Federal Aviation Administration

Draft Environmental Impact Statement
SpaceX Texas Launch Site

Volume II - Appendices
April 2013

HQ-0092-K2

THIS PAGE INTENTIONALLY LEFT BLANK

DRAFT ENVIRONMENTAL IMPACT STATEMENT

SPACEX TEXAS LAUNCH SITE

VOLUME II

APPENDICES

APRIL 2013

Prepared by:
Federal Aviation Administration
Office of Commercial Space Transportation

THIS PAGE INTENTIONALLY LEFT BLANK

Appendix A
Public Involvement

THIS PAGE INTENTIONALLY LEFT BLANK

Appendix A – Public Involvement

The FAA adheres to the CEQ Regulations for Implementing the Procedural Provisions of NEPA, 40 CFR Sec. 1506.6, which directs agencies to make diligent efforts to involve the public in preparing and implementing their NEPA procedures. CEQ regulations direct Federal agencies which have made a decision to prepare an EIS to engage in a public scoping process. Public involvement is a fundamental part of the EIS development process and promotes better decision making.

A.1 Scoping

Scoping for the development of the EIS began with the publication of the Notice of Intent (NOI) in the *Federal Register* on April 10, 2012 (FAA 2012; Exhibit A-1). In the NOI, the FAA invited the participation of Federal, State, and local agencies, Native American tribes, environmental groups, citizens, and other interested parties to assist in determining the scope and significant issues to be evaluated in the EIS.

A.1.1 Agency Scoping Meeting

An agency scoping meeting was conducted on May 15, 2012, from 9:00 a.m. to 11:00 a.m., at the Brownsville Economic Development Council Board Room, 301 Mexico Boulevard, Suite F-1, Brownsville, Texas. The FAA invited the following agencies to the meeting: USACE; USFWS; NOAA; EPA, Region 6; TGLO; and THC. During this meeting, the FAA gave a brief presentation of the Proposed Action and had an open discussion with agencies regarding issues and concerns. Following the agency scoping meeting, a site visit was conducted to introduce the agencies to the proposed vertical launch area and control center area.

A.1.2 Public Scoping Meeting

The public scoping meeting was held on May 15, 2012, from 5:00 p.m. to 8:00 p.m., at the ITEC Center, located at 301 Mexico Boulevard Suite G-1, Brownsville, Texas. The FAA provided several notifications of its intent to prepare an EIS and conduct scoping. The flyers and newspaper advertisements announced the FAA's intent to prepare an EIS; the date, times, and location for the public scoping meeting; and the various ways for the public to provide comments. Exhibit A-2 shows the newspapers and publication dates for the advertisements for the scoping meeting. The published advertisements are shown in Exhibit A-3, Exhibit A-4, and Exhibit A-5. Exhibit A-6 shows the flyers (English and Spanish).

The factsheet handed out at the scoping meeting is shown in Exhibit A-7. The posters displayed at the scoping meeting are shown in Exhibit A-8.

A.2 Scoping Comments

Exhibit A-9 contains the agency comments that were received during the scoping period.

Exhibit A-1. Notice of Intent, Published April 10, 2012

Federal Register / Vol. 77, No. 69 / Tuesday, April 10, 2012 / Notices **21619**

DEPARTMENT OF STATE

[Public Notice 7814]

Shipping Coordinating Committee; Notice of Committee Meeting

The Shipping Coordinating Committee (SHC) will conduct an open meeting at 9:30 a.m. on Wednesday, April 25, 2012, in Room 2501 of the United States Coast Guard Headquarters Building, 2100 Second Street SW., Washington, DC 20593–7126. The primary purpose of the meeting is to prepare for the 90th Session of the International Maritime Organization's (IMO) Marine Safety Committee to be held at the IMO Headquarters, London, England, United Kingdom, May 16–25, 2012.

The primary matters to be considered include:

Consideration and adoption of amendments to mandatory instruments;
Measures to enhance maritime security;
Goal-based new ship construction standards;
LRIT-related matters;
Flag State implementation;
Radiocommunications and search and rescue;
Ship design and equipment;
Safety of navigation;
Fire protection;
Dangerous goods, solid cargoes and containers;
Stability, load lines and fishing vessel safety;
Bulk liquids and gases;
Implementation of the STCW Convention;
Technical assistance sub-programme in maritime safety and security;
Capacity-building for the implementation of new measures;
Role of the human element;
Formal safety assessment;
Piracy and armed robbery against ships;
General cargo ship safety;
Implementation of instruments and related matters;
Relations with other organizations;
Application of the Committee's Guidelines;
Passenger ship safety.

Members of the public may attend this meeting up to the seating capacity of the room. To facilitate the building security process, and to request reasonable accommodation, those who plan to attend should contact the meeting coordinator, LCDR Matthew Frazee, by email at *imo@uscg.mil*, by phone at (202) 372–1376, or in writing at Commandant (CG–52), U.S. Coast Guard, 2100 2nd Street SW., Stop 7126, Washington, DC 20593–7126 not later than April 18, 2012, 7 days prior to the meeting. Requests made after April 18, 2012 might not be able to be accommodated. Please note that due to security considerations, two valid, government issued photo identifications must be presented to gain entrance to the Headquarters building. The Headquarters building is accessible by taxi and privately owned conveyance (public transportation is not generally available). However, parking in the vicinity of the building is extremely limited. Additional information regarding this and other IMO SHC public meetings may be found at: *www.uscg.mil/imo.*

Dated: March 29, 2012.

Brian Robinson,
Executive Secretary, Shipping Coordinating Committee, Department of State.

[FR Doc. 2012–8636 Filed 4–9–12; 8:45 am]

BILLING CODE 4710–09–P

DEPARTMENT OF TRANSPORTATION

Office of the Secretary

Aviation Proceedings, Agreements Filed the Week Ending March 10, 2011

The following Agreements were filed with the Department of Transportation under the Sections 412 and 414 of the Federal Aviation Act, as amended (49 U.S.C. 1382 and 1384) and procedures governing proceedings to enforce these provisions. Answers may be filed within 21 days after the filing of the application.

Docket Number: DOT–OST–2012–0035.

Date Filed: March 7, 2012.

Parties: Members of the International Air Transport Association.

Subject: Mail Vote 702—Resolution 100 Standard Condition Resolution for Special Fares (Memo 1665) Intended effective date: 1 April 2012.

Renee V. Wright,
Program Manager, Docket Operations, Federal Register Liaison.

[FR Doc. 2012–8446 Filed 4–9–12; 8:45 am]

BILLING CODE 4910–9X–P

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

Office of Commercial Space Transportation; Notice of Intent To Prepare an Environmental Impact Statement (EIS), Open a Public Scoping Period, and Conduct a Public Scoping Meeting

AGENCY: The Federal Aviation Administration (FAA) is the lead Federal agency.

ACTION: Notice of Intent to Prepare an EIS, Open a Public Scoping Period, and Conduct a Public Scoping Meeting.

SUMMARY: This Notice provides information to Federal, State, and local agencies, Native American tribes, and other interested persons regarding the FAA's intent to prepare an EIS for Space Exploration Technologies' (SpaceX's) proposal to launch the Falcon 9 and Falcon Heavy orbital vertical launch vehicles from a private site located in Cameron County, Texas. Under the Proposed Action, SpaceX proposes to construct a vertical launch area and a control center area to support up to 12 commercial launches per year. The vehicles to be launched include the Falcon 9, Falcon Heavy (up to two per year), and a variety of smaller reusable suborbital launch vehicles. SpaceX would be required to apply for the appropriate launch licenses and/or experimental permits to be issued by the FAA. The FAA will prepare the EIS in accordance with the National Environmental Policy Act of 1969 (NEPA; 42 United States Code [U.S.C.] 4321 et seq.), the Council on Environmental Quality Regulations for Implementing the Procedural Provisions of NEPA (40 Code of Federal Regulations [CFR] parts 1500–1508), and FAA Order 1050.1E, Change 1, *Environmental Impacts: Policies and Procedures,* as part of its licensing and permitting process.

DATES: The FAA invites interested agencies, organizations, Native American tribes, and members of the public to submit comments or suggestions to assist in identifying significant environmental issues and in determining the appropriate scope of the EIS. The public scoping period starts with the publication of this notice in the **Federal Register**. To ensure sufficient time to consider issues identified during the public scoping period, comments should be submitted to Ms. Stacey M. Zee, FAA Environmental Protection Specialist, by one of the methods listed below no later than May 30, 2012. All comments will receive the same attention and consideration in the preparation of the EIS.

ADDRESSES: Comments, statements, or questions concerning scoping issues or the EIS process should be mailed to: Ms. Stacey M. Zee, FAA Environmental Protection Specialist, SpaceX EIS c/o Cardno TEC Inc., 275 West Street, Suite 110, Annapolis, MD 21409. Comments can also be sent by email to *faaspacexeis@cardnotec.com* or by fax to (410) 990–0455.

SUPPLEMENTARY INFORMATION:

Background

The FAA is preparing an EIS to analyze the potential environmental

21620 **Federal Register** / Vol. 77, No. 69 / Tuesday, April 10, 2012 / Notices

impacts of SpaceX's proposal to launch orbital and suborbital launch vehicles from a private site in Cameron County in southern Texas. The EIS will consider the potential environmental impacts of the Proposed Action and reasonable alternatives, including the No Action Alternative. The successful completion of the environmental review process does not guarantee that the FAA would issue launch licenses and/or experimental permits to SpaceX. The project must also meet all FAA safety, risk, and indemnification requirements.

Proposed Action

The Proposed Action is for the FAA to issue launch licenses and/or experimental permits to SpaceX that would allow SpaceX to launch the Falcon 9 and Falcon Heavy orbital vertical launch vehicles and a variety of reusable suborbital launch vehicles from a launch site on privately-owned property in Cameron County, Texas. The Falcon 9 orbital vertical launch vehicle is a medium-lift class launch vehicle with a gross lift-off weight of approximately 1,000,000 pounds (lbs) with a maximum length of 230 feet (ft). The Falcon 9 uses liquid oxygen (LOX) and highly refined kerosene, also known as rocket propellant-1 or refined petroleum-1 (RP–1), as propellants to carry payloads into orbit. The Falcon Heavy is similar to the Falcon 9, except it has an additional two boosters "strapped on," each booster being almost identical to the Falcon 9 first stage core. The Falcon Heavy is a heavy lift class launch vehicle with a gross lift-off weight of approximately 3,400,000 lbs. It has an overall maximum length of approximately 230 ft.

A reusable suborbital launch vehicle could consist of a Falcon 9 Stage 1 tank with a maximum propellant (RP–1 and LOX) load of approximately 6,900 gallons.

As part of the Proposed Action, SpaceX proposes to construct a vertical launch area and a control center area. The proposed vertical launch area site is currently undeveloped and is located directly adjacent to the eastern terminus of Texas State Highway 4 (Boca Chica Boulevard) and approximately 3 miles north of the Mexican border on the Gulf Coast. It is located approximately 5 miles south of Port Isabel and South Padre Island. At the vertical launch area, the new facilities required would include: an integration- and processing-hangar, a launch pad and stand with its associated flame duct, propellant storage and handling areas, a workshop and office area, and a warehouse for parts storage.

The control center area would be located inland to the west of the vertical launch area and would include: A control center building and a payload processing facility; it might also include a launch vehicle preparation hangar and satellite fuels storage. All facilities would be constructed on private land owned or leased by SpaceX. The development of access and supporting utility infrastructure for the vertical launch area and the control center area may occur on lands outside that which is owned or leased by SpaceX.

Operations would consist of up to 12 launches per year with a maximum of two Falcon Heavy launches. All Falcon 9 and Falcon Heavy launches would be expected to have commercial payloads, including satellites or experimental payloads. In addition to standard payloads, the Falcon 9 and Falcon Heavy may also carry a capsule, such as the SpaceX Dragon capsule. All launch trajectories would be to the east over the Gulf of Mexico.

The potential environmental impacts of all proposed construction activities will be analyzed in the EIS, in addition to the impacts from operating the facilities and launching orbital and suborbital launch vehicles. The EIS will evaluate the potential environmental effects associated with: air quality; noise and compatible land use; land use, including Section 4(f) properties and Farmlands; coastal resources; biological resources, including threatened and endangered species; water resources, including surface waters and wetlands, groundwater, floodplains, and water quality; historical, architectural, archaeological, and cultural resources; light emissions and visual resources; hazardous materials, pollution prevention, and solid waste; infrastructure and utilities; and socioeconomics, environmental justice, and children's environmental health and safety. The analysis will include an evaluation of the potential direct and indirect impacts, and will account for cumulative impacts from other relevant activities in the area of Cameron County, Texas.

Alternatives

Alternatives under consideration include the Proposed Action and the No Action Alternative. Under the No Action Alternative, the FAA would not issue a license or experimental permit to SpaceX. Based on comments received during the scoping period, the FAA may propose additional alternatives.

Scoping Meetings

A public scoping meeting will be held to solicit input from the public on potential issues that may need to be evaluated in the EIS. The scoping meeting will be held on May 15, 2012 from 5 p.m. to 8 p.m., at the International Technology, Education and Commerce Center (ITEC Center), located at 301 Mexico Blvd. G–1, Brownsville, Texas 78520. The meeting format will include an open-house workshop from 5 p.m. to 6 p.m. The FAA will provide an overview of the environmental process from 6 p.m. to 6:15 p.m. followed by a public comment period from 6:15 p.m. to 8 p.m.

Issued in Washington, DC on April 3, 2012.

Glenn Rizner,

Deputy Manager, Space Transportation Development Division.

[FR Doc. 2012–8556 Filed 4–9–12; 8:45 am]

BILLING CODE 4910–13–P

DEPARTMENT OF TRANSPORTATION

Federal Railroad Administration

[Docket No. FRA–2012–0033]

Notice of the Buy America Waiver Request for Vossloh 101–LV Concrete Ties

AGENCY: Federal Railroad Administration (FRA), United States Department of Transportation (DOT).

ACTION: Notice of Buy America waiver request and request for comment.

SUMMARY: FRA is issuing this notice to advise the public that the Burlington Northern Santa Fe Railway Co. ("BNSF") has submitted to FRA through or with the support of the Washington Department of Transportation ("WSDOT"), the Illinois Department of Transportation ("IDOT"), the Texas Department of Transportation ("TxDOT"), and the California Department of Transportation ("Caltrans") a waiver request from FRA's Buy America Act requirements for the purchase of Vossloh 101–LV concrete ties, which contain certain components not manufactured in the United States. In furtherance of four FRA High-Speed Intercity Passenger Rail ("HSIPR") grants, BNSF, as the railroad infrastructure owner, will construct certain rail project elements that consist of the installation of Vossloh 101–LV concrete ties. FRA has received this request from the four States for the following projects: (a) The Pacific Northwest Rail Corridor Program (b) the Amtrak Quad Cities to Chicago Service Initiation Project, (c) the Tower 55 At-Grade Improvement Project, and (d) the LA to Fullerton Triple Track—Segment 7 Project.

Exhibit A-2. Scoping Meeting Notice – Publication Dates for Newspapers

Newspaper	Dates	Page Number
The Brownsville Herald	May 9, 2012 May 10, 2012 May 11, 2012	C8 C3 C2
Valley Morning Star	May 9, 2012 May 10, 2012 May 11, 2012	B5 B5 B5
El Bravo (Spanish language)	May 9, 2012 May 10, 2012 May 11, 2012	7 5 5

Exhibit A-3. The Brownsville Herald

PAGE C8 | THE BROWNSVILLE HERALD | WEDNESDAY, MAY 9, 2012

Valleywide CLASSIFIEDS valleyclassifieds.com

1-866-572-SELL WEDNESDAY, MAY 9, 2012 1-866-572-SELL

LINE ADS DEADLINES
Monday publication: Friday 4:30 p.m.
Tuesday publication: Monday 2:30 p.m.
Wednesday, Thursday and Friday publications: Day prior 2:30 p.m.
Saturday publication: Thursday 4:30 p.m.
Sunday publication: Friday 9 a.m.
Same deadlines for cancellations

FOR YOUR INFORMATION
Accuracy:
Check your ad the first day and call right away. Valleywide Classifieds is not responsible for more than ONE incorrect day or omission of copy of any ad ordered more than one time. The Newspaper assumes no responsibility for ads left out of the paper other than to schedule the ad for the next available edition under no circumstances shall The Newspaper be liable for consequential damages of any kind. Repeat for corrections should be made within 24 hours of the first publication day by calling 1-866-572-7355. The newspaper reserves the right to edit, reject or properly classify any copy. Claims for adjustments or billing should be made within 60 days of publication.

ANNOUNCEMENTS 101 - 114
AGRICULTURE 301 - 310
EMPLOYMENT 501 - 508
DIAL A SERVICE 201 - 220
GENERAL MERCHANDISE 901 - 920
REAL ESTATE RENTALS 601 - 621
REAL ESTATE SALES 701 - 733
RECREATION 901 - 914
TRANSPORTATION 1001 - 1011
FINANCIAL 901 - 907

TO PLACE AN AD
Call us at: 1-866-572-7355
Our Fax: (956)683-4201
Log on to our website: www.valleyclassifieds.com

WHERE WE ARE LOCATED:
The Monitor
1400 E Nolana Loop, McAllen, TX 78504
Valley Morning Star
1319 S. Commerce, Harlingen, TX 78550
The Brownsville Herald
1135 E. Van Buren, Brownsville, TX 78520
Mid-Valley Town Crier
401 S. Iowa Ave. Weslaco, TX 78596
Business hours:
MON-FRI 8:00 a.m.-5:00 p.m.
Closed on weekends
ALL ADS ARE PREPAID
Prepay conveniently with VISA, MC, Discover, AMEX, or mail your check to: Valleywide Classifieds, PO. Box 3267, McAllen, Texas 78502

210 Cemetery Work
801 Farm Equip. & Machinery
805 Pets & Supplies
421 Home Health Care
501 Help Wanted
218 Home Repairs
225 Paint & Paper
101 Legal Notices

Legal Notice
On May 24, 2012 the Texas Parks and Wildlife Commission will consider accepting the donation approximately 10 acres of land as an addition to the Ebony Unit WMA, Cameron, County. The meeting is at 9:00 a.m. at 4200 Smith School Road, Austin. Public comment may be submitted to Corky Kuhlmann, 4200 Smith School Road, Austin, Texas 78744, by e-mail at corky.kuhlmann@tpwd.state.tx.us, via the TPWD web site at tpwd.state.tx.us or in person at the meeting.
04/25, 05/02, 05/09/2012

NOTICE TRUTH IN LENDING ACT
All ads that offer financial options for buying real estate or mail or motor vehicles must comply with the Federal Truth in Lending Reg. regulations. The act requires that ads must fully disclose the terms of a loan (down payment, monthly payment, number of payments and the annual percentage rate).
Valleywide Classifieds urges its readers to be fully up if we inadvertently publish an ad(s) that is not in compliance with the Truth in Lending Act.
Valleywide Classified Management 1-866-572-SELL(7355)

FEDERAL AVIATION ADMINISTRATION NOTICE OF PUBLIC SCOPING MEETING
The Federal Aviation Administration (FAA), Office of Commercial Space Transportation will prepare an Environmental Impact Statement (EIS) to evaluate potential environmental impacts associated with Space Exploration Technologies Corporation's (SpaceX's) proposal to launch the Falcon 9 and Falcon Heavy orbital vertical launch vehicles from a private site located in Cameron County, Texas. Under this proposal, SpaceX would construct a vertical launch area at the eastern end of Texas State Highway 4 (Boca Chica Boulevard) and a nearby control center area to support up to 12 commercial launches per year. SpaceX would apply for and obtain appropriate launch licenses and/or experimental permits to be issued by the FAA.
The FAA is initiating a scoping process to identify community concerns and local issues that will be addressed in the EIS. As part of the EIS public participation process, the FAA will hold a public scoping meeting to collect input on the proposed project on May 15, 2012, from 5:00 p.m. to 8:00 p.m. at the ITEC Center, 301 Mexico Blvd. G-1, Brownsville, TX. The scoping meeting will include a poster information session from 5:00 p.m. to 6:00 p.m., FAA presentation from 6:00 p.m. to 6:15 p.m., followed by a public statement period in which members of the public may provide up to a 3-minute statement. FAA staff will be present at this meeting to answer general questions on the proposed action and the EIS process. Scoping materials are available at http://www.faa.gov/about/office_org/headquarters_offices/ast/environmental/nepa_docs/review/documents_progress&pacex_texas_launch_site_environmental_impact_statement/.
The FAA invites members of the public to submit comments or suggestions to assist in identifying significant environmental issues and in determining the appropriate scope of the EIS. Please submit all comments by May 30, 2012 to ensure they are considered during the preparation of the Draft EIS. The public can provide comments in three ways: 1) provide written comments at the scoping meetings, 2) speak with the stenographer who will record your comments at the scoping meetings, or 3) submit comments to: Ms. Stacey M. Zee, Environmental Protection Specialist, Federal Aviation Administration, SpaceX EIS c/o Cardno TEC Inc., 275 West Street, Suite 110, Annapolis, MD 21401; email faa-spacexeis@cardnotec.com; or fax (410)-990-0455.

SHORE ** Immediate Openings**
• Structural Fitters
• 3G/4G Welders (Flux Core)
• Pipe Welders
• Pipe Fitters
In The Brownsville Tx & Ingleside Tx Area.
Please Call Jorge at: 956-243-1204.
Apply On line at: www.shoreconstructions
Job: TX7610 Id:56624

FIBERSPAR Field Technician
Fiberspar is the leader in high-strength, fiber-reinforced tubular products for the oil and gas industry. We are seeking to fill full-time positions in the following Texas locations: Garden Springs, Freer, and Kenedy. Primary responsibilities will be to supervise and install composite pipe lines. Ideal candidates will have experience in wireline equipment operations and some oil field experience.
Salary is commensurate with work experience. Training will be provided.
Fiberspar offers a full benefits package. Interested individuals should e-mail / fax resume to: jobs@fiberspar.com, fax 281-394-5935.
Job: TX7610 Id:56654

NEW Today!
BCFS
Join a caring family-oriented team at one of *Harlingen's* leading non-profit health & human services organizations. If you want to make a difference in the lives of adolescents then apply at BCFS and get more than just a job become a connected part of a residential team.
Background checks and drug testing required.
BCFS is looking for people who...
Enjoy working with children/adolescents.
• Want to make a change in our resident's lives.
• Want a professional and positive work environment.
• Have a positive attitude.
• 21 years old or older.
The following positions are available:
• Direct Care
• Program Director
• Case Managers
• Lead Case Manager
• Clinician
• Lead Clinician
• Shelter Supervisor
• Shift Leader
• Driver
• Custodians
• Maintenance Worker
• Teacher's Aide
BCFS offers all full time staff a benefit package that includes: paid medical, dental, and life + a generous paid time off program.
Visit: WWW.NOWHIRINGHARLINGEN.COM to view requirements and pay of each job.
Hampton Inn
1202 N Ed Carey Dr
Harlingen, Texas
Thursday May 10th – Friday May 11th
10am – 7pm

THE BROWNSVILLE HERALD | THURSDAY, MAY 10, 2012 | PAGE C8

Valleywide CLASSIFIEDS
valleyclassifieds.com
C

1-866-572-SELL | THURSDAY, MAY 10, 2012 | 1-866-572-SELL

LINE ADS DEADLINES
Monday publication:
Friday 4:30 p.m.
Tuesday publication:
Monday 2:30 p.m.
Wednesday, Thursday and Friday publications:
Day prior 2:30 p.m.
Saturday publication:
Thursday 4:30 p.m.
Sunday publication:
Friday 9 a.m.
Same deadlines for cancellations

FOR YOUR INFORMATION
Accuracy:
Check your ad the first day and call right away. Valleywide Classifieds is not responsible for more than ONE incorrect day or omission of copy of any ad ordered more than one time. The Newspaper assumes no responsibility for ads left out of the paper other than to schedule the ad for the next available edition. Under no circumstances shall The Newspaper be liable for consequential damages of any kind. Request for corrections should be made within 24 hours of the first publication day by calling 1-866-572-7355. The newspaper reserves the right to edit, reject or properly classify any copy. Claims for adjustments on billing should be made within 30 days of publication.

ANNOUNCEMENTS 101 - 114
DIAL-A-SERVICE 201 - 226
AGRICULTURE 301 - 310
EMPLOYMENT 501 - 508
GENERAL MERCHANDISE 601 - 620
REAL ESTATE RENTALS 601 - 621
REAL ESTATE SALES 701 - 733
RECREATION 901 - 914
TRANSPORTATION 1001 - 1011
FINANCIAL 801 - 807

TO PLACE AN AD
Call us at:
1-866-572-7355
Our Fax:
(956)683-4201
Log on to our website:
www.valleyclassifieds.com

WHERE WE ARE LOCATED:
The Monitor
1400 E Nolana Loop, McAllen, TX 78504
Valley Morning Star
1310 S. Commerce, Harlingen, TX 78550
The Brownsville Herald
1135 E. Van Buren, Brownsville, TX 78520
Mid-Valley Town Crier
401 S. Iowa Ave. Weslaco, TX 78596
Business hours:
MON-FRI 8:00 a.m.-5:00 p.m.
Closed on weekends

ALL ADS ARE PREPAID
Prepay conveniently with VISA, MC, Discover, AMEX, or mail your check to: **Valleywide Classifieds**, PO Box 3267, McAllen, Texas 78502

FEDERAL AVIATION ADMINISTRATION NOTICE OF PUBLIC SCOPING MEETING

The Federal Aviation Administration (FAA), Office of Commercial Space Transportation will prepare an Environmental Impact Statement (EIS) to evaluate potential environmental impacts associated with Space Exploration Technologies Corporation's (SpaceX's) proposal to launch the Falcon 9 and Falcon Heavy orbital vertical launch vehicles from a private site located in Cameron County, Texas. Under this proposal, SpaceX would construct a vertical launch area at the eastern end of Texas State Highway 4 (Boca Chica Boulevard) and a nearby control center area to support up to 12 commercial launches per year. SpaceX would apply for and obtain appropriate launch licenses and/or experimental permits to be issued by the FAA.

The FAA is initiating a scoping process to identify community concerns and local issues that will be addressed in the EIS. As part of the EIS public participation process, the FAA will hold a public scoping meeting to collect input on the proposed project on **May 15, 2012, from 5:00 p.m. to 8:00 p.m.** at the ITEC Center, 301 Mexico Blvd. G-1, Brownsville, TX. The scoping meeting will include a poster information session from 5:00 p.m. to 6:00 p.m., FAA presentation from 6:00 p.m. to 6:15 p.m., followed by a public statement period in which members of the public may provide up to a 3-minute statement. FAA staff will be present at this meeting to answer general questions on the proposed action and the EIS process. Scoping materials are available at http://www.faa.gov/about/office_org/headquarters_offices/ast/environmental/nepa_doc s/review/documents_progress/spacex_texas_launch_site_environmental_impact_statement/.

The FAA invites members of the public to submit comments or suggestions to assist in identifying significant environmental issues and in determining the appropriate scope of the EIS. Please submit all comments by May 30, 2012 to ensure they are considered during the preparation of the Draft EIS. The public can provide comments in three ways: 1) provide written comments at the scoping meetings, 2) speak with the stenographer who will record your comments at the scoping meetings, or 3) submit comments to: Ms. Stacey M. Zee, Environmental Protection Specialist, Federal Aviation Administration, SpaceX EIS c/o Cardno TEC Inc., 275 West Street, Suite 110, Annapolis, MD 21401, email faa-spacexeis@cardnotec.com; or fax (410)-990-0455.

101 Legal Notices | 101 Legal Notices | 102 Bid Notices | 102 Bid Notices | 102 Bid Notices | 102 Bid Notices

DECLARING MOTOR VEHICLES ABANDONED

To Whom It May Concern:

Pursuant to the provisions of Article V of the Texas Abatement Act, V.C.S. 447-9a, Sec. 5.05. We hereby notify you that we took custody of the following described motor vehicle:

Color: **WHITE** Year: **1999**
MAKE: **FORD**
Model: **EXPLORER LL**
VIN# **1FMZU32E9XZA76906**
Lic. Plates **2L3-27-26** State **MX**

The registered owner or the lienholder has the right to claim the motor vehicle within ten (10) days from the date of this publication by payment of all towing, notification, preservation and storage charges, and a release from the impounding law enforcement agency. Unclaimed vehicles will be turned over to the Police Department to be declared abandoned, and sold at Public Auction to satisfy the charges against the said vehicle.

