historic Preservation Officer (SHPO) to administer the Texas historic preservation program and duties as described in 36 CFR Part 61, including nominating properties to the NRHP. The NHPA also created the Advisory Council on Historic Preservation, the Federal agency responsible for providing commentary on Federal activities, programs, and policies that impact historic properties.

Section 106 of the NHPA and its implementing regulations (36 CFR 800) outline the procedures to be followed in the documentation, evaluation, and mitigation of impacts to historic properties. The Section 106 process applies to any Federal Undertaking that has the potential to affect historic properties. The Section 106 process requires the identification of historic properties that may be affected by an Undertaking and consideration of ways to avoid, minimize, and mitigate adverse effects. Section 110 of the NHPA outlines the obligations Federal agencies have in regard to historic properties under their ownership.

### **3.2.2.1 Affected Environment**

#### **3.2.2.1.1 Pre-History**

The Proposed Action area is located inside the south Texas Archaeological and Historical region. An area-wide cultural chronology made up of eight broad categories has been devised by archeologists and historians for the region. The prehistoric categories are the PaleoIndian (11,500-8800 Before the Present [BP]), Archaic (8800-1250 BP), Late Prehistoric (1250-260 BP/Anno Domini [AD] 1528), and Historic (AD 1528-1960) periods (Turner *et al.*, 2011). For regional history, the categories are Contact and Exploration (AD 1528-1725); Colonization (AD 1725-1836); Republic, Statehood, and Economic Development (AD 1836-1880); and Ranching, Mining, and Oil and Gas Production (AD 1880-1960) (Godwin and Clark, 2014).

Evidence of all periods of prehistory is found in south Texas. The first documented groups in the region were known as PaleoIndians and they were small bands of big game hunters (Hester, 1980). PaleoIndian sites, although small in number, were present and were represented by small campsites on selected rock shelters, springs stream terraces, and many isolated artifact finds and *Clovis*, *Folsom*, *St. Mary's Hall*, *Scottsbluff*, *Angostura*, *Plainview*, *Golondrina*, and Early Triangular projectile points (Turner and Hester, 1999).

The Archaic period encompasses three stages: Early, Middle, and Late, and it was a time of nomadic hunter-gather group life styles (Hester, 1980). During the Archaic period, numbers of campsites increased considerably and were located in more varied environmental settings within close proximity to reliable water sources. Campsites often contained rock cooking features reused on a seasonal basis. Types and numbers of projectile points also increased during the Archaic period and commonly include, but were not limited to, the following types of dart points in south Texas: *Abasolo*, *Carrizo*, *Catan*, *Desmuke*, *Langtry*, *Matamoros*, *Refugio*, *Tortugas* (Turner *et al.*, 2011).

During the Late Prehistoric period, the hunter gatherer group life style continued, and was characterized by technological change with the introduction of the bow and arrow and the manufacture of pottery. Groups occupied terraces adjacent to major rivers, streams, creeks, and their abandoned channels. Arrow points were made instead of dart points and were the following types: *Scallorn*, *Perdiz*, *Fresno*, and *Zavala*. Leon Plain pottery with bone tempering was in use. Bison kill sites with artifact assemblages made up of knives, end scrapers, drills, and awls for working hides were present (Hester, 1980).

The environmental setting, topography, hydrology, geology, and geomorphology factors of the Proposed Action area are conducive to the presence of prehistoric archaeological deposits. The area sits below a narrow, low upland ridgetop protected to the east by the Bordas Escarpment uplift. It is situated on the southern end of a ridge prominence and overlooks a level bench. The ridge is drained on both sides by ephemeral streams. Uvalde gravels covered the deflated ridgetop and are raw materials exploited by prehistoric flint knappers for stone tool manufacture. Gravels were also used to construct hearths for heat treating of chert, food processing, cooking, warmth, and light (Hester, 1980).

### 3.2.2.1.2 History

The Contact and Exploration period began when European explorers (Spaniards and Frenchmen) entered south Texas in search of new territory and natural resources. Historic period items included European trade items such as glass beads, coinage, metal tools, and ceramic utilitarian and decorative wares. Spanish Colonial period ranch complexes were constructed with native stone houses with outdoor ovens, chapels, schools, general stores, norias, and cemeteries. Unique ranch construction techniques and features appeared and were made of sawn *sillar* (limestone) blocks and foundation remnants, hand-dug stone lined wells, *sillar* troughs (*noria con buque*), and *sillar* dams for ponds (Tijerina, 1998).

The south Texas region exhibited a unique architectural history characterized by the presence of Spanish and Mexican Colonial (1740-1850) style buildings and the use of construction techniques brought to the Spanish frontier municipalities established in the 1730s. In the early 19<sup>th</sup> century Victorian style buildings became popular. The early 20<sup>th</sup> century brought architectural change and diversification in construction techniques. As affordable brick and milled lumber became available, common architectural styles were added to the region such as craftsman and bungalow. Ranch style buildings appeared in the mid-1960s and continue to be built today. Combinations of the ranch and Spanish Colonial styles were also common. Modern Texas-style buildings of native stone with metal and glass components are built today (Echols, 2000; Jordan, 1985; Maddex, 1985).

Additionally, native populations were conquered and missions, trails, and Spanish control were established. Colonization efforts resulted in the creation of the Villas del Norte municipalities along the south side of the Rio Grande River. Land grants were issued north of the Rio Grande River by the King of Spain and the Government of Mexico to Villas del Norte settlers in exchange for providing protection and beef to the municipalities. Mexico achieved independence from Spain in 1821, and Texas fought for and won independence from Mexico in 1836. Native American attacks and raids led to abandonment of frontier ranches. The Republic of Texas ruled the region until statehood in 1845. Economic development progressed as transportation routes developed, the railroad arrived, and Native American raids ended. Ranching, mining, oil and gas production evolved and sustained the region's economy (Leffler and Long, 2014).

Climate extremes, aridity, the rural setting, and established ranching culture were detrimental to historic occupation of the Proposed Action site. Very hot temperatures, lack of good water supply, absence of transportation routes, and utilities did not attract a large amount of settlers or developers. Colonization efforts of Spain created an exclusive Tejano ranch culture by issuing expansive land grants to family members for the creation of large cattle ranches to feed and protect the frontier. Frontier families established major ranch complexes in the area, but rarely settled or subdivided Spanish land grants to populate the ranches (Tijerina, 1998).

### 3.2.2.1.3 Archaeological Resources

Antiquities Planning & Consulting, a firm qualified in the discipline of archaeology under the Secretary of the Interior's Professional Qualifications Standards (36 CFR Part 61), conducted an assessment of the Proposed Action's potential to affect archaeological resources within the Area of Potential Effect (APE). The archaeological resources assessment covered the direct effects APE where new construction would take place, and includes a 10.9 acre horizontal area and trenching to depths of about 4 feet and is comprised of the radar facility locale (2 acres), the electrical line (8.3 acres), fiber optic line (0.4 acres by four feet deep), and access road (0.2 acres). Background research was conducted online through the Texas Archaeological and Historic Sites Atlas maintained by the Texas SHPO, the Texas Historical Commission, and the Texas State Library to identify any recorded archaeological resources within the APE.

Archaeological resources listed in the NRHP and/or State Antiquities Landmark (SAL) list were identified by querying the category "Webb County" using the Texas Archaeological and Historic Sites Atlas. The presence of previously recorded archaeological sites was determined by reviewing data listed on the Folley, TX quadrangle (USGS, 1967). An interview was also conducted with Martin Summers (2015), a

foreman at Summers Ranch, to identify any known archaeological resources within the APE. Furthermore, on March 16-18, 2015 and April 7-8, 2015, an intensive pedestrian survey of the direct effects APE was conducted to determine the presence archaeological deposits. The pedestrian survey resulted in the identification of a new prehistoric archaeological site 41WB798 inside the eastern part of the direct effects APE.

Site 41WB798 is a 34.3-acre open campsite with a large (6.8 acres) and small (1.3 acres) hearth field, and a quarry surrounded by a surficial artifact scatter. The site is roughly oval in shape. The hearth fields were made up of 95 fire-cracked rock features. The quarry was associated with an outcrop of Uvalde gravels and contained 4 discernable flint knapping stations. Native plants known to be important to Native American culture and religion were present within the limits of the site. Diagnostic artifacts were found at the locale and were relatively dated to the Middle Archaic Period (6000-4500 BP) and the Late Prehistoric Period (1200-400 BP), indicating multiple occupations.

The eastern limit of the Proposed Action falls within the southwestern margin of Site 41WB798. This part of Site 41WB798 contained a sparse surficial artifact scatter, features were absent, and therefore, it was judged not to be a contributing factor to the site's NRHP or SAL eligibility status. The northern part of Site 41WB798 is a quarry or lithic procurement area which was made up of a surficial artifact scatter and lacked good integrity due to erosion and deflation and was also judged not to be a contributing factor to the eligibility status of the site. A segment of fiber optic line and an access road would pass through a section of the quarry. However, the affect would not be adverse because the quarry is not a contributing factor to the NRHP and/or SAL eligibility status of the site.

The portions of Site 41WB798 located outside of the APE of the Proposed Action contained a large number of hearth remnants which could have a high research value related to regional prehistoric habitation, and could contain archaeological deposits which could contribute to the site's eligibility status. The hearth fields were disturbed by erosion and appeared to lack good stratigraphic context. However, no features were tested because they fall outside the APE and would not be affected. For the same reason, no geomorphic study has yet been performed inside the hearth field.

The deposits do contain a large number of datable features which could provide new information about occupation of the site and regional chronology. The large hearth field possesses a small area where undisturbed shallow soils were present which could provide new geomorphic data related to archeological site development. At this time, the hearth fields eligibility status was deemed undetermined because no significance testing was conducted at Site 41WB798. The hearth fields fell outside the direct effects APE and would not be affected by the Proposed Action. Therefore, no further archaeological investigation of the hearth fields at Site 41WB798 was required. Unrelated to the construction of the Proposed Action, future work inside the part of Site 41WB798 which has undetermined eligibility status, including the large and small hearth field, should include intensive survey to determine complete boundary and to perform significance testing of features.

Refer to **Appendix D** for additional detail regarding archaeological resources in the Proposed Action area.

#### **3.2.2.1.4 Architectural History**

Antiquities Planning & Consulting also conducted an assessment of the Proposed Action's potential to affect historic architectural resources within the APE. The visual affects APE for historic architectural resources is defined as a 0.25-mile radius around the Proposed Action site and is based on terms and conditions outlined in *Stipulation IV.E.1 CBP Section 106 Project Review Process for Towers and for Support Communications and Surveillance Undertakings* from the March 2015 Programmatic Agreement with the Texas SHPO. The 0.25-mile radius is based on the radar tower being between 25 feet and 100 feet tall (ACHP, 2015). Online background research was performed to identify any recorded or listed historic architectural resources within the visual effects APE. The background research included a review of the Texas Archaeological and Historic Sites Atlas maintained by the Texas SHPO, the Texas Historical Commission, and the Texas State Library to identify any recorded architectural resources within the visual



effects APE. Locations of standing buildings 45 years old or older falling within a 0.25-mile radius of the Proposed Action locale were identified during the desktop search using aerial photographs (SHPO, 2014a; SHPO, 2014b), oral history (Summers, 2015), early 20<sup>th</sup> century topographic maps (USACE, 1937; USACE 1940), and late 20<sup>th</sup> century county highway maps (USDOT, 1984). The map review also showed that since 1967 no potential historic architectural properties have been present within the 0.25-mile visual effects APE (USGS, 1967).

The Proposed Action locale is on the historic EMB Ranchito inside an operating oil and gas field situated in a currently unused parcel. One extant historic building complex is present, but it is 1.2 miles from the proposed new development and falls outside the visual effects APE. Furthermore, on March 16-18, 2015, a windshield survey was conducted of the EMB Ranchito within 0.25-miles of the Proposed Action locale to determine the presence of standing historical architectural resources. The vehicular survey resulted in the identification of oil and gas well pads, but it was determined that no historic buildings are present in the 0.25-miles visual effects APE.

Refer to **Appendix D** for additional detail regarding architectural resources in the Proposed Action area.

### **3.2.2.1.5 Native American Consultation**

Consultation letters were sent by CBP on May 20, 2015 to the following Native American tribes who have areas of interest and/or ties to Webb County, Texas (SHPO, 2015):

- Alabama-Coushatta Tribe of Texas
- Mescalero Apache Tribe of the Mescalero Reservation
- Comanche Nation of Oklahoma
- Apache Tribe of Oklahoma
- Kickapoo Tribe of Oklahoma
- Kiowa Tribe of Oklahoma
- Kickapoo Traditional Tribe of Texas
- Tonkawa Tribe of Texas
- Ysleta del Sur Pueblo

These letters had detailed information about this Proposed Action and solicited interest or comments concerning this Proposed Action. A standard 30-day comment period was provided for comments or communications of interest in this Proposed Action to be submitted. To date, three comments have been received (see **Appendix E**).

The Proposed Action site is situated inside the region of south Texas which contains peyote (*Lophora williamsii* (Lem.) plant colonies. Scientists have documented the use of this plant by indigenous peoples for over 3,000 years in south Texas. The plant is an important part of Native American ritual. Native American church members and other Native Americans groups annually return to the Mirando City, TX area for plant gathering or purchasing, ritual practices, and religious services. Land owners in the area have long-term arrangement with groups to enter their properties and obtain the plant.

The Proposed Action site does not contain peyote plant colonies or individual specimens due to its relative low elevation, stream valley setting, and clay soils. Outside of the Proposed Action site, peyote plant colonies and individual specimens were observed inside the boundaries of new Archaeological Site 41WB798 during the March 16-18, 2015 and April 7-8, 2015 reconnaissance visits. Archaeological evidence observed at Site 41WB798 place the individual specimens age in the Middle Archaic and Late Prehistoric Historic periods of prehistory. No archaeological evidence of peyote usage was observed or recovered from subsurface shovel test probes associated with prehistoric components. Remains of historic components were not found at Site 41WB798. For this reason, it is assumed that any use of the peyote plant colonies at the Proposed Action site was not passed down through generations from prehistoric times to the historic period. Therefore, Archaeological Site 41WB798 is not considered to be a Traditional Cultural Property, and is not a contributing factor to the region's eligibility status.

### **3.2.2.2 Significance Criteria**

Adverse impacts would occur with respect to cultural resources if the Proposed Action would result in any of the following:

- A substantial adverse change in the significance of an archaeological resource (prehistoric or historic) that is either listed or eligible for listing on the NRHP, a local register of historic properties, or is considered a unique archaeological resource;
- A substantial adverse change in the significance of an historic architectural resource that is either listed or eligible for listing on the NRHP or a local register of historic properties; or
- Disturbance of any human remains (prehistoric or historic), including those interred outside of formal cemeteries, as well as Native American human remains.

### **3.2.2.3. Environmental Consequences**

#### **3.2.2.3.1 Proposed Action**

##### **3.2.2.3.1.1 Archaeological Resources**

Activities that require the movement of soil through excavation, backfilling, and grading have the potential to impact both prehistoric and historic-era archaeological resources. As a result of construction-related activities, potential affects could occur to part of prehistoric Archaeological Site 41WB798. However, the archaeological features at Site 41WB798 in the area of the Proposed Action do not meet the minimum criteria for listing in the NRHP under Criterion D or SAL relating to archaeological sites providing new information about prehistory. Therefore, the affect is not adverse and does not trigger the need for treatment or mitigation of the affected area. It should be noted the eligibility of Archaeological Site 41WB798 is considered to be undetermined by the Texas SHPO. Given the existence of prehistoric sites in the vicinity, unknown subsurface historical properties may exist within the analysis area that may be adversely affected by disturbance associated with the Proposed Action. In the event of an accidental discovery of archaeological resources, implementation of the following industry-standard BMP would ensure the impact would not be adverse.

**BMP C-1: Consult Qualified Professional Archaeologist.** In the event of the discovery of buried archaeological artifacts, exotic rock (non-native), or unusual amounts of shell or bone, it is recommended that Proposed Action activities in the vicinity of the find be immediately stopped. Construction personnel should notify CBP OAM, who will contact Environmental and Energy Division (EED) of the inadvertent discovery. OAM shall notify EED of the discovery of historic properties or unanticipated adverse effects within 24 hours. CBP shall immediately cease all operations for the portion of the Undertaking with the potential to adversely affect a historic property. EED shall notify the appropriate State Historic Preservation Officer/Tribal Historic Preservation Officer, tribe, and other affected parties of the post-review discovery via letter or electronic correspondence within two (2) business days. CBP protocol should be implemented as outlined in Stipulation X of its March 2015 Programmatic Agreement (ACHP 2015). Work may proceed on other parts of the Proposed Action while the discovery is evaluated.

##### **3.2.2.3.1.2 Architectural History**

Impacts to historic architectural resources could occur if buildings would be demolished, moved, or altered. The Proposed Action has no potential direct or indirect impacts related to historic architectural resources, as none exist on the EMB Ranchito property within 0.25-miles of the visual effects APE. No impact could occur because no buildings stand within view of the Proposed Action site. Therefore, there is no affect and no trigger for treatment or mitigation of any affected historic architectural resource.

### **3.2.2.3.1.3 Human Remains**

Activities that require excavation, backfilling, and grading have the potential to inadvertently expose human remains, including those interred outside of formal cemeteries, as well as Native American human remains. However, no evidence exists to indicate that burials or any large prehistoric or historic occupation existed within the Proposed Action area. Unexpected discoveries are possible even in areas of low sensitivity. Therefore, implementation of the following industry-standard BMP would ensure the impact would not be adverse.

**BMP C-2: Consult Local Law Enforcement.** If human skeletal remains are uncovered during Proposed Action construction, the contractor will immediately halt work and contact local law enforcement and authorities and CBP/EED should be notified. The discovery of human remains in Texas is covered under Chapter 711-715 of the Texas Safety and Health Code, and damage or destruction inflicted on human burial sites is a state felony under Section 28.03(1) of the Texas Penal Code. Work may proceed on other parts of the Proposed Action while the discovery is evaluated.

### **3.2.2.3.1.4 Section 106 Compliance**

A preliminary coordination letter with information about the Proposed Action was sent to the Texas SHPO to solicit comments on May 20, 2015. The Texas SHPO responded on May 29, 2015 and recommended that the proposed 2 acre site as well as 8,016 feet of associated linear infrastructure be surveyed by a Secretary of the Interior-qualified professional archaeologist/architectural historian, which has been completed (see **Appendix D**).

The cultural resources survey for the Proposed Action was sent to the Texas SHPO on July 16, 2015 pursuant to NHPA Section 106 and its implementing regulations (36 CFR 800). The findings indicated there are no archaeological resources or historic architectural resources that meet the minimum criteria for listing in the NRHP under Criterion D or SAL within the APE. Therefore, pursuant to 36 CFR 800.4(d)(1) CBP has determined there are no historic properties affected by the Federal Undertaking (i.e., the Proposed Action). The Texas SHPO responded on July 28, 2015 and recommended the creation and adoption of an avoidance plan for Site 41WB798, which received concurrence on July 30, 2015 (see **Appendix E**). The July 28, 2015 letter indicated that upon concurrence with the avoidance plan, the Proposed Action may proceed without further consultation with the Texas SHPO provided that significant archeological materials are not encountered during construction. Therefore, based on the Texas SHPO concurrence with the avoidance plan, no adverse effects on archaeological resource sites or historic buildings recorded within the APE would occur, and the Texas SHPO concurs with CBP's finding of no historic properties and completing the Section 106 consultation process. Note that a revised cultural resources survey for the Proposed Action was sent to the Texas SHPO in August 2015 to reflect the addition of the avoidance plan. Additionally, CBP's Section 106 consultation with Federally recognized Native American tribes in the Proposed Action area is detailed above in **Section 3.2.2.1.5**.

### **3.2.2.3.1.5 Synopsis**

The potential impact of the Proposed Action would not directly or indirectly affect significant cultural resources eligible or potentially eligible for listing in the NRHP. Implementation of industry-standard **BMP C-1: Consult Qualified Professional Archaeologist** and **BMP C-2: Consult Local Law Enforcement** would further reduce potential construction-related impacts to a minimal level.

### **3.2.2.3.2 No-Action Alternative**

Direct impacts to significant cultural resources eligible or potentially eligible for listing in the NRHP would not occur under the No-Action Alternative, as no ground disturbing activities would occur. Also, the inadvertent exposure of human remains would not occur under the No-Action Alternative. Therefore, no impacts to cultural resources would occur.

## Section 4 Other NEPA Considerations

### 4.1 Cumulative Impacts

In accordance with NEPA, this EA considers the overall cumulative impact of the Proposed Action and other actions that are related in terms of time or proximity. According to CEQ regulations, cumulative impacts represent the “impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions, regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor, but collectively significant, actions taking place over a period of time” (40 CFR 1508.7). To address cumulative impacts, this section examines past, present, and reasonably foreseeable future activities in the region of the Proposed Action. The past and present projects generally include livestock grazing, oil/gas activities, and wind energy development, and are discussed in detail below.

The land at and surrounding the Proposed Action site is used for livestock grazing, and has been so used for over 100 years. Historic livestock grazing practices in the region often include the periodic clearing of large areas of thornscrub habitats, typically by using a bull dozer or similar equipment, and replanting with non-native grasses such as buffelgrass to serve as forage for livestock. When periodic clearing for livestock grazing and other agricultural activities occurs, there is a potential for a loss of thornscrub habitat used by special-status species that reside in the region. The periodic clearing of large areas of thornscrub habitats also affects the nesting and foraging of both migratory birds as well as native bird species such as pyrrhuloxia and cactus wren. The conversion of native thornscrub habitats to non-native grasses has the potential to adversely affect special-status species in the region.

The region is within the Eagle Ford Shale area of southwestern Texas, which has been a highly productive area for the extraction of oil and gas hydrocarbons for over 40 years. Oil/gas well spacing in the area varies from as little as one well per 1/2-acre to one well per 2 acres. Oil/gas activities also include the construction of pipelines to deliver product to central processing facilities and access roads. Collectively, these oil/gas activities in the area pose risks to migratory birds as well as native birds due to loss of habitat and fragmentation of wildlife corridors.

Two wind farms were developed in 2010 and 2012 across a total of 27,250 acres in the region. Wind turbine spacing in the area is usually about 1,400 feet apart, and requires construction of access roads. Wind farms developed in the area also have resulted in the loss of habitat, fragmentation of wildlife corridors, and mortality due to bird and bat strikes of turbine blades involving migratory birds as well as native birds.

The reasonably foreseeable future activities in the region generally include a continuation of the livestock grazing and oil/gas activities. One specific reasonably foreseeable future activity regarding wind energy development includes the development of a new 42,500-acre Javelina Wind Farm. It is assumed that livestock grazing, oil/gas activities, and wind energy development could result in similar impacts as described above.

All of the aforementioned activities are subject to their own permitting processes that are designed to reduce overall environmental impact. When taken together, it is likely the past, present, and reasonably foreseeable future activities have the potential to result in a cumulative impact on the environment regarding the loss of special-status species and disturbance of unknown archaeological resources in the region. However, impacts of the Proposed Action are considered to be less than those described above regarding special-status species, migratory birds, and native birds and archaeological resources. For example, land clearing activities are confined to the 2 acres site as well as 8,016 linear feet of infrastructure connections (electricity, fiber optic, access road). Due to its focused nature and use of industry-standard BMPs described above, the Proposed Action is not expected to contribute to a cumulative impact on the environment regarding the loss of special-status species or the disturbance of unknown archaeological resources in the region. For the purposes of this analysis, CBP's contribution to a potentially cumulative impact is not significant.

## **4.2 Possible Conflicts between the Proposed Action and the Objectives of Federal, State and Local Land Use Plans, Policies and Controls**

Implementation of the Proposed Action is consistent with Federal, state, and local land use plans, policies, and controls. The Federal acts, policies, and initiatives that apply to the Proposed Action include the following: Endangered Species Act, Migratory Bird Treaty Act, NHPA, EO 12898 Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, EO 13045 Protection of Children From Environmental Health and Safety Risks, and EO 13186 Responsibilities of Federal Agencies to Protect Migratory Birds. At this time, there are no known state acts, policies, and initiatives that apply to the Proposed Action. At this time, there are no known local acts, policies, and initiatives that apply to the Proposed Action. Refer to **Sections 3.2.1 Biological Resources** and **3.2.2 Cultural Resources** for detailed analyses of these acts, policies and initiatives.

## **4.3 Energy Requirements and Conservation Potential of Various Alternatives**

The Proposed Action is not expected to significantly increase energy expenditures as compared with the No-Action Alternative. Operation of the Proposed Action would require an electrical connection to an existing oil/gas facility. However, the electricity requirements for the Proposed Action are not considered to be large, and this impact is expected to be minimal. It is reasonable to conclude that a small number of vehicles would access the Proposed Action site to conduct routine or emergency maintenance, as needed, but the number of vehicle trips would be small.

## **4.4 The Relationship between Local Short-term Use of the Environment and Maintenance and Enhancement of Long-term Productivity**

Implementation of the Proposed Action would not result in impacts to the local environment that affects short-term uses and long-term productivity. The Proposed Action does not involve temporary use of one site prior to permanent location of the activity at another site. Surrounding areas are used for livestock grazing, oil/gas activities, and wind farms and can continue to be used, as such, after implementation of the Proposed Action.

## **4.5 Best Management Practices to Diminish Environmental Impacts**

Industry-standard BMPs would be used in the implementation of the Proposed Action to minimize environmental impacts involving biological and cultural resources. No mitigation or monitoring measures are required since the Proposed Action would not result in any adverse environmental impacts.

## **4.6 Probable and Unavoidable Adverse Environmental Effects**

Since this EA has determined that the Proposed Action would not result in any adverse environmental impacts, there are no probable and unavoidably adverse environmental effects should the Proposed Action be implemented.

## Section 5 List of Preparers

This EA was prepared for CBP by URS Corporation (an AECOM company). Members of the professional staff are listed below:

### U.S. Customs and Border Protection

Dennis Lew, Air and Marine Facilities Program Management Office, Office of Administration

Paul Martin, Environmental Planning Specialist, Environmental and Energy Division, Office of Administration

Amy Barnes, Historic Specialist, Environmental and Energy Division, Office of Administration

### URS/AECOM Staff

Joe Kuebler, PE, Principal-in-Charge

Keith Dewey, AICP, Project Manager

Allison Kaplan, Junior Planner

Nevin Durish, Biological Resources Specialist

Jennifer Oakley, Biological Resources Specialist

Molly Goodwin, MSIS, RPA, Cultural Resources Specialist (Antiquities Planning & Consulting)

## Section 6 Persons and Agencies Consulted

---

### Federal Agencies

Mr. Ron Curry, Regional Administrator  
U.S. Environmental Protection Agency  
Region 6  
1445 Ross Avenue  
Fountain Place 12th Floor, Suite 1200  
Dallas, TX 75202

Ms. Dawn Gardiner  
Assistant Field Supervisor  
U.S. Fish and Wildlife Service  
Corpus Christi Field Office  
6300 Ocean Drive  
Unit 5837, Classroom West RM 118  
Corpus Christi, TX 78412-5837

---

### State Agencies

Mr. Mark Wolfe  
State Historic Preservation Officer  
Texas Historical Commission  
108 West 16th Street  
Austin, TX 78701

Mr. Clayton Wolf, Director  
Texas Parks and Wildlife Department  
Wildlife Division  
4200 Smith School Road  
Austin, TX 78744

Ms. Lynn Denton, President  
Texas State Historical Association  
1155 Union Circle, #311580  
Denton, TX 76203-5017

Ms. Julie Wicker  
Texas Parks and Wildlife Department  
Wildlife Habitat Assessment Program  
4200 Smith School Road  
Austin, TX 78744

---

### Local Agencies

Ms. Rhonda Tiffin, Director  
Webb County Planning and Physical Development  
Department  
1110 Washington Street, Suite 302  
Laredo, TX 78040

Ms. Linda Alonzo-Saenz, President  
Tejano Association for Historic Preservation  
P.O. Box 231021  
Houston, TX 77223

Ms. Jeanette Hatcher, Chair  
Webb County Historical Commission  
1220 Mier Street  
Laredo, TX 78040

Ms. Jennie Galvan  
Rio Grande Delta Archaeological Society  
8801 Boca Chica Boulevard  
Brownsville, TX 78521

Ms. Kay Hinds, Chair  
South Texas Archaeological Association  
P.O. Box 791032  
San Antonio, TX 78210

Mr. Jerry Bauman  
Costal Ben Archaeological Society  
4650 Hakel Drive  
Corpus Christ, TX 78415-2824

Ms. Margarita Araiza, Executive Director  
Webb County Heritage Foundation  
500 Flores Avenue  
P.O. Box 446  
Laredo, TX 78042

---

### Tribal Entities

Ms. Amber Toppah, Chairwoman  
Kiowa Tribe of Oklahoma  
100 Kiowa Way  
P.O. Box 369  
Carnegie, OK 73015

Mr. Jimmy Atterberry  
Tribal Historic Preservation Officer  
Comanche Nation of Oklahoma  
P.O. Box 908  
Lawton, OK 73502

---

---

**Tribal Entities (continued)**

---

Mr. Jonny Wauqua, Chairman  
Comanche Nation of Oklahoma  
P.O. Box 908  
Lawton, OK 73502

Mr. Bryant Celestine  
Tribal Historic Preservation Officer  
Alabama-Coushatta Tribe of Texas  
571 State Park Road 56  
Livingston, TX 77351

Mr. Lyman Guy, Chairman  
Apache Tribe of Oklahoma  
P.O. Box 1330  
Anadarko, OK 73005

Mr. Donald Peterson, President  
Tonkawa Tribe of Oklahoma  
1 Rush Buffalo Road  
Tonkawa, OK 74653

Ms. Holly Houghton  
Tribal Historic Preservation Officer  
Mescalero Apache Tribe  
101 Central Avenue  
P.O. Box 227  
Mescalero, NM 88340

Mr. Anthony Monessy, Director  
Comanche Nation of Oklahoma  
NAGPRA Project Office  
#6 Southwest D Avenue, Suite A  
Lawton, OK 73507

Mr. Danny Breuninger, Chairman  
Mescalero Apache Tribe  
101 Central Avenue  
P.O. Box 227  
Mescalero, NM 88340

Mr. Juan Garz, Jr., Chairman  
Kickapoo Traditional Tribe of Texas  
HC1 Box 9700  
Eagle Pass, TX 78852-9752

Mr. Nicholas P. Houser, MA, MPH  
Ysleta del Sur Pueblo  
117 South Old Pueblo Road  
P.O. Box 17579  
El Paso, TX 79917

Mr. Edward Salazar, Chairman  
Kickapoo Tribe of Oklahoma  
105365 South Highway 102  
McLoud, OK 74851

Mr. Carlos Hisa, Governor  
Ysleta del Sur Pueblo  
117 South Old Pueblo Road  
P.O. Box 17579  
El Paso, TX 79917

---

**Local Land Owners**

---

Mr. Carroll E. Summers, Jr.  
Summers El Ranchito  
120 Canterbury Lane  
Laredo, TX 78045

Mr. Al Allred  
Jacalon Ranch Company, LTD.  
5930 FM 649  
Mirando City, TX 78369

Mr. Richard Sames  
EMB Ranchito LTD.  
6721 McPherson Road, Suite 630  
Laredo, TX 78041

---



## Section 7 References

- ACHP (Advisory Council on Historic Preservation), 2015. Programmatic Agreement Among U.S. Customs And Border Protection, the Historic Preservation Officers of the states of Arizona, California, New Mexico, and Texas, General Services Administration, U.S. Department of Agriculture, U.S. Department of the Interior, U.S. International Boundary and Water Commission, New Mexico State Land Office, California Valley Miwok Tribe, Cocopah Indian Tribe, Delaware Nation, Fort Yuma-Quechan Tribe, Pechanga Band of Luiseno Mission Indians, Rincon Band of Luiseno Mission Indians, Tohono O'odham Nation, Tonkawa Tribe of Oklahoma, Yavapai-Prescott Indian Tribe, and The Advisory Council On Historic Preservation Regarding CBP Undertakings in States Located Along the Southwest Border of the United States. March 16.
- Campbell, L., 1995. *Endangered and Threatened Animals of Texas: Their Life History and Management*. Austin, Texas: Texas Parks and Wildlife Press.
- CBP (U.S. Customs and Border Protection), 2015. Primary Surveillance Radar background information provided to URS. March 23.
- DHS (U.S. Department of Homeland Security), 2014. Instruction Manual 023-01-001-01 Revision 1 Implementation of the National Environmental Policy Act. November 6.
- DHHS (U.S. Department of Health and Human Services), 2013. Office of the Assistant Secretary for Planning and Evaluation, 2013 Poverty Guidelines. <http://aspe.hhs.gov/poverty/13poverty.cfm>. Retrieved April 14, 2015.
- Echols, G., 2000. *Early Texas Architecture*. Texas Christian University. Fort Worth.
- Elliott, L. F., Diamond, D. D., True, C. D., Blodgett, C. F., Pursell, D., German, D., 2014. *Ecological Mapping Systems of Texas: Summary Report*. Austin, Texas: Texas Parks and Wildlife Department.
- EPA (U.S. Environmental Protection Agency), 2014. 42 USC 1857h(f): Brownsville-Laredo Intrastate Air Quality Control Region. <http://www.gpo.gov/fdsys/pkg/CFR-2014-title40-vol18/pdf/CFR-2014-title40-vol18-sec81-344.pdf>. Retrieved April 14, 2015.
- FEMA (Federal Emergency Management Agency), 2008. Map Search. <https://msc.fema.gov/webapp/wcs/stores/servlet/mapstore/homepage/MapSearch.html?isFloodMap=true&AddressQuery=Upton%20County%2C%20Texas>. Retrieved March 16, 2015.
- GeoSearch, 2015. Preliminary Radius Report, Javelina Radar Project, Webb County, TX. April 10.
- Griffith, G. E., Bryce, S. A., Omernik, J. M., Comstock, J. A., Rogers, A. C., Harrison, B., 2004. *Ecoregions of Texas (color poster with map, descriptive text, and photographs)*. U.S. Geological Survey, Reston, Virginia.
- Godwin, M. F. with contributions from by J. W. Clark Jr., 2014. A Cultural Resources Survey of the Sendero Wind Farm, Jim Hogg, Zapata, and Webb Counties, TX. Heritage Management Series. *Survey Report 101*. Antiquities Planning & Consulting, Kyle, TX. Contributions by J.W. Clark, Jr.
- Godwin, M. F. with contributions from by J. W. Clark Jr, 2015. A Cultural Resources Survey of the Javelina Wind Farm, Webb County, TX. Heritage Management Series. *Survey Report 102*. Antiquities Planning & Consulting, Kyle, TX.
- Hester, Thomas R., 1980. *Digging into South Texas Prehistory*. Corona Publishing Company. San Antonio.

- Jordan, T., 1985. *Texas Log Buildings. A Folk Architecture*. University of Texas Press at Austin.
- Leffler, J. and C. Long, 2014. Webb County. Handbook of Texas Online. <http://www.tshaonline.org/handbook/online/articles/hcz01>. Published by the Texas State Historical Association. Accessed on September 23, 2014.
- Maddex, D. (Editor), 1985. *All About Old Buildings*. National Trust for Historic Preservation. Preservation Press. Washington, D. C.
- McGimsey, Charles R. III and Hester A. Davis, 1977. The Management of Archaeological Resources, The Airlee House Report. Special Publication of the Society for American Archaeology.
- NPS (U.S. Department of Interior, National Park Service), 1998. NPS-28: Cultural Resource Management Guideline.
- NRCS (Natural Resources Conservation Service) Web Soil Survey, 2015. Custom Soil Resource Report for Webb County, Texas. Retrieved April 15, 2015.
- SHPO (State Historic Preservation Officer), 2014a. Texas Archaeological and Historic Sites Atlas. Published by the Texas Historical Commission. <http://atlas.thc.state.tx.us/>. Retrieved April 1.
- SHPO (State Historic Preservation Officer), 2014b. Texas Archaeological and Historical Sites Atlas. Published by the Texas Historical Commission. <http://nueces.thc.state.tx.us/>. Retrieved October 16.
- SHPO (State Historic Preservation Officer), 2015. Tribal Consultations Review Process. <http://www.thc.state.tx.us/>. Published by the Texas Historical Commission. Retrieved April 1.
- Summers, M., 2015. Personal communication with Antiquities Planning & Consulting regarding cultural resources in the Supplemental Radar Unit Locale. Summers Ranch, Webb County, TX. February 16.
- Tijerina, A., 1998. *Tejano Empire Life on the South Texas Rancheros*. Texas A&M University Press. College Station.
- TPWD (Texas Parks and Wildlife Department), 2015a. *Rare, Threatened, and Endangered Species of Texas*. <http://tpwd.texas.gov/gis/rtest/>. Retrieved March 18, 2015
- TPWD (Texas Parks and Wildlife Department), 2015b. Texas Natural Diversity Database. Retrieved March 12, 2015.
- Turner, E. S. and T.R. Hester, 1999. *Field Guide to the Stone Artifacts of Texas Indians*, Second Edition. Texas Monthly Field Guide Series, Gulf Publishing Company. Houston.
- Turner E. S., T.R. Hester, and R.L. McReynolds, 2011. *Stone Artifacts of Texas Indians*, Third Edition. Taylor Trade Publishing, New York.
- USACE (U.S. Army Corps of Engineers), 1937. Aguillares, TX. 1937 Overprint. 1:62,500 Tactical Map. <http://www.lib.utexas.edu/maps/topo/texas/txu-pclmaps-topo-tx-aguillares-1937.jpg>. Published by Perry-Casteneda Library at the University of Texas at Austin. Retrieved March 28, 2015.
- USACE (U.S. Army Corps of Engineers), 1940. Mogotes Hill, TX. 1940 Overprint. 1:62,500 Tactical Map. [http://www.lib.utexas.edu/maps/topo/texas/txu-pclmaps-topo-tx-mogotes\\_hill-1940.jpg](http://www.lib.utexas.edu/maps/topo/texas/txu-pclmaps-topo-tx-mogotes_hill-1940.jpg). Published by Perry-Casteneda Library at the University of Texas at Austin. Retrieved March 28, 2015.

U.S. Census Bureau (U.S. Department of Commerce-Bureau of Census), 2013a. Table DP03, Selected Economic Characteristics, 2009-2013 American Community Survey 5-Year Estimates for Census Tact 18.13 and Webb County. Retrieved April 14, 2015.

U.S. Census Bureau (U.S. Department of Commerce-Bureau of Census), 2013b. Table DP05, ACS Demographic and Housing Estimates, 2009-2013 American Community Survey 5-Year Estimates for Census Tact 18.13 and Webb County. Retrieved April 14, 2015.

USDOT (U.S. Department of Transportation Federal Highway Administration), 1984. Webb County Maps of Texas. State Department of Highways and Public Transportation. Austin, TX

USGS (U.S. Geological Survey), 1967. 7.5 Minute Topographic Map Folly, TX.  
<http://www.lib.utexas.edu/maps/topo/texas/txu-pclmaps-topo-tx-folley-1967.jpg>. Published by Perry-Casteneda Library at the University of Texas at Austin. Retrieved March 29, 2015.

USGS (U.S. Geological Survey), 1980. 7.5 Minute Topographic Map Agua Azul Creek East, TX.  
<http://historicalmaps.arcgis.com/usgs/>. Retrieved April 14, 2015.