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# Draft Environmental Assessment: SpaceX Special Use and Right-of-Way Permit for Access, Road Maintenance, and Underground Utilities at Massey Way Road, Cameron County, Texas

This Draft Environmental Assessment (EA) is being prepared to evaluate the effects associated with the proposed action and complies with the National Environmental Policy Act in accordance with Council on Environmental Quality regulations (40 CFR 1500-1509) and Department of the Interior (43 CFR 46; 516 DM 8) and U.S. Fish and Wildlife Service (550 FW 3) regulations and policies. The National Environmental Policy Act (NEPA) requires examination of the effects of proposed actions on the natural and human environment. The proposed action is also consistent with U.S. Fish and Wildlife Service (Service) policy regarding the issuance of special use permits, granting of rights-of-way (340 FW 3 Rights of Way and Road Closings), Appropriate Uses Policy (603 FW 1), and Compatibility Policy (603 FW 2). The Service's Regional Director is authorized to permit the use of rights-of-way on national wildlife refuges in accordance with applicable authorities and regulations (e.g., 16 U.S.C. 715s and 50 CFR § 29). The issuance of a right-of-way across units of the National Wildlife Refuge System (NWRS) is governed by the provisions of 50 CFR §29.21.

## Proposed Action

The Service is evaluating SpaceX's application to improve, maintain, repair, and operate a road and for the placement of underground fiber optic and electrical utilities on, across and through the Boca Chica Tract of the Lower Rio Grande Valley National Wildlife Refuge (LRGVNWR, Refuge). Massey Way Road, an approximately 0.9-mile caliche road ranging from 25 feet wide to greater than 50 feet in width, is the only road connecting State Highway (SH) 4 to SpaceX's Massey Way property site. The Massey Site is being used to test experimental spacecraft and has a water treatment plant already established prior to the requested access and utilities. An existing overhead power line is present along the east side of the road. SpaceX proposes to install underground fiber optic and electrical utilities and to improve and maintain the roadway within a defined 60-foot width. The improved access and underground utilities across Refuge lands require that SpaceX obtain a Refuge Special Use Permit (SUP) and a right-of-way (ROW) permit because the roadway is located on the Refuge, which is a Federal action under NEPA.

The utilities placement involves directional boring to install utility lines a minimum of 3 feet below ground along Massey Way Road. Underground utility lines would generally be located between the roadway and existing above-ground power lines or beneath the existing roadway. All utilities would remain within a proposed 60-foot road width for SpaceX. As part of the permitting process, SpaceX would record the ROW permit with Cameron County.

A proposed action may evolve during the NEPA process as the agency refines its proposal and gathers feedback from the public, tribes, and other agencies. Therefore, the final proposed action may be different from the original. The proposed action will be finalized at the conclusion of the public comment period for the EA.

## Background

National wildlife refuges are guided by the mission and goals of the NWRS, the purposes of an individual refuge, Service policy, and laws and international treaties. Relevant guidance includes the National Wildlife Refuge System Administration Act of 1966, as amended by the National Wildlife Refuge System Improvement Act of 1997, Refuge Recreation Act of 1962, and selected portions of the Code of Federal Regulations and Fish and Wildlife Service Manual.

The Refuge was established pursuant to the Fish and Wildlife Act of 1956 [16 U.S.C. 742f(a)(4)], [16 U.S.C. 742f(b)(1)]; an Act Authorizing the Transfer of Certain Real Property for Wildlife, or other purposes [16 U.S.C. 667b]; Refuge Recreation Act, as amended [16 U.S.C. 460 k-1], [16 U.S.C. 460 k-2]; Migratory Bird Conservation Act [16 U.S.C. 715d]; and the National Wildlife Refuge System Improvement Act of 1997. The purposes of the Refuge are:

“...for the development, advancement, management, conservation, and protection of fish and wildlife resources...” [16 U.S.C. 742f(a)(4)] “...for the benefit of the United States Fish and Wildlife Service, in performing its activities and services. Such acceptance may be subject to the terms of any restrictive of affirmative covenant, or condition of servitude...” [U.S.C. 742f(b)(1)] (Fish and Wildlife Act of 1956)

“... *particular value in carrying out the national migratory bird management program.*” [16 U.S.C 667b] (An Act Authorizing the Transfer of Certain Real Property for Wildlife, or other purposes)

“...suitable for: (1) incidental fish and wildlife-oriented recreational development, (2) the protection of natural resources, (3) the conservation of endangered species or threatened species...” [16 U.S.C. 460 k-1] “...the Secretary...may accept and use...real...property. Such acceptance may be accomplished under the terms and conditions of restrictive covenants imposed by donors...” [16 U.S.C. 460 k-2] (Refuge Recreation Act [16 U.S.C. 460 k-460 k-4], as amended)

“...for use as an inviolate sanctuary, or for any other management purpose, for migratory birds.” [16 U.S.C. 715d] (Migratory Bird Conservation Act).

The southernmost tip of Texas, where the Rio Grande meets the Gulf of Mexico, is known as the Lower Rio Grande Valley (Valley). It is considered one of the most biologically diverse regions in North America. The Valley is not a true valley, but rather a delta with rolling uplands and sandy soils gently sloping away from the Rio Grande. Due to the semi-tropical climate and the intersection of marine, desert, tropical, and temperate habitat influences, there is high plant species diversity in this region, with a documented 1,200 species. This diversity also

supports a wide variety of wildlife that is unique to the Valley. Since the 1930s, approximately 95 percent of the native brushland found in the Valley has been cleared for agricultural or urban development, and over 99 percent of the native riparian vegetation north of the Rio Grande has been removed or altered, resulting in small, isolated patches of remaining native habitat. Agricultural practices, including clearing, pesticide and herbicide use, irrigation, and brush clearing, have led to detrimental losses to fish and wildlife resources overall. Construction of dams for irrigation, flood control, and municipal use has disrupted the natural periodic flood regime of the delta woodlands and wetlands (USFWS 1997).

The LRGVNWR was established in 1979 with the management priority to conserve and restore diminishing native habitats in the Valley and a central feature is to preserve native tracts of land along the last 275 river miles of the Rio Grande. Of the 132,500 acres originally proposed for acquisition at the time of LRGVNWR establishment, over 108,000 acres are currently under Refuge management comprising more than 350 individual parcels. By connecting and eventually restoring some of these parcels, the Refuge facilitates wildlife movement along the river or within established corridors. The Refuge's mission of connecting remnants of existing native habitats to create a riparian corridor along the Rio Grande by purchasing land or establishing conservation easements from private landowners has been a challenge due to exponential human population growth and development in the Valley. Unfortunately, the remaining habitat along the Rio Grande has now become continuously impacted and fragmented by ongoing border enforcement activities that involve human traffic, vehicle traffic, lights, noise, roads, erosion, and physically separated by border barriers, walls, or fences. Strategic land acquisition continues to be a priority for the LRGVNWR. LRGVNWR objectives also include protecting areas not near the river, but that allow for habitat preservation and restoration within the Valley.

The overall purpose of the Refuge is to conserve the biodiversity of the Valley. More specifically, the Refuge's Comprehensive Conservation Plan of 1997 identifies the following five goals of the Refuge:

- To restore, enhance and protect biological diversity.
- To protect and obtain additional water rights, improve water management and to protect, restore and enhance wetlands.
- To improve water quality and reduce contaminant-related fish and wildlife resource losses.
- To protect, maintain and plan for cultural resources.
- To offer compatible wildlife-dependent public uses, recreational opportunities, and interpretation and education.

The mission of the NWRS, as outlined by the National Wildlife Refuge System Administration Act (NWRSAA), as amended by the National Wildlife Refuge System Improvement Act (16 U.S.C.

668dd et seq.), is “... to administer a national network of lands and waters for the conservation, management and, where appropriate, restoration of the fish, wildlife, and plant resources and their habitats within the United States for the benefit of present and future generations of Americans”

Additionally, the NWRSA mandates the Secretary of the Interior in administering the NWRS (16 U.S.C. 668dd(a)(4)) to:

- Provide for the conservation of fish, wildlife, and plants, and their habitats within the NWRS.
- Ensure that the biological integrity, diversity, and environmental health of the NWRS are maintained for the benefit of present and future generations of Americans.
- Ensure that the mission of the NWRS described at 16 U.S.C. 668dd(a)(2) and the purposes of each refuge are carried out.
- Ensure effective coordination, interaction, and cooperation with owners of land adjoining refuges and the fish and wildlife agency of the states in which the units of the NWRS are located.
- Assist in the maintenance of adequate water quantity and water quality to fulfill the mission of the NWRS and the purposes of each refuge.
- Recognize compatible wildlife-dependent recreational uses as the priority general public uses of the NWRS through which the American public can develop an appreciation for fish and wildlife.
- Ensure that opportunities are provided within the NWRS for compatible wildlife-dependent recreational uses; and
- Monitor the status and trends of fish, wildlife, and plants in each refuge.

## Purpose and Need for the Action

The purpose of the proposed action is to provide an SUP and a ROW permit to allow SpaceX a 60-foot surveyed road width for road maintenance, repair, improvement, operation, and to install reliable power and telecommunication capabilities to SpaceX’s Massey Site (Site) via underground utility lines. These utilities are for current non-engine ignition test operations at the Site. No additional projects or actions are associated with the proposed action. Currently, there is no existing fiber-optic cable at the Massey Site, and existing telecommunications equipment only provides network coverage in a very limited area. Connection outside of the Massey Site is provided via receiver/transmitter antennae, which is regularly blocked by physical obstructions and poor connectivity. Power is currently provided via overhead lines that are insufficient to support operations at the Site. Underground power lines are needed to reduce outages because of inclement weather, downed trees or bushes, and other service

limiting factors. Installing utilities underground is a common practice nationwide to ‘harden’ utilities against storms and other natural disasters and to provide more resilient infrastructure. Ideally, it is preferable to place utilities within already disturbed rights-of-way rather than for these utilities to cross vegetative areas, especially sensitive habitats.

The need for the proposed action is to permit a 60-foot width along Massey Way Road to improve, maintain, repair, and operate a road and for the underground power and telecommunications to SpaceX’s existing Massey Test Site in compliance with Service priorities and mandates as outlined by the NWRSA to: *“Provide for the conservation of fish, wildlife, and plants, and their habitats within the Refuge System”* (16 U.S.C. 668dd(a)(4)).

## Alternatives

### **Alternative A – Deny Permits (No Action Alternative)**

Under this alternative, the Service would not issue the SUP and ROW permit to improve, maintain, repair, and operate a road and for fiber optic and electrical utilities on Massey Way Road. Power would continue to be provided at the Site via existing overhead lines and generators would continue to be used as supplemental power sources. The Massey Test Site would continue to utilize unreliable point-to-point telecommunications, as there are no fiber-optic lines to the Site.

### **Alternative B – Permits Issuance (Proposed Action Alternative)**

Under the Proposed Action Alternative, the Service would issue an SUP and ROW permit to SpaceX for road improvement, maintenance, repair and operation and for utility installation within a 60-foot surveyed width along Massey Way Road (Figure 1). The existing access for ingress/egress does not include provisions for utility construction or improvement and maintenance within the road, thus a ROW permit is required for these uses.

A ROW is defined in 340 FW 3 as “a use that will encumber real property by granting a right to use and possibly alter the landscape through construction of a facility such as a road, power line, pipeline, or building” on lands under control by the Service. The Service’s Southwest Regional Director is authorized to permit the use of ROWs on national wildlife refuges in accordance with applicable authorities and regulations (e.g., 16 U.S.C. 715s and 50 CFR § 29). The issuance of a ROW permit across units of the National Wildlife Refuge System (Refuge System) is governed by the provisions of 50 CFR §29.21. Right-Of-Way permits of this nature are issued for terms of 50 years, or so long as it is used for the purpose granted, or for a lesser term when considered appropriate. A ROW permit will specify the location and specific width and protective features and, as part of the permitting process, SpaceX will be required to record the ROW permit with Cameron County.

The project footprint extends for approximately 0.9 miles in length along Massey Way Road and within the 60-foot proposed road width for ingress/egress (the length of the road) and shown in Figure 1. Impacts to Refuge lands would be minimal and temporary, as directional boring

would be utilized and utilities would be installed in previously disturbed areas. Directional boring, also known as horizontal directional drilling, is a trenchless method of installing underground utilities. A drill rig would install a conduit carrying the utility lines underground. Pull boxes and vaults would be installed to provide access to the lines for any necessary maintenance and/or repair. Maintenance would occur periodically as needed after construction. Construction would occur during daylight hours and is anticipated to take 1 to 2 months after the permit is issued. The utility lines would be operational 24 hours a day, 365 days a year once construction is complete.

Along the east side of Massey Way Road, 3 four-inch-high density polyethylene (HDPE) conduits would be installed underground in an approximately nine-inch cylinder within the 60-foot road width boundary. Figure 2 represents how the conduit would typically be installed – the three conduits would be bundled and directionally bored a minimum depth of three feet underground. Final depth would be determined by field conditions during construction. One conduit would carry a thirty-five (35) kilovolt-amps power line, and one would carry a Corning 144EU4-T4701D20 fiber-optic cable. The third conduit along Massey Way would be a spare. Three sizes of underground vaults to provide maintenance access would be installed along the project route with the following sizes: 7 ft x 7 ft x 8 ft, 5 ft x 5 ft 5 x ft, and 3 ft x 2 ft x 2.5 ft. The tops of the utility vaults would be visible at ground level, in a manner similar to manhole covers.

Wildlife-dependent recreational uses on the Boca Chica Tract of the Refuge include wildlife observation and photography, environmental education and interpretation, and fishing, as well as other recreational uses such as beachcombing or picnicking. These wildlife-dependent uses will not be affected by the project. Therefore, the proposed action to issue an SUP and ROW permit will not affect or impair the Refuge System mission or Refuge goals and objectives because the public will continue to have access to Refuge lands for these uses.

The following are measures to avoid conflicts, remain in compliance with applicable federal resource mandates, and mitigate for potential impacts:

- All activities associated with the proposed use would occur within the already disturbed Massey Way Road and within a surveyed 60-foot width. No brush clearing or other impacts to Refuge habitats will occur during these installations.
- Cable and bollard fencing and survey monuments would be installed along Massey Way Road as a pre-requisite to this project.
- Materials stockpiles and equipment staging areas for this project will not be placed on any Refuge lands outside of the 60-foot road width.
- Construction boundaries would be clearly demarcated to avoid inadvertent impacts to Refuge lands.

- Best management practices such as silt fences would be used during construction to avoid or reduce potential impacts to water quality from erosion or sediment runoff.
- Equipment to be used during construction would be cleaned and free of dirt or grass prior to arrival onsite to prevent the spreading of invasive plants or noxious weeds.
- Work will only occur during daylight hours from 8 am to 6 pm local time.
- The proposed use and associated right-of-way permit request must be reviewed by Southwest Region Division of Realty and approved by the Regional Director to ensure compliance with Service regulations and policy concerning right-of-way permits on national wildlife refuges.
- Surveys for nesting birds will be required prior to any vegetation disturbance if within March through August for compliance with Migratory Bird Treaty Act. If any nesting birds are detected, vegetation disturbance will be suspended in nesting areas until all nesting activities are complete.
- Compliance with Endangered Species Act, NEPA, and all other applicable federal statutes and regulations.
- Proposed Use is for SpaceX only and no other end users.
- SpaceX and/or all contractors would coordinate with the Refuge Manager or designee during construction to ensure no unanticipated impacts occur and that the project is being carried out as proposed.
- SpaceX and/or contractors must contain or clean up any contaminants or hazardous substances spills from any equipment to prevent any contamination of adjacent Refuge habitats.
- Selection of Alternative B will satisfy the purpose and need for the proposed project without significant impacts to fish and wildlife resources or impairment of ongoing refuge wildlife-dependent uses.





Figure 1: Massey Way Road and project location for proposed 60-foot road width and underground utilities.

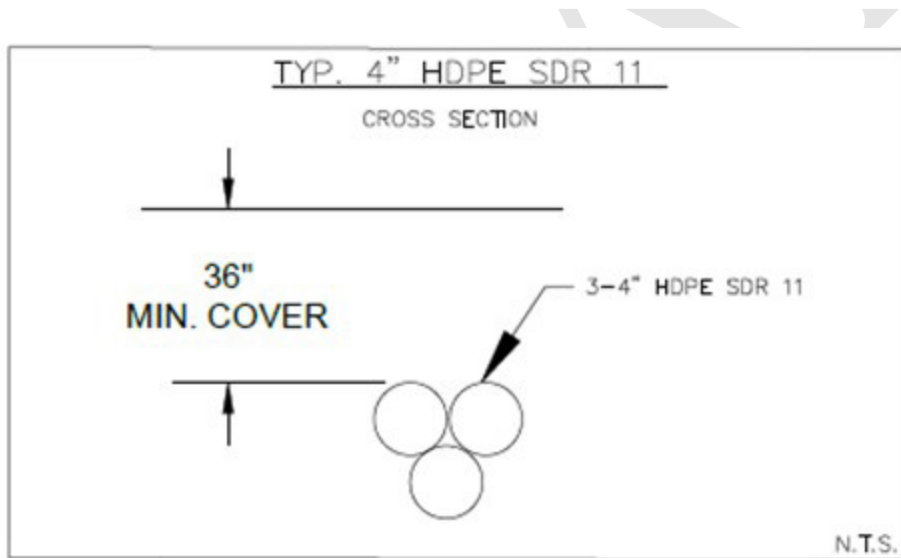


Figure 2: Typical Section for Massey Way Road Utility Conduit.

### **Alternative(s) Considered, But Dismissed from Further Consideration**

Upgrading the existing overhead power lines and attaching aerial fiber-optic cable was considered but was dismissed from further consideration since it would not meet the purpose and need of the project. This is because aerial lines would still be subject to potential damage from severe weather, downed trees or bushes, and other service-limiting events. There are no other access or connection points between State Highway 4 and the Massey Test Site.

### **Affected Environment and Environmental Consequences**

This section is organized by affected resource categories and for each affected resource discusses both (1) the existing environmental and socioeconomic baseline in the project area for each resource and (2) the effects and impacts of the proposed action and any alternatives on each resource. The effects and impacts of the proposed action considered here are changes to the human environment, whether adverse or beneficial, that are reasonably foreseeable and have a reasonably close causal relationship to the proposed action or alternatives. This EA includes the written analyses of the environmental consequences on a resource only when the impacts on that resource could be more than negligible and therefore considered an “affected resource.” Any resources that will not be more than negligibly impacted by the action have been dismissed from further analyses.

Additionally, SpaceX is the sole end user of these utilities. It is reasonable to assume that SpaceX would continue its current established operations as their facilities are already in place. Regardless of the alternative, the Massey Test Site would continue its operations independent of whether Alternative B is selected or not. Therefore, the scope of analysis is limited to the impacts of road improvement, maintenance, repair, and operations as well as the utility installations themselves. No additional projects or improvements to the Massey Test Site that require or are dependent on Massey Way Road have been proposed by SpaceX.

The Refuge currently consists of over 108,000 acres in Cameron, Hidalgo, Starr, and Willacy Counties, Texas, which comprise the Valley. Within the Valley, there are more than 350 parcels making up LRGVNR, mostly along the Rio Grande, acquired through fee title acquisitions or habitat conservation easements from willing landowners. The proposed project area is in eastern Cameron County, between State Highway 4 and the Rio Grande. This occurs within the Refuge’s Boca Chica Management Area (See map at Appendix A). The Boca Chica area is one of the last undeveloped coastal areas in Texas. About 11,000 acres in size, it encompasses wind-tidal flats, mangrove forests, oyster beds, bays, beaches, dunes, including more than 8,000 acres of highly productive wetlands near the mouth of the Rio Grande (Turner 1988). More than 175 plant species and 344 wildlife species have been documented on or near Boca Chica Tract including 184 species of birds, 14 species of mollusks, 23 species of crab and shrimp, 61 species of fish, 40 species of reptiles and amphibians, and 22 species of mammals (Chaney and Pons 1987). Wind-tidal flats of the Boca Chica Tract are traditionally important migration stopover sites for peregrine falcons, *Falco peregrinus* (Maechtle 1987). Additionally, the Boca

Chica Tract supports the highest concentrations of breeding snowy plovers, *Charadrius alexandrinus*, and Wilson's plovers, *Charadrius wilsonia*, in the Lower Laguna Madre Region of Texas (Zdravkovic 2005). The Boca Chica Tract contains primarily thornbrush and some salt prairie habitats along the project route in lower elevations (See map of the general area and proposed project site on the Refuge at Figure 1 above).

For more information regarding the Lower Rio Grande Valley NWR, please visit our website: <https://www.fws.gov/refuge/lower-rio-grande-valley>

The following resources either (1) do not exist within the project area or (2) would either not be affected or only negligibly affected by the proposed action: Water Quality, Air Quality, Geology and Soils, Visitor Use and Experience, and Wilderness or Other Special Areas. As such, these resources are not further analyzed in this EA. There will be no impacts on Water Quality, Visitor Use and Experience, and Wilderness or Other Special Areas as these resources are not within the project footprint. The remaining resources of interest and the impacts of each alternative on these resources follows:

## **Natural Resources**

### **Wildlife and Aquatic Species**

#### **Affected Environment**

##### ***Description of Affected Environment for the Affected Resource***

General wildlife species that may be found within the Refuge's Boca Chica Tract include nine-banded armadillos, eastern cottontails, striped skunks, opossums, raccoons, coyotes, Mexican ground squirrels, and bobcats. Wildlife noted recently within this area, include a myriad of migratory and resident birds such as peregrine falcons, terns, mockingbirds, meadowlarks, green jays, great kiskadee, Couch's kingbirds, egrets, red-winged blackbirds, Harris' hawks, white-tailed hawks, caracaras, and Chihuahuan ravens. There are no aquatic species known from within the project footprint itself and/or that would be adversely affected by this project.

##### ***Description of Environmental Trends and Planned Actions***

The population of the Valley has increased by over one million people since 1940, making it an area with one of the most rapid rates of population growth in the country (Leslie, Jr. 2016). According to the latest U.S. Census Bureau data, the population of Cameron County has from 2010-2019 increased by 4.2 percent up to 423,163 and the overall population in the Valley currently stands at 1.4 million. With the establishment of SpaceX as a new industry, the population and industrial development in Cameron County is expected to continue to grow. It is reasonable to conclude that the SpaceX would continue its operations at the Massey Site regardless of whether Alternative B is selected. The current plans at SpaceX's Massey Site include tank and other non-engine ignition types of testing as well as an onsite water treatment plant. Our scope of analysis is therefore limited to the impacts of the proposed utility installations (i.e., power and telecommunications), as there are no additional related or interdependent projects that have been included for analysis. With respect to climate change,

warming, whether it results from anthropogenic or natural sources, is expected to affect a variety of natural processes and associated resources. However, the complexity of ecological systems and multiple factors affecting those systems means there is a tremendous amount of uncertainty about exactly what effect climate change will have, particularly at a local level. The overall climatological trend calls for such patterns as warmer average temperatures, sea level rise, altered bird and other wildlife seasonal breeding activities, and plant community changes.

### **Impacts on Affected Resource**

The proposed utilities would be placed within the already disturbed Massey Way Road corridor, which is not utilized for breeding, feeding, or sheltering by resident or migratory wildlife and aquatic species. Construction of the utilities is underground. Therefore, the proposed action is not expected to result in significant adverse impacts to fish and wildlife resources, such as wildlife or aquatic species. Construction activities may temporarily displace or disturb resident wildlife but are considered temporary. The SUP will include protective measures, as described in Alternative B above, to address or eliminate potential impacts to these resources. The proposed action of permitting road improvement, maintenance, repair, operation, and the installation of these utilities would not have any measurable impacts on climate change. Therefore, any impacts from the proposed action are not expected to incrementally add to the broader impacts of climate change because the proposed action will not add to any significant or measurable releases of pollutants into the atmosphere.

### **Alternative A**

Under the No Action Alternative, the Service would not issue the SUP and ROW permit to SpaceX; therefore, existing conditions would remain. SpaceX would continue to use diesel generators which would, over time, result in continual noise and disturbance to nearby refuge habitats.

### **Alternative B**

Under Alternative B, the proposed action would result in the Service issuing the SUP and ROW permit to SpaceX. This would result in minor, temporary impacts to local wildlife and habitat, as construction would be primarily underground. Through the implementation of construction BMPs, the potential for impacts to aquatic species due to increased sedimentation or stormwater runoff would be reduced. The proposed 60-foot road width would be clearly demarcated prior to construction to avoid the potential for equipment to enter Refuge habitats. The proposed cable and bollard fence would reduce the potential for vehicular impacts to adjacent habitat post-construction. During construction, species may be temporarily impacted by noise and/or avoid the project area, but these impacts would be minor, and limited to the duration of construction. Construction would occur during daylight hours to further reduce impacts to nocturnal wildlife. Implementation of the proposed action may preclude the need for constant use of diesel-powered generators which may help to reduce atmospheric pollutant levels.

## Threatened and Endangered Species, and Other Special Status Species

### Affected Environment

#### ***Description of Affected Environment for the Affected Resource***

The project area provides habitat for federally listed species such as ocelot (*Leopardus pardalis*), Gulf Coast jaguarundi (*Herpailurus yaguarondi cacomitli*), and northern aplomado falcon (*Falco femoralis septentrionalis*). Ocelot and jaguarundi populations in Texas are very small with the northern extent of their current ranges reaching into South Texas. Since the 1920s, more than 95 percent of the original native brushland in the Valley has been converted to agricultural or urban use (Jahrsdoerfer and Leslie, 1988). The remaining native habitat including vegetated corridors or brushlines are therefore extremely important for the continued existence of species such as the ocelot and jaguarundi. Ocelots and jaguarundis are area-sensitive species which require dense thornbrush habitat but will move between adjacent brush tracts using brush-lined canals, drainages, brushy fencelines, or other areas containing native vegetation as protected corridors of travel. Jaguarundis may also occur in dense grasslands associated near dense brush (Caso 1994), and they are typically associated with watercourses such as the nearby Rio Grande and associated rescaca systems (old ox-bow meander channels of the Rio Grande). An estimate of less than 50 ocelot individuals are currently believed to exist in the U.S., and all are in southernmost Texas. Ocelots and jaguarundis have been recorded in the past within or near the project area but there are no recent confirmed records. However, as long as there is potential habitat, then the likelihood exists that these endangered cats may be present. Dense native thornbrush habitat, whether on the lomas or along the Rio Grande, necessarily requires protection to ensure the continued existence and recovery of these species. The greatest concern for potential adverse impacts to these cats is destruction or alteration of the dense native thornbrush occurring on the lomas, as well as in other portions of eastern Cameron County. Brush clearing or similar impacts to dense native thornbrush may adversely impact these species by removal of habitat essential to their existence. Secondary concerns include human activities such as noise, lights, and equipment use which may cause disruption of these species' essential behavioral patterns such as breeding, feeding, or sheltering.

The federally endangered northern aplomado falcon has recently been reestablished within the coastal grassland areas of South Texas as part of a reintroduction plan. According to the most recent information, there are approximately 18-20 nesting territories each year in the Valley (mainly in eastern Cameron and Willacy Counties). To date, within the vicinity of the project site, there are currently two known territories northwest of the Massey Site. Therefore, nesting pairs are known to occur in the general area and so this species may present within the project area. To support downlisting criteria, current recovery goals are to establish approximately 30-35 pairs in South Texas. Overall recovery goals are to establish at least 60 self-sustaining breeding pairs in the United States for the species to be considered for downlisting to threatened status (USFWS 1990).

In South Texas, the northern aplomado falcon generally occurs in coastal prairie or savanna grasslands containing scattered, but prominent woody vegetation such as yuccas or mesquites. This habitat is typically found within the “salt prairie” extending between Brownsville, Port Isabel, and Boca Chica. The Boca Chica tract contains documented occurrences of aplomado falcons as well as their territories/habitat. Aplomado falcons may begin nesting activities in early March and extend through late August.

### ***Description of Environmental Trends and Planned Actions***

According to the latest U.S. Census Bureau data, the population of Cameron County has from 2010-2019 increased by 4.2 percent up to 423,163 and the overall population in the Valley currently stands at 1.4 million. With the establishment of SpaceX as a new industry, the population and industrial development in Cameron County is expected to continue to grow, particularly in the Boca Chica area.

### **Impacts on Affected Resource**

An Intra-Service Section 7 Consultation was conducted on May 23, 2023, for all potential threatened and endangered species that may be affected by the proposed action. The Refuge received concurrence for “May affect, not likely to adversely affect” for the ocelot, Gulf Coast jaguarundi, and northern aplomado falcon for the proposed action (Consultation Number: 02ETTX00-2023-I-0084737). See Appendix C.

### ***Alternative A***

Under the No Action Alternative, the Service would not issue the SUP and ROW permit for road improvement, maintenance, repair, operation, and utilities placement to SpaceX; therefore, existing conditions would remain. Power to the Massey Site would continue using diesel generators and the existing power line. The use of diesel generators would continue to cause pervasive noise levels in the general area.

### ***Alternative B***

Under Alternative B, the proposed action would result in the Service issuing the SUP and ROW permit to SpaceX. This would result in minor, temporary impacts to local wildlife and habitat, as construction would be primarily underground. This may potentially include temporary, incidental impacts to any listed species which may potentially occur near the project area. These impacts would be minor and limited to the duration of construction. Construction would occur during daylight hours. The proposed project would occur within the existing disturbed Massey Way Road corridor. Based on our data regarding federally listed species known occurrence, Section 7 consultation, and that the project as proposed will not impact any federally listed species habitats; Alternative B is not likely to adversely affect the northern aplomado falcon, ocelot or Gulf Coast jaguarundi.

## **Habitat and Vegetation (including vegetation of special management concern)**

### **Affected Environment**

#### ***Description of Affected Environment for the Affected Resource***

Dense thornbrush habitats occur on higher elevations on unique geological features known as lomas. These brushy-covered clay “lomas” or hillocks contain dense growths of Tamaulipan thornscrub (thornbrush) or “chaparral” (Clover 1937). Lomas are surrounded by a mosaic of wind-tidal flats and salt prairie. The dune hillocks or lomas themselves are quite rare (only found elsewhere in Russia, Australia, and Africa) and were formed from silt deposited by the Rio Grande, shaped by prevailing southeasterly winds over time (Richard 2005). Dominant tree and shrub species within this habitat type include Texas ebony, granjeno, lime prickly-ash, honey mesquite, desert yaupon, lotebush, and coma. Other common woody plant species include coyotillo, Texas lantana, Berlandier fiddlewood, Spanish dagger or yuccas, and goatbush. Herbaceous species cover is sparse under the dense canopy of the loma thornbrush. However, in clearings and loma edges, common herbs include Tamaulipan mistflower, tropical sage, sacaton, and an extremely rare perennial herb known as the “Lila de los Llanos” (*Echeandia chandleri*). The lomas in eastern Cameron County are home for this rare plant. A portion of the Massey Way Road is situated on these higher elevation lomas.

The other major habitat type that occurs along Massey Way Road below the loma can generally be described as coastal “salt prairie” habitat. The species composition of these areas varies based on elevation, with the prevalence of halophytic (salt-loving) plant associations. This is due to soil salinity, water table levels, soil drainage capability, or a combination of these factors. Within the lower elevational areas, there is a prevalence of salt flat grass, sea ox-eye daisy, sea blite, saltwort, camphor daisy, tornillo, and glasswort. Larger woody plants within the salt prairie habitats include scattered honey mesquite, huisache, Texas prickly pear, Spanish dagger or yuccas, and tasajillo. Since the project will involve placement of the utilities within the already disturbed Massey Way Road corridor, these habitats will not be adversely affected.

#### ***Description of Environmental Trends and Planned Actions***

The population of the Valley has increased by over one million people since 1940, making it an area with one of the most rapid rates of population growth in the country (Leslie, Jr. 2016). According to the latest U.S. Census Bureau data, the population of Cameron County has from 2010-2019 increased by 4.2 percent up to 423,163 and the overall population in the Valley currently stands at 1.4 million. With the establishment of SpaceX as a new industry, the population and industrial development in Cameron County is expected to grow. As mentioned above, there are no additional projects that have been included for analysis nor has SpaceX advised us of any additional development related to the installation of power and telecommunications utilities. However, it is not anticipated that installation of these utilities would facilitate more development since they will only service SpaceX’s already existing Massey Test Site.

### **Impacts on Affected Resource**

These utilities will be installed entirely within the existing, previously disturbed Massey Way Road corridor which would avoid any adverse impacts to habitat and vegetation. However, SpaceX may trim or clear out some vegetation for access within the road corridor, but no work would occur outside of the proposed 60-foot surveyed road width. The SUP will include protective measures, as described at Alternative B above, to address or eliminate potential impacts to these resources.

#### ***Alternative A***

Under the No Action Alternative, the Service would not issue the SUP and ROW permit to SpaceX; therefore, existing conditions would remain. Impacts to habitat and vegetation surrounding the already disturbed Massey Way Road may occur through undefined road width boundaries over time.

#### ***Alternative B***

Under Alternative B, the proposed action would result in the Service issuing the SUP and ROW permit to SpaceX. The proposed project will be placed within the existing disturbed Massey Way Road corridor. There are no other reasonably foreseeable projects or activities related to the utility installation at this time. Therefore, implementation of Alternative B is not expected to result in significant adverse impacts to habitat and vegetation other than for minor vegetation disturbance within the proposed 60-foot road width.

### **Floodplains**

#### **Affected Resource**

Two streams are crossed by Massey Way. The proposed project is located within the 100 and 500-year floodplain (Federal Emergency Management Agency, 2023).

#### ***Alternative A***

Under the No Action Alternative, the Service would not issue an SUP and ROW permit to SpaceX; therefore, existing conditions would remain. Accordingly, there would be no impacts to floodplains.

#### ***Alternative B***

Under Alternative B, the Service would issue an SUP and ROW utility permit to SpaceX to allow for project implementation. The proposed project would involve directional boring beneath the surface of the road base, which is elevated above the stream bed, avoiding impacts to water resources. SpaceX would implement BMPs such as silt fencing to reduce or avoid the potential for impacts to water quality due to erosion and/or runoff. BMPs would be location-specific and would be maintained throughout construction. The proposed project would not result in substantive impacts to the base flood elevation and thus there would be no significant impacts to floodplains. Accordingly, there would be no significant impacts to or development within floodplains.



## **Cultural Resources**

Section 106 of the NHPA of 1966, as amended (16 USC 470 et seq.), and its implementing regulations (36 CFR 800) require all federal agencies to consider the effects of federal actions on cultural properties eligible for or listed in the National Register of Historic Places (NRHP). One of the most significant sites in the State of Texas, both regionally and nationally, is the Palmito Ranch Battlefield, about 2.7 miles west of Massey Way Road. This site was designated as a National Historic Landmark (NHL) in 1997. This was the scene of the last land battle of the Civil War taking place on May 12-13, 1865. The higher portions of the Massey Way Road on the northern end include an area known as the “Loma De La Estrella” (Richard 2005) which is a location for two nineteenth century structures located on the southwestern slopes of this Loma (Site 41CF9). The site was interpreted as a Civil War-era military site and was recommend for possible inclusion in the National Register of Historic Places (Haefner *et al.* 2018).

## **Affected Environment**

### **Description of Affected Environment for the Affected Resource**

The proposed project is within the boundary of the Palmito Ranch Battlefield National Historic Landmark, but the battlefield is approximately 2.7 miles to the west. An archaeological investigation by ESE Partners for SpaceX was conducted on March 23, 2022, along the southern end of Massey Way Road. An additional survey was conducted on May 25, 2023, to cover the entire project area. Both reports found no cultural/archeological resources, but a Civil War-era military site known as Site 41CF9 occurs several hundred feet to the west of Massey Way Road on the southwestern slopes of the Loma De La Estrella.

### **Description of Environmental Trends and Planned Actions**

The population of the Valley has increased by over one million people since 1940, making it an area with one of the most rapid rates of population growth in the country (Leslie, Jr. 2016). According to the latest U.S. Census Bureau data, the population of Cameron County has from 2010-2019 increased by 4.2 percent up to 423,163 and the overall population in the Valley currently stands at 1.4 million. With the establishment of SpaceX as a new industry, the population and industrial development in Cameron County is expected to grow. As mentioned earlier, there are no additional projects that have been included for analysis nor has SpaceX advised us of any additional development related to the utility installation. It is likely that continued development in the area on private lands may continue but these utilities would only service the already existing Massey Site. Most of the area’s habitats and portions of the Palmito Ranch Battlefield and the Site 41CF9 are and will continue to be protected on the Refuge in perpetuity.

### **Impacts on Affected Resource**

The proposed project will not be visible to viewers at the core-battlefield area. Construction would occur within previously disturbed areas and currently traveled areas, and the utility lines would not be visible post-construction as they are underground. The Texas Historical

Commission reviewed the proposed action and concurred on July 24, 2023, that the project will have “no effect on historic properties.”

### **Alternative A**

Under the No Action Alternative, the Service would not issue the SUP and ROW permit to SpaceX. Thus, existing conditions would remain.

### **Alternative B**

Implementation of Alternative B would result in the Service issuing the SUP and ROW permit to SpaceX. However, based on our review and two cultural survey reports; no cultural resources or historical features such as the Palmito Ranch Battlefield or Site 41CF9 will be affected. Tribal consultation letters were sent in June 2023 to tribal interests listed for Cameron County (Apache, Comanche, Tonkawa, Wichita and affiliated tribes). No comments were received from these tribes regarding any cultural resource concerns for this Action Alternative. In addition, the proposed project will occur entirely within the already disturbed Massey Way Road corridor, so no new areas would be proposed for development.

## **Socioeconomic Resources**

### **Local and Regional Economies**

#### **Affected Environment**

Ecotourism in the Valley is one of the fastest-growing industries and generates about \$135 million a year (USFWS 2019). Ninety percent of the money spent was for non-consumptive recreation such as cultural and historic interpretation, swimming, bird watching, and picnicking. Recreational spending in the local communities contributes to approximately \$2 million in total economic output, \$596,000 in employment income, and \$184,000 in total tax revenue (Banking on Nature 2019).

There has been a substantial increase in the general human population, agricultural production, development, and urbanization of Cameron County and the Valley. The population of the Valley has increased by over one million people since 1940, making it an area with one of the most rapid rates of population growth in the country (Leslie, Jr. 2016). In Cameron County, the population has increased by 26.1 percent from 2000 to 2018 (U.S. Department of Commerce 2019). U.S. Census data also indicates that the proposed project area is comprised mostly of a bilingual (Spanish- and English-speaking) population, with up to 19 percent of the population not speaking any English (CCRMA *et al.* 2013). Many residents in this area live in colonias defined by the Office of the Texas Secretary of State as economically depressed residential areas along the U.S.-Mexico border. Colonias may lack potable water, sewer systems, electricity, and proper sanitation. These communities are among the poorest in the country.

The agricultural industry is still a major component of the Valley’s economy. Agriculture in the Valley generates about an average of \$500 million a year in cash receipts (USFWS 2019). Cameron County is the second highest-ranking county in Texas for its sugarcane production, generating about \$112 million annually. Irrigated cropland in Cameron County has decreased by

16 percent from 1997 to 2007, and farms and ranches in Cameron County decreased by approximately 88,000 acres during the same time. A significant attributing factor to the population growth in the Valley is increased trade with Mexico and Central America. The 1994 NAFTA has stimulated trade throughout North America, and the Valley has emerged as a trade center (Change and Davila 2008). In addition to its role in international trade, the Valley is also a hub for Mexican tourists, further increasing the demand for infrastructure and development in the area (Leslie, Jr. 2016).

#### ***Description of Affected Environment for the Affected Resource***

The Refuge is part of the South Texas Refuge Complex, whose annual budget expenditures exceed \$6 million, which supports the local economy. Refuge Revenue Sharing Act payments are meant to compensate for the costs that counties face when Service-owned properties are removed from the tax rolls (USFWS 2019). Although the Refuge's primary goal is the conservation of fish, wildlife and plant populations and their habitat, it also provides six wildlife-dependent recreational uses, which include: hunting, fishing, wildlife observation, photography, environmental education, and interpretation. Each year, an estimated 110,000 visitors access the Refuge for these uses and the majority (63 percent) are beachgoers or fishers who visit the Boca Chica Tract at all times of the year.

#### ***Description of Environmental Trends and Planned Actions***

With the establishment of SpaceX as a new industry, the population and industrial development in Cameron County is expected to grow. As mentioned above, there are no additional projects that have been included for analysis nor has SpaceX advised us of any additional development related to the installation of these utilities to connect the Massey Site. The nearby Port of Brownsville continues development of Port facilities including construction of Liquid Natural Gas or LNG shipping plants along the north side of the Brownsville Ship Channel. The Customs and Border Patrol Checkpoint was also recently installed on SH 4 along the project route and is active 24/7. Traffic patterns have increased substantially since 2014 due to SpaceX operations at Boca Chica. Therefore, it is likely that continued development in the area on private lands surrounding the project area (Massey Way Road) may continue and the Refuge's habitats will become increasingly important for wildlife and habitat conservation.

#### **Impacts on Affected Resource**

##### ***Alternative A***

Under the No Action Alternative, the Service would not issue the SUP and ROW permit to SpaceX; therefore, existing conditions would remain.

##### ***Alternative B***

Implementation of Alternative B would result in the Service issuing the SUP and ROW permit to SpaceX. Selection of Alternative B will not adversely impact Refuge visitation for ecotourism or other wildlife-dependent activities since none of these features will be involved. Overall,

installation of these utilities is not anticipated to have any adverse effect on socioeconomic resources.

## **Environmental Justice**

### **Affected Environment**

#### ***Description of Affected Environment for the Affected Resource***

Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, requires all federal agencies to incorporate environmental justice into their missions by identifying and addressing disproportionately high or adverse human health or environmental effects of their programs and policies on minorities and low-income populations and communities. The order is intended to promote nondiscrimination in federal programs substantially affecting human health and the environment and to provide minority and low-income communities with access to public information and opportunities for participation in matters related to human health and the environment. According to the U.S. Census Bureau, most of the population (90 percent) in Cameron County is Hispanic or Latino and about 9 percent are white, non-Hispanic or Latino. The median household income is currently \$39,000.

#### ***Description of Environmental Trends and Planned Actions***

The population of the Valley has increased by over one million people since 1940, making it an area with one of the most rapid rates of population growth in the country (Leslie, Jr. 2016). With the establishment of SpaceX as a new industry, the population and industrial development in Cameron County is expected to grow. There are no additional projects that have been included for analysis nor has SpaceX advised us of any additional development related to the installation of these utilities within Massey Way Road. The nearby Port of Brownsville continues development of Port facilities including construction of LNG shipping plants along the north side of the Brownsville Ship Channel. The Customs and Border Patrol Checkpoint was also recently installed along SH 4 along the project route, and it is active 24/7. Traffic patterns have increased substantially since 2014 due to the SpaceX Boca Chica Site Operations.

### **Impacts on Affected Resource**

#### ***Alternatives A and B***

Neither of the two alternatives described in this EA would disproportionately place any adverse environmental, economic, social, or health impacts on minority and low-income populations because the proposed access and utilities will only service the already existing Massey Test Site.

## **Monitoring**

If Alternative B is chosen, the Refuge will monitor the status of the project during the construction phases and ensure compliance with the conditions in the SUP and ROW permit.

## Summary of Analysis

### **Alternative A – Deny Permits (No Action Alternative)**

Under the No Action Alternative, the Service would not issue the SUP and ROW permit to SpaceX; therefore, existing conditions would remain. SpaceX's Massey Site would continue its established tank and non-engine ignition testing and water treatment plant operations. Power would continue to be provided at the Site via existing overhead lines, and diesel generators would continue to be used as supplemental power sources. The Massey Test Site would continue to utilize unreliable point-to-point telecommunications, as there are no fiber-optic lines currently. No adverse impacts to any of the resources of concerns would occur. However, the continued use of diesel generators would add continual noise levels as well as to add more diesel exhaust pollutants into the atmosphere.

### **Alternative B – Permits Issuance (Proposed Action Alternative)**

Implementation of Alternative B would result in the Service issuing an SUP and ROW permit to SpaceX to improve, maintain, repair, and operate a road and to install underground utility lines (power and telecommunications) for approximately 0.9 miles of Refuge lands and entirely within a 60-foot road width for Massey Way Road. Construction would include protection and mitigation measures to reduce or eliminate potential impacts to Refuge habitats. This alternative would not impair public access to the Refuge for wildlife-dependent recreational uses. This alternative satisfies the purpose and need for the project because it provides a reliable source of power and telecommunications to the Site.

## List of Sources, Agencies and Persons Consulted

Matt Thompson, SpaceX Environmental Director, Starbase, TX

Imer De La Garza, Deputy Project Leader, South Texas Refuge Complex, Alamo, TX

Dawn Gardiner, Assistant Field Supervisor, Texas Coastal ES Field Office, Corpus Christi, TX

Ernesto Reyes, Endangered Species Biologist, Texas Coastal ES Field Office at Alamo, TX

George MacDonell, Archaeologist / Regional Historic Preservation Officer, Albuquerque, NM

## List of Preparers

Chris Perez, Wildlife Refuge Specialist, LRGVNR, Alamo, TX.

Yvette Truitt-Ortiz, Senior Realty Specialist, USFWS, Albuquerque, NM, Regional Office

## State Coordination

This draft EA and Compatibility Determination was sent out for 30-day public review as well as to the Texas Parks and Wildlife Department on August 15, 2023. [comment feedback here].

## Public Outreach

A Compatibility Determination was developed for Alternative B. A Public Notice announcing the availability for a 30-day review and comment on the Compatibility Determination and draft EA was published in the Valley Morning Star and Brownsville Herald on [date here]. A copy of the CD and request for public comment was also published on the Refuge's main website and posted at the Refuge Headquarters for review and comment. The comment period closed on [date here]. [summary of comments here].

## Determination

This section will be filled out upon completion of the public comment period and at the time of finalization of the Environmental Assessment.

- The Service's action will not result in a significant impact on the quality of the human environment. See the attached "**Finding of No Significant Impact**".
- The Service's action **may significantly affect** the quality of the human environment and the Service will prepare an Environmental Impact Statement.

## Signatures

Submitted By: Imer De La Garza, Deputy Project Leader, South Texas Refuge Complex, Alamo, TX.

Project Leader Signature:

Date:

Concurrence:

Refuge Supervisor Signature:

Date:

Approved:

Regional Chief, National Wildlife Refuge System Signature:

Date:

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## Appendix A: Applicable Statutes, Regulations, and Executive Orders

This Appendix lists all applicable statutes, regulations, and executive orders not otherwise addressed in this EA, as well as how the proposed action and EA analysis comply with each and any additional compliance steps taken by the Service.

### **Fish and Wildlife**

Endangered Species Act of 1973, as amended, 16 U.S.C. 1531-1544; 36 CFR Part 13; 50 CFR Parts 10, 17, 23, 81, 217, 222, 225, 402, 450

An Intra-Service Section 7 consultation was conducted for the proposed action. Please refer to Appendix C for a copy of this consultation.

Fish and Wildlife Act of 1956, 16 U.S.C. 742a-m

The proposed action will not impair or violate the purposes of this establishing authority.

Migratory Bird Treaty Act, as amended, 16 U.S.C. 703-712; 50 CFR Parts 10, 12, 20, and 21

The proposed action includes considerations to address migratory birds to avoid take of migratory birds to the extent practicable.

Fish and Wildlife Service Appropriate Uses Policy (603 FW1)

Fish and Wildlife Service Compatibility Policy (603 FW2)

Fish and Wildlife Service Rights of Way Policy (340 FW 3)

Executive Order 13186 – Responsibilities of Federal Agencies to Protect Migratory Birds, 66 Fed. Reg. 3853 (2001). The proposed action includes considerations to address migratory birds to avoid take of migratory birds to the extent practicable.

### **Natural Resources**

Executive Order 13112 – Invasive Species, 64 Fed. Reg. 6183 (1999)

The proposed includes measures to prevent the spread of invasive species such as requiring construction equipment to be cleaned of any foreign materials prior to being brought onsite. Implementation of the proposed action will reduce or eliminate introduction or spread of invasive species since maintenance activities will be confined to the already disturbed Massey Way Road corridor.

### **Cultural Resources**

Antiquities Act of 1906, 16 U.S.C. 431-433; 43 CFR Part 3

Archaeological Resources Protection Act of 1979, 16 U.S.C. 470aa-470mm; 18 CFR Part 1312; 32 CFR Part 229; 36 CFR Part 296; 43 CFR Part 7

An archaeological investigation by ESE Partners for SpaceX was conducted on March 23, 2022, along the southern end of Massey Way Road. An additional survey was conducted on May 25, 2023 to cover the entire project area. Both reports found no cultural/archeological resources.

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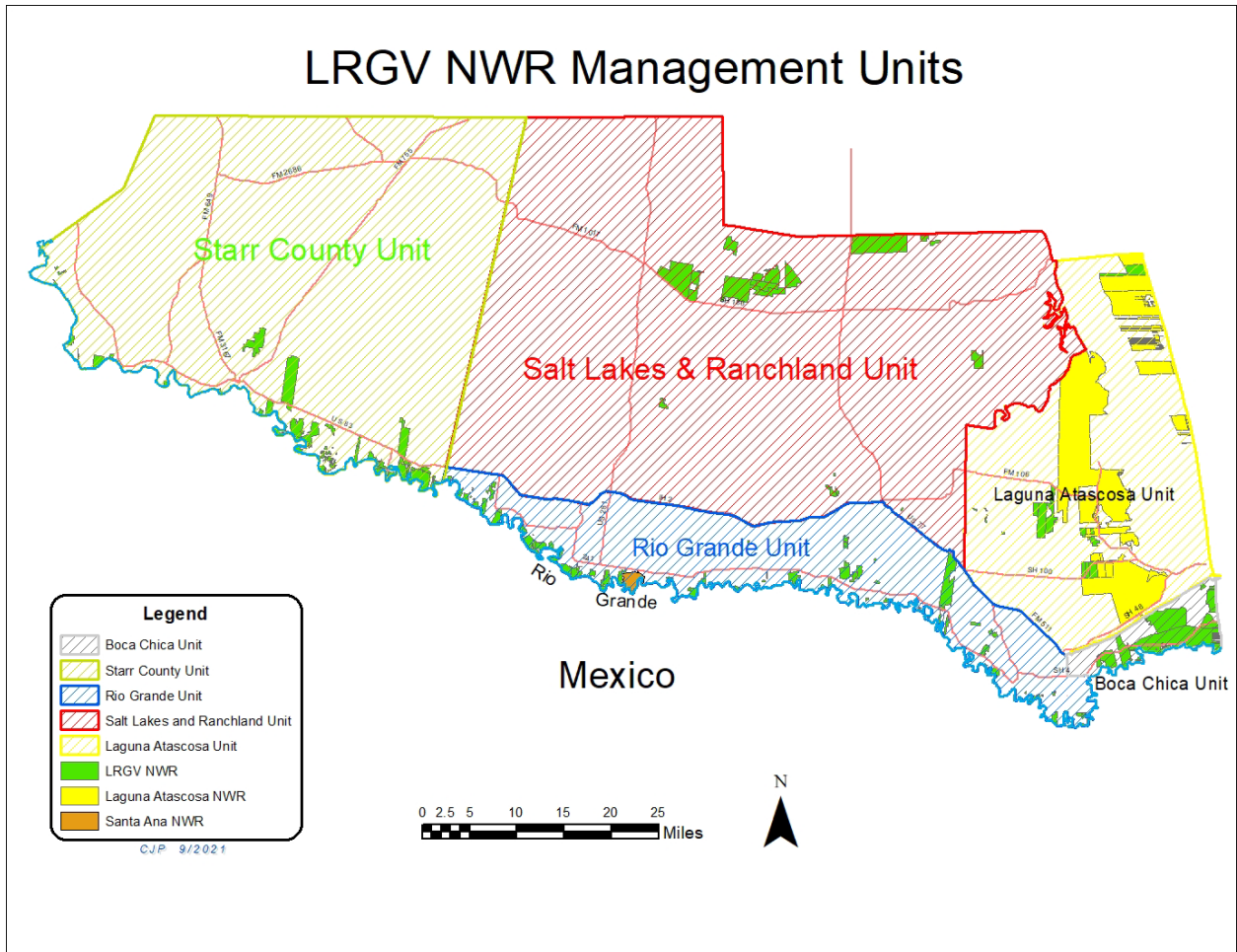
The Texas Historical Commission reviewed the proposed action and concurred on July 24, 2023, that the project will have “no effect on historic properties.”

Tribal consultation letters were sent in June 2023 to tribal interests for Cameron County (Apache, Comanche, Tonkawa, Wichita and affiliated tribes). No comments were received from these tribes regarding any cultural concerns for the proposed action.

Executive Order 13186 – Responsibilities of Federal Agencies to Protect Migratory Birds, 66 Fed. Reg. 3853 (2001)

Surveys for nesting birds will be required prior to any vegetation disturbance if within March through August for compliance with Migratory Bird Treaty Act. If any nesting birds are detected, vegetation disturbance will be suspended in nesting areas until all nesting activities are complete.

Appendix B: Map showing LRGVNWR Management Units. Note: Boca Chica Unit is within the Massey Way Road project area.



## Appendix C: Section 7 Intra-Service Consultation

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## Appendix D: Compatibility Determination

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