Lupe's Wrecker
By: Karina Cisneros
Phone: (956)831-4188
Fax: (956)831-9488

05/10/2012

BROWNSVILLE INDEPENDENT SCHOOL DISTRICT PURCHASING DEPARTMENT INVITATION

• B/P/RFQ (BID/PROPOSAL/REQUEST FOR QUALIFICATION)

Description	Number	Submission	Opening
Quote for Health Care Provider(s) for UIL Physicals for BISD UIL Students Senior Buyer: Delia Gonzalez	Q 012-12	5/16/2012 10:00 AM	5/16/2012 10:15 AM

Sealed bids/proposals will be received/opened by the BISD at the office of Mrs. Rosario Peña, Administrator of Purchasing 1900 E. Price Rd, 1st Floor, RM 107, Brownsville, TX 78521-2417, (956) 548-8361. Bidders/Proposers are invited to attend openings on the dates specified, however presence is not mandatory. If you have any questions please contact the assigned Senior Buyer, as listed above.

05/10/2012

VALLEYWIDE CLASSIFIEDS • Call Us At 1-866-572-SELL (7355)
VISIT US ON THE WEB www.valleyclassifieds.com
VALLEYWIDE CLASSIFIEDS Call Us At 1-866-572-SELL (7355)

PAGE C2 | THE BROWNSVILLE HERALD | FRIDAY, MAY 11, 2012

Valleywide CLASSIFIEDS valleyclassifieds.com C

1-866-572-SELL FRIDAY, MAY 11, 2012 1-866-572-SELL

107 Auctions

NOTICE OF PUBLIC SALE

of property to satisfy landlord's lien. Sale is at 9:00 a.m. on Saturday, May 26, 2012 at 702 South Arroyo Blvd., Los Fresnos, Texas. Property will be sold to highest bidder for cash. Property includes contents of space of the following tenants:

Patricia Castillo- Home Furnishings
Isabel Cuellar- Baby Clothes & Furniture
Benjamin Luna- Furniture
Cecilia Sentino- Furniture & Books

Contact Donald Badeaux @ 233-9171 or Los Fresnos Mini Storage, 702 South Arroyo Blvd., Los Fresnos, Texas 78566.

05/11, 05/18, 2012

VALLEYWIDE CLASSIFIEDS
Call Us At 1-866-572-SELL (7355)

101 Legal Notices

NOTICE

APPLICATION HAS BEEN MADE WITH THE TEXAS ALCOHOLIC BEVERAGE COMMISSION FOR A MIXED BEVERAGE PERMIT, MIXED BEVERAGE LATE HOURS PERMIT BY RUCHI BAR & GRILL, L.L.C. dba RUCHI BAR & GRILL TO BE LOCATED AT 3777 HWY 77/83 NORTH, BROWNSVILLE, CAMERON COUNTY, TEXAS. MANAGER OF SAID LLC IS MEHUL PATEL.

05/11, 05/12/2012

NOTICE

NOTICE IS HEREBY GIVEN THAT TORTUGOS INCORPORATED IS APPLYING FOR A WINE AND BEER RETAILER'S OFF PREMISE PERMIT UNDER THE NAME OF LOS TORTUGOS SEAFOOD MARKET TO BE LOCATED AT 1683 HWY 100, PORT ISABEL, TX 78578, CAMERON COUNTY, TEXAS. HEARING WILL BE HELD ON MAY 14, 2012 AT 10:00 A.M. CORPORATION NAME TORTUGOS INCORPORATED.

05/11, 05/12/2012

FEDERAL AVIATION ADMINISTRATION
NOTICE OF PUBLIC SCOPING MEETING

The Federal Aviation Administration (FAA), Office of Commercial Space Transportation will prepare an Environmental Impact Statement (EIS) to evaluate potential environmental impacts associated with Space Exploration Technologies Corporation's (SpaceX's) proposal to launch the Falcon 9 and Falcon Heavy orbital vertical launch vehicles from a private site located in Cameron County, Texas. Under this proposal, SpaceX would construct a vertical launch area at the eastern end of Texas State Highway 4 (Boca Chica Boulevard) and a nearby control center area to support up to 12 commercial launches per year. SpaceX would apply for and obtain appropriate launch licenses and/or experimental permits to be issued by the FAA.
The FAA is initiating a scoping process to identify community concerns and local issues that will be addressed in the EIS. As part of the EIS public participation process, the FAA will hold a public scoping meeting to collect input on the proposed project on **May 15, 2012, from 5:00 p.m. to 8:00 p.m.** at the ITEC Center, 301 Mercio Blvd. G-1, Brownsville, TX. The scoping meeting will include a poster information session from 5:00 p.m. to 6:00 p.m., FAA presentation from 6:00 p.m. to 6:15 p.m., followed by a public statement period in which members of the public may provide up to a 3-minute statement. FAA staff will be present at this meeting to answer general questions on the proposed action and the EIS process. Scoping materials are available at http://www.faa.gov/about/office_org/headquarters_offices/ast/environmental/nepa_docs/review/documents_progress/spacex_texas_launch_site_environmental_impact_statement/.
The FAA invites members of the public to submit comments or suggestions to assist in identifying significant environmental issues and in determining the appropriate scope of the EIS. Please submit all comments by May 30, 2012 to ensure they are considered during the preparation of the Draft EIS. The public can provide comments in three ways: 1) provide written comments at the scoping meetings, 2) speak with the stenographer who will record your comments at the scoping meetings, or 3) submit comments to: Ms. Stacey M. Zee, Environmental Protection Specialist, Federal Aviation Administration, SpaceX EIS c/o Cardno TEC Inc., 275 West Street, Suite 110, Annapolis, MD 21401; email faa-spacexeis@cardnotec.com; or fax (410)-990-0455.

102 Bid Notices

SpawGlass Contractors, Inc., Construction Manager for the University of Texas Brownsville Biomedical Research Facility 2 building will be receiving proposals on Tuesday May 22nd, 2012 by 2:00PM for a new 78615 at laboratory facility. Proposals will be received via fax, mail, courier or hand delivered from subcontractors and suppliers. Proposals received via e-mail will not be accepted. A non-mandatory but strongly encouraged Pre-Proposal conference is scheduled for Tuesday, May 8th, 2012 at 3:00PM at the SpawGlass Office located at 4909 E. Grimes, suite 116, Harlingen, Texas. Plans & Specifications are available on ISOFT, and in all local area plan rooms. This will be a tax exempt project. This project will be governed by the Davis/Bacon Act. SpawGlass Contractors, Inc. is an Equal Opportunity Employer and we encourage all MBE/WBE/SBE/DBE/HUB certified subcontractors and suppliers to submit proposals. Please contact Fred Ehrsi or Juan Delgado at 956-412-9880 or fred.ehrsi@spawglass.com or juan.delgado@spawglass.com with any questions regarding insurance, bonding requirements or for plan procurement for this project.

204 Appliance Repair

Appliance Repair Repairs guaranteed. Open 5 days/wk. **540-2966 Brownsville** Info: 702/739 to 56864

218 Home Repairs

AZTEC House Leveling & Remodeling (All Types of Home Repairs) • Slab/Pier & Beam • FREE Estimates • Senior Discounts High 412-1558 MBA 831-0995 Efren 546-5657 Info: 702/646 to 56864

225 Paint & Paper

Putzel's Painting Int. Ext., Power Wash, Texture, Free Est. Richard, 605-1490. Info: 702/454 to 56864

301 Farm Equip. & Machinery

A&B Pipe and Supply Call for Best price on Pipe in S. Texas. We do sell available. Call (956) **603-2111** info 702/642 to 56864

305 Pets & Supplies

4 toy black poodle Puppies, 1st shots $250.00. Very friendly Potty Trained. Please Call 956-243-4769 Info: 702/451 to 56864

AKC German Shepherd Puppies, 1st shots, dewormed & docked, $400-$500 each. 956/455-6868. Info: 702/433 to 56864

AKC Huge, Smart, Child, White, Gold, Lab Puppies, Shots, $395 Bad in TX. 956/912-3348 Info: 702/503 to 56864

Small brown puppy found at Sal Re Wash by Rex pools: (956) 831-0208 Nina

LOOKING FOR A BARGAIN? CHECK OUT THE GARAGE SALES AT Valleywide 1-866-572-SELL

405 Garage Sales/ Flea Market

HUGE Estate Sale 919 E. Madison (btw. 4 Madison) Brownsville May 17th, 18th, & 19th 8 am - 7 pm. Photos & Info at www.estatesalesservices.com 956-555-9115 Info: 702/685 to 56864

Garage Sales/ Flea Market

405 Garage Sales/ Flea Market Upper Valley

After Your Garage Sale Bring Your unsold items to goodwill® Call 1-866-222-0555 to find your nearest Goodwill Donation Station. Donations turn into jobs for Hidalgo Co. Texas Adult. goodwillsouthtexas.com

418 Restaurant Equipment

All Types Ice machines, reach-in coolers, beer board, Taylor Margarita soft serve, frozen coke machines. Fifi Available Visa/MC. **464-7817**

JEAN'S RESTAURANT SUPPLY Brick, Fryers, Ranges, Ice machine, vent hood, Mixers, tables, cooler & More. **956-583-6290** Info: 702/680 to 56864

501 Help Wanted

Driver REVEILLE Flatbed Now Hiring OTR **Company Drivers New Equipment** High Mileage, 5-7 day Turnaround, Paid Vacation, Health Insurance & Incentive Bonuses. You'll Need a Class A License & 1 1/2 Years Over the Road Experience. For More Information **Call Juan Leal (866)446-1975 Ext. 300 Harlingen, Tx.** Info: 702/684 to 56864

NEW Today! Trades: **Now Hiring** • Structural Fitters • Flux Core Fitters • Pipe Welders • Pipe Fitters Must Have At Least 3 Years Experience. Housing Available In Some Areas. Pay Up To $25.00 Per Hour. OCE. Overtime Available. Please Call **956-204-6201** or Fax resumes to: 337-504-6092. EOE. Info: 702/637 to 56864

SEAHORSE TRANSPORT
NOW HIRING
SINGLE DRIVER
EMAIL RESUME TO: TOMAS@SEAHORSETRANSPORT.NET OR CALL TOMAS AT **956-831-0600 EXT.2**

CORAZON HEALTH CARE SERVICES LLC
Has immediate openings for a
RN-CASE MANAGER and HOME HEALTH AIDE
with home health and kinnser experience preferred.
Interested individuals may fax their resume to (956) 583-4521 or call (956) 423-5552 for more information.

NEW Today! Sales:

FPB ENERGY
FPB Energy LLC authorized Vendor for CPL Retail Energy Now hiring for **Business Development Representatives** marketing energy products to current and new business prospects:
Requirements:
Energetic individual willing to learn and grow in a Business scenario
Previous energy experience is a plus but NOT necessary
Recent Grads welcome
We Offer:
Base pay + commissions — Cellphone Allowance
All necessary tools and support to succeed — Full Training
Interviews will be held in McAllen, Texas 956-687-8855

THE DIOCESE OF BROWNSVILLE
HAS THE FOLLOWING JOB OPPORTUNITY
ELEMENTARY PRINCIPAL
JOB SUMMARY: San Martin de Porres Catholic School Serving 70 students in grades preK-4, is seeking a principal for the 2012-2013 school year. The school is located in Weslaco, Texas.
QUALIFICATIONS: Practicing Catholic, Master's Degree (Educational Administration) and classroom teaching experience. Must demonstrate a working knowledge of elementary education, strong administrative and communication skills, and a commitment to partnering with pastoral staff, parents and faculty. Salary and benefits are commensurate with experience and qualifications.
Interested applicants should call (956) 787-8571 for an Application. Application deadline is Friday, May 25, 2012.
Diocese of Brownsville
Attn: Mrs. Lisette Allen, Superintendent of Schools
700 N Virgen de San Juan Blvd., San Juan, Texas 78589
EOE

RESTAURANT STAFFING SPECIALS!
Looking only for Wait Staff, Bussers, Dishwashers?
CALL TODAY TO PLACE YOUR AD
4 Lines / 3 Days $25.00* County Group
4 Lines / 3 Days $50.00* Valleywide
CALL 956-982-6637
The Brownsville Herald
*Price does not include automatic online Monster job postings. *Customer must present or mention this ad at the time of purchase. Offer expires May 31, 2012 and supersedes any previous offer.

Mechanics: **K&R CO.** Natural Gas Engine-Compressor Mechanic. Field service experienced required. Pay based upon experience. Good benefits. Must pass DOT drug and alcohol test and have a valid Texas drivers license. Call (361)387-4687 or fax resume (361)387-7467 Info: 702/620 to 56864

Trades: **FIBERSPAR** **Field Technician** Fiberspar is the leader in high-strength, fiber-reinforced tubular products for the oil and gas industry. We are seeking to fill full-time positions in the following Texas locations: Cuero Springs, Freer, and Kenedy. Primary responsibilities will be to supervise and install composite pipe lines. Ideal candidates will have experience in wire-line equipment operations and some oil field experience. Salary is commensurate with work experience. Training will be provided. **Fiberspar offers a full benefits package. Interested individuals should email / fax resume to employment@fiberspar.com, fax 561-394-6555** Info: 702/624 to 56864

Trades: **SHORE CONSTRUCTION** Hiring **IMMEDIATE OPENINGS** • 6GR WELDERS **"TOP PAY"** Location: Indianola, TX **IMMEDIATE OPENINGS** • PIPE FITTERS • PIPE WELDERS • 3G/4G (PLUMBERS) • STRUCTURAL FITTERS **"TOP PAY"** Location: Brownsville, TX **Call Today!!! We are looking for 100+ workers. Call Jorge @ 956-243-1204 Or apply online at www.shoreconstr.com** Info: 702/624 to 56864

NEW Today! TRADES/CRAFTS **Permanent Workers LLC** **NOW hiring!** highly qualified Fitters, Pipe Fitters, 3G/4G welders & 6GR to work in Louisiana. Top Pay. Call **Salvador (337) 315-6613 or John (607) 319-0780** Info: 702/624 to 56864

General: **The Brownsville Herald** Want to be your own boss? WANT TO EARN EXTRA CASH? Carriers needed in **McAllen Rd., Wildrose and Ponciana Areas.** Call (956) 542-4301 or come by and fill out an application at 1135 E. Van Buren St. Brownsville, TX. 78520 Info: 702/620 to 56864

$$$$$$$$$$ Mid-Valley - P/T **Business Opportunity** Distributing The Monitor newspaper **Requirements:** 1.) Valid Texas Drivers License 2.) Social Security Card 3.) Vehicle Insurance 4.) Dependable Transportation **THE MONITOR** **INDEPENDENT CONTRACTORS WANTED:** Mercedes - Weslaco - Donna. If you meet the requirements and can be available between 3-6 a.m., **CALL TODAY! Susan Janssen (956) 451-2764 or leave message**

NOTICE TRUTH IN LENDING ACT
All ads that offer financial options for buying real estate as well as motor vehicles must comply with the Federal Truth in Lending Regulations. The act requires that ads must fully disclose the terms of a loan (down payment, monthly payment, number of payments and the annual percentage rate).
Valleywide Classifieds urges its readers to notify us if we, inadvertently publish an ad(s) that is not in compliance with the Truth in Lending Act.
Valleywide Classified Management 1-866-572 (SELL)7355

Exhibit A-4. Valley Morning Star

VALLEY MORNING STAR — CLASSIFIED — WEDNESDAY, MAY 9, 2012 ★ B5

valleywide CLASSIFIEDS — valleyclassifieds.com

1-866-572-SELL — WEDNESDAY, MAY 9, 2012 — 1-866-572-SELL

LINE ADS DEADLINES
Monday publication: Friday 4:30 p.m.
Tuesday publication: Monday 2:30 p.m.
Wednesday, Thursday and Friday publications: Day prior 2:30 p.m.
Saturday publication: Thursday 4:30 p.m.
Sunday publication: Friday 9 a.m.
Same deadlines for cancellations

FOR YOUR INFORMATION
Accuracy: Check your ad the first day and call right away. Valleywide Classifieds is not responsible for more than ONE incorrect day or omission of copy of any ad ordered more than one time. The Newspaper assumes no responsibility for ads left out of the paper other than to schedule the ad for the next available edition. Under no circumstances shall The Newspaper be liable for consequential damages of any kind. Request for corrections should be made within 24 hours of the first publication day by calling 1-866-572-7355. The newspaper reserves the right to edit, reject or properly classify any copy. Claims for adjustments on billing should be made within 30 days of publication.

ANNOUNCEMENTS 101 - 114: 101 Legal Notices, 102 Bid Notices, 103 Special Notices, 104 Entertainment, 105 Card of Thanks, 107 Auctions, 108 Cemetary Lots, 109 Personals, 110 Business Personals, 111 Lost and Found, 112 Happy Ads, 114 Adoptions

DIAL-A-SERVICE 201 - 226: 201 Accounting/Clerical, 202 Adult Care, 203 Air Conditioning, 204 Appliance Repair, 205 Attorney/Legal, 206 Beauty Salons, 207 Building Contractors, 208 Cabinet Work, 209 Carpet, 210 Cement Work, 211 Child Care, 212 Computer Service, 213 Drapes & Upholstery, 214 Electrical Work, 215 Fill Dirt & Sand, 216 Financial Services, 217 General Services, 218 Home Repairs, 219 Insurance, 220 Janitorial/Maid Service, 221 Lawn Care/Landscaping, 222 Medical Services, 223 Mobile Home Repair, 224 Movers, 225 Paint & Paper, 226 Paving, 227 Pest Control, 228 Photographers, 229 Plumbers, 230 Remodeling, 231 Telephone Systems, 232 TV/VCR Repair

AGRICULTURE 301 - 310: 301 Farm Equipment & Machinery, 302 Agriculture Services, 303 Livestock, 304 Poultry, 305 Pets & Supplies, 306 Farm Supplies Wanted, 307 Feed & Seed, 308 Fruits & Vegetables, 309 Nursery & Floral, 310 Heavy Equipments & Tools

GENERAL MERCHANDISE 401 - 420: 401 Arts & Crafts, 402 Gold, Silver Jewelry, 403 Antiques, 404 Antiques Wanted, 405 LVGarage Sales/Flea Market, 406 MVGarage Sales/Flea Market, 407 Health & Beauty, 408 Pianos & Organs, 409 Musical Instruments, 410 Stereos, TVs, VCRs, 411 Sporting Goods, 412 Medical Equipment, 413 Metal/Portable Buildings, 414 Computers & Electronics, 415 Cameras & Camcorders, 416 Office Furn. & Equipment, 417 Wanted to Buy, 418 Restaurant Equip., 419 Utility Trailers, 420 Furniture & Appliances, 421 Items Under $100

EMPLOYMENT 501 - 508: 501 Help Wanted, 502 Employment Agencies, 503 Employment Misc., 504 Employment Information, 505 Employment Services, 506 Households Help, 507 Positions Wanted, 508 Schools & Instructions

REAL ESTATE RENTALS 601 - 621: 601 Rooms, 602 LV Apts. Furnished, 602 LV Apts. Unfurnished, 602 LV Apts. Furnished/Unfurnished, 602 LV Townhouses/Condos, 603 LV Houses Furnished, 602 LV Houses Unfurnished, 603 MV Apts. Furnished, 603 MV Apts. Unfurnished, 603 MV Apts. Furnished/Unfurnished, 602 MV Townhouses/Condos, 603 MV Houses Furnished, 603 MV Houses Unfurnished, 604 UV Apts. Furnished, 604 UV Apts. Unfurnished, 604 UV Apts. Furnished/Unfurnished, 604 UV Townhouses/Condos, 604 UV Houses Furnished, 604 UV Houses Unfurnished, 605 SP Apts. Furnished, 605 SP Apts. Unfurnished, 605 SP Apts. Furnished/Unfurnished, 605 SP Townhouses/Condos, 605 SP Houses Furnished, 605 SP Houses Unfurnished, 608 Padre Island Rentals, 609 Lease with Option to Buy, 610 Resort Property, 611 Mobile Homes, 612 Mobile Home Spaces, 613 Rentals Wanted, 614 R.V. Trailers/Spaces, 615 Offices/Businesses, 616 Industrial & Warehouse, 617 Storage Rentals, 618 Acreage Wanted, 619 Hunting Leases, 620 Acreage for Lease, 621 Roommate Wanted

REAL ESTATE SALES 701 - 733: 701 LV Open Houses, 701 MV Open Houses, 701 UV Open Houses, 701 SP Open Houses, 702 City Houses, 703 Homes, Brownsville, 704 Homes, Edinburg, 705 Homes, Harlingen, 706 Homes, La Feria, 707 Houses, Laguna Vista/Laguna Madre, 708 Homes, Los Fresnos/Bayview, 709 Homes, McAllen, 710 Homes, McFarlin, 711 Homes, Mission, 712 Homes, PSJA, 713 Homes, Rancho Viejo/Olmito, 714 Homes, Rio Hondo, 715 Homes, San Benito, 716 Homes, South Padre Island, 717 Suburban Properties, 718 General Real Estate, 719 Townhouses & Condos, 720 Town Lots, 721 Rural Lots, 722 Out of Town, 723 Acreage, 724 Farm & Ranch, 725 Home Insurance, 726 Commercial/Industrial, 727 Investments, 728 Development Property, 729 Resort Property, 730 Businesses for Sale, 731 Houses to be Moved, 732 Mobile Homes, 733 Mobile Home Lots

FINANCIAL 801 - 807: 801Bus. Opportunities, 802 Real Estate Loans, 803 Money to Loan, 804 LoansWanted, 805 Mortgage, 806 Pawn Shops, 807 Casa de Cambio

RECREATION 901 - 914: 901 Go Carts, 902 Golf Carts, 903 Motor Homes, 904 Campers/Trailers, 905 Travel Trailers, 906 Park Models, 907 Boats & Motors, 908 Airplanes, 909 Motorcycles, 910 Recreational Vehicles, 911 RV Spaces, 912 Sport Vehicles, 913 Rec. Vehicle Repair, 914 Wanted Recreational

TRANSPORTATION 1001 - 1011: 1001 Auto Parts & Tires, 1002 Service & Repair, 1003 Antiques/Classics, 1004 Autos, New, 1004D Autos - New Domestic, 1004I Autos - New Imports, 1005 Autos, Used, 1005D Autos - Used Domestic, 1005I Autos - Used Imports, 1006 Plus, Vans, SUVs, 1006D Plus, Vans, SUVs -Domestic, 1006I Plus, Vans, SUVs - Imports, 1007 Trucks, Buses, 1008 Tractor/Trailer, 1009 Wanted to Buy, 1010 Auto Insurance, 1011 Auto Machinery

TO PLACE AN AD
Call us at: 1-866-572-7355
Our Fax: (956)683-4201
Log on to our website: www.valleyclassifieds.com

WHERE WE ARE LOCATED:
The Monitor, 1400 E Nolana Loop, McAllen, TX 78504
Valley Morning Star, 1310 S. Commerce, Harlingen, TX 78550
The Brownsville Herald, 1135 E. Van Buren, Brownsville, TX 78520
Mid-Valley Town Crier, 401 S. Iowa Ave. Weslaco, TX 78596
Business hours: MON-FRI 8:00 a.m.-5:00 p.m. Closed on weekends

ALL ADS ARE PREPAID
Prepay conveniently with VISA, MC, Discover, AMEX, or mail your check to: *Valleywide Classifieds*, P.O. Box 3267, McAllen, Texas 78502

111 Lost and Found | **301 Farm Equip. & Machinery** | **305 Pets & Supplies** | **305 Pets & Supplies** | **418 Restaurant Equipment** | **501 Help Wanted** | **501 Help Wanted** | **501 Help Wanted** | **501 Help Wanted** | **501 Help Wanted**

ECONOMY LAWN & Tree Tractor Service, carpet grass, topsoil, hauling. 423-8520.

225 Paint & Paper

Putzels Painting Int. Ext., Power Wash, Texture, Free Est. 428-8999, 605-1490 info: TX65697 to 56654

Grayson (M) 3 yr old neut. 13 lb Schnauzer. Real sweet.Docked tail. Text: 956.245.4809 Tip of Tex K9 Rescue.

Missy (F) 1 ½ yr old 15 lb. spayed brown mix. Very playful. Text: 956.245.4809 Tip of Tex K9 Rescue.

WYATT (m) 30 lb Terrier X. Quiet, easy to love. Lanky gentleman. HSH 956-425-7297

101 Legal Notices | **101 Legal Notices** | **101 Legal Notices**

FEDERAL AVIATION ADMINISTRATION
NOTICE OF PUBLIC SCOPING MEETING

The Federal Aviation Administration (FAA), Office of Commercial Space Transportation will prepare an Environmental Impact Statement (EIS) to evaluate potential environmental impacts associated with Space Exploration Technologies Corporation's (SpaceX's) proposal to launch the Falcon 9 and Falcon Heavy orbital vertical launch vehicles from a private site located in Cameron County, Texas. Under this proposal, SpaceX would construct a vertical launch area at the eastern end of Texas State Highway 4 (Boca Chica Boulevard) and a nearby control center area to support up to 12 commercial launches per year. SpaceX would apply for and obtain appropriate launch licenses and/or experimental permits to be issued by the FAA. The FAA is initiating a scoping process to identify community concerns and local issues that will be addressed in the EIS. As part of the EIS public participation process, the FAA will hold a public scoping meeting to collect input on the proposed project on **May 15, 2012, from 5:00 p.m. to 8:00 p.m.** at the ITEC Center, 301 Mexico Blvd. G-1, Brownsville, TX. The scoping meeting will include a poster information session from 5:00 p.m. to 6:00 p.m., FAA presentation from 6:00 p.m. to 6:15 p.m., followed by a public statement period in which members of the public may provide up to a 3-minute statement. FAA staff will be present at this meeting to answer general questions on the proposed action and the EIS process. Scoping materials are available at http://www.faa.gov/about/office_org/headquarters_offices/ast/environmental/nepa_docs/review/documents_progress/spacex_texas_launch_site_environmental_impact_statement/.

The FAA invites members of the public to submit comments or suggestions to assist in identifying significant environmental issues and in determining the appropriate scope of the EIS. Please submit all comments by May 30, 2012 to ensure they are considered during the preparation of the Draft EIS. The public can provide comments in three ways: 1) provide written comments at the scoping meetings, 2) speak with the stenographer who will record your comments at the scoping meetings, or 3) submit comments to: Ms. Stacey M. Zee, Environmental Protection Specialist, Federal Aviation Administration, SpaceX EIS c/o Cardno TEC Inc., 275 West Street, Suite 110, Annapolis, MD 21401; email taxspacexeis@cardnotec.com; or fax (410)-990-0455.

406 Miscellaneous

Damaged Building Sale, Storage, several sizes, drastically reduced, delivery,398-2222. Info: TX75701 to 56654

Dell Computer $30, Wheel Chair $100, Electric Wheel Chair, new batteries, $800 obo, (956)423-7391

NEW Today!
Drivers
REVILLE TRUCKING INC
Now Hiring OTR
Company Drivers New Equipment
High Mileage, 5-7 day Turnaround, Paid Vacation, Health Insurance & Incentive Bonuses. You'll Need a Class A License & 1 1/2 Years Over the Road Experience.
For More Information
Call Juan Leal (956)440-1975 Ext. 300
Harlingen, Tx.
Info: TX78164 to 56654

General

Pioneer Hi-Bred International, en Weslaco, Texas, tiene aperturas inmediatas para trabajadores desespigamiento del campo. La inscripion para el empleo esta disponible con cita previa. Por favor llame al 969-1569 o 1-800-856-7833. Pioneer Hi-Bred International es un Empleador de Igualdad de Oportunidades.
Info: TX76173 to 56654

Mechanics

K&R co.

Natural Gas Engine-Compressor Mechanic. Field service experienced required. Pay based upon experience. Good benefits. Must pass DOT drug and alcohol test and have a valid Texas drivers license. Call **(361)387-6567** or fax resume **(361)387-7867**
Info: TX76028 to 56654

Enjoy working with children/adolescents.

- Want to make a change in our resident's lives.
- Want a professional and positive work environment.
- Have a positive attitude.
- 21 years old or older.

The following positions are available:

- Direct Care
- Program Director
- Case Managers
- Lead Case Manager
- Clinician
- Lead Clinician
- Shelter Supervisor
- Shift Leader
- Driver
- Custodians
- Maintenance Worker
- Teacher's Aide

BCFS offers all full time staff a benefit package that includes: paid medical, dental, and life + a generous paid time off program.

Visit: WWW.NOWHIRINGHARLINGEN.COM to view requirements and pay of each job.

Hampton Inn
1202 N Ed Carey Dr
Harlingen, Texas
Thursday May 10th – Friday May 11th
10am – 7pm

VALLEY MORNING STAR — CLASSIFIED — THURSDAY, MAY 10, 2012 ★ B5

Valleywide CLASSIFIEDS

Hidalgo County: Alamo, Mission, Pharr, McAllen, Edinburg, Weslaco, Mercedes, THE MONITOR, MID-VALLEY TOWN CRIER
Cameron County: Harlingen, San Benito, Brownsville, THE STAR, THE HERALD, COASTAL CURRENT, ISLAND BREEZE

valleyclassifieds.com

B

1-866-572-SELL — THURSDAY, MAY 10, 2012 — 1-866-572-SELL

LINE ADS DEADLINES

Monday publication: Friday 4:30 p.m.
Tuesday publication: Monday 2:30 p.m.
Wednesday, Thursday and Friday publications: Day prior 2:30 p.m.
Saturday publication: Thursday 4:30 p.m.
Sunday publication: Friday 9 a.m.
Same deadlines for cancellations

FOR YOUR INFORMATION

Accuracy:
Check your ad the first day and call right away. Valleywide Classifieds is not responsible for more than ONE incorrect day or omission of copy of any ad ordered more than one time. The Newspaper assumes no responsibility for ads left out of the paper other than to schedule the ad for the next available edition. Under no circumstances shall The Newspaper be liable for consequential damages of any kind. Request for corrections should be made within 24 hours of the first publication day by calling 1-866-572-7355. The newspaper reserves the right to edit, reject or properly classify any copy. Claims for adjustments on billing should be made within 30 days of publication.

ANNOUNCEMENTS 101 - 114
101 Legal Notices
102 Bid Notices
103 Special Notices
104 Entertainment
105 Card of Thanks
107 Auctions
108 Cemetery Lots
109 Personals
110 Business Personals
111 Lost and Found
112 Happy Ads
114 Adoptions

DIAL-A-SERVICE 201 - 226
201 Accounting/Clerical
202 Adult Care
203 Air Conditioning
204 Appliance Repair
205 Attorney/Legal
206 Beauty Salons
207 Building Contractors
208 Cabinet Work
209 Carpet
210 Cement Work
211 Child Care
212 Computer Service
213 Drapes & Upholstery
214 Electrical Work
215 Fill Dirt & Sand
216 Financial Services
217 General Services
218 Home Repairs
219 Insurance
220 Janitorial/Maid Service
221 Lawn Care/Landscaping
222 Medical Services
223 Mobile Home Repair
224 Movers
225 Paint & Paper
226 Paving
227 Pest Control
228 Photographers
229 Plumbers
230 Remodeling
231 Telephone Systems
232 TV/VCR Repair

AGRICULTURE 301 - 310
301 Farm Equipment & Machinery
302 Agriculture Services
303 Livestock
304 Poultry
305 Pets & Supplies
306 Farm Supplies Wanted
307 Feed & Seed
308 Fruits & Vegetables
309 Nursery & Floral
310 Heavy Equipments & Tools

GENERAL MERCHANDISE 401 - 420
401 Arts & Crafts
402 Gold, Silver Jewelry
403 Antiques
404 Antiques Wanted
405 LVGarage Sales/Flea Market
405 MVGarage Sales/Flea Market
405 SPGarage Sales/Flea Market
406 Miscellaneous
407 Health & Beauty
408 Pianos & Organs
409 Musical Instruments
410 Stereos, TVs, VCRs
411 Sporting Goods
412 Medical Equipment
413 Metal/Portable Buildings
414 Computers & Electronics
415 Cameras & Camcorders
416 Office Furn. & Equipment
417 Wanted to Buy
418 Restaurant Equip.
419 Utility Trailers
420 Furniture & Appliances
421 Items Under $100

EMPLOYMENT 501 - 508
501 Help Wanted
502 Employment Agencies
503 Employment Misc.
504 Employment Information
505 Employment Services
506 Household Help
507 Positions Wanted
508 Schools & Instructions

REAL ESTATE RENTALS 601 - 621
601 Rooms
602 LV Apts. Furnished
602 LV Apts. Unfurnished
602 LV Apts. Furnished/Unfurnished
602 LV Townhouses/Condos
602 LV Houses Furnished
602 LV Houses Unfurnished
603 MV Apts. Furnished
603 MV Apts. Unfurnished
603 MV Apts. Furnished/Unfurnished
603 MV Townhouses/Condos
603 MV Houses Furnished
603 MV Houses Unfurnished
604 UV Apts. Furnished
604 UV Apts. Unfurnished
604 UV Apts. Furnished/Unfurnished
604 UV Townhouses/Condos
604 UV Houses Furnished
604 UV Houses Unfurnished
605 SP Apts. Furnished
605 SP Apts. Unfurnished
605 SP Apts. Furnished/Unfurnished
605 SP Townhouses/Condos
605 SP Houses Furnished
605 SP Houses Unfurnished
608 Padre Island Rentals
609 Lease with Option to Buy
610 Resort Property
611 Mobile Homes
612 Mobile Home Spaces
613 Rentals Wanted
614 R.V. Trailers/Spaces
615 Offices/Businesses
616 Industrial & Warehouse
617 Storage Rentals
618 Acreage Wanted
619 Hunting Leases
620 Acreage for Lease
621 Roommate Wanted

REAL ESTATE SALES 701 - 733
701 LV Open Houses
701 MV Open Houses
701 UV Open Houses
701 SP Open Houses
702 City Houses
703 Homes, Brownsville
704 Homes, Edinburg
705 Homes, Harlingen
706 Homes, La Feria
707 Houses, Laguna Vista/Laguna Madre
708 Homes, Los Fresnos/Bayview
709 Homes, McAllen
710 Homes, Mid-Valley
711 Homes, Mission
712 Homes, PSJA
713 Homes, Rancho Viejo/Olmito
714 Homes, Rio Hondo
715 Homes, San Benito
716 Homes, South Padre Island
717 Suburban Properties
718 General Real Estate
719 Townhouses & Condos
720 Town Lots
721 Rural Lots
722 Out of Town
723 Acreage
724 Farm & Ranch
725 Home Insurance
726 Commercial/Industrial
727 Investments
728 Development Property
729 Resort Property
730 Businesses for Sale
731 Houses To Be Moved
732 Mobile Homes
733 Mobile Home Lots

FINANCIAL 801 - 807
801 Bus. Opportunities
802 Real Estate Loans
803 Money to Loan
804 Loans Wanted
805 Mortgage
806 Pawn Shops
807 Casa de Cambio

RECREATION 901 - 914
901 Go Carts
902 Golf Carts
903 Motor Homes
904 Campers/Trailers
905 Travel Trailers
906 Park Models
907 Boats & Motors
908 Airplanes
909 Motorcycles
910 Recreational Vehicles
911 RV Spaces
912 Sport Vehicles
913 Rec. Vehicle Repair
914 Wanted Recreational

TRANSPORTATION 1001 - 1011
1001 Auto Parts & Tires
1002 Service & Repair
1003 Antiques/Classics
1004 Autos, New
1004D Autos - New Domestic
1004I Autos - New Imports
1005 Autos, Used
1005D Autos - Used Domestic
1005I Autos - Used Imports
1006 Plus, Vans, SUVs
1006D Plus, Vans, SUVs -Domestic
1006I Plus, Vans, SUVs - Imports
1007 Trucks, Buses
1008 Tractor/Trailer
1009 Wanted to Buy
1010 Auto Insurance
1011 Auto Machinery

TO PLACE AN AD

Call us at:
1-866-572-7355
Our Fax:
(956)683-4201
Log on to our website:
www.valleyclassifieds.com

WHERE WE ARE LOCATED:

The Monitor
1400 E Nolana Loop,
McAllen, TX 78504

Valley Morning Star
1310 S. Commerce,
Harlingen, TX 78550

The Brownsville Herald
1135 E. Van Buren,
Brownsville, TX 78520

Mid-Valley Town Crier
401 S. Iowa Ave.
Weslaco, TX 78596

Business hours:
MON-FRI 8:00 a.m.-5:00 p.m.
Closed on weekends

ALL ADS ARE PREPAID

Prepay conveniently with VISA, MC, Discover, AMEX, or mail your check to: ***Valleywide Classifieds***, P.O. Box 3267, McAllen, Texas 78502

101 Legal Notices | **101 Legal Notices** | **101 Legal Notices**

FEDERAL AVIATION ADMINISTRATION NOTICE OF PUBLIC SCOPING MEETING

The Federal Aviation Administration (FAA), Office of Commercial Space Transportation will prepare an Environmental Impact Statement (EIS) to evaluate potential environmental impacts associated with Space Exploration Technologies Corporation's (SpaceX's) proposal to launch the Falcon 9 and Falcon Heavy orbital vertical launch vehicles from a private site located in Cameron County, Texas. Under this proposal, SpaceX would construct a vertical launch area at the eastern end of Texas State Highway 4 (Boca Chica Boulevard) and a nearby control center area to support up to 12 commercial launches per year. SpaceX would apply for and obtain appropriate launch licenses and/or experimental permits to be issued by the FAA. The FAA is initiating a scoping process to identify community concerns and local issues that will be addressed in the EIS. As part of the EIS public participation process, the FAA will hold a public scoping meeting to collect input on the proposed project on **May 15, 2012, from 5:00 p.m. to 8:00 p.m.** at the ITEC Center, 301 Mexico Blvd. G-1, Brownsville, TX. The scoping meeting will include a poster information session from 5:00 p.m. to 6:00 p.m., FAA presentation from 6:00 p.m. to 6:15 p.m., followed by a public statement period in which members of the public may provide up to a 3-minute statement. FAA staff will be present at this meeting to answer general questions on the proposed action and the EIS process. Scoping materials are available at http://www.faa.gov/about/office_org/headquarters_offices/ast/environmental/nepa_docs/review/documents_progress/spacex_texas_launch_site_environmental_impact_statement/.

The FAA invites members of the public to submit comments or suggestions to assist in identifying significant environmental issues and in determining the appropriate scope of the EIS. Please submit all comments by May 30, 2012 to ensure they are considered during the preparation of the Draft EIS. The public can provide comments in three ways: 1) provide written comments at the scoping meetings, 2) speak with the stenographer who will record your comments at the scoping meetings, or 3) submit comments to: Ms. Stacey M. Zee, Environmental Protection Specialist, Federal Aviation Administration, SpaceX EIS c/o Cardno TEC Inc., 275 West Street, Suite 110, Annapolis, MD 21401; email faaspacexeis@cardnotec.com; or fax (410)-990-0455.

VALLEYWIDE CLASSIFIEDS • Call Us At 1-866-572-SELL (7355)

111 Lost and Found

$400 Reward for return of missing 4 mo. old male German Shepherd. Red collar! Lost in Treasure Hills area. 956-202-5440 Info: TX75990 to 56654

Found 2 Terrier mix dogs in Harlingen Week of 5/1 Call 241-0340 ASAP!! Info: TX76198 to 56654

204 Appliance Repair

Appliance Repair. Repairs guaranteed. Open 7 days/wk. **281-3426 Hgn.** Info: TX67708 to 56654

Valleywide On the web valleyclassifieds.com

107 Auctions

213 Drapes & Upholstery

LINDA'S UPHOLSTERY Est., Pick-up, Delivery 956-423-6879 Info: TX75475 to 56654

218 Home Repairs

AZTEC House Leveling & Remodeling (All Types of Home Repairs)
- Slab/Pier & Beam
- FREE Estimates
- Senior Discounts

Hgn. 412-1558
McA. 631-0995
Brwn. 546-5657
Info: TX75348 to 56654

Valleywide 1-866-572-SELL

107 Auctions

Estate Sale
IN HARLINGEN!
May 11th & 12th, Friday & Saturday 8am - 5pm
Sale Location: 1022 E. Pierce
The estate belonged to Betty & Merton Murray Sr.

Items include: Antiques, sterling flatware, Steuben glass bowls, crystal, china (Limoges, Noritake, Nippon), sofas, side tables, vintage clothing & hats, 1800's books, queen bed, china cabinet with companion dining table & chairs, armoire, tv's, many collectables, suitcases, kitchenware, 1960's dining set and many other vintage pieces.

Event Held by Estate Sales & Liquidations
by *Jessica* 956-778-5834.
www.estatesalesbyjessica.com

221 Lawn Care/Landscaping

ECONOMY LAWN & Tree Tractor Service, carpet grass, topsoil, hauling. 423-8520.

225 Paint & Paper

Putzels Painting Int. Ext., Power Wash, Texture, Free Est. 428-8999, 605-1490 Info: TX65697 to 56654

301 Farm Equip. & Machinery

A & B Pipe and Supply

Call for Best prices on Pipe in S. Texas. 1½" to 30" available. Call (956) **605-2111.** Info: TX75642 to 56654

305 Pets & Supplies

(Imperial)/Mini Shih-Tzu /Yorkie Terrier Puppies. Deposits Accepted (956) 592-5128. Info: TX76289 to 56654

NEW Today!

AKC Registered German Shepards & Wkie, 2M. $500 / 4F $400. 1st shots, **956-456-7520** Info: TX76352 to 56654

305 Pets & Supplies

AKC Huge, Smart, Choc,White, Cute, Lab Pups, Shots $395 Best in TX 7568723Info: TX76100 to 56654

Bear (M) 2 yr old, 8lb. Pug-Chi X. Sweet & lovable. Missing an eye Text: 956.245.4809 Tip of Tex K9 Rescue.

FEISTY (f) young princess in training. Wants room with view. Lots of love. HSH 956-425-7297

Valleywide valleyclassifieds.com

305 Pets & Supplies

Grayson (M) 3 yr old neut. 13 lb Schnauzer. Real sweet.Docked tail. Text: 956.245.4809 Tip of Tex K9 Rescue.

Joey (M) 1-2 yr old-12 lb neut. Friendly Maltipoo. Text: 956.245.4809 Tip of Tex K9 Rescue.

LARK (f) baby Schnauzer-Poodle X. Chunky pup, stubby legs, cuddle and play. HSH 956-425-7297

Valleywide Call Us At 1-866-572-SELL (7355)

305 Pets & Supplies

Missy (F) 1 ½ yr old 15 lb. spayed brown mix. Very playful Text: 956.245.4809 Tip of Tex K9 Rescue.

Romeo (M) 2 yr old neut. Friendly & playful white poodle. Text: 956.245.4809 Tip of Tex K9 Rescue.

305 Pets & Supplies

SAVANNA(f) flirtatious, charming, clean house pet, extra pretty girl. HSH 956-425-7297

WYATT (m) 30 lb Terrier X. Quiet, easy to love... Lanky gentleman. HSH 956-425-7297

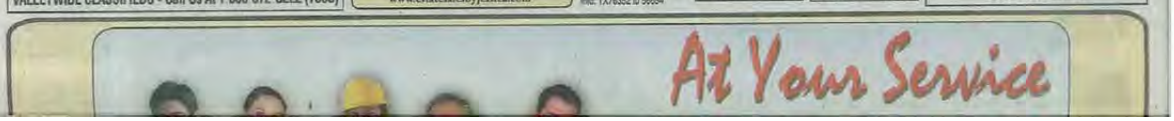
* * * * *

NOTICE TRUTH IN LENDING ACT

All ads that offer financial options for buying real estate as well as motor vehicles must comply with the Federal Truth in Lending Regulations. The act requires that ads must fully disclose the terms of a loan (down payment, monthly payment, number of payments and the annual percentage rate).

Valleywide Classifieds urges its readers to notify us if we, inadvertently publish an ad(s) that is not in compliance with the Truth in Lending Act.

Valleywide Classified Management
1-866-572-(SELL)7355



VALLEY MORNING STAR — CLASSIFIED — FRIDAY, MAY 11, 2012 ★ B5

Valleywide CLASSIFIEDS

valleyclassifieds.com

B

1-866-572-SELL — FRIDAY, MAY 11, 2012 — 1-866-572-SELL

LINE ADS DEADLINES

Monday publication:
Friday 4:30 p.m.
Tuesday publication:
Monday 2:30 p.m.
Wednesday, Thursday and Friday publications:
Day prior 2:30 p.m.
Saturday publication:
Thursday 4:30 p.m.
Sunday publication:
Friday 9 a.m.

Same deadlines for cancellations

FOR YOUR INFORMATION

Accuracy:
Check your ad the first day and call right away. Valleywide Classifieds is not responsible for more than ONE incorrect day or omission of copy of any ad ordered more than one time. The Newspaper assumes no responsibility for ads left out of the paper other than to schedule the ad for the next available edition. Under no circumstances shall The Newspaper be liable for consequential damages of any kind. Request for corrections should be made within 24 hours of the first publication day by calling 1-866-572-7355. The newspaper reserves the right to edit, reject or properly classify any copy. Claims for adjustments on billing should be made within 30 days of publication.

ANNOUNCEMENTS 101 - 114
101 Legal Notices
102 Bid Notices
103 Special Notices
104 Entertainment
105 Card of Thanks
107 Auctions
108 Cemetery Lots
109 Personals
110 Business Personals
111 Lost and Found
112 Happy Ads
114 Adoptions

DIAL-A-SERVICE 201 - 226
201 Accounting/Clerical
202 Adult Care
203 Air Conditioning
204 Appliance Repair
205 Attorney/Legal
206 Beauty Salons
207 Building Contractors
208 Cabinet Work
209 Carpet
210 Cement Work
211 Child Care
212 Computer Service
213 Drapes & Upholstery
214 Electrical Work
215 Fill Dirt & Sand
216 Financial Services
217 General Services
218 Home Repairs
219 Insurance
220 Janitorial/Maid Service
221 Lawn Care/Landscaping
222 Medical Services
223 Mobile Home Repair
224 Movers
225 Paint & Paper
226 Paving
227 Pest Control
228 Photographers
229 Plumbers
230 Remodeling
231 Telephone Systems
232 TV/VCR Repair

AGRICULTURE 301 - 310
301 Farm Equipment & Machinery
302 Agriculture Services
303 Livestock
304 Poultry
305 Pets & Supplies
306 Farm Supplies Wanted
307 Feed & Seed
308 Fruits & Vegetables
309 Nursery & Floral
310 Heavy Equipments & Tools

GENERAL MERCHANDISE 401 - 420
401 Arts & Crafts
402 Gold, Silver Jewelry
403 Antiques
404 Antiques Wanted
405 LV/Garage Sales/Flea Market
405 MV/Garage Sales/Flea Market
405 UV/Garage Sales/Flea Market
405 SP/Garage Sales/Flea Market
406 Miscellaneous
407 Health & Beauty
408 Pianos & Organs
409 Musical Instruments
410 Stereos, TVs, VCRs
411 Sporting Goods
412 Medical Equipment
413 Metal/Portable Buildings
414 Computers & Electronics
415 Cameras & Camcorders
416 Office Furn. & Equipment
417 Wanted to Buy
418 Restaurant Equip.
419 Utility Trailers
420 Furniture & Appliances
421 Items Under $100

EMPLOYMENT 501 - 508
501 Help Wanted
502 Employment Agencies
503 Employment Misc.
504 Employment Information
505 Employment Services
506 Household Help
507 Positions Wanted
508 Schools & Instructions

REAL ESTATE RENTALS 601 - 621
601 Houses
602 LV Apts. Furnished
602 LV Apts. Unfurnished
603 LV Houses Furnished
603 LV Houses Unfurnished
602 MV Apts. Furnished
603 MV Apts. Unfurnished
603 MV Apts. Furnished/Unfurnished
603 MV Townhouses/Condos
603 MV Houses Furnished
603 MV Houses Unfurnished
604 UV Apts. Furnished
604 UV Apts. Unfurnished
604 UV Apts. Furnished/Unfurnished
604 UV Townhouses/Condos
604 UV Houses Furnished
604 UV Houses Unfurnished
605 SP Apts. Furnished
605 SP Apts. Unfurnished
605 SP Apts. Furnished/Unfurnished
605 SP Townhouses/Condos
605 SP Houses Furnished
605 SP Houses Unfurnished
608 Padre Island Rentals
609 Lease with Option to Buy
610 Resort Property
611 Mobile Homes
612 Mobile Home Spaces
613 Rentals Wanted
614 R.V. Trailers/Spaces
615 Offices/Businesses
616 Industrial & Warehouse
617 Storage Rentals
618 Acreage Wanted
619 Hunting Leases
620 Acreage for Lease
621 Roommate Wanted

REAL ESTATE SALES 701 - 733
701 LV Open Houses
701 MV Open Houses
701 UV Open Houses
701 SP Open Houses
702 City Houses
703 Homes, Brownsville
704 Homes, Edinburg
705 Homes, Harlingen
706 Homes, La Feria
707 Homes, Laguna Vista/Laguna Madre
708 Homes, Los Fresnos/Rayview
709 Homes, McAllen
710 Homes, MidValley
711 Homes, Mission
712 Homes, PSJA
713 Homes, Rancho Viejo/Olmito
714 Homes, Rio Hondo
715 Homes, San Benito
716 Homes, South Padre Island
717 Suburban Properties
718 General Real Estate
719 Townhouses & Condos
720 Town Lots
721 Rural Lots
722 Out of Town
723 Acreage
724 Farm & Ranch
725 Home Insurance
726 Commercial/Industrial
727 Investments
728 Development Property
729 Resort Property
730 Businesses for Sale
731 Houses to be Moved
732 Mobile Homes
733 Mobile Home Lots

FINANCIAL 801 - 807
801 Bus. Opportunities
802 Real Estate Loans
803 Money to Loan
804 Loans Wanted
805 Mortgage
806 Pawn Shops
807 Casa de Cambio

RECREATION 901 - 914
901 Go Carts
902 Golf Carts
903 Motor Homes
904 Campers/Trailers
905 Travel Trailers
906 Park Models
907 Boats & Motors
908 Airplanes
909 Motorcycles
910 Recreational Vehicles
911 RV Spaces
912 Sport Vehicles
913 Rec. Vehicle Repair
914 Wanted Recreational

TRANSPORTATION 1001 - 1011
1001 Auto Parts & Tires
1002 Service & Repair
1003 Antiques/Classics
1004 Autos, New
1004D Autos - New Domestic
1004I Autos - New Imports
1005 Autos, Used
1005D Autos - Used Domestic
1005I Autos - Used Imports
1006 Pick Vans, SUVs
1006D Pick Vans, SUVs -Domestic
1006I Pick Vans, SUVs - Imports
1007 Trucks, Buses
1008 Tractor/Trailer
1009 Wanted to Buy
1010 Auto Insurance
1011 Auto Machinery

TO PLACE AN AD

Call us at:
1-866-572-7355
Our Fax:
(956)683-4201
Log on to our website:
www.valleyclassifieds.com

WHERE WE ARE LOCATED:

The Monitor
1400 E Nolana Loop,
McAllen, TX 78504

Valley Morning Star
1310 S. Commerce,
Harlingen, TX 78550

The Brownsville Herald
1135 E. Van Buren,
Brownsville, TX 78520

Mid-Valley Town Crier
401 S. Iowa Ave.
Weslaco, TX 78596

Business hours:
MON-FRI 8:00 a.m.-5:00 p.m.
Closed on weekends

ALL ADS ARE PREPAID

Prepay conveniently with VISA, MC, Discover, AMEX, or mail your check to: ***Valleywide Classifieds***, P.O. Box 3267, McAllen, Texas 78502

COMMUNITY DEVELOPMENT ADVISORY BOARD NOTICE OF REGULAR MEETING

NOTICE is hereby given that the Community Development Advisory Board of the City of Harlingen will hold a Regular Meeting on **Thursday, May 17, 2012 at 5:30 p.m.** in the Conference Room of the Lon C. Hill Building located at 502 E. Tyler Street, Harlingen, Texas 78550. Please call (956) 216-5180 for further information. Accommodations for individuals with handicaps/disabilities or limited English proficiency shall be assisted upon request by calling 216-5180. *Los alojamientos para individuos con desventajas/incapacidades o pericia inglesa limitada serán ayudados sobre la petición llamando 216-5181.*

FEDERAL AVIATION ADMINISTRATION NOTICE OF PUBLIC SCOPING MEETING

The Federal Aviation Administration (FAA), Office of Commercial Space Transportation will prepare an Environmental Impact Statement (EIS) to evaluate potential environmental impacts associated with Space Exploration Technologies Corporation's (SpaceX's) proposal to launch the Falcon 9 and Falcon Heavy orbital vertical launch vehicles from a private site located in Cameron County, Texas. Under this proposal, SpaceX would construct a vertical launch area at the eastern end of Texas State Highway 4 (Boca Chica Boulevard) and a nearby control center area to support up to 12 commercial launches per year. SpaceX would apply for and obtain appropriate launch licenses and/or experimental permits to be issued by the FAA. The FAA is initiating a scoping process to identify community concerns and local issues that will be addressed in the EIS. As part of the EIS public participation process, the FAA will hold a public scoping meeting to collect input on the proposed project on **May 15, 2012, from 5:00 p.m. to 8:00 p.m.** at the ITEC Center, 301 Mexico Blvd. G-1, Brownsville, TX. The scoping meeting will include a poster information session from 5:00 p.m. to 6:00 p.m., FAA presentation from 6:00 p.m. to 6:15 p.m., followed by a public statement period in which members of the public may provide up to a 3-minute statement. FAA staff will be present at this meeting to answer general questions on the proposed action and the EIS process. Scoping materials are available at http://www.faa.gov/about/office_org/headquarters_offices/ast/environmental/nepa_docs/review/documents_progress/spacex_texas_launch_site_environmental_impact_statement/.
The FAA invites members of the public to submit comments or suggestions to assist in identifying significant environmental issues and in determining the appropriate scope of the EIS. Please submit all comments by May 30, 2012 to ensure they are considered during the preparation of the Draft EIS. The public can provide comments in three ways: 1) provide written comments at the scoping meetings, 2) speak with the stenographer who will record your comments at the scoping meetings, or 3) submit comments to: Ms. Stacey M. Zee, Environmental Protection Specialist, Federal Aviation Administration, SpaceX EIS c/o Cardno TEC Inc., 275 West Street, Suite 110, Annapolis, MD 21401; email faaspacexeis@cardnotec.com; or fax (410)-990-0455.

(Imperial)Mini Shih-Tzu /Yorkie Terrier Puppies. Deposits Accepted (956) 592-5128. Info: TX76289 to 56654

AKC Huge, Smart, Choc/White, Cute, Lab Pups, Shots $395 Best in TX 7566723Info: TX76100 to 56654

AKC Registered German Shepards 8 Wks, 2M $500 / 4F $400 1st shots, **956-456-7520** Info: TX76352 to 56654

Bear (M) 2 yr old, Blb. Pug-Chi X. Sweet & lovable. Missing an eye. Text: 956.245.4809 Tip of Tex K9 Rescue.

FEISTY (f) young princess in training. Wants room with view. Lots of love. HSH 956-425-7297

valleywide
LOOKING FOR A BARGAIN?
CHECK OUT THE CLASSIFIEDS
1-866-572-SELL

LARK (f) baby Schnauzer-Poodle X. Chunky pup, stubby legs, cuddle and play. HSH 956-425-7297

old 12 lb neut. Friendly & playful white poodle. Text: 956.245.4809 Tip of Tex K9 Rescue.

SAVANNA(f) flirtatious, charming, clean house pet, extra pretty girl. HSH 956-425-7297

107 Auctions

Estate Sale

IN HARLINGEN!
May 11th & 12th, Friday & Saturday 8am - 5pm
Sale Location: 1022 E. Pierce
The estate belonged to Berry & Merlton Murray Sr.

Items include: Antiques, sterling flatware, Steuben glass bowls, crystal, china (Limoges, Noritake, Nippon), sofas, side tables, vintage clothing & hats, 1800's books, queen bed, china cabinet with companion dining table & chairs, armoire, tv's, many collectables, suitcases, kitchenware, 1960's dining set and many other vintage pieces.

Event Held by Estate Sales & Liquidations
by *Jessica* 956-778-5834.
www.estatesalesbyjessica.com

PUBLIC ESTATE AUCTION

TRACTORS AND IMPLEMENTS
HEAVY DUTY UTILITY TRAILER
POWER EQUIPMENT - SHOP EQUIPMENT
NEW CRAFTSMAN RIDING MOWER
RELOADERS - STEEL GUN CABINET/SAFE
NICE FURNITURE PIECES

DATE: SATURDAY, MAY 12, 2012 AT 10:00 A.M.
LOCATION: 108 S. 23RD ST., DONNA, TEXAS – Take Business 83 East to 23rd, then South.
See Website for Map and Pictures. www.johnmace.com

Living Room Furniture including: Buffet/China Display • Butcher Block Table • Antique Ornate Buffet - Cedar Armoire – Loveseat – Modern Dresser - Tools and Equipment: Two Case Tractors (590's?), One Complete, One for Parts or Restoration – Heavy Duty Steel 14' Implement/Utility Trailer with New Tires and Trailer Dolly • Small Disc - Large Shredder • Box Blade • Implement Hoist – Like New Craftsman Riding Mower - Craftsman Radial Arm Saw – Craftsman Band Saw • Ryobi Oscillating Sander • Belt Sander • Newer Portable Style Air Compressor - Large

405 Garage Sales/Flea Market

HGN-901 E. Van Buren Sat & Sun 9-4. Estate Sale-Dining Room & Patio Set, Propane Stove, Antiques. Info: TX76448 to 56654

HUGE Estate Sale 519 E. Madison (6th & Madison) Brownsville May 17th, 18th, & 19th 8 am - 7 pm Photos & Info: www.estatesaleservice.net 956-355-9715 Info: TX76455 to 56654

Garage Sales/ Flea Market

405 Garage Sales/Flea Market Lower Valley

NEW 800 FLEA MARKET
15760 FM 800 2 Mi. W. Rangerville Rd., Harlingen
Over 21,000 Sq. Ft.,
under roof.
Vendors: $3 Spaces/Tables
Food Vendors welcome,
8-5pm Sat. / Sun.
Free Parking.
Call 956-444-0004

La Feria- Yard Sale May 12th, 508 Kiester Lane 8:30am-2pm, evening dresses, furn. clothes, misc. items. Info: TX76418 to 56654

Moving Sale- La Feria 1day only Sat. May 12th, 8am-6pm. 617 Magnolia. Household items, tools. Info: TX76434 to 56654

FIND THE BEST RATES

406 Miscellaneous

Damaged Building Sale, Storage, several sizes, drastically reduced, delivery.399-5222. Info: TX75701 to 56654

Dell Computer $30, Wheel Chair $100, electric Wheel Chair, new batteries, $500 obo, (956)423-7391

418 Restaurant Equipment

All Types Ice machines, reach-in coolers, beer boxes, Taylor Margarita soft serve, frozen coke machines. Fin. Available Visa/MC. 464-7817.

JEANS Restaurant Equipment
Sinks, Fryers, Ranges, ice machine, venthood, chairs, tables, coolers & More. **956-688-6290** Info: TX75650 to 56654

On the web valleyclassifieds.com

www.goodwillsouthtexas.com

Trades

FIBERSPAR

Field Technician

Fiberspar is the leader in high-strength, Fiber-reinforced tubular products for the oil and gas industry. We are seeking to fill fulltime positions in the following Texas locations: Carrizo Springs, Freer, and Kenedy; Primary responsibilities will be to supervise and install composite pipe lines. Ideal candidate will have experience in wire-line equipment operations and some oil field experience.
Salary is commensurate with work experience, Training will be provided.
Fiberspar offers a full benefits package. Interested individuals should email / fax resume to employment@fiberspar.com, fax 361-394-5985.
Info: TX75784 to 56654

Trades

SHORE CONSTRUCTION

Has
IMMEDIATE OPENINGS
• 6GR WELDERS
"TOP PAY"
Location: Ingleside, TX
IMMEDIATE OPENINGS
• PIPE FITTERS
• PIPE WELDERS
• 3G/4G (FLUXCORE)
• STRUCTURAL FITTERS
"TOP PAY"
Location: Brownsville, TX
Call Today!!!
We are looking for 100+ workers.
Call Jorge @ 956-243-1204
Or apply online at
www.shoreconstr.com
Info: TX76334 to 56654

Mid-Valley Town Crier

Are you ready to sell an exciting number of products in established business environment, with lots of potential?

The *Mid-Valley Town Crier* located in Weslaco, TX, a leader in news and information is seeking an enthusiastic and motivated sales professional. This position will sell advertising in a number of exciting products including the twice weekly newspaper, as well as helping clients with the strategic placement of online advertising to better position their business for the future.
Candidates must have the ability to strategize, make presentations and coordinate the creative process. You will actively prospect for new business to grow a territory, manage current accounts as well as develop and execute strategic sales initiatives.
We offer a creative, interactive work environment that's exciting and

Exhibit A-5. El Bravo

marketing@elbravo.com.mx

ADMINISTRACIÓN FEDERAL DE AVIACIÓN
NOTIFICACIÓN DE REUNIÓN PÚBLICA

La Administración Federal de Aviación (FAA por sus siglas en inglés), Oficina de Transporte Espacial Comercial preparará una Declaración de Impacto Ambiental qué evaluará los posibles impactos ambientales asociados con la propuesta de Space Exploration Technologies Corp. (SpaceX), quienes proponen lanzamientos de vehículos orbitales verticales como el Falcon 9 y el Falcon Heavy, desde un sitio privado situado en el condado de Cameron Texas. Según esta propuesta, SpaceX construiría una zona de lanzamiento vertical en el extremo oriental de la Autopista 4 Estatal de Texas (Boca Chica Boulevard) y cerca de este, una zona que funcionaría como centro de control, para soportar hasta 12 lanzamientos comerciales cada año. SpaceX solicitaría y obtendría las licencias correspondientes y/o permisos de lanzamiento experimentales expedidos por la FAA.

La FAA está iniciando un proceso de evaluación para identificar los problemas de la comunidad y temas locales que se abordarán en la EIS. Como parte del proceso de participación pública de la EIS, la FAA organizará una reunión de presentación al público para recibir las opiniones sobre el proyecto propuesto el día ***15 de Mayo de 2012, desde las 5:00 p.m. a las 8:00 p.m.*** en el Centro ITEC, 301 México Blvd. G-1, Brownsville, TX. La reunión incluirá una sesión de carteles informativos desde 5:00 p.m. a 6:00 p.m., una presentación de la FAA desde las 6:00 p.m. a las 6:15 p.m., seguido por un período de declaraciones públicas en la que los miembros del público pueden proporcionar declaraciones de hasta 3 minutos. El personal de la FAA estará presente en esta reunión para responder a preguntas generales sobre la acción propuesta y el proceso de la EIS. Materiales de información están disponibles en la siguiente página de internet:
http://www.faa.gov/about/office_org/headquarters_offices/ast/environmental/nepa_docs/review/documents_progress/spacex_texas_launch_site_environmental_impact_statement/

La FAA invita a los miembros del público a compartir sus comentarios o sugerencias las cuales ayudaran a identificar temas ambientales significativos y a determinaran el enfoque apropiado de la EIS. Por favor emita y envíe sus comentarios hasta el 30 de mayo de 2012 para garantizar que sean considerados durante la preparación de la primera versión de la EIS. El público puede proporcionar sus comentarios de tres maneras:
1) proporcionar comentarios por escrito durante las reuniones de presentación
2) Hablar con el esterógrafo quién registrará sus comentarios en las reuniones de presentación o
3) Enviar sus comentarios por correo a:
Sra. Stacey M. Zee, especialista de protección ambiental, de la Administración Federal de Aviación, SpaceX EIS c/o Cardno TEC Inc., 275 West Street, Suite 110, Annapolis, MD 21401;
por email a faaspacexeis@cardnotec.com;
o por fax a (410)-990-0455.

EL MEJOR REGALO
PARA MAMÁ ESTÁ EN
Church's CHICKEN
ESTE 9 Y 10 DE MAYO
AL 2X1
Church's CHICKEN
TODOS NUESTROS COMPLEMENTOS FAMILIARES Y REGULARES
Servicio a Domicilio
Suc. Centro 811 8888
Suc. Plaza Fiesta 819 1500
Suc. Lauro Villar 813 3805
Suc. Laguneta 816 2666
Suc. Av. del Niño 817 8781

ADMINISTRACIÓN FEDERAL DE AVIACIÓN
NOTIFICACIÓN DE REUNIÓN PÚBLICA

La Administración Federal de Aviación (FAA por sus siglas en inglés), Oficina de Transporte Espacial Comercial preparará una Declaración de Impacto Ambiental qué evaluará los posibles impactos ambientales asociados con la propuesta de Space Exploration Technologies Corp. (SpaceX), quienes proponen lanzamientos de vehículos orbitales verticales como el Falcon 9 y el Falcon Heavy, desde un sitio privado situado en el condado de Cameron Texas. Según esta propuesta, SpaceX construiría una zona de lanzamiento vertical en el extremo oriental de la Autopista 4 Estatal de Texas (Boca Chica Boulevard) y cerca de este, una zona que funcionaría como centro de control, para soportar hasta 12 lanzamientos comerciales cada año. SpaceX solicitaría y obtendría las licencias correspondientes y/o permisos de lanzamiento experimentales expedidos por la FAA.

La FAA está iniciando un proceso de evaluación para identificar los problemas de la comunidad y temas locales que se abordarán en la EIS. Como parte del proceso de participación pública de la EIS, la FAA organizará una reunión de presentación al público para recibir las opiniones sobre el proyecto propuesto el día ***15 de Mayo de 2012, desde las 5:00 p.m. a las 8:00 p.m.*** en el Centro ITEC, 301 México Blvd. G-1, Brownsville, TX. La reunión incluirá una sesión de carteles informativos desde 5:00 p.m. a 6:00 p.m., una presentación de la FAA desde las 6:00 p.m. a las 6:15 p.m., seguido por un período de declaraciones públicas en la que los miembros del público pueden proporcionar declaraciones de hasta 3 minutos. El personal de la FAA estará presente en esta reunión para responder a preguntas generales sobre la acción propuesta y el proceso de la EIS. Materiales de información están disponibles en la siguiente página de internet:
http://www.faa.gov/about/office_org/headquarters_offices/ast/environmental/nepa_docs/review/documents_progress/spacex_texas_launch_site_environmental_impact_statement/

La FAA invita a los miembros del público a compartir sus comentarios o sugerencias las cuales ayudaran a identificar temas ambientales significativos y a determinaran el enfoque apropiado de la EIS. Por favor emita y envie sus comentarios hasta el 30 de mayo de 2012 para garantizar que sean considerados durante la preparación de la primera versión de la EIS. El público puede proporcionar sus comentarios de tres maneras:
1) proporcionar comentarios por escrito durante las reuniones de presentación
2) Hablar con el estenógrafo quién registrará sus comentarios en las reuniones de presentación o
3) Enviar sus comentarios por correo a:
Sra. Stacey M. Zee, especialista de protección ambiental, de la Administración Federal de Aviación, SpaceX EIS c/o Cardno TEC Inc., 275 West Street, Suite 110, Annapolis, MD 21401;
por email a faaspacexeis@cardnotec.com;
o por fax a (410)-990-0455.

CIUDAD
EL BRAVO | H. Matamoros, Tam., México
Viernes 11 de Mayo de 2012
5

EJIDAL | Los cita el Centro de Salud una vez al mes

Bajo control los pacientes que padecen de diabetes

ADMINISTRACIÓN FEDERAL DE AVIACIÓN
NOTIFICACIÓN DE REUNIÓN PÚBLICA

La Administración Federal de Aviación (FAA por sus siglas en inglés), Oficina de Transporte Espacial Comercial preparará una Declaración de Impacto Ambiental qué evaluará los posibles impactos ambientales asociados con la propuesta de Space Exploration Technologies Corp. (SpaceX), quienes proponen lanzamientos de vehículos orbitales verticales como el Falcon 9 y el Falcon Heavy, desde un sitio privado situado en el condado de Cameron Texas. Según esta propuesta, SpaceX construiría una zona de lanzamiento vertical en el extremo oriental de la Autopista 4 Estatal de Texas (Boca Chica Boulevard) y cerca de este, una zona que funcionaría como centro de control, para soportar hasta 12 lanzamientos comerciales cada año. SpaceX solicitaría y obtendría las licencias correspondientes y/o permisos de lanzamiento experimentales expedidos por la FAA.

La FAA está iniciando un proceso de evaluación para identificar los problemas de la comunidad y temas locales que se abordarán en la EIS. Como parte del proceso de participación pública de la EIS, la FAA organizará una reunión de presentación al público para recibir las opiniones sobre el proyecto propuesto el día ***15 de Mayo de 2012, desde las 5:00 p.m. a las 8:00 p.m.*** en el Centro ITEC, 301 México Blvd. G-1, Brownsville, TX. La reunión incluirá una sesión de carteles informativos desde 5:00 p.m. a 6:00 p.m., una presentación de la FAA desde las 6:00 p.m. a las 6:15 p.m., seguido por un período de declaraciones públicas en la que los miembros del público pueden proporcionar declaraciones de hasta 3 minutos. El personal de la FAA estará presente en esta reunión para responder a preguntas generales sobre la acción propuesta y el proceso de la EIS. Materiales de información están disponibles en la siguiente página de internet:
http://www.faa.gov/about/office_org/headquarters_offices/ast/environmental/nepa_docs/review/documents_progress/spacex_texas_launch_site_environmental_impact_statement/

La FAA invita a los miembros del público a compartir sus comentarios o sugerencias las cuales ayudaran a identificar temas ambientales significativos y a determinaran el enfoque apropiado de la EIS. Por favor emita y envie sus comentarios hasta el 30 de mayo de 2012 para garantizar que sean considerados durante la preparación de la primera versión de la EIS. El público puede proporcionar sus comentarios de tres maneras:
1) proporcionar comentarios por escrito durante las reuniones de presentación
2) Hablar con el estenógrafo quién registrará sus comentarios en las reuniones de presentación o
3) Enviar sus comentarios por correo a:
Sra. Stacey M. Zee, especialista de protección ambiental, de la Administración Federal de Aviación, SpaceX EIS c/o Cardno TEC Inc., 275 West Street, Suite 110, Annapolis, MD 21401;
por email a faaspacexeis@cardnotec.com;
o por fax a (410)-990-0455.

Exhibit A-6. Flyers (English and Spanish)

Federal Aviation Administration

PUBLIC SCOPING MEETING

YOU ARE INVITED

The Federal Aviation Administration (FAA) is asking for input from the community on the potential environmental impacts associated with Space Exploration Technologies Corporation's (SpaceX's) proposal to launch the Falcon 9 and Falcon Heavy orbital vertical launch vehicles from a private site located in Cameron County, Texas. Under this proposal, SpaceX would construct a vertical launch area and a control center area to support up to 12 commercial launches per year. SpaceX would apply for and obtain the appropriate launch licenses and/or experimental permits to be issued by the FAA.

The FAA is preparing an Environmental Impact Statement (EIS) to determine the environmental impacts associated with the proposed activities. The FAA invites interested parties to submit comments to assist in identifying significant environmental issues and in determining the scope of the EIS.

When?	*What?*	*Where?*
Tuesday, May 15, 2012		
5:00 pm to 6:00 pm	Poster Information Session	ITEC Center
6:00 pm to 6:15 pm	FAA Presentation	301 Mexico Blvd. G-1,
6:15 pm to 8:00 pm	Public Statement Period	Brownsville, Texas 78520

Information stations with posters and fact sheets will explain the proposal. The scoping meeting will include a poster information session, followed by a presentation, given by FAA, and ending with a public statement period in which members of the public may provide up to a 3-minute statement. FAA staff will be present at this meeting to answer general questions on the proposed action and the EIS process.

Administración Federal de Aviación

REUNIÓN PÚBLICA

USTED ESTÁ INVITADO

La Administración Federal de Aviación (FAA) está solicitando opiniones de la comunidad sobre los potenciales impactos ambientales asociados con la propuesta de Space Exploration Technologies Corporation (SpaceX) de establecer un sitio de lanzamiento para los vehículos orbitales de lanzamiento vertical Falcón 9 y Falcón Heavy desde una ubicación privada en el Condado Cameron, Texas. Bajo esta propuesta, SpaceX construiría un área de lanzamientos verticales y un área de centro de control para soportar hasta 12 lanzamientos comerciales cada año. SpaceX aplicaría y obtendría las licencias de lanzamiento apropiadas y/o permisos experimentales que serían expedidos por la FAA.

La FAA está preparando una Declaración de Impacto Ambiental (EIS por sus siglas en inglés) para determinar los impactos ambientales asociados con las actividades que han sido propuestas. La FAA invita a los sectores interesados a proveer comentarios para asistir en la identificación de temas ambientales significativos y en determinar el enfoque de la EIS.

¿Cuando?	*¿Qué?*	*¿Donde?*
martes, 15 de Mayo		
5:00 pm a 6:00 pm	Sesión informativa de Carteles	ITEC Center
6:00 pm a 6:15 pm	Presentación de la FAA	301 Mexico Blvd. G-1,
6:15 pm a 8:00 pm	Declaraciones del Público	Brownsville, Texas 78520

Estaciones de información con carteles y libretos explicaran la propuesta. La reunión incluirá una sesión informativa de carteles, seguida por una presentación dada por la FAA, y terminara en un período para declaraciones del público, en el cual miembros de la comunidad podrán ofrecer una declaración de un máximo de 3-minutos. El personal de la FAA estará presente en esta reunión para contestar preguntas generales sobre la acción propuesta y el proceso de la EIS.

Exhibit A-7. Factsheets

WELCOME

Public Scoping Meeting
Environmental Impact Statement
For the SpaceX Texas Launch Site

May 15, 2012
5:00 pm to 8:00 pm
ITEC CENTER
301 Mexico Boulevard G-1, Brownsville, TX

Scoping is your opportunity to provide comments to help us improve our analysis

The official scoping period began when the Federal Aviation Administration (FAA) published a Notice of Intent to prepare an Environmental Impact Statement (EIS) in the Federal Register on April 10, 2012. The EIS will describe the potential environmental effects from the Proposed Action. The scoping period lasts until May 30, 2012. Information on the NEPA process and the EIS is available on the following website: http://www.faa.gov/about/office_org/headquarters_offices/ast/environmental/nepa_docs/review/documents_progress/spacex_texas_launch_site_environmental_impact_statement/.

Tonight's scoping meeting is being held to solicit input from the public on what should be analyzed and studied in the EIS. Scoping is one of the first steps in the EIS process and your input during the scoping period is important.

The meeting includes an open-house workshop from 5:00 pm to 6:00 pm. The FAA will provide an overview of the environmental process from 6:00 pm to 6:15 pm followed by a public comment period from 6:15 pm to 8:00 pm.

During the scoping period, the public can provide comments in 5 ways:

1. Provide written comments at tonight's scoping meeting
2. Talk to our stenographer who can record your comments during the scoping meeting
3. Submit comments electronically to faaspacexeis@cardnotec.com
4. Fax your comments to (410) 990-0455
5. Mail your comment form to:

Ms. Stacey M. Zee, Environmental Protection Specialist
Federal Aviation Administration
SpaceX EIS
c/o Cardno TEC Inc.
275 West Street—Suite 110
Annapolis, MD 21401

EIS for SpaceX Texas Launch Site | Page 1

WELCOME TO THE FAA SCOPING MEETING

The Proposed Action is for the FAA to issue launch licenses and/or experimental permits to Space Exploration Technologies Corp. (SpaceX) that would allow SpaceX to launch the Falcon 9 and Falcon Heavy orbital vertical launch vehicles and a variety of reusable suborbital launch vehicles from a launch site on privately owned property in Cameron County, Texas. The FAA will prepare an Environmental Impact Statement (EIS) to evaluate the potential environmental effects of this proposal. FAA representatives are here to explain the proposed project and alternatives, answer any questions you might have about these items, and describe the environmental impact analysis process and related time line. An area has been set aside within the main meeting room to provide you with an opportunity to write and submit your comments, or to speak with a stenographer who will record your comments.

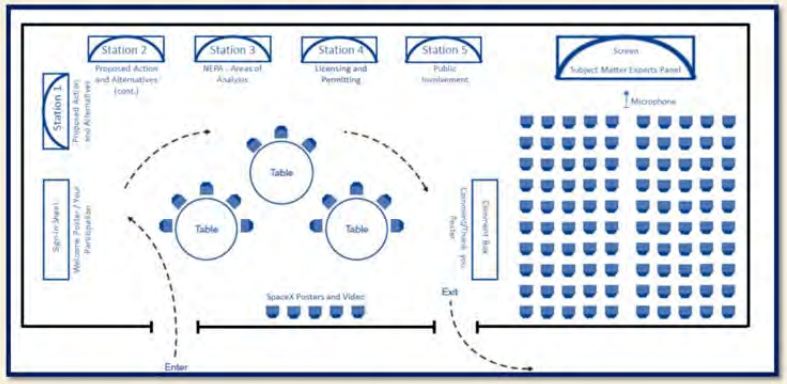
What is the purpose of this Public Scoping Meeting?

Scoping is an early and open process where the public is invited to help identify issues to be studied in the EIS. The purpose of this scoping meeting is to inform you about the proposed project, explain the National Environmental Policy Act (NEPA) and the associated environmental impact analysis, and solicit your comments and concerns related to the proposal and alternatives.

What is Scoping?
Scoping is an early and open process where the public is invited to help identify issues to be studied in the EIS.

Please review the displays located throughout the open house, and then provide us with your comments. The approximate layout of the room is shown below.

General Room Layout for the Public Scoping Meeting, 5:00 pm to 8:00 pm
(Actual layout may be different)



NATIONAL ENVIRONMENTAL POLICY ACT

Why is the FAA Preparing an EIS?

As part of our compliance with NEPA, the FAA is preparing an EIS to assess the potential environmental impacts of the proposed issuance of launch licenses and/or experimental permits to Space Exploration Technologies Corp. (SpaceX) for operating the Falcon vehicle launch programs from a private site located in Cameron County, Texas. The EIS will consider the potential environmental impacts of the Proposed Action and reasonable alternatives, including the No Action Alternative. The successful completion of the environmental review process does not guarantee that the FAA would issue launch licenses and/or experimental permits to SpaceX. The project must also meet all FAA safety, risk, and indemnification requirements.

The National Environmental Policy Act (NEPA) requires that all federal agencies consider the environmental impacts of any major proposed projects.

Informed decisions are based on a candid and factual presentation of environmental impacts. These facts come from collecting information on the areas and resources affected by the proposal, and then identifying the type and extent of potential impacts resulting from the proposal. For this project, the FAA will analyze potential impacts to:

- Air quality
- Fish, wildlife & plants, including threatened & endangered species
- Historical, architectural, archaeological & cultural resources
- Light emissions and visual impacts
- Water resources, including surface waters, wetlands, groundwater, floodplains, Wild & Scenic Rivers, water quality
- Section 4(f) properties
- Socioeconomics, environmental justice & children's environmental health & safety risks
- Compatible Land use, including farmlands & coastal resources
- Hazardous materials, pollution prevention & solid waste
- Natural resources, energy supply & sustainable design
- Noise

The analysis will include and evaluation of the construction impacts and secondary (induced) impacts, and will account for cumulative impacts from other relevant activities in the area of Cameron County, Texas. Numerous federal laws and regulations govern the protection and preservation of environmental resources. The FAA strictly adheres to these laws and regulations, such as the Endangered Species Act, Clean Air Act, Clean Water Act, among others.

Public Involvement in the EIS Process

The FAA invites public participation during the scoping process to help understand community-specific issues and concerns on the Proposed Action and alternatives. We anticipate receiving scoping comments from: business and community leaders, federal, state, and local elected officials, regulatory agencies, and interested individuals. Scoping comments help the FAA determine the issues and concerns to analyze in the preparation of the Draft EIS. The public will have a second opportunity to participate in the NEPA process by commenting on the Draft EIS. The release of the Draft EIS will be announced in a newspaper that serves your area. All comments on the Draft EIS will be addressed in the Final EIS.

PROPOSED ACTION & ALTERNATIVES

Under the Proposed Action, SpaceX would construct a vertical launch area and a control center area to support up to 12 commercial launches per year. The vehicles to be launched include the Falcon 9, Falcon Heavy (up to two per year), and a variety of smaller reusable suborbital launch vehicles. All Falcon 9 and Falcon Heavy launched would be expected to have commercial payloads, including satellites or experimental payloads. The Falcon 9 and Falcon Heavy may also carry a capsule, such as the SpaceX Dragon Capsule. SpaceX may elect to launch smaller suborbital reusable launch vehicles such as the SpaceX Grasshopper from this site. SpaceX would be required to apply for the appropriate launch licenses and/or experimental permits to be issued by the FAA. Alternatives under consideration include the Proposed Action and the No Action Alternative. Under the No Action Alternative, the FAA would not issue launch licenses and/or experimental permits to SpaceX. Based on comments received during the scoping period, the FAA may propose additional alternatives.

Operational Activities

Falcon 9 on transporter-erector

The Falcon launch vehicle program is designed for minimal vehicle assembly and processing on the launch pad. The goal is to launch within a few days to several weeks of payload arrival at a launch site.

The Falcon 9 orbital vertical launch vehicle is a medium-lift class launch vehicle with a gross lift-off weight of approximately 1,000,000 pounds with a maximum length of 230 feet. The Falcon 9 uses liquid oxygen (LOX) and highly refined kerosene, also known as rocket propellant-1 or refined petroleum-1 (RP-1), as propellants to carry payloads into orbit.

The Falcon Heavy is similar to the Falcon 9, except that it has an additional two boosters "strapped on," each booster being almost identical to the Falcon 9 first stage core. The Falcon Heavy is a heavy lift class launch vehicle with a gross lift-off weight of approximately 3,400,000 pounds. It has an overall maximum length of approximately 230 feet.

Dragon Capsule

A reusable suborbital launch vehicle could consist of a Falcon 9 Stage 1 tank with a maximum propellant (RP-1 and LOX) load of approximately 6,900 gallons.

In addition to standard commercial satellite payloads, the Falcon 9 and Falcon Heavy launch vehicles may carry a spacecraft, the SpaceX Dragon capsule, which is being developed to deliver cargo and experiments to low Earth orbit. The Dragon capsule's dry weight could range from 8,000 to 15,000 pounds depending on its cargo and configuration.

On a per-mission basis, launch campaigns (preparation for and the actual launch event) are expected to last from 2 to 8 weeks. During a launch campaign, up to 100 local and 100 transient employees would be present at the site, including payload support personnel. Between launch campaigns, 30 to 50 employees could be present at the site.

Construction Activities

As part of the Proposed Action, SpaceX would construct new facilities, structures, and utility connections in order to support the launch of the Falcon 9 and Falcon Heavy launch vehicles. The proposed schedule for all construction is a 24-month period from start to finish. The facilities would be located in two areas – a launch site area and a control center area.

The proposed vertical launch area is currently undeveloped and is located directly adjacent to the eastern terminus of the Texas State Highway 4 (Boca Chica Boulevard) and approximately 3 miles north of the Mexican border on the Gulf Coast. It is located approximately 5 miles south of Port Isabel and South Padre Island.

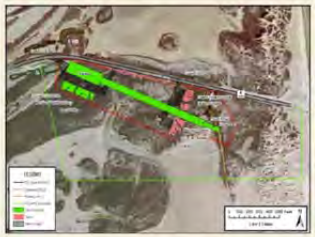
The control center area would be located inland to the west of the vertical launch area, all facilities would be constructed on private land owned or leased by SpaceX. The development of access and supporting utility infrastructure for the vertical launch area and the control center area may occur on lands outside those owned or leased by SpaceX.

Vertical Launch Area Site Layout

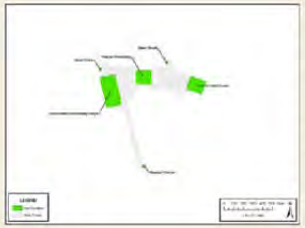
At the proposed vertical launch area, the facilities required would include: an integration and processing hangar, a launch pad and stand with its associated flame duct, propellant storage and handling areas, a workshop and office area, and a warehouse for parts storage.

The hangar facility at the vertical launch area would be used for the preparation of the launch vehicle for launch and the final fueling and integration of the payload onto the vehicle.

The launch pad and stand is used to translate the launch vehicle to vertical and to support it on the pad prior to lift-off.



Control Center Area Site Layout



The proposed control center area would include: a control center building and a payload processing facility; it might also include a launch vehicle preparation hangar and satellite fuels storage area.

The control center would be used for command and control of the launch vehicle, payload, and ground systems during launch and test operations The payload processing facility would be used to conduct final processing of payloads prior to integrating them with the launch vehicle. The launch vehicle preparation hangar would be used to conduct refurbishment of flown stages, or pre-integration preparation of the launch vehicle stages before they go to the pad hangar for final integration. The control center area site layout and exact location have not yet been finalized.

LICENSING & PERMITTING

FAA Licenses, Permits, Regulations, and Approvals

- SpaceX must apply for a launch license or experimental permit.
- SpaceX would be the exclusive user of the site.
- FAA statutory requirements for licenses and permits are described in 14 CFR Chapter III, Parts 400-450.
- FAA conducts a review of the license or permit application including a policy review, payload review, financial determination, environmental review and safety review.
- Successful completion of the environmental review does not guarantee that FAA would issue launch licenses and/or experimental permits to SpaceX.

AST Licensing and Permitting Review

- **Policy Review** – Determines whether a proposed launch would jeopardize U.S. National Security, International Obligations or Foreign policy interests
- **Payload Review** – Determines if a license applicant or payload owner or operator has obtained all required licenses, authorizations, and permits. Does not apply to payloads under the jurisdiction of any other government agency
- **Financial Responsibility Determination** – Proof of financial responsibility is required. This is usually fulfilled by purchase of liability insurance
- **Environmental Review** – Proposal must be reviewed under the NEPA. This EIS process fulfills the environmental review portion of the license application.
- **Safety Review** – Determines if an applicant can safely conduct the launch of the proposed launch vehicle(s) and payload(s).

EIS for SpaceX Texas Launch Site | Page 6

THIS PAGE FOR YOUR NOTES

EIS for SpaceX Texas Launch Site | Page 7

Exhibit A-8. Poster Displays

PROPOSED ACTION

What is the Proposed Action?

The Federal Aviation Administration, Office of Commercial Space Transportation (FAA/AST) is proposing to issue launch licenses and/or experimental permits to Space Exploration Technologies Corp. (SpaceX) to conduct launches of the Falcon 9 and Falcon Heavy orbital vertical launch vehicles and a variety of reusable suborbital launch vehicles from a private site located in Cameron County, TX.

Under the Proposed Action, SpaceX would construct a vertical launch area and a control center area to support up to 12 commercial launches per year.

When?

- Proposed construction of the vertical launch area and control center area would not begin until the EIS is complete.
- Construction at both the vertical launch area and control center area, would be anticipated to last approximately 24 months from start to finish.

Why?

Under the Commercial Space Launch Act of 1984, the FAA Office of Commercial Space Transportation is the lead Federal agency that ensures, through the issuance of licenses and permits, that launch services provided by private enterprises are consistent with national security and foreign policy interests of the U.S. and do not jeopardize public safety and the safety of property.

Where?

- The proposed vertical launch area site is currently undeveloped and is located directly adjacent to the eastern terminus of Texas State Highway 4 (Boca Chica Boulevard) and approximately 3 miles north of the Mexican border on the Gulf Coast.
- The proposed control center area would be located inland to the west of the vertical launch area.
- All facilities would be constructed on private land owned or leased by SpaceX.

Vertical Launch Area Proposed Site

The No Action Alternative will be analyzed to serve as a baseline for the Environmental Impact Statement.

PROPOSED ACTION

Construction Activities

Vertical Launch Area Site Layout

- An Integration and Processing Hangar
- A launch pad and stand with its associated flame duct
- Propellant storage and handling areas
- A workshop and office area
- A warehouse for parts storage
- Roads and utilities to support the facilities

Control Center Area Site Layout

- A control center
- A payload processing facility
- A launch vehicle preparation hangar
- A satellite fuels storage area

*The control center area site layout and exact location have not yet been finalized.

Operational Activities

Falcon Launch Vehicle Program

The Falcon launch vehicle program is designed for minimal vehicle assembly and processing on the launch pad.

Falcon 9 on transporter-erector

The Falcon 9 orbital vertical launch vehicle is a medium-lift class launch vehicle with a gross lift-off weight of approximately 1,000,000 pounds with a maximum length of 230 feet.

The Falcon Heavy is similar to the Falcon 9, except that it has an additional two boosters "strapped on," each booster being almost identical to the Falcon 9 first stage core. The Falcon Heavy is a heavy lift class launch vehicle with a gross lift-off weight of approximately 3,400,000 pounds. It has an overall maximum length of approximately 230 feet.

Dragon Capsule

In addition to standard commercial satellite payloads, the Falcon 9 and Falcon Heavy launch vehicles may carry a spacecraft, the SpaceX Dragon capsule, which is being developed to deliver cargo and experiments to low Earth orbit.

Based on comments received during the scoping process, the FAA may propose additional alternatives.

NATIONAL ENVIRONMENTAL POLICY ACT— AREAS OF ANALYSIS

National Environmental Policy Act (NEPA) Process

- NEPA is the national law that requires all federal agencies to evaluate potential environmental impacts of any major actions they may propose and to inform and involve the public in the decision making process
- Findings will be published in a study called an Environmental Impact Statement (EIS) which will include:
  - Purpose and Need of Proposed Action
  - Proposed Action and Alternatives
  - Existing Conditions of the Proposed Site
  - Evaluation of Impacts
- Your input during the Public Scoping Period (no later than May 30, 2012) will assist the FAA in identifying key environmental concerns that need to be further evaluated
- A Draft EIS will be made available for public review and comment
- FAA will review all comments on the Draft EIS and incorporate them into a Final EIS

EIS Process

What is Important to You?

✔ Air quality
✔ Fish, wildlife & plants: threatened & endangered species
✔ Historical, architectural, archaeological & cultural resources

✔ Noise
✔ Light emissions and visual impacts
✔ Water resources: surface waters, wetlands, groundwater, floodplains, Wild & Scenic Rivers, water quality

✔ Section 4(f) properties
✔ Socioeconomics, environmental justice & children's environmental health & safety risks

✔ Compatible Land use, farmlands & coastal resources
✔ Hazardous materials, pollution prevention & solid waste
✔ Natural resources, energy supply & sustainable design

*The listed resources above are not an inclusive list and the environmental parameters addressed in this EIS will be consistent with the requirements of FAA Order 1050.1E, Change 1, *Environmental Impacts: Policies and Procedures.*

The EIS will consider the potential environmental impacts of the Proposed Action and reasonable alternatives.

LICENSING AND PERMITTING

- SpaceX must apply for a launch license or experimental permit.
- SpaceX would be the exclusive user of the site.
- FAA statutory requirements for licenses and permits are described in 14 CFR Chapter III, Parts 400-450.
- FAA conducts a review of the license or permit application including a policy review, payload review, financial determination, environmental review and safety review.
- Successful completion of the environmental review does not guarantee that FAA would issue launch licenses and/or experimental permits to SpaceX.

AST Licensing and Permitting Review

- **Policy Review** – Determines whether a proposed launch would jeopardize U.S. National Security, International Obligations or Foreign policy interests.
- **Payload Review** – Determines if a license applicant or payload owner or operator has obtained all required licenses, authorizations, and permits. Does not apply to payloads under the jurisdiction of any other government agency
- **Financial Responsibility Determination** – Proof of financial responsibility is required. This is usually fulfilled by purchase of liability insurance.
- **Environmental Review** – Proposal must be reviewed under the NEPA. This EIS process fulfills the environmental review portion of the license application.
- **Safety Review** – Determines if an applicant can safely conduct the launch of the proposed launch vehicle(s) and payload(s).

The project must meet all FAA safety, risk, and indemnification requirements.

PUBLIC INVOLVEMENT

Participate Today

There are

5

ways to comment

No later than **MAY 30, 2012**

1. Provide written comments at today's meeting
2. Talk to our stenographer who can record your comments
3. Submit comments electronically to ***faaspacexeis@cardnotec.com***
4. Fax your comments to **(410) 990-0455**
5. Mail your comment form to:

Ms. Stacey M. Zee, Environmental Protection Specialist
Federal Aviation Administration
SpaceX EIS
c/o Cardno TEC Inc.
275 West Street, Suite 110
Annapolis, MD 21401

How Will My Comments be Used?

- Scoping comments will be used to develop areas of study
- All comments will be considered

Participate in the Future

- Check your local repository and newspapers for new information
- Review the Draft EIS findings
- Provide your comments on the Draft EIS
- Participate in the Public Meeting following the publication of the Draft EIS

Your input throughout the EIS process is important.

SPACEX

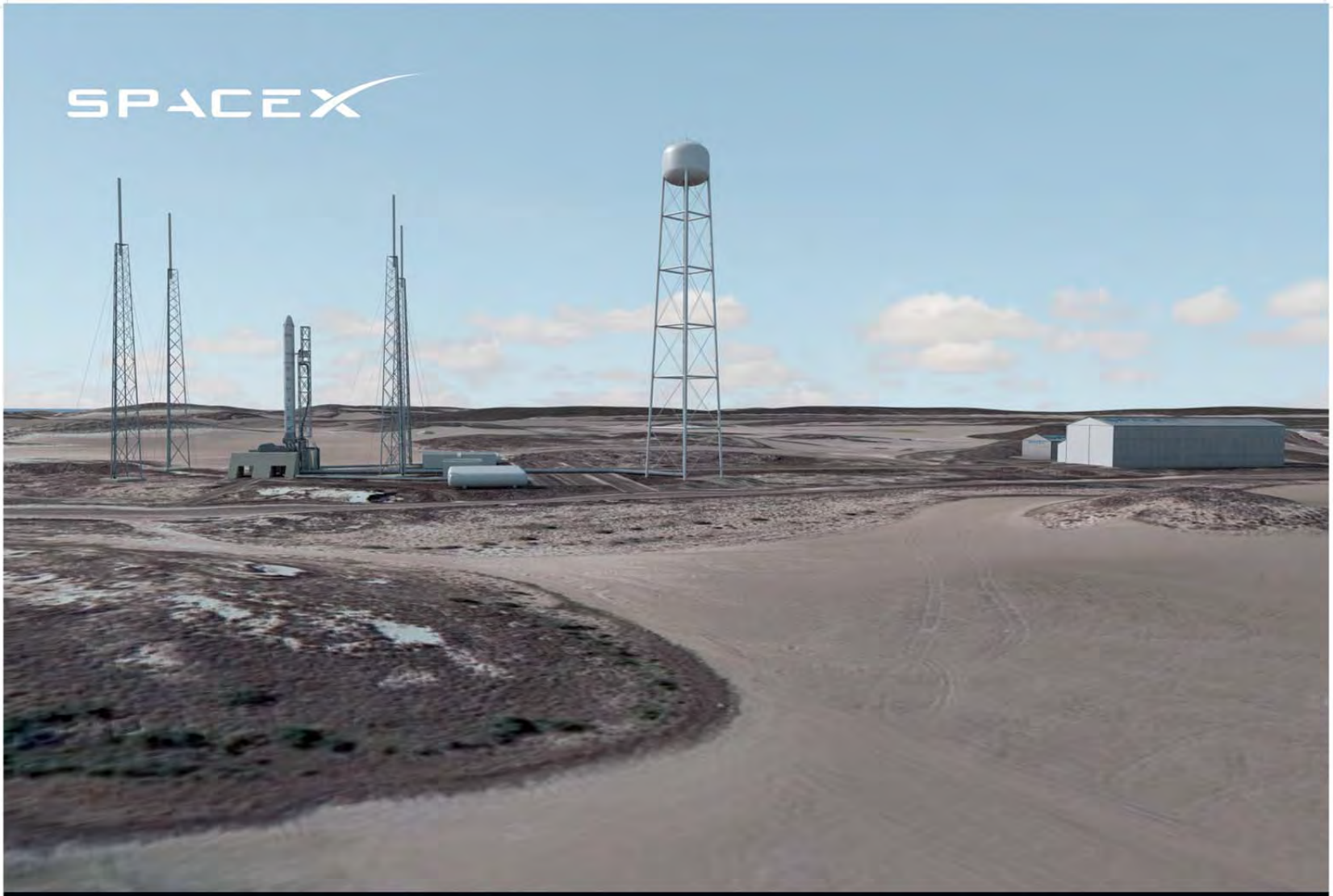
- Medium-class vehicle powered by nine Merlin engines
- Two-stage vehicle to maximize reliability
- SpaceX rockets use liquid oxygen and highly-refined kerosene (which is cleaner than jet fuel)
- No toxic propellants are used on the rocket
- Hold-before-release system: the vehicle is safely held down until all vehicle systems are confirmed to be operating normally

FALCON 9

SPACEX

- Launches would only occur, at most, one time per month
- Launch would be audible for less than 5 minutes
- Minimal infrastructure:
  - Facility footprint is less than 8 acres with remaining site land left undeveloped
  - Rocket stored horizontally, and is only visible and on the pad when launches occur
- SpaceX is excited to work with community to create jobs, partner with local businesses, and partner with local schools and universities

VERTICAL LAUNCH AREA



VERTICAL LAUNCH AREA WITH FALCON 9 ON PAD

VERTICAL LAUNCH AREA WITH FALCON HEAVY ON PAD

Exhibit A-9. Agency Comments Received during Scoping Period

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 6
1445 ROSS AVENUE, SUITE 1200
DALLAS TX 75202-2733

May 24, 2012

Ms. Stacy M. Zee
Environmental Protection Specialist
Federal Aviation Administration
Space X EIS
c/o Cardno TEC Inc.
275 West Street
Suite 110
Annapolis, MD 21401

Subject: Notice of Intent to Prepare an Environmental Impact Statement for the proposed issuance of licenses and/or experimental permits to Space Exploration Technologies Corporation (Space X), Falcon and Falcon heavy launch vehicle programs, Cameron County, Texas.

Dear Ms. Zee:

The Region 6 office of the U.S. Environmental Protection Agency has reviewed the April 10, 2012 Federal Register (FR) Notice of Intent (NOI) to prepare an Environmental Impact Statement to assess the potential environmental impacts of the proposed issuance of licenses and/or experimental permits to Space Exploration Technologies Corporation (Space X) for operating the Falcon and Falcon heavy launch vehicle programs from a private site located in Cameron County, Texas. Our comments are provided pursuant to the National Environmental Policy Act (NEPA), Council on Environmental Quality (CEQ) regulations (40 CFR Parts 1500-1508) and Section 309 of the Clean Air Act.

To assist in the scoping process for this project, we have identified several issues for your attention in the preparation of the EIS and enclosed detailed scoping comments for your consideration. EPA is most concerned about the following issues: alternative development, impacts to water and biological resources, invasive species management, habitat protection, air quality, cumulative impacts, climate change, environmental justice and tribal concerns.

We appreciate the opportunity to review this NOI and are available to discuss our comments. Please send one hard copy of the Draft EIS and four one CD ROM copy to this office at the same time it is officially filed with our Washington D.C. Office. If you have any questions, please contact Michael Jansky of my staff at (214) 665-7451 or by e-mail at jansky.michael@epa.gov.

Sincerely,

Rhonda Smith
Chief, Office of Planning
and Coordination

Enclosure:

Internet Address (URL) • http://www.epa.gov/region6
Recycled/Recyclable • Printed with Vegetable Oil Based Inks on 100% Recycled Paper (Minimum 50% Post-Consumer Fiber)

DETAILED SCOPING COMMENTS
ON THE NOTICE OF INTENT FOR THE FEDERAL AVIATION ADMINISTRATION (FAA)
TO PREPARE AN
ENVIRONMENTAL IMPACT STATEMENT (EIS) FOR THE PROPOSED
CONTRUCTION AND OPERATION
OF THE SPACE X
FALCON 9 AND FALCON HEAVY LAUNCH VEHICLE PROGRAM
CAMERON COUNTY, TEXAS

Proposed Project

In compliance with the National Environmental Policy Act of 1969 (NEPA), as amended, the FAA is to prepare an Environmental Impact Statement to assess the potential environmental impacts of the proposed issuance of licenses and/or experimental permits to Space Exploration Technologies Corporation (Space X) for operating the Falcon 9 and Falcon heavy launch vehicle programs from a private site located in Cameron County, Texas. Under the proposed action, Space X proposes to construct a vertical launch area and a control center area to support up to 12 commercial launches per year.

Statement of Purpose and Need

The DEIS should clearly identify the underlying purpose and need to which the FAA is responding in proposing the alternatives (40 CFR 1502.13). The purpose of the proposed action is typically the specific objectives of the activity, while the need for the proposed action may be to eliminate a broader underlying problem or take advantage of an opportunity.

Recommendation:

The purpose and need should be a clear, objective statement of the rationale for the proposed project. The DEIS should discuss the proposed project in the context of designing launch alternatives with a purpose to provide a safe and reliable vertical launch area and control center area. These alternatives will allow and support up to 12 commercial space launches per year.

Alternatives Analysis

The National Environmental Policy Act requires evaluation of reasonable alternatives, including those that may not be within the jurisdiction of the lead agency (40 CFR Section 1502.14(c)). A robust range of alternatives will include options for avoiding significant environmental impacts. The DEIS should provide a clear discussion of the reasons for the elimination of alternatives which are not evaluated in detail.

The environmental impacts of the proposal and alternatives should be presented in comparative form, thus sharply defining the issues and providing a clear basis for choice among options by the decision maker and the public (40 CFR 1502.14). The potential environmental impacts of each alternative should be quantified to the greatest extent possible.

Recommendations:

1

The DEIS should describe how each alternative was developed, how it addresses each project objective, and how it will be implemented. The alternatives analysis should include a discussion of alternative, environmentally preferable site locations, access roads, and methods of construction.

The DEIS should clearly describe the rationale used to determine whether impacts of an alternative are significant or not. The DEIS should describe the methodology and criteria used for determining the alternative site locations. Thresholds of significance should be determined by considering the context and intensity of an action and its effects (40 CFR 1508.27).

Water Resources

Water Supply and Water Quality

Public drinking water supplies and/or their source areas often exist in many watersheds. Source water is water from streams, rivers, lakes, springs, and aquifers that is used as a supply of drinking water. Source water areas are delineated and mapped by the state for each federally-regulated public water system. The 1996 amendments to the Safe Drinking Water Act require federal agencies to protect sources of drinking water for communities. Therefore, the EPA recommends that the DEIS identify:

- A discussion of the amount of water needed for the proposed project and where this water will be obtained.
- A discussion of availability of groundwater within the basin and annual recharge rates.
- A description of the water right permitting process and the status of water rights within that basin, including an analysis of whether water rights have been over-allocated.
- A discussion of cumulative impacts to groundwater supply within the hydrographic basin, including impacts from other large-scale renewable energy projects that have also been proposed.
- An analysis of different types of technology that can be used to minimize or recycle water.
- A discussion of whether it would be feasible to use other sources of water, including potable water, irrigation canal water, wastewater or deep-aquifer water.
- An analysis of the potential for alternatives to cause adverse aquatic impacts such as impacts to water quality and aquatic habitats.

Recommendations:

The DEIS should address the potential effects of project discharges, if any, on surface water quality. Specific discharges should be identified and potential effects of discharges on designated beneficial uses of affected waters should be analyzed.

The DEIS should describe water reliability for the proposed project and clarify how existing and/or proposed sources may be affected by climate change. At a minimum, the EPA expects a qualitative discussion of impacts to water supply and the adaptability of the project to these changes.

Stormwater Considerations

The DEIS should describe the original (natural) drainage patterns in the project locale, as well as the drainage patterns of the area during project operations. Also, the DEIS should identify whether any components of the proposed project are within a 50 or 100-year floodplain. The DEIS should note that,

2

under the federal Clean Water Act, any construction project disturbing a land area of one or more acres requires a construction stormwater discharge permit.

Recommendations:

The DEIS should document the project's consistency with applicable stormwater permitting requirements. Requirements of a stormwater pollution prevention plan should be reflected as appropriate in the DEIS.

The DEIS should discuss specific mitigation measures that may be necessary or beneficial in reducing adverse impacts to water quality and aquatic resources.

Geographic Extent of Waters of the United States

The project applicant should coordinate with the U.S. Army Corps of Engineers to determine if the proposed project requires a Section 404 permit under the Clean Water Act. Section 404 regulates the discharge of dredged or fill material into waters of the United States, including wetlands and other *special aquatic sites*. The DEIS should describe all Waters of the United States (WUS) that could be affected by the project alternatives, and include maps that clearly identify all such waters within the project area. The discussion should include acreages and channel lengths, habitat types, values and functions of these waters. The EPA recommends that the FFA include a jurisdictional delineation for all WUS, including ephemeral drainages, in accordance with the 1987 *Corps of Engineers Wetlands Delineation Manual* and the December 2006 *Arid West Region Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region*. A jurisdictional delineation will confirm the presence or absence of WUS in the project area and help determine whether or not the proposed project would require a Section 404 permit.

If a permit is required, the EPA will review the project for compliance with *Federal Guidelines for Specification of Disposal Sites for Dredged or Fill Materials* (40 CFR 230), promulgated pursuant to Section 404(b)(1) of the CWA. Pursuant to 40 CFR 230, any permitted discharge into WUS must be the least environmentally damaging practicable alternative available to achieve the project purpose. The Final EIS should include an evaluation of the project alternatives in this context in order to demonstrate the project's compliance with the 404(b)(1) Guidelines. If, under the proposed project, dredged or fill material would be discharged into WUS, the DEIS should discuss alternatives to avoid those discharges.

Recommendation:

The FFA should consult with the USACE to determine if there are jurisdictional waters of the U.S. present at the project site. If jurisdictional WUS are determined to be on the project site, the DEIS should include a final determination of the extent of WUS at the project site and address any other relevant requirements, pursuant to the CWA Section 404 (b)(1).

Clean Water Act Section 303(d)

The CWA requires States to develop a list of impaired waters that do not meet water quality standards, establish priority rankings, and develop action plans, called Total Maximum Daily Loads (TMDL), to improve water quality.

3

Recommendation:

The DEIS should provide information on CWA Section 303(d) impaired waters in the project area, if any, and efforts to develop and revise TMDLs. The DEIS should describe existing restoration and enhancement efforts for those waters, how the proposed project will coordinate with on-going protection efforts, and any mitigation measures that will be implemented to avoid further degradation of impaired waters.

Biological Resources, Habitat and Wildlife

The DEIS should identify all petitioned and listed threatened and endangered species and critical habitat that might occur within the project area. The document should identify and quantify which species or critical habitat might be directly, indirectly, or cumulatively affected by each alternative and mitigate impacts to these species. Emphasis should be placed on the protection and recovery of species due to their status or potential status under the federal or state Endangered Species Act. Project rights-of-way (ROW) are anthropogenic disturbances which alter the spatial structure of habitat elements, creating linear patches or line corridors which in turn impact ecological integrity by modifying ecological processes (abiotic & biotic) at various scales. ROWs can result in habitat fragmentation and increased habitat edge effects, affecting individual species with different intensity.

Recommendations:

The EPA recommends that the FAA consult with the U.S. Fish and Wildlife Service (USFWS) and prepare a Biological Opinion under Section 7 of the ESA for all impacted threatened or endangered species.

We also recommend that FAA coordinate across field offices and with USFWS and Texas Parks and Wildlife Department to ensure that current and consistent surveying, monitoring, and reporting protocols are applied in protection and mitigation efforts.

The DEIS should provide a recent status update on this topic if these actions have been or will be undertaken. Analysis of impacts and mitigation on covered species should include:

- Baseline conditions of habitats and populations of the covered species.
- A clear description of how avoidance, mitigation and conservation measures will protect and encourage the recovery of the covered species and their habitats in the project area.
- Monitoring, reporting and adaptive management efforts to ensure species and habitat conservation effectiveness.

If the applicant is to acquire compensation lands, the location(s) and management plans for these lands should be discussed in the DEIS.

Recommendations:

Incorporate, into the DEIS, information on the compensatory mitigation proposals (including quantification of acreages, estimates of species protected, costs to acquire compensatory lands, etc.) for unavoidable impacts to waters of the State and biological resources.

4

Identify compensatory mitigation lands or quantify, in the DEIS, available lands for compensatory habitat mitigation for this project, as well as reasonably foreseeable projects in the area. Specify, in the DEIS, provisions that will ensure habitat selected for compensatory mitigation will be protected in perpetuity.

Incorporate, into the DEIS, mitigation, monitoring, and reporting measures that result from consultation with the USFWS, and the TPWD and that incorporate lessons learned from other water supply projects and recently released guidance to avoid and minimize adverse effects to sensitive biological resources.

The DEIS should describe the potential for habitat fragmentation and obstructions for wildlife movement from the construction of this project and other projects in the area.

The EPA is also concerned about the potential impact of construction, installation, and maintenance activities (deep trenching, grading, filling, and fencing) on habitat. The DEIS should describe the extent of these activities and the associated impacts on habitat and threatened and endangered species. We encourage habitat conservation alternatives that avoid and protect high value habitat and create or preserve linkages between habitat areas to better conserve the covered species.

The EPA is also concerned with management of the project site, specifically vegetation control in order to prevent natural forest succession. Right of way management is usually practiced to protect the system from windfall, contact with trees and branches, and other potential hazards. Additionally access roads are maintained in order to ensure access for maintenance and upkeep of the system components.

Recommendations:

The DEIS should describe the extent of potential impacts from construction, installation, and maintenance activities.

The DEIS should describe the right of way vegetation management techniques to be used and potential associated environmental impacts, especially if mechanical methods or herbicides are to be used.

The DEIS should indicate the location of important wildlife habitat areas. The DEIS should describe what measures will be taken to protect important wildlife habitat areas and to preserve linkages between them.

The DEIS should provide detailed information on any proposed fencing design and placement, and its potential effects on drainage systems on the project site. Any fencing proposed for this project should meet appropriate hydrologic, wildlife protection and movement, and security performance standards. Those standards should be described in the DEIS.

Invasive Species

Human actions are the primary means of invasive species introductions. Construction causes disturbance of soils and vegetation through the movement of people and vehicles along the project area,

5

access roads, and lay down areas. These activities can contribute to the spread of invasive species. Parts of plants, seeds, and root stocks can contaminate construction equipment and essentially "seed" invasive species wherever the vehicle travels. Invasive species infestations can also occur during periodic maintenance activities especially if these activities include mowing and clearing of vegetation. Once introduced, invasive species will likely spread and impact adjacent properties with the appropriate habitat.

Executive Order 13112, *Invasive Species* (February 3, 1999), mandates that federal agencies take actions to prevent the introduction of invasive species, provide for their control, and minimize the economic, ecological, and human health impacts that invasive species cause. Executive Order 13112 also calls for the restoration of native plants and tree species. If the proposed project will entail new landscaping, the DEIS should describe how the project will meet the requirements of Executive Order 13112.

In addition, we encourage alternative management practices that limit herbicide use (as a last resort), focusing instead on other methods to limit invasive species vegetation and decrease fire risk. Possible alternatives include mowing and weed control fabric, which may need a layer of soil to prevent degradation due to ultraviolet light.

Recommendations:

The DEIS should describe the invasive plant management plan used to monitor and control noxious weeds. If herbicides or pesticides will be used to manage vegetation, the DEIS should disclose the projected quantities and types of chemicals. The invasive plant management plan should identify methods that can be used to limit the introduction and spread of invasive species during and post-construction. These measures can include marking and avoidance of invasives, timing construction activities during periods that would minimize their spread, proper cleaning of equipment, and proper disposal of woody material removed from the ROW.

Because construction measures may not be completely effective in controlling the introduction and spread of invasives, the DEIS should describe post-construction activities that will be required such as surveying for invasive species following restoration of the construction site and measures that will be taken if infestations are found.

Air Quality

The DEIS should provide a detailed discussion of ambient air conditions (baseline or existing conditions), National Ambient Air Quality Standards, criteria pollutant nonattainment areas, and potential air quality impacts of the proposed project (including cumulative and indirect impacts). Such an evaluation is necessary to assure compliance with State and Federal air quality regulations, and to disclose the potential impacts from temporary or cumulative degradation of air quality.

The DEIS should describe and estimate air emissions from potential construction and maintenance activities, as well as proposed mitigation measures to minimize those emissions. The EPA recommends an evaluation of the following measures to reduce emissions of criteria air pollutants and hazardous air pollutants (air toxics).

Recommendations:

6

- Existing Conditions – The DEIS should provide a detailed discussion of ambient air conditions, National Ambient Air Quality Standards, and criteria pollutant nonattainment areas in the vicinity of the project.

- Quantify Emissions – The DEIS should estimate emissions of criteria pollutants from the proposed project and discuss the timeframe for release of these emissions over the lifespan of the project. The DEIS should describe and estimate emissions from potential construction activities, as well as proposed mitigation measures to minimize these emissions.

- Specify Emission Sources – The DEIS should specify the emission sources by pollutant from mobile sources, stationary sources, and ground disturbance. This source specific information should be used to identify appropriate mitigation measures and areas in need of the greatest attention.

- Construction Emissions Mitigation Plan – The DEIS should include a draft Construction Emissions Mitigation Plan and ultimately adopt this plan in the Record of Decision. In addition to all applicable local, state, or federal requirements, we recommend the following control measures (Fugitive Dust, Mobile and Stationary Source and Administrative) be included in the Construction Emissions Mitigation Plan in order to reduce impacts associated with emissions of particulate matter and other toxics from construction-related activities:

- Fugitive Dust Source Controls: The DEIS should identify the need for a Fugitive Dust Control Plan to reduce Particulate Matter 10 and Fine Particulate Matter 2.5 emissions during construction and operations. We recommend that the plan include these general commitments:
    - Stabilize heavily used unpaved construction roads with a non-toxic soil stabilizer or soil weighting agent that will not result in loss of vegetation, or increase other environmental impacts.
    - During grading, use water, as necessary, on disturbed areas in construction sites to control visible plumes.
    - Vehicle Speed
        - Limit speeds to 25 miles per hour on stabilized unpaved roads as long as such speeds do not create visible dust emissions.
        - Limit speeds to 10 miles per hour or less on unpaved areas within construction sites on un-stabilized (and unpaved) roads.
        - Post visible speed limit signs at construction site entrances.
    - Inspect and wash construction equipment vehicle tires, as necessary, so they are free of dirt before entering paved roadways, if applicable.
    - Provide gravel ramps of at least 20 feet in length at tire washing/cleaning stations, and ensure construction vehicles exit construction sites through treated entrance roadways, unless an alternative route has been approved by appropriate lead agencies, if applicable.
    - Use sandbags or equivalent effective measures to prevent run-off to roadways in construction areas adjacent to paved roadways. Ensure consistency with the project's Storm Water Pollution Prevention Plan, if such a plan is required for the project.
    - Sweep the first 500 feet of paved roads exiting construction sites, other unpaved roads en route from the construction site, or construction staging areas whenever dirt or runoff from construction activity is visible on paved roads, or at least twice daily (less during periods of precipitation).
    - Stabilize disturbed soils (after active construction activities are completed) with a non-toxic soil stabilizer, soil weighting agent, or other approved soil stabilizing method.
    - Cover or treat soil storage piles with appropriate dust suppressant compounds and disturbed areas that remain inactive for longer than 10 days. Provide vehicles (used to transport solid bulk material on public roadways and that have potential to cause visible emissions) with covers. Alternatively, sufficiently wet and load materials onto the trucks in a manner to provide at least one foot of freeboard.
    - Use wind erosion control techniques (such as windbreaks, water, chemical dust suppressants, and/or vegetation) where soils are disturbed in construction, access and maintenance routes, and materials stock pile areas. Keep related windbreaks in place until the soil is stabilized or permanently covered with vegetation.

- Mobile and Stationary Source Controls:
    - If practicable, lease new, clean equipment meeting the most stringent of applicable Federal[1] or State Standards[2]. In general, commit to the best available emissions control technology. Tier 4 engines should be used for project construction equipment to the maximum extent feasible[3].
    - Where Tier 4 engines are not available, use construction diesel engines with a rating of 50 hp or higher that meet, at a minimum, the Tier 3 California Emission Standards for Off-Road Compression-Ignition Engines[4], unless such engines are not available.
    - Where Tier 3 engine is not available for off-road equipment larger than 100 hp, use a Tier 2 engine, or an engine equipped with retrofit controls to reduce exhaust emissions of nitrogen oxides and diesel particulate matter to no more than Tier 2 levels.
    - Consider using electric vehicles, natural gas, biodiesel, or other alternative fuels during construction and operation phases to reduce the project's criteria and greenhouse gas emissions.
    - Plan construction scheduling to minimize vehicle trips.
    - Limit idling of heavy equipment to less than 5 minutes and verify through unscheduled inspections.
    - Maintain and tune engines per manufacturer's specifications.

- Administrative Controls:
    - Develop a construction traffic and parking management plan that maintains traffic flow and plan construction to minimize vehicle trips.

[1] EPA's website for nonroad mobile sources is http://www.epa.gov/nonroad/.
[2] For California, see ARB emissions standards, see: http://www.arb.ca.gov/msprog/offroad/offroad.htm.
[3] Diesel engines < 25 hp rated power started phasing in Tier 4 Model Years in 2008. Larger Tier 4 diesel engines will be phased in depending on the rated power (e.g., 25 hp - <75 hp: 2013; 75 hp - < 175 hp: 2012-2013; 175 hp - < 750 hp: 2011 - 2013; and ≥ 750 hp 2011- 2015).

- Identify any sensitive receptors in the project area, such as children, elderly, and the infirm, and specify the means by which impacts to these populations will be minimized (e.g. locate construction equipment and staging zones away from sensitive receptors and building air intakes).
- Include provisions for monitoring fugitive dust in the fugitive dust control plan and initiate increased mitigation measures to abate any visible dust plumes.

Climate Change

Scientific evidence supports the concern that continued increases in greenhouse gas emissions resulting from human activities will contribute to climate change. Global warming is caused by emissions of carbon dioxide and other heat-trapping gases. On December 7, 2009, the EPA determined that emissions of GHGs contribute to air pollution that "endangers public health and welfare" within the meaning of the Clean Air Act. Higher temperatures and increased winter rainfall will be accompanied by a reduction in snow pack, earlier snowmelts, and increased runoff.[5] Some of the impacts, such as reduced groundwater discharge, and more frequent and severe drought conditions, may impact the proposed projects.

Recommendation:

The DEIS should consider how climate change could potentially influence the proposed project, specifically within sensitive areas, and assess how the projected impacts could be exacerbated by climate change.

Hazardous Materials/Hazardous Waste/Solid Waste

The DEIS should address potential direct, indirect and cumulative impacts of hazardous waste from construction and operation of the proposed launch site and other facilities. The document should identify projected hazardous waste types and volumes, and expected storage, disposal, and management plans. It should address the applicability of state and federal hazardous waste requirements. Appropriate mitigation should be evaluated, including measures to minimize the generation of hazardous waste (i.e., hazardous waste minimization). Alternate industrial processes using less toxic materials should be evaluated as mitigation since such processes could reduce the volume or toxicity of hazardous materials requiring management and disposal as hazardous waste.

Cumulative and Indirect Impacts

The cumulative impacts analysis should identify how resources, ecosystems, and communities in the vicinity of the project have already been, or will be, affected by past, present, or future activities in the project area. These resources should be characterized in terms of their response to change and capacity to withstand stresses. Trends data should be used to establish a baseline for the affected resources, to evaluate the significance of historical degradation, and to predict the environmental effects of the project components.

For the cumulative impacts assessment, we recommend focusing on resources of concern or resources that are "at risk" and/or are significantly impacted by the proposed project, before mitigation. For this project, the FAAR should conduct a thorough assessment of the cumulative impacts to aquatic and

biological resources, especially in the context of the other developments occurring and proposed in the area.

The EPA supports a regional assessment of the potential cumulative effects of other projects in the area to a range of resources, including aquatic, biological, and cultural resources. These findings should help inform current and future development proposed in the region.

Recommendations:

The DEIS should consider the cumulative impacts associated with other development projects proposed in the area and the potential impacts on various resources including: water supply, endangered species, and habitat.

The DEIS should quantify cumulative impacts across resources areas, as well as describe and evaluate feasible mitigation measures to avoid and minimize the identified adverse cumulative impacts. Although these mitigation measures may be outside the jurisdiction of the lead agencies or project proponents, describing them in the DEIS would serve to alert other agencies or officials who can implement these extra measures (CEQ 40 Questions No. 19(b)).

Coordination with Tribal Governments

Executive Order 13175, *Consultation and Coordination with Indian Tribal Governments* (November 6, 2000), was issued in order to establish regular and meaningful consultation and collaboration with tribal officials in the development of federal policies that have tribal implications, and to strengthen the United States government-to-government relationships with Indian tribes.

Recommendation:

The DEIS should describe the process and outcome of government-to-government consultation between the FFA and each of the tribal governments within the project area, issues that were raised (if any), and how those issues were addressed in the selection of the proposed alternative.

National Historic Preservation Act and Executive Order 13007(NRHA)

Consultation for tribal cultural resources is required under Section 106 of the National Historic Preservation Act. Historic properties under the NHPA are properties that are included in the National Register of Historic Places or that meet the criteria for the National Register. Section 106 of the NHPA requires a federal agency, upon determining that activities under its control could affect historic properties, consult with the appropriate State Historic Preservation Officer/Tribal Historic Preservation Officer. Under NEPA, any impacts to tribal, cultural, or other treaty resources must be discussed and mitigated. Section 106 of the NHPA requires that Federal agencies consider the effects of their actions on cultural resources, following regulation in 36 CFR 800.

Executive Order 13007, *Indian Sacred Sites* (May 24, 1996), requires federal land managing agencies to accommodate access to, and ceremonial use of, Indian sacred sites by Indian Religious practitioners, and to avoid adversely affecting the physical integrity, accessibility, or use of sacred sites. It is important to note that a sacred site may not meet the National Register criteria for a historic property and that, conversely, a historic property may not meet the criteria for a sacred site.

Recommendation:

The DEIS should address the existence of Indian sacred sites in the project areas. It should address Executive Order 13007, distinguish it from Section 106 of the NHPA, and discuss how the FAA will avoid adversely affecting the physical integrity, accessibility, or use of sacred sites, if they exist. The DEIS should provide a summary of all coordination with Tribes and with the SHPO/THPO, including identification of NRHA eligible sites, and development of a Cultural Resource Management Plan.

Environmental Justice and Impacted Communities

Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations* (February 11, 1994) and the Interagency Memorandum of Understanding on Environmental Justice (August 4, 2011) direct federal agencies to identify and address disproportionately high and adverse human health or environmental effects on minority and low-income populations, allowing those populations a meaningful opportunity to participate in the decision-making process. Guidance[6] by CEQ clarifies the terms low-income and minority population (which includes Native Americans) and describes the factors to consider when evaluating disproportionately high and adverse human health effects.

Recommendations:

The DEIS should include an evaluation of environmental justice populations within the geographic scope of the projects. If such populations exist, the DEIS should address the potential for disproportionate adverse impacts to minority and low-income populations, and the approaches used to foster public participation by these populations. Assessment of the projects impact on minority and low-income populations should reflect coordination with those affected populations.

The DEIS should describe outreach conducted to all other communities that could be affected by the project, since rural communities may be among the most vulnerable to health risks associated with the project.

Coordination with Land Use Planning Activities

The DEIS should discuss how the proposed action would support or conflict with the objectives of federal, state, tribal or local land use plans, policies and controls in the project areas. The term "land use plans" includes all types of formally adopted documents for land use planning, conservation, zoning and related regulatory requirements. Proposed plans not yet developed should also be addressed if they have been formally proposed by the appropriate government body in a written form (CEQ's Forty Questions, #23b).

[6] Environmental Justice Guidance under the National Environmental Policy Act, Appendix A (Guidance for Federal Agencies on Key Terms in Executive Order 12898), CEQ, December 10, 1997.

11

United States Department of the Interior
NATIONAL PARK SERVICE
Intermountain Region
12795 West Alameda Parkway
Lakewood, CO 80228

In Reply Refer to:
IMR-NR, IMR-EQ

VIA ELECTRONIC MAIL - NO HARD COPY TO FOLLOW

Ms. Stacey M. Zee
Environmental Protection Specialist
Federal Aviation Administration
SpaceX EIS
c/o Cardno TEC Inc.
275 West Street-Suite 110
Annapolis, MD 21401

Dear Ms. Zee,

Thank you for the opportunity to comment on the Federal Aviation Administration's (FAA) Notice of Intent to prepare an Environmental Impact Statement (EIS) for Space Exploration Technologies (SpaceX's) proposal to launch orbital vehicles from a private site in Cameron County, Texas. We understand that, under the proposed action, SpaceX proposes constructing a vertical launch facility and a control center to support up to 12 launches per year. It is also our understanding that the FAA is the lead federal agency involved in this undertaking, and that SpaceX would be required to apply for launch licenses and/or experimental permits issued by the FAA.

The physical environment that surrounds the site of the proposed action is rich in cultural resources. As such, the National Park Service (NPS) wishes to address some potential effects that the proposed action may have on these cultural resources, and one in particular, the Palmito Ranch Battlefield National Historic Landmark (NHL). NHLs are nationally significant historic places designated by the Secretary of the Interior because they possess exceptional value or quality in illustrating or interpreting the heritage of the United States. NPS provides special expertise in the preservation of historic properties and provides assistance with regards to NHLs.

Palmito Ranch Battlefield NHL, the location of the last battle of the American Civil War, is approximately 1.1 miles from the proposed site of the control center, and approximately 3.2 miles west from the proposed launch facility. The NHL retains its integrity and historic character to such a degree that the lands within the NHL and much of the surrounding area, have seen little change in nearly 150 years. Quoting from the 1997 NHL designation, "Palmito Ranch Battlefield retains exceptional integrity of setting, feeling, association and location, nearly 130 years after the battle which occurred on May 12 and 13, 1865".

The National Historic Preservation Act (NHPA) of 1966 provides direction regarding the management of NHLs, and although this law applies to all historic properties, NHLs possess an extra layer of attention. Specifically, Section 110(f) of NHPA requires that "prior to the approval of any Federal undertaking, which may directly and adversely affect any National Historic Landmark, the head of the responsible Federal agency shall, to the maximum extent possible, undertake such planning and actions as may be necessary to minimize harm to such landmark, and shall afford the Advisory Council on Historic Preservation a reasonable opportunity to comment on the undertaking." Moreover, as stated in 36 CFR Part 800.10(c), federal agencies are required to notify the Secretary of the Interior (delegated to NPS) of any consultation involving an undertaking at an NHL and invite the Secretary to participate in the consultation where there may be an adverse effect.

As you determine the effects of this project on the Palmito Ranch Battlefield NHL, we recommend that you review the National Register nomination form to better understand why the site is significant and what elements of integrity it possesses. Following our review of the project components, it appears that some of the proposed actions may have adverse effects on the Palmito Ranch Battlefield NHL, including, but not limited to the following.

- The construction of launch facility structures of up to 250 feet in height may adversely affect the viewshed of the NHL. An average person standing about 5'7" tall would be able to see the structures to the east from approximately 87% of the lands within the boundary of the NHL (see attached map).

- Moving the SpaceX launch vehicles and associated materials (including the thousands of gallons each of cooling water, refined rocket fuel, liquid oxygen, and wastewater that must be trucked to or from the site to support each launch mission) via Texas Highway 4 would increase the volume of heavy truck use of this road. The increased heavy truck use may adversely affect the NHL from the associated traffic noise, the potential for an increase in roadside litter, and the potential for environmental damage caused by an accidental spill of a hazardous cargo.

  [Please note that Texas Highway 4 is a two-lane road running east from Brownsville to the Gulf of Mexico at Boca Chica Beach, and forms the northern boundary of the Palmito Ranch Battlefield NHL. Much of Highway 4 approximates the historic roadway that was used by the Union forces to advance and retreat during the Palmito Ranch battle. There are pull-offs along this road that have historical markers for the Palmito Ranch Battlefield and the 1846 Camp Belknap site used during the Mexican War. Immediately north and slightly west of the launch site are the sites of Zachary Taylor's floating bridge that supplied troops during the Mexican American War in 1846 and the 1864-65 U.S. Military Railroad bridge.]

- As of the May 15, 2012 meeting, SpaceX was unable to provide the exact location of the proposed control facility, but it appears that it may be constructed less than 1.5 miles from the NHL boundary, which could have the potential to adversely affect the NHL. Preliminary information provided to date by SpaceX about the size and nature of this facility makes it difficult to assess the associated effects related to the NHL. More information concerning this portion of the proposed action is desired.

- The installation of utility corridors along Highway 4, the potential widening of the roadway, and additional proposed developments may also effect the NHL, and should be considered and addressed.

We would like to recommend that you complete an intensive cultural resources survey of the area of potential effect to determine effects to all historic properties, including the Palmito Ranch Battlefield NHL. Specific to the NHL, we recommend employing a systematic metal detector survey with a shovel testing component. Due to the site's proximity to the dynamic shifting sand dunes that have the potential to bury a site with several feet of sand in any given year, we would also like to recommend that an archeologist be present and monitor any ground disturbing activities in the area of potential effect unidentified or unknown cultural resources can be identified.

We are also concerned that the proposed action may affect Palo Alto Battlefield National Historic Site (NHS), specifically park resources and values including natural soundscapes, cultural resources and visitor use and experience. A soundscape refers to the total acoustic environment of an area and we are mandated to protect this according to NPS Management Policies Section 4.9. The soundscape of a national park, like air, water, scenery, or wildlife, is a valuable resource that can easily be degraded or destroyed by inappropriate sound levels and frequencies. An area's ability to transmit ecologically or culturally significant sounds is function of the amount of extraneous noise intrusion.

We understand that at this stage in the process the FAA would not include information regarding how the environmental impact analysis would be conducted; however, we are aware that typically the FAA uses the day-night average sound level (DNL) metric in their environmental impact assessments. DNL is an energy-based noise averaging metric widely used by the Federal Aviation Administration (FAA) as the primary means for determining the cumulative noise energy exposure of individuals to noise resulting from aviation activities. Hence, thresholds of significance that have been established by the FAA are based on community response.

FAA Order 1050.1E notes that special consideration needs to be given to the evaluation of the significance of noise impacts on noise sensitive areas within national parks. Since assumptions regarding DNL levels are community-based, this metric is not adequate to assess impacts of noise to park resources, values and visitor experience. NPS would find it helpful if the noise impact analysis included supplemental metrics per Section 14.5f, FAA Order 1050.1E, Change 1 and analysis of noise at locations of concern to NPS. It would also be helpful to include the amount of time a launch could be heard by an observer at these locations. NPS would then be able to help FAA better assess the potential noise impacts to Palo Alto Battlefield NHS and Palmito Ranch Battlefield NHL.

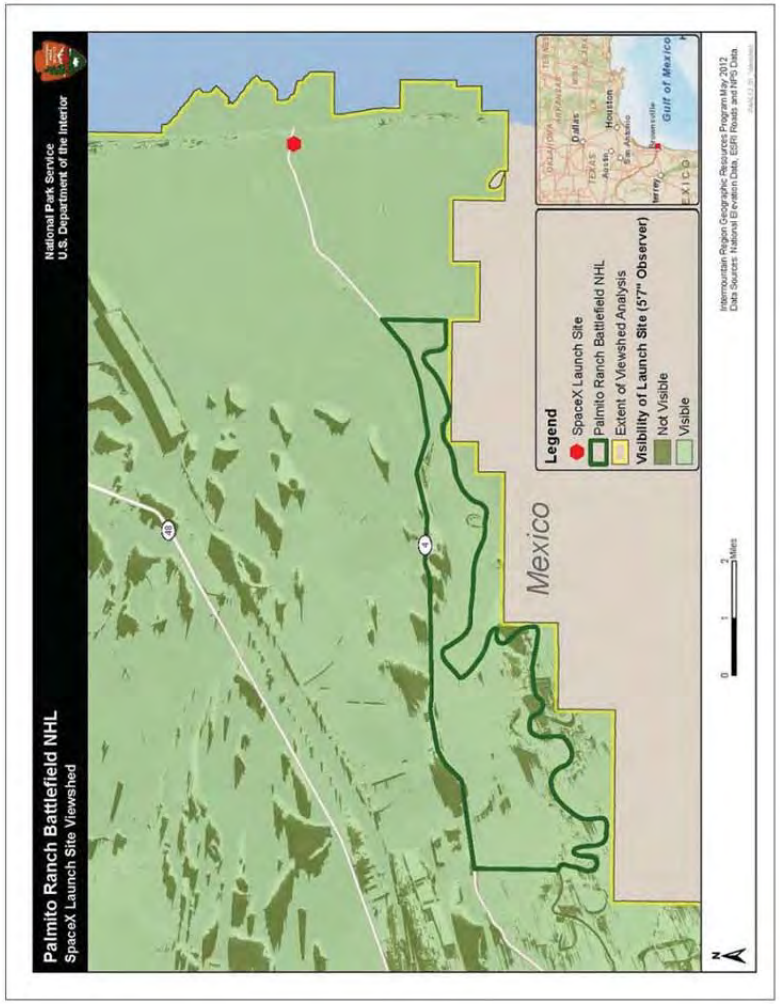
In summary, the Palmito Ranch Battlefield NHL and Palo Alto Battlefield NHS are significant national resources that possess exceptional quality in illustrating important aspects of American history. Because NPS has special expertise with regards to these properties, we would like to participate in the development of this project as a cooperating agency.

We appreciate the opportunity to provide these comments. If you have any questions regarding the Palmito Ranch Battlefield (NHL), please contact Mark E. Spier, Superintendent, Palo Alto Battlefield National Historic Site, at (956) 541-2785 x 222, mark_spier@nps.gov or Charles Haecker, Program Archeologist, Heritage Partnerships Program, at (505) 988-6757, Charles_haecker@nps.gov.

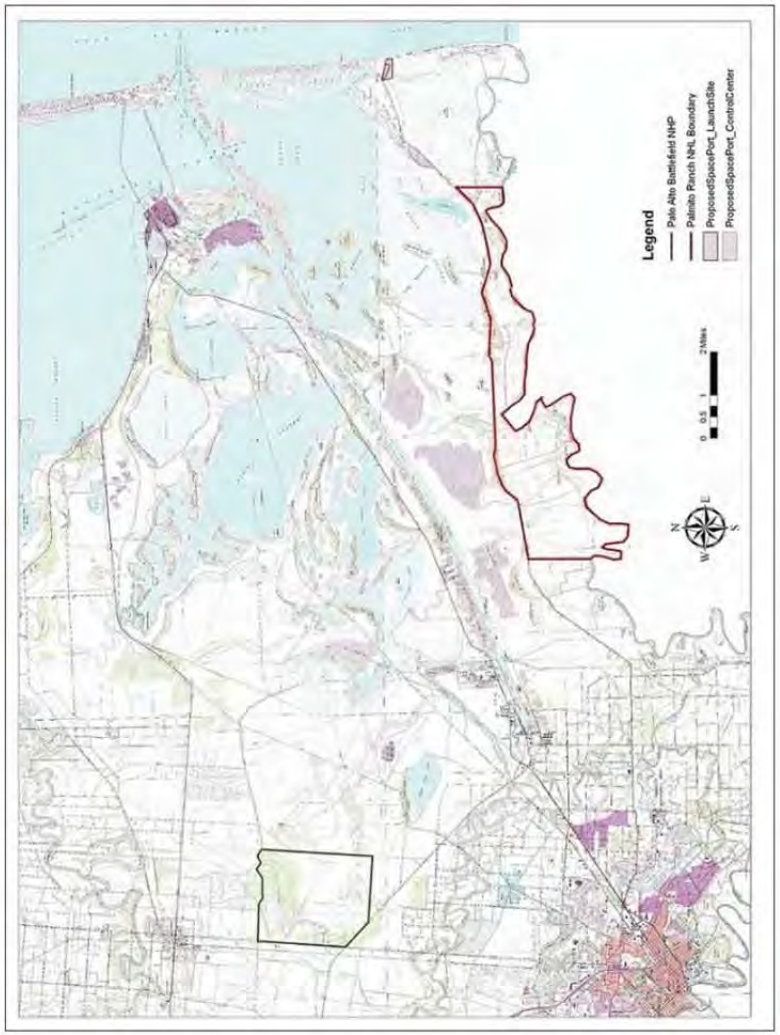
Sincerely,

for John Wessels
Regional Director,
Intermountain Region

cc:
NPS-IMR, Tammy Whittington, Associate Regional Director, Resource Stewardship and Science
NPS-IMR, Patrick Malone, Assistant Regional Director, Natural Resources
NPS-IMR, Chris Turk, Regional Environmental Quality Coordinator
NPS-IMR, Theresa Ely, Soundscape and Night Sky Coordinator
NPS-PAAL, Mark Spier, Superintendent
NPS-IMR Heritage Partnerships Program, Charles Haecker, Program Archeologist
NPS-WASO-NSNSD, Vicki McCusker, Overflights Program Manager
NPS-WASO EQD
DOI, Lisa Treichel


Palmito Ranch Battlefield NHL
SpaceX Launch Site Viewshed
National Park Service
U.S. Department of the Interior
Mexico
Legend
SpaceX Launch Site
Palmito Ranch Battlefield NHL
Extent of Viewshed Analysis
Visibility of Launch Site (57th Observer)
Not Visible
Visible
Dallas
Houston
Gulf of Mexico
Intermountain Region Geographic Resources Program May 2012
Data Sources: National Elevation Data, ESRI Roads and NPS Data.

Legend



TEXAS GENERAL LAND OFFICE
JERRY PATTERSON, COMMISSIONER

May 30, 2012

Ms. Stacey M. Zee, Environmental Protection Specialist
Federal Aviation Administration
Space X EIS
c/o Cardno TEC Inc.
275 West Street—Suite 110
Annapolis, MD 21401

Dear Ms. Zee:

Thank you for the opportunity to comment on the Environmental Impact Statement (EIS) to analyze the potential environmental impacts of Space Exploration Technologies Corporation's (Space X's) proposal to launch the Falcon 9 and Falcon Heavy orbital vertical launch vehicles from a private site located in Cameron County, Texas. The Texas General Land Office (GLO) is the state agency responsible for managing state owned land dedicated to the Permanent School Fund (PSF) and state owned submerged land that is also dedicated to the PSF[1], both of which will be impacted by the proposed project. Management of state owned land entails surface, mineral and wind leasing, while preserving the natural resources. The GLO is charged with implementing and enforcing the Texas Open Beaches Act, which protects the public's right to access and enjoy Gulf beaches in our state.[2] The GLO is also responsible for enforcing the Dune Protection Act that ensures the protection of the dunes along the Gulf of Mexico[3]. The Commissioner of the GLO is responsible for the implementation of the Coastal Management Program (CMP), and determining if federal actions are consistent with the CMP[4].

One of the GLO's primary responsibilities is to generate revenue for the PSF in support of public education. There are state owned uplands dedicated to the PSF immediately northeast of the proposed launch site. One of the concerns is how the proposed project will limit future development of this site, and reduce possible revenue to the PSF. Limitations on future development including access, site design, and building height could have a significant revenue/value impact on the state owned uplands. Please be aware that state owned land dedicated to the PSF does not have many of the local restrictions that apply to private property. The EIS should clearly address limitations and any possible lost revenue to public education that will result from the project.

[1] Texas Natural Resources Code Chapter 33 and 51
[2] Texas Natural Resources Code Chapter 61
[3] Texas Natural Resources Code Chapter 63
[4] Texas Natural Resources Code Chapter 33

Stephen F. Austin Building • 1700 North Congress Avenue • Austin, Texas 78701-1495
Post Office Box 12873 • Austin, Texas 78711-2873
512-463-5001 • 800-998-4GLO
www.glo.state.tx.us

The GLO also leases state owned submerged land, and the revenue is deposited in the PSF to support public education. "Submerged land" means any land extending from the boundary between the land of the state and the littoral owners seaward to the low-water mark on any saltwater lake, bay, inlet, estuary, or inland water within the tidewater limits, and any land lying beneath the body of water, but for the purposes of this chapter only, shall exclude beaches bordering on and the water of the open Gulf of Mexico and the land lying beneath this water.[5] The EIS should address any limitation that will be placed on state owned submerged land, and the potential loss of revenue to the PSF.

The GLO currently has two surface leases in the Gulf of Mexico in Cameron County (attachment 1) for wind powered electrical generation sites. The revenue from these leases is deposited in the PSF. There is also the potential that other locations in the Gulf could be considered for future wind development. The EIS needs to address any impacts to currently leased areas, any limitations on future leases on state owned submerged land, and identify potential loss of revenue to the PSF.

The GLO also manages the oil and gas leasing associated with state land and state owned submerged land[6]. Again the revenue for this leasing is deposited in the PSF for support of public education. There are some areas where the surface has been sold, and the state retains the minerals. Some examples of sites where the state retains the mineral rights that may be impacted by the project are the Cameron County Navigation District and areas northwest of the proposed location. Also, minerals are often pooled or surface locations differ from the mineral site. Any limitations on oil and gas development that will impact the states ability to lease or develop minerals dedicated to the PSF should be identified and quantified in the EIS.

Impacts to coastal natural resources and uses of public land that limit public use are factors the GLO considers in the management of state owned submerged land.[7] The GLO request the EIS clearly identify any impacts to the natural resources on state owned submerged land. This should include secondary impacts from increased traffic and usage. The EIS should clearly identify mitigation for impacts to natural resources on state owned submerged land. Any impacts to resources on state owned submerged land should be mitigated on state owned submerged land[8]. The GLO also requests the EIS identifies any limitations on public use of state owned submerged land.

In regards to beach/dune regulations, the applicant cannot restrict or interfere with the public's right of access and use of the public beaches. This includes closing Highway 4, which is the only access point to Boca Chica Beach. If the applicant is proposing to close this road, they must dedicate an equal or better access road in order to preserve access to the public beach. However, a local government may close a public beach or beach access way for emergency response, which must be limited to the shortest time necessary to respond to the emergency. The EIS should address how the required evacuation and mandatory setback will be in compliance with the Open Beaches Act.

The Beach/Dune rules prohibit the construction of concrete slabs or impervious materials with 200 feet of the natural line of vegetation. In eroding areas, applicants may only pave under the footprint of a habitable structure within a 1000 feet of mean high tide or to the nearest parallel road, which ever is greatest. Any impacts to dunes or dune vegetation will require a dune protection permit issued by Cameron County, and the applicant must apply for a beachfront construction certificate (also issued by Cameron County). The EIS must demonstrate how impacts to dunes and dune vegetation will be minimized, and how unavoidable impacts will be mitigated for on a one to one basis for volume, contours, and vegetative cover.

Under the coastal resources portion of the EIS, the existence of any coastal natural resource areas in addition to any impacts to those areas needs to be identified and documented. Coastal natural resource areas (CNRAs) in Texas include the following: coastal barriers, coastal wetlands, hard substrate reefs, submerged lands, tidal sand or mud flats, waters under tidal influence, coastal historic areas, critical dune areas, coastal preserves, critical erosion areas, oyster reefs, submerged aquatic vegetation, waters of the Gulf of Mexico, coastal shore areas, and Gulf beaches.

The enforceable policies for the Coastal Management Program under 31 TAC §501 (§501.15- §501.34) with regards to affects to CNRAs should be considered and addressed. Particularly as they relate to: development in critical areas, discharge of wastewaters to coastal waters, construction of waterfront facilities and other structures on submerged lands, construction on the beach/dune system, and development within protected areas. The enforceable policies can be found at: http://info.sos.state.tx.us/pls/pub/readtac$ext.ViewTAC?tac_view=5&ti=31&pt=16&ch=501&sch=B&rl=Y.

If you have any questions concerning theses issue please contact me at 512-463-5055 or by e-mail at tony.williams@glo.texas.gov .

Tony Williams
Environmental Review Coordinator
Texas General Land Office

[5] Texas Natural Resources Code §33.004(11)
[6] Texas Natural Resources Code Chapter 52
[7] Texas Natural Resources Coder §33.001(a), (b) & (c)
[8] Texas Administrative Code 31.155.3(g)(3)

TEXAS PARKS & WILDLIFE

Life's better outside.

Commissioners

T. Dan Friedkin
Chairman
Houston

Ralph H. Duggins
Vice-Chairman
Fort Worth

Antonio Falcon, M.D.
Rio Grande City

Karen J. Hixon
San Antonio

Dan Allen Hughes, Jr.
Beeville

Bill Jones
Austin

Margaret Martin
Boerne

S. Reed Morian
Houston

Dick Scott
Wimberley

Lee M. Bass
Chairman-Emeritus
Fort Worth

Carter P. Smith
Executive Director

May 29, 2012

Ms. Stacey M. Zee
Federal Aviation Administration
c/o Cardno TEC Incorporated
275 West Street, Suite 110
Annapolis, MD 21409

RE: Natural resource issues regarding Space Exploration Technologies' proposed construction of a vertical launch area and control center, Cameron County, Texas

Dear Ms. Zee:

This letter is in response to your request for information concerning the impacts upon fish, wildlife and plant resources associated with the proposed development of a vertical launch area and control center in Cameron County, Texas. The Federal Aviation Administration (FAA) Office of Commercial Space Transportation will prepare an Environmental Impact Statement (EIS) under the National Environmental Policy Act (NEPA) to evaluate the potential environmental impacts of the proposed issuance of launch licenses and/or experimental permits to the applicant, Space Exploration Technologies Corporation (SpaceX).

Texas Parks and Wildlife Department (TPWD) is the agency with primary responsibility for protecting the state's fish and wildlife resources (Texas Parks and Wildlife Code §12.0011(a)). Furthermore, TPWD is charged with providing information on fish and wildlife resources to any local, state, and federal agencies or private organizations that make decisions affecting those resources (Texas Parks and Wildlife Code §12.0011(b)(3)).

Project Description

SpaceX proposes to construct a vertical launch area, control center, and utility connections in southern Cameron County near the terminus of State Highway (SH) 4 to support up to 12 commercial space vehicle launches per year. The vehicles to be launched include the Falcon 9, Falcon Heavy (up to two per year), and a variety of smaller reusable suborbital launch vehicles. The Falcon 9 is a medium-lift class launch vehicle with a gross lift-off weight of approximately one-million pounds with a maximum length of 230 feet. It uses liquid oxygen and highly refined kerosene, also known as rocket propellant-1 or refined petroleum-1, as propellants to carry payloads into orbit. The Falcon Heavy is similar to the Falcon 9, except it has two additional boosters "strapped on." The Falcon Heavy

4200 SMITH SCHOOL ROAD
AUSTIN, TEXAS 78744-3291
512.389.4800
www.tpwd.state.tx.us

To manage and conserve the natural and cultural resources of Texas and to provide hunting, fishing and outdoor recreation opportunities for the use and enjoyment of present and future generations.

is a heavy-lift class launch vehicle with a gross lift-off weight of approximately 3.4 million pounds. It has an overall length of approximately 230 feet.

Permanent structures at the launch area site would consist of a hangar, a launch pad and stand with associated flame duct, four lighting towers, propellant storage tanks and handling areas, a workshop, an office, a warehouse for parts storage and an elevated water storage tank. The footprint of the facilities developed at the launch site is anticipated to be less than eight acres with the rest of the property remaining undeveloped.

The control center would be located on private property approximately 1.5 miles west of the launch area on the north side of SH 4. The control area would consist of a control center building, a payload processing facility, parking lots, and possibly a launch vehicle preparation hangar. Access roads, security fences, guard shacks and utility connections would also be included at both the launch site and control center locations.

The launch area site is bounded to the north, west and east by property owned by TPWD (Boca Chica State Park) and leased to the U.S. Fish and Wildlife Service (USFWS) as part of its Lower Rio Grande Valley National Wildlife Refuge complex. The site currently proposed to be developed for the control center is bounded to the east and south by the same TPWD-owned property.

TPWD staff has reviewed the information provided and offers the following comments and recommendations.

Rare and Protected Species

Based on the project as presented, the TPWD annotated county list of rare species for Cameron County, and presently known Texas Natural Diversity Database (TXNDD) records for the general project areas, the following listed species could be impacted by proposed project activities *if suitable habitat is present.*

Federal- and State-Listed Endangered

Northern Aplomado Falcon (*Falco femoralis septentrionalis*)
* Jaguarundi (*Herpailurus yaguarondi*)
* Ocelot (*Leopardus pardalis*)
Atlantic hawksbill turtle (*Eretmochelys imbricata*)
Kemp's Ridley sea turtle (*Lepidochelys kempii*)
Leatherback sea turtle (*Dermochelys coriacea*)

Ms. Stacey M. Zee
Page 3
May 29, 2012

Federal- and State-Listed Threatened
* Piping Plover (*Charadrius melodus*)
* Green sea turtle (*Chelonia mydas*)
Loggerhead sea turtle (*Caretta caretta*)

Federal Candidate for Listing
Sprague's Pipit (*Anthus spragueii*)

State-Listed Threatened
Sheep frog (*Hypopachus variolosus*)
American Peregrine Falcon (*Falco peregrinus anatum*) (Federally Delisted; DL)
Gray Hawk (*Asturina nitida*)
* Peregrine Falcon (*Falco peregrinus*) (DL)
Reddish Egret (*Egretta rufescens*)
Sooty Tern (*Sterna fuscata*)
Texas Botteri's Sparrow (*Aimophila botterii texana*)
White-tailed Hawk (*Buteo albicaudatus*)
Wood Stork (*Mycteria americana*)
Zone-tailed Hawk (*Buteo albonotatus*)
Southern yellow bat (*Lasiurus ega*)
Black-striped snake (*Coniophanes imperialis*)
Northern cat-eyed snake (*Leptodeira septentrionalis septentrionalis*)
Speckled racer (*Drymobius margaritiferus*)
Texas horned lizard (*Phrynosoma cornutum*)
Texas indigo snake (*Drymarchon melanurus erebennus*)
Texas tortoise (*Gopherus berlandieri*)

Species of Concern
Brown Pelican (*Pelecanus occidentalis*) (DL)
Snowy Plover (*Charadrius alexandrinus*)
Western Snowy Plover (*Charadrius alexandrines nivosus*)
Keeled earless lizard (*Holbrookia propinqua*)
Bailey's ballmoss (*Tillandsia baileyi*)
Green Island echeandia (*Echeandia texensis*)
* Lila de los llanos (*Echeandia chandleri*)

Ms. Stacey M. Zee
Page 4
May 29, 2012

Special Features and Natural Communities
* South Bay Coastal Preserve
* Rookery
* Sea Oats-Bitter Panicum Series (*Uniola paniculata-Panicum amarum* Series)
* Texas ebony-Snake-eyes Series (*Pithecellobium ebano-Phaulothamnus spinescens* Series)
* Texas ebony-Snake-eyes-Berlandier Fiddlewood Series (*Pithecellobium ebano-Phaulothamnus spinescens-Citharexylum berlandieri* Series)

Please be aware that the TXNDD is intended to assist users in avoiding harm to rare species or significant ecological features. Absence of information in an area does not imply that a species is absent from that area. Given the small proportion of public versus private land in Texas, the TXNDD does not include a representative inventory of rare resources in the state. Although it is based on the best data available to TPWD regarding rare species, the data from the TXNDD do not provide a definitive statement as to the presences, absence or condition of special species, natural communities, or other significant features within your project area. These data are not inclusive and **cannot be used as presence/absence data**. They represent species that could potentially be in your project area. This information cannot be substituted for on-the-ground surveys.

Please review the most current TPWD county list for Cameron County, as other rare species could be present depending upon habitat availability. These lists are available online at http://www.tpwd.state.tx.us/gis/ris/es/default.aspx.

For the USFWS rare species lists please visit: http://eco.fws.gov/tess_public/serviet/gov.doi.tess_public.serviets.EntryPage.

Federal Regulations

Endangered Species Act (ESA)

Federally-listed animal species and their habitat are protected from "take" on any property by the ESA. Take of a federally-listed species can be allowed if it is

*

Data from the TXNDD has documented occurrences of the species shown above, preceded by an asterisk, on and/or possibly within five miles of the project sites. Element occurrence records and a map are included for planning reference (Attachment 1).

Ms. Stacey M. Zee
Page 5
May 29, 2012

"incidental" to an otherwise lawful activity and must be permitted in accordance with Section 7 or 10 of the ESA. Federally-listed plants are not protected from take except on lands under federal/state jurisdiction or for which a federal/state nexus (i.e., permits or funding) exists. Any take of a federally-listed species or its habitat without the required take permit (or allowance) from the USFWS is a violation of the ESA.

The proposed project is located on a privately owned tract of land that is bounded on three sides by a tract of land owned by TPWD and managed by the USFWS as part of the Rio Grande Valley Wildlife Corridor, a long-standing program aimed at preserving, restoring, and managing habitat for wildlife including threatened and endangered species. This tract of land lies at the eastern terminus of an approximately 200,000-acre network of state, federal, nonprofit and private conservation lands. The Rio Grande Valley Wildlife Corridor initiative extends from Falcon Lake in the west to Boca Chica at the mouth of the Rio Grande into the Gulf of Mexico. This initiative has been an active project of TPWD, USFWS, many private landowners, local communities and nonprofit conservation organizations such as Audubon, The Nature Conservancy, Valley Land Fund, and others since the 1970s.

Within or near the proposed project areas, occurrences of federally-listed Ocelots, Jaguarundi, Piping Plover, and Green sea turtles have been documented. Additionally, suitable nesting habitat for all five species of sea turtles is available on the beach less than one-quarter mile east of the proposed launch site. In addition to the direct loss of habitat resulting from the construction of the project, TPWD is concerned that the quality and natural resource value of the surrounding properties will also be diminished as a result of the project.

> **Recommendation:** The Draft EIS (DEIS) will evaluate impacts to biological resources, including threatened and endangered species. TPWD is especially concerned with the direct impact noise, heat, vibration, fencing, and hazardous material spills may have on federally-listed species and recommends that the DEIS thoroughly evaluate these items.
>
> In particular, the DEIS should evaluate the impact these modifications to the landscape will have on daily and/or seasonal migrations of wildlife through the area (e.g., effect of lighting on Kemps Ridley and fencing on ocelot movements through the area) and whether listed species will be displaced permanently from the area.

Ms. Stacey M. Zee
Page 6
May 29, 2012

> TPWD recommends that if any fences are constructed around the SpaceX property (excluding the launch pad) they should be designed to allow wildlife to pass while restricting vehicles, humans and debris (e.g., plastic trash). Fences will require regular inspections and maintenance to keep them intact and free of windblown debris. The DEIS should address fence design, inspection and maintenance.
>
> Noise, heat, and vibration impacts, from both space vehicle launches and routine daily activities at the control center and launch site, should be evaluated with respect to wildlife. The DEIS should provide specific references regarding the impact of launch-associated vibrations on nesting success of sea turtles.

Migratory Bird Treaty Act (MBTA)

The MBTA implicitly prohibits intentional and unintentional take of migratory birds, including their nests and eggs, except as permitted by the USFWS. Although not documented in the TXNDD, many bird species that are protected by the MBTA are known to reside in or migrate through the proposed project areas.

The proposed project area is within the Central Flyway, a route through which over 500 species of birds migrate annually. This translates into millions of trans- and circum-Gulf birds using the Central Flyway during spring and fall. The Lower Rio Grande Valley is at the northernmost range for many species of Neo-Tropical migrants and at the southernmost range for a number of raptors and shorebirds that winter in South Texas. The mud and sand flats surrounding the site (and into which the launch pad's flame duct would discharge) are used by numerous shorebirds, including the federally-listed (threatened) Piping Plover, during the winter. Areas surrounding the project are managed or preserved as high quality wildlife habitat that provides for foraging, loafing and nesting sites for birds.

> **Recommendation:** The DEIS should address the direct impacts that construction and operation of the control center and space launch site may have on birds. Impacts from noise, heat, vibrations, permanent lights, and hazardous material spills should be evaluated. Also, proposed permanent structures should be designed to avoid and/or minimize potential bird impacts. For example, structures or substrates that attract birds by providing perches or suitable nesting sites and structures requiring guy wires should be excluded from project designs. And, recent studies

indicate birds in migration may be attracted to permanently lighted facilities during times of low visibility (e.g., storms and dense fog).

The DEIS should address shorebird use in the project area, especially for Plovers, Long-billed Curlews, Red Knots and ground nesting birds. Grassland birds may also utilize the proposed project site for nesting. The DEIS should address proposed plans to avoid and or minimize potential impacts to nesting and wintering birds. Specifically, the DEIS should include a detailed discussion of the effects of a permanently lit facility on bird use in the area.

During construction, TPWD recommends scheduling any necessary vegetation clearing or trampling outside of the April 1–July 15 migratory bird nesting season in order to fully comply with the MBTA. SpaceX and its contractors should be made aware of the potential of encountering migratory birds on the proposed project site (especially nesting grassland and shore birds) and be instructed to avoid negatively impacting them. If vegetation clearing must occur during the nesting season, nest surveys should be conducted by a qualified biologist prior to commencing work. If active nests are observed, TPWD recommends leaving a 150-foot buffer of vegetation around the nests until the young have fledged or the nest is abandoned.

Clean Water Act

The Clean Water Act (CWA) provides for the federal protection and regulation of surface water quality. The CWA regulates point and nonpoint sources of water pollution, including the placement of "fill" in jurisdictional waters.

Coordination with the U.S. Army Corps of Engineers regarding potential impacts to jurisdictional wetlands has been initiated.

Recommendation: In addition to jurisdictional wetlands, TPWD is concerned with the loss of the function and value of all wetlands. The DEIS should address loss of all wetlands, regardless of jurisdictional status, and include compensation for losses.

State Regulations

Parks and Wildlife Code

State law prohibits any take of state-listed species. Laws and regulations pertaining to state-listed endangered or threatened animals are contained in Chapters 67 and 68 of the Texas Parks and Wildlife (TPW) Code; laws pertaining to endangered or threatened plants are contained in Chapter 88 of the TPW Code. There are penalties, which may include fines and/or jail time in addition to payment of restitution values, associated with take of state-listed species (see Attachment 2-Protection of State-listed Species).

Due to the diversity of habitat types available in the project area, suitable habitat for a number of state-listed species occurs in the proposed project area and adjacent areas. Suitable habitat for several state-listed reptiles is known to occur in or near the project area. TPWD has concerns regarding the physical and behavioral barriers that may be created, as the development of the launch site, control center and increased traffic along SH 4 will further fragment the habitat. Specifically, TPWD is concerned with direct impacts to the following state-threatened reptiles: Texas horned lizard (*Phrynosoma cornutum*), Texas indigo snake (*Drymarchon melanurus erebennus*), and Texas tortoise (*Gopherus berlandieri*).

Recommendation: TPWD recommends the availability of suitable habitat for state-listed species be evaluated in the DEIS. Potential occurrence, impacts, and proposed impact avoidance strategies, if necessary, should also be included in the DEIS. This may best be accomplished by conducting species-specific surveys and through continued coordination with TPWD biologists.

Many of the tidal flats near the proposed project area consist of topographic features called lomas, small mounds unique to the south Texas coast formed from wind-blown silt and clay that form "miniature ecosystems" of wooded islands that support assemblages of rare plants adapted to the saline environment. Rare plants (i.e., lila de los llanos, *Echeandia texensis*) and terrestrial plant communities unique to lomas have been documented near the proposed project site.

Recommendation: TPWD recommends that areas affected by the project be surveyed for the presence of rare plants. Surveys should be conducted by a qualified botanist familiar with rare plants of south Texas. The DEIS should address any potential impacts the project may have on rare plants.

Protection of Public Parks and Recreational Lands

TPW Code §26.001 states that a department, agency, political subdivision, county, or municipality of this state may not approve any program or project that requires the use or taking of public lands unless it determines that there is "no feasible and prudent alternative to the use or taking of such land," and the project "includes all reasonable planning to minimize harm to the land…resulting from the use or taking." Chapter 26 requires that before a state agency can approve any project that will result in the use or taking of public land designated and used as a park, that state agency must provide certain notices to the public, conduct a hearing, and render a finding that there is no feasible and prudent alternative and that the project includes all reasonable planning to minimize harm to the park. Chapter 26 is modeled on a federal statute, known as "section 4(f)" and codified at 49 U.S.C. §303. In fact, much of Chapter 26 is taken word for word from section 4(f). Chapter 26 requirements must also be met by the Texas Parks and Wildlife Commission (Commission) before it can grant an easement to cross TPWD property. The Commission is not obligated to grant approval for an easement. If an easement is granted, a fee and mitigation for possible adverse impacts would be required. The process of seeking Commission approval of an easement would likely require at least several months.

The proposed SpaceX launch site is situated on a 50-acre privately owned tract bounded on three sides by the 1,054-acre Boca Chica State Park. Boca Chica State Park is owned by TPWD but leased to USFWS, which manages this site. Available maps have conflicting information but indicate that TPWD *may* own a narrow (20 – 40-foot-wide) strip of land on the south side of SH 4 between the SpaceX tract and the roadway.

> **Recommendation:** TPWD recommends the DEIS include copies of accurate land surveys of the property to be developed by SpaceX. TPWD would also appreciate receiving copies of the survey. If a narrow strip of land between SH 4 and the SpaceX property is owned by TPWD, coordination with TPWD would be required per Chapter 26 to develop the project as currently proposed.

SH 4 may need to be widened to accommodate spectators and increased traffic to and from the proposed facilities. It is also possible that an effort would be made to acquire TPWD owned land to expand SH 4. Additionally, it is not clear if proposed utility corridors (water, electricity) would require the use of adjacent public lands that serve as parks, recreation areas, scientific areas, wildlife refuges, or historic sites.

> **Recommendation:** The DEIS should address compensation for taking public land and other natural resources related issues associated with any anticipated improvements to SH 4.
>
> When routing utilities, TPWD strongly discourages a route that crosses land owned or managed by TPWD and recommends the applicant consider alternative routes. If any utilities to support SpaceX are anticipated to be located within or across land owned or managed by TPWD, compliance with Chapter 26 and approval from the Commission will be required.

Indirect Impacts to Natural Resources

As currently configured, the proposed SpaceX launch site would be approximately 300 feet from TPWD property; the control center would be immediately adjacent to TPWD property along Eichorn Boulevard. TPWD is concerned that the impacts of launching a space vehicle could significantly reduce the natural resource conservation value of some or all of the state owned property.

> **Recommendation:** As part of the indirect impact analysis included in the DEIS, potential impacts to fish, wildlife and plant resources on state property that may be affected by the launching of space vehicles should be evaluated. Specifically, the DEIS should describe the expected impacts (e.g., noise, heat, vibration, fuel emissions) on vegetation and wildlife. For expected impacts for which no data exists to assist in predicting their significance (e.g., vibrations to sea turtles nests, noise and light on ocelot movement), TPWD recommends SpaceX propose and conduct research to help predict and minimize those impacts. The DEIS should also address mitigation and/or compensation for lost value of TPWD owned land.

To ensure human safety, it is anticipated that a zone, potentially up to 1.5 miles from the launch site, will be cleared for several hours during launches. According to information presented at the agency scoping meeting in Brownsville, Texas, on May 15, 2012, in order to maintain and secure a 1.5-mile clear zone around the launch site, security sweeps would be conducted that could include the use of helicopters, sirens, air cannons, fencing and on-the-ground security personnel.

> **Recommendation:** In addition to evaluating the direct impacts associated with launching space vehicles, the DEIS should address the indirect impacts associated with securing the area prior to launches (e.g., noise, vegetation trampling).

Ms. Stacey M. Zee
Page 11
May 29, 2012

TPWD owned land would be included in the 1.5-mile clear zone that would require evacuation during launches. Recreational use of the TPWD lands as currently planned would need to be revised. Also, beach access and access to near-shore waters of the Gulf of Mexico east of the launch pad would also be restricted during launches.

> **Recommendation:** The DEIS should address mitigation and/or compensation for the loss of recreational value as well as the procedure for evacuating TPWD owned land and enforcing security.

The launch site is located among grasslands and mixed thorn-scrub communities that are extremely susceptible to wildfires. TPWD is concerned with the potential impacts of unintentional fires resulting from launch failures, accidental fires, careless spectators, etc. and the effect they could have on the sensitive resources on adjacent properties.

> **Recommendation:** The DEIS should include contingency plans to address potential wildfires.

The proposed launch site, which is located in a wash-over pass, would contain tanks of liquid oxygen, nitrogen, helium, and rocket propellant-1. Fuel would be stored on site for several months prior to a launch.

> **Recommendation:** TPWD is concerned with the potential for significant contamination of very sensitive resources in the event of a catastrophic event (i.e., hurricane). The DEIS should thoroughly address fuel storage and clean up procedures in the event of a catastrophic event.

Comments made at public scoping meetings by city and county officials focused on the anticipated increase in tourism due to public interest in attending launches at the proposed SpaceX site. Local officials anticipate as many as 10,000 spectators will attend the launches. Approximately 15 miles of SH 4 west of the SpaceX launch site is bounded to the north and south by TPWD or USFWS property. The proposed project does not include plans to accommodate up to 10,000 spectators or propose a plan to prevent impacts to the adjacent properties owned by TPWD and USFWS. TPWD is concerned with the potential significant impacts of spectators parking along the sides of SH 4, driving off-road through the tidal flats, and leaving litter along the roads. Additionally, TPWD has concerns that spectators may attempt to view launches by entering the very shallow South Bay Coastal Preserve in boats and impacting sensitive seagrass meadows.

Ms. Stacey M. Zee
Page 12
May 29, 2012

> **Recommendation:** TPWD recommends that plans to strictly control traffic be developed and enforced. SH 4 is not currently designed to accommodate this anticipated increase in traffic volume.
>
> Traffic should either be completely prevented from entering the conservation areas or managed with physical barriers (e.g., fences or bollards) and enforcement to prevent visitors from entering TPWD owned land. The DEIS should address how the sensitive resources of adjacent properties will be protected and how the protection will be enforced. If installing fencing on TPWD is necessary to protect fish and wildlife resources, the fences should be designed to allow wildlife passage and the DEIS should address compensation.
>
> Plans to provide parking for spectators should be established prior to the first launch. The DEIS should address traffic and parking scenarios, alternatives, and associated impacts.

TPWD appreciates the opportunity to provide comments and recommendations during the scoping phase for this project. Questions may be directed to Clayton Wolf, Wildlife Division Director, at (512) 389-8092. Thank you.

Sincerely,

Ross Melinchuk
Deputy Executive Director, Natural Resources

RM:KB:RH.gg

Attachments (2)

0 0.5 1 2 3 4 Miles

Attachment 1. Rare resources near proposed SpaceX Project Site, Cameron County, Texas

- 1.5-mile buffer of SpaceX facilities_2
- 5-mile buffer of SpaceX facilities
- SpaceX facilities
- Element Occurrence ID #
- USFWS/TPWD Property

TEXAS PARKS & WILDLIFE

Code Key for Printouts from
Texas Parks and Wildlife Department
Texas Natural Diversity Database (TXNDD)

This information is for your assistance only; due to continuing data updates, vulnerability of private land to trespass and of species to disturbance or collection, **please refer all requesters to our office to obtain the most current information available.** Also, please note, identification of a species in a given area does not necessarily mean the species currently exists at the point or area indicated.

LEGAL STATUS AND CONSERVATION RANKS

FEDERAL STATUS (as determined by the US Fish and Wildlife Service)

LE	Listed Endangered
LT	Listed Threatened
PE	Proposed to be listed Endangered
PT	Proposed to be listed Threatened
PDL	Proposed to be Delisted (Note: Listing status retained while proposed)
SAE, SAT	Listed Endangered on basis of Similarity of Appearance, Listed Threatened on basis of Similarity of Appearance
DL	Delisted Endangered/Threatened
C	Candidate. USFWS has substantial information on biological vulnerability and threats to support proposing to list as threatened or endangered. Data are being gathered on habitat needs and/or critical habitat designations.
C*	C, but lacking known occurrences
C**	C, but lacking known occurrences, except in captivity/cultivation
XE	Essential Experimental Population
XN	Non-essential Experimental Population
Blank	Species is not federally listed

TX PROTECTION (as determined by the Texas Parks and Wildlife Department)

E	Listed Endangered
T	Listed Threatened
Blank	Species not state-listed

GLOBAL RANK (as determined by NatureServe)

G1	Critically imperiled globally, extremely rare, typically 5 or fewer viable occurrences
G2	Imperiled globally, very rare, typically 6 to 20 viable occurrences
G3	Very rare and local throughout range or found locally in restricted range, typically 21 to 100 viable occurrences
G4	Apparently secure globally
G5	Demonstrably secure globally
GH	Of historical occurrence through its range
GU	Possibly in peril range-wide, but status uncertain
G#G#	Ranked within a range as status uncertain
GX	Apparently extinct throughout range
Q	Rank qualifier denoting taxonomic assignment is questionable
#?	Rank qualifier denoting uncertain rank
C	In captivity or cultivation only
G#T#	"G" refers to species rank; "T" refers to variety or subspecies rank

STATE (SUBNATIONAL) RANK (as determined by the Texas Parks and Wildlife Department)

S1	Critically imperiled in state, extremely rare, vulnerable to extirpation, typically 5 or fewer viable occurrences
S2	Imperiled in state, very rare, vulnerable to extirpation, typically 6 to 20 viable occurrences
S3	Rare or uncommon in state, typically 21 to 100 viable occurrences
S4	Apparently secure in State
S5	Demonstrably secure in State
S#S#	Ranked within a range as status uncertain
SH	Of historical occurrence in state and may be rediscovered
SU	Unrankable – due to lack of information or substantially conflicting information
SX	Apparently extirpated from State
SNR	Unranked – State status not yet assessed
SNA	Not applicable – species id not a suitable target for conservation activities
?	Rank qualifier denoting uncertain rank in State

Revised 1 Apr 2008

ELEMENT OCCURRENCE RECORD

Element Occurrence Record (EOR) Spatial and tabular record of an area of land and/or water in which a species, natural community, or other significant feature of natural diversity is, or was, present and associated information; may be a single contiguous area or may be comprised of discrete patches or subpopulations

Occurrence # Unique number assigned to each occurrence of each element when added to the NDD

LOCATION INFORMATION

Watershed Code Eight digit numerical code determined by US Geological Survey (USGS)

Watershed Name of watershed as determined by USGS

Quadrangle Name of USGS topographical map

Directions Directions to geographic location where occurrence was observed, as described by observer or in source

SURVEY INFORMATION

First/Last Observation Date a particular occurrence was first/last observed; refers only to species occurrence as noted in source and does not imply the first/last date the species was present

Survey Date If conducted, date of survey

EO Type State rank qualifiers:

- **M** Migrant – species occurring regularly on migration at staging areas, or concentration along particular corridors; status refers to the transient population in the State
- **B** Qualifier indicating basic rank refers to the breeding population in State
- **N** Qualifier indicating basic rank refers to the non-breeding population in State

EO Rank

A	Excellent	**AI**	Excellent, Introduced
B	Good	**BI**	Good, Introduced
C	Marginal	**CI**	Marginal, Introduced
D	Poor	**DI**	Poor, Introduced
E	Extant/Present	**EI**	Extant, Introduced
H	Historical/No Field Information	**HI**	Historical, Introduced
X	Destroyed/Extirpated	**XI**	Destroyed, Introduced
O	Obscure	**OI**	Obscure, Introduced

EO Rank Date Latest date EO rank was determined or revised

Observed Area Acres, unless indicated otherwise

COMMENTS

Description General physical description of area and habitat where occurrence is located, including associated species, soils, geology, and surrounding land use

Comments Comments concerning the quality or condition of the element occurrence at time of survey

Protection Comments Observer comments concerning legal protection of the occurrence

Management Comments Observer comments concerning management recommendations appropriate for occurrence conservation

DATA

EO Data Biological data; may include number of individuals, vigor, flowering/fruiting data, nest success, behaviors observed, or unusual characteristic, etc.

SITE

Site Name Title given to site by surveyor

MANAGED AREA INFORMATION

Managed Area Name Place name or (on EOR printout) name of area when the EO is located within or partially within an area identified for conservation, such as State or Federal lands, nature preserves, parks, etc.

Alias Additional names the property is known by

Acres Total acreage of property, including non-contiguous tracts

Manager Contact name, address, and telephone number for area or nearest area land steward

Please use one of the following citations to credit the source for the printout information:

Texas Natural Diversity Database. [year of printouts]. Wildlife Diversity Program of Texas Parks & Wildlife Department. [day month year of printouts].

Texas Natural Diversity Database. [year of printouts]. Element occurrence printouts for [scientific name] *records # [occurrence number(s)]. Wildlife Diversity Program of Texas Parks & Wildlife Department. [day month year of printouts]. *Use of record #'s is optional.

Revised 1 Apr 2008

Element Occurrence Record

Scientific Name: *Pithecellobium ebano-phaulothamnus spinescens series* **Occurrence #:** 16 **Eo Id:** 4673

Common Name: Texas Ebony-snake-eyes Series **TX Protection Status:** **ID Confirmed:** Y

Global Rank: G2 **State Rank:** S2 **Federal Status:**

Location Information:

Watershed Code:	Watershed Description:
12110208	South Laguna Madre

County Code:	County Name:	Mapsheet Code:	Mapsheet Name:	State:
TXCAME	Cameron	25097-H2	Mouth of Rio Grande	TX
		26097-A2	Port Isabel	TX

Directions:

2.4 MILES NORTH OF HIGHWAY 4, ON THE LANDWARD EDGE OF SOUTH BAY, LAGUNA MADRE

Survey Information:

First Observation: **Survey Date:** **Last Observation:**

Eo Type: **EO Rank:** **EO Rank Date:**

Observed Area (acres): 73 **Estimated Representation Accuracy:**

Comments:

General Description: DOMINATED BY LOW SUBTROPICAL SHRUBS

Comments:

Protection Comments:

Management Comments:

Data:

EO Data:

Managed Area:

Managed Area Name: **Managed Area Type:**

Reference:

Full Citation:

JOHNSTON, M. C. 1952. VEGETATION OF EASTERN CAMERON COUNTY, TEXAS. M. S. THESIS, UNIV. OF TEXAS AT AUSTIN.

5/17/2012 Page 1 of 42

Element Occurrence Record

Specimen:

Associated Species:

Species Name	Type	Comments

5/17/2012 Page 2 of 42

Element Occurrence Record

Scientific Name: *Rookery* **Occurrence #:** 1 **Eo Id:** 579

Common Name: **TX Protection Status:** **ID Confirmed:** Y

Global Rank: GNR **State Rank:** SNR **Federal Status:**

Location Information:

Watershed Code: 12110208 **Watershed Description:** South Laguna Madre

County Code:	County Name:	Mapsheet Code:	Mapsheet Name:	State:
TXCAME	Cameron	26097-A2	Port Isabel	TX

Directions:

SOUTH OF PORT ISABEL AT JUNCTION OF PORT ISABEL CHANNEL AND INTRACOASTAL WATERWAY

Survey Information:

First Observation: 1973 **Survey Date:** **Last Observation:** 1990

Eo Type: **EO Rank:** **EO Rank Date:**

Observed Area (acres): 15 **Estimated Representation Accuracy:**

Comments:

General Description: SAND AND SHELL BEACH; LOW SHRUBS; BLACK MANGROVE ISLAND; ELEVATION 1.5 METERS; PROXIMITY TO HUMANS

Comments: COLONY NUMBER 618-240

Protection Comments:

Management Comments:

Data:

EO Data: NESTING COLONY OF THE BLACK SKIMMER

Managed Area:

Managed Area Name: **Managed Area Type:**

Reference:

5/17/2012 Page 3 of 42

Element Occurrence Record

Full Citation:

Martin, Catrina. 1991. Texas Colonial Waterbird Census Summary - 1990. Compiled for Texas Parks & Wildlife Dept. and Texas Colonial Waterbird Society. 13 March 1991.

Mullins, L.M. ET.AL. 1982. An atlas and census of Texas waterbird colonies, 1973-1980. Texas Colonial Waterbird Society.

WAHL, C. R. ET AL. 1986. SURVEY OF COASTAL WATERBIRD COLONIES ON NATURAL AND MAN-MADE ISLANDS IN THE S. LAGUNA MADRE, TEXAS. 2-6 JUNE 1986.

Specimen:

Associated Species:

Species Name	Type	Comments

5/17/2012 Page 4 of 42

Element Occurrence Record

Scientific Name: *Pithecellobium ebano-phaulothamnus spinescens-citharexylum b* **Occurrence #:** 1 **Eo Id:** 895

Common Name: Texas Ebony-snake-eyes-berlandier Fiddlewood Series **TX Protection Status:** **ID Confirmed:** Y

Global Rank: G2 **State Rank:** S2 **Federal Status:**

Location Information:

Watershed Code:	Watershed Description:
13090002	Lower Rio Grande

County Code:	County Name:	Mapsheet Code:	Mapsheet Name:	State:
TXCAME	Cameron	25097-H3	Palmito Hill	TX
		25097-H2	Mouth of Rio Grande	TX

Directions:

7.4 MILES INLAND FROM BOCA CHICA BEACH ON HWY 4; PRIMARILY ON SOUTH SIDE OF HWY 4

Survey Information:

First Observation: 1984 **Survey Date:** 1984-10-17 **Last Observation:** 1984-10

Eo Type: **EO Rank:** **EO Rank Date:**

Observed Area (acres): 5 **Estimated Representation Accuracy:**

Comments:

General Description: CLAY LOAM LOMA WITH RUNNING MESQUITE, CROSS-THORN, MAYTENAS, EBONY, SNAKE-EYES, BRAZIL AND A VARIETY OF SUBTROPICAL SHRUBS

Comments:

Protection Comments:

Management Comments:

Data:

EO Data:

Managed Area:

Managed Area Name: **Managed Area Type:**

Reference:

Full Citation:

POOLE, J. M. & C. R. WAHL. 1984. FIELD SURVEY TO LOMA DE LA ESTRELLA OF OCTOBER 17, 1984.

5/17/2012 Page 5 of 42

Element Occurrence Record

Specimen:

Associated Species:

Species Name	Type	Comments

5/17/2012 Page 6 of 42

Element Occurrence Record

Scientific Name: *Echeandia chandleri* **Occurrence #:** 23 **Eo Id:** 1020

Common Name: lila de los llanos **TX Protection Status:** **ID Confirmed:** Y

Global Rank: G3 **State Rank:** S2S3 **Federal Status:**

Location Information:

Watershed Code: 13090002 **Watershed Description:** Lower Rio Grande

County Code:	County Name:	Mapsheet Code:	Mapsheet Name:	State:
TXCAME	Cameron	25097-H2	Mouth of Rio Grande	TX

Directions:

SOUTHWEST QUARTER OF LOMA DE LA LENA SECA, PLAYA DEL RIO

Survey Information:

First Observation: **Survey Date:** **Last Observation:** 1987

Eo Type: **EO Rank:** **EO Rank Date:**

Observed Area (acres): **Estimated Representation Accuracy:**

Comments:

General Description: OPEN GRASSY AREAS ALONG MARGIN OF IMPENETRABLE BRUSH

Comments:

Protection Comments:

Management Comments:

Data:

EO Data: 3250 PLANTS

Managed Area:

Managed Area Name: **Managed Area Type:**

Reference:

Full Citation:

ESPEY, HUSTON AND ASSOCIATES, INC. 1987. REPORT ON A SURVEY FOR ANTHERICUM CHANDLERI ON THE PLAYA DEL RIO PROJECT SITE, CAMERON COUNTY, TEXAS. ESPEY, HUSTON AND ASSOCIATES, AUSTIN.

5/17/2012 Page 7 of 42

Element Occurrence Record

Specimen:

Associated Species:

Species Name	Type	Comments

5/17/2012 Page 8 of 42

Element Occurrence Record

Scientific Name: *Charadrius melodus* **Occurrence #:** 9 **Eo Id:** 1152

Common Name: Piping Plover **TX Protection Status:** T **ID Confirmed:** Y

Global Rank: G3 **State Rank:** S2 **Federal Status:** LT

Location Information:

Watershed Code: 12110208

Watershed Description: South Laguna Madre

County Code:	County Name:	Mapsheet Code:	Mapsheet Name:	State:
TXCAME	Cameron	26097-A2	Port Isabel	TX
		25097-H2	Mouth of Rio Grande	TX

Directions:

southern, western and eastern areas of South Bay, south of Port Isabel; flats on west side of Brazos Island and between Clark Island and Brazos Island just below Brownsville Ship Channel and west of Brazos Santiago Pass

Survey Information:

First Observation: 1991 **Survey Date:** 1991 **Last Observation:** 1991

Eo Type: **EO Rank:** **EO Rank Date:**

Observed Area (acres): **Estimated Representation Accuracy:** Low

Comments:

General Description: algal mat and sand/silt with algal mat

Comments:

Protection Comments:

Management Comments:

Data:

EO Data:

Managed Area:

Managed Area Name: **Managed Area Type:**

Reference:

5/17/2012 Page 9 of 42

Element Occurrence Record

Full Citation:

LINAM, LEE ANN JOHNSON. 1992. SECTION 6 PERFORMANCE REPORT. JOB NO. 9.1: PIPING PLOVER AND PEREGRINE FALCON COASTAL HABITAT USE. JANUARY 3, 1992.

Specimen:

Associated Species:

Species Name	Type	Comments

5/17/2012 Page 10 of 42

Element Occurrence Record

Scientific Name: *Leopardus pardalis* **Occurrence #:** 15 **Eo Id:** 881

Common Name: Ocelot **TX Protection Status:** E **ID Confirmed:** Y

Global Rank: G4 **State Rank:** S1 **Federal Status:** LE

Location Information:

Watershed Code: 12110208

Watershed Description: South Laguna Madre

County Code:	County Name:	Mapsheet Code:	Mapsheet Name:	State:
TXCAME	Cameron	26097-A2	Port Isabel	TX
		25097-H2	Mouth of Rio Grande	TX
		26097-A3	Laguna Vista	TX
		26097-B3	La Coma	TX
		25097-H3	Palmito Hill	TX

Directions:

North of State Hwy. 4 in the general vicinity of the Port of Brownsville, eastward to Loma de los Ebanitos and northward to Brownsville Ship Channel; also in the Holly Beach vicinity.

Survey Information:

First Observation: 1990-03 **Survey Date:** **Last Observation:** 1998-08-10

Eo Type: **EO Rank:** E - Verified extant (viability not assessed) **EO Rank Date:** 1998-08-10

Observed Area (acres): **Estimated Representation Accuracy:** Medium

Comments:

General Description: Trap site was a brush covered loma

Comments:

Protection Comments:

Management Comments:

Data:

EO Data: A male ocelot weighing 20 lbs. was captured on 27 April 1998 in a Tomahawk live trap. The ocelot was anesthitized, checked for injuries, and had vital signs and blood samples taken. It appeared healthy, though possibly a little underweight. The ocelot was fitted with a radio collar and tracked for 3 1/2 months. It was relocated twice in April, 24 times in May, and five times in June, last date of 13 June. Subsequent aerial flight did not detect a signal. Second aerial flight on 14 July 1998 detected a signal ~8.5 mi northwest of last known location; one Class I observation in March 1990 and one Class I on 30 April 1991 in the vicinity of Holly Beach

5/17/2012 Page 11 of 42

Element Occurrence Record

Managed Area:

Managed Area Name: | Managed Area Type:

Reference:

Full Citation:

HOMERSTAD, GARY E. 1989. PERFORMANCE REPORT, NONGAME WILDLIFE INVESTIGATIONS, FEDERAL AID PROJECT NO. W-103-R-19, JOB NO. 12: ENDANGERED FELINE STATUS SURVEY. TPWD. OCTOBER 6, 1989.

PRIETO, FELIPE G. 1990. PERFORMANCE REPORT, WILDLIFE RESEARCH AND SURVEYS, FEDERAL AID PROJECT NO. W-125-R-1 AND ESEC6-1, JOB NO. 12: ENDANGERED FELINE POPULATION AND HABITAT ENHANCEMENT. TPWD. OCTOBER 29, 1990.

PRIETO, FELIPE G. 1991. PERFORMANCE REPORT, WILDLIFE RESEARCH AND SURVEYS, FEDERAL AID PROJECT NO. W-125-R-2 AND ESEC6-2, JOB NO. 12: ENDANGERED FELINE POPULATION AND HABITAT ENHANCEMENT. TPWD. NOVEMBER 8, 1991.

BENN, STEPHEN J. 1993. PERFORMANCE REPORT, WILDLIFE RESEARCH AND SURVEYS, FEDERAL AID PROJECT NO. W-125-R-3, JOB NO. 12: ENDANGERED FELINE POPULATION AND HABITAT ENHANCEMENT. TPWD. SEPTEMBER 22, 1993.

BLANTON & ASSOCIATES, INC. 1998. ANNUAL TRAPPING SURVEY-1998 FOR THE ENDANGERED OCELOT AND JAGUARUNDI: PORT OF BROWNSVILLE PROPOSED INTERNATIONAL CROSSING. OCTOBER 1998.

PHILLIPS, RICK. NO DATE. BLANTON & ASSOCIATES, 5 LAKEWAY CENTRE COURT, AUSTIN, TEXAS 78734. 512/264-1095. <RPHILLIPS@BLANTONASSOCIATES.COM>.

Specimen:

Associated Species:

Species Name	Type	Comments

5/17/2012 Page 12 of 42

Element Occurrence Record

Scientific Name: *Pithecellobium ebano-phaulothamnus spinescens series* | Occurrence #: 20 | Eo Id: 2742

Common Name: Texas Ebony-snake-eyes Series | TX Protection Status: | ID Confirmed: Y

Global Rank: G2 | State Rank: S2 | Federal Status:

Location Information:

Watershed Code:	Watershed Description:
12110208	South Laguna Madre

County Code:	County Name:	Mapsheet Code:	Mapsheet Name:	State:
TXCAME	Cameron	26097-A2	Port Isabel	TX

Directions:

JUST WEST OF LOMA DEL GATO IN SOUTH BAY, LAGUNA MADRE

Survey Information:

First Observation: | Survey Date: | Last Observation:

Eo Type: | EO Rank: | EO Rank Date:

Observed Area (acres): 73 | Estimated Representation Accuracy:

Comments:

General Description: DOMINATED BY LOW SUBTROPICAL SHRUBS

Comments:

Protection Comments:

Management Comments:

Data:

EO Data:

Managed Area:

Managed Area Name: | Managed Area Type:

Reference:

Full Citation:

JOHNSTON, M. C. 1952. VEGETATION OF EASTERN CAMERON COUNTY, TEXAS. M. S. THESIS, UNIV. OF TEXAS AT AUSTIN.

5/17/2012 Page 13 of 42

Element Occurrence Record

Specimen:

Associated Species:

Species Name	Type	Comments

5/17/2012 Page 14 of 42

Element Occurrence Record

Scientific Name: *Pithecellobium ebano-phaulothamnus spinescens series* **Occurrence #:** 19 **Eo Id:** 2741

Common Name: Texas Ebony-snake-eyes Series **TX Protection Status:** **ID Confirmed:** Y

Global Rank: G2 **State Rank:** S2 **Federal Status:**

Location Information:

Watershed Code:	Watershed Description:
12110208	South Laguna Madre

County Code:	County Name:	Mapsheet Code:	Mapsheet Name:	State:
TXCAME	Cameron	26097-A2	Port Isabel	TX

Directions:

JUST WEST OF LOMA DE LAS GACHUPINES, SOUTH OF BROWNSVILLE SHIP CHANNEL IN SOUTH BAY, LAGUNA MADRE

Survey Information:

First Observation: **Survey Date:** **Last Observation:**

Eo Type: **EO Rank:** **EO Rank Date:**

Observed Area (acres): 60 **Estimated Representation Accuracy:**

Comments:

General Description:

Comments:

Protection Comments:

Management Comments:

Data:

EO Data:

Managed Area:

Managed Area Name: **Managed Area Type:**

Reference:

Full Citation:

JOHNSTON, M. C. 1952. VEGETATION OF EASTERN CAMERON COUNTY, TEXAS. M. S. THESIS, UNIV. OF TEXAS AT AUSTIN.

5/17/2012 Page 15 of 42

Element Occurrence Record

Specimen:

Associated Species:

Species Name	Type	Comments

5/17/2012 Page 16 of 42

Element Occurrence Record

Scientific Name: *Herpailurus yaguarondi* **Occurrence #:** 19 **Eo Id:** 3204

Common Name: Jaguarundi **TX Protection Status:** E **ID Confirmed:** Y

Global Rank: G4 **State Rank:** S1 **Federal Status:** LE

Location Information:

Watershed Code: 12110208

Watershed Description: South Laguna Madre

County Code:	County Name:	Mapsheet Code:	Mapsheet Name:	State:
TXCAME	Cameron	25097-H2	Mouth of Rio Grande	TX
		26097-A2	Port Isabel	TX

Directions:

BOCA CHICA

Survey Information:

First Observation: **Survey Date:** **Last Observation:** 1990-03

Eo Type: **EO Rank:** **EO Rank Date:**

Observed Area (acres): **Estimated Representation Accuracy:**

Comments:

General Description:

Comments: CLASS II = RELIABLE OBSERVATION/OBSERVER

Protection Comments:

Management Comments:

Data:

EO Data: ONE CLASS II OBSERVATION

Managed Area:

Managed Area Name: **Managed Area Type:**

Reference:

5/17/2012 Page 17 of 42

Element Occurrence Record

Full Citation:

HOMERSTAD, GARY E. 1987. PERFORMANCE REPORT, NONGAME WILDLIFE INVESTIGATIONS, FEDERAL AID PROJECT NO. W-103-R-17, JOB NO. 12: ENDANGERED FELINE STATUS SURVEY. TPWD. OCTOBER 9, 1987.

HOMERSTAD, GARY E. 1988. PERFORMANCE REPORT, NONGAME WILDLIFE INVESTIGATIONS, FEDERAL AID PROJECT NO. W-103-R-18, JOB NO. 12: ENDANGERED FELINE STATUS SURVEY. TPWD. NOVEMBER 9, 1988.

HOMERSTAD, GARY E. 1989. PERFORMANCE REPORT, NONGAME WILDLIFE INVESTIGATIONS, FEDERAL AID PROJECT NO. W-103-R-19, JOB NO. 12: ENDANGERED FELINE STATUS SURVEY. TPWD. OCTOBER 6, 1989.

PRIETO, FELIPE G. 1990. PERFORMANCE REPORT, WILDLIFE RESEARCH AND SURVEYS, FEDERAL AID PROJECT NO. W-125-R-1 AND ESEC6-1, JOB NO. 12: ENDANGERED FELINE POPULATION AND HABITAT ENHANCEMENT. TPWD. OCTOBER 29, 1990.

PRIETO, FELIPE G. 1991. PERFORMANCE REPORT, WILDLIFE RESEARCH AND SURVEYS, FEDERAL AID PROJECT NO. W-125-R-2 AND ESEC6-2, JOB NO. 12: ENDANGERED FELINE POPULATION AND HABITAT ENHANCEMENT. TPWD. NOVEMBER 8, 1991.

BENN, STEPHEN J. 1993. PERFORMANCE REPORT, WILDLIFE RESEARCH AND SURVEYS, FEDERAL AID PROJECT NO. W-125-R-3, JOB NO. 12: ENDANGERED FELINE POPULATION AND HABITAT ENHANCEMENT. TPWD. SEPTEMBER 22, 1993.

Specimen:

Associated Species:

Species Name	Type	Comments

5/17/2012 Page 18 of 42

Element Occurrence Record

Scientific Name: *Pithecellobium ebano-phaulothamnus spinescens series* **Occurrence #:** 17 **Eo Id:** 377

Common Name: Texas Ebony-snake-eyes Series **TX Protection Status:** **ID Confirmed:** Y

Global Rank: G2 **State Rank:** S2 **Federal Status:**

Location Information:

Watershed Code:	Watershed Description:
12110208	South Laguna Madre

County Code:	County Name:	Mapsheet Code:	Mapsheet Name:	State:
TXCAME	Cameron	25097-H2	Mouth of Rio Grande	TX
		26097-A2	Port Isabel	TX

Directions:

2.7 MILES NORTH OF FM 4, EAST OF LOMA DEL BURRO, WITHIN SOUTH BAY, LAGUNA MADRE

Survey Information:

First Observation: **Survey Date:** **Last Observation:**

Eo Type: **EO Rank:** **EO Rank Date:**

Observed Area (acres): 63 **Estimated Representation Accuracy:**

Comments:

General Description: DOMINATED BY LOW TROPICAL SHRUBS

Comments:

Protection Comments:

Management Comments:

Data:

EO Data:

Managed Area:

Managed Area Name: **Managed Area Type:**

Reference:

Full Citation:

JOHNSTON, M. C. 1952. VEGETATION OF EASTERN CAMERON COUNTY, TEXAS. M. S. THESIS, UNIV. OF TEXAS AT AUSTIN.

5/17/2012 Page 19 of 42

Element Occurrence Record

Specimen:

Associated Species:

Species Name	Type	Comments

5/17/2012 Page 20 of 42

Element Occurrence Record

Scientific Name: *Echeandia chandleri* **Occurrence #:** 1 **Eo Id:** 4310

Common Name: lila de los llanos **TX Protection Status:** **ID Confirmed:** Y

Global Rank: G3 **State Rank:** S2S3 **Federal Status:**

Location Information:

Watershed Code:	Watershed Description:
12110208	South Laguna Madre

County Code:	County Name:	Mapsheet Code:	Mapsheet Name:	State:
TXCAME	Cameron	25097-H3	Palmito Hill	TX
		25097-H2	Mouth of Rio Grande	TX

Directions:

North side of State Hwy 4, on Loma de la Estrella, 7.4 miles west of Boca Chica Beach

Survey Information:

First Observation: 1973-09-06 **Survey Date:** 1984-10-17 **Last Observation:** 1984-10-17

Eo Type: **EO Rank:** B - Good estimated viability **EO Rank Date:** 1984-10-17

Observed Area (acres): 1 **Estimated Representation Accuracy:**

Comments:

General Description: CLAY DUNE SLIGHTLY ELEVATED ABOVE SURROUNDING SAND, WITH SCATTERED SHRUBBY TEXAS EBONIES AND THICK HERBACEOUS GROUND COVER

Comments: SOON TO BE LISTED AS CATEGORY ONE BY USF& WS, EVENTUALLY TO BE LT OR LE; FLOWERS OPEN EARLY IN THE MORNING

Protection Comments:

Management Comments:

Data:

EO Data: IN FLOWER AND FRUIT; APPROXIMATELY 2600 INDIVIDUALS IN GOOD CONDITION; CLUSTERS OF NUMEROUS PLANTS SCATTERED ACROSS LENGTH OF LOMA

Managed Area:

Managed Area Name: **Managed Area Type:**

Reference:

5/17/2012 Page 21 of 42

Element Occurrence Record

Full Citation:

POOLE, JACKIE M. NO DATE. TEXAS PARKS AND WILDLIFE DEPARTMENT, WILDLIFE DIVERSITY BRANCH, 4200 SMITH SCHOOL ROAD, AUSTIN, TEXAS 78744; 512/389-8019; jackie.poole@tpwd.state.tx.us

POOLE, J. M. & C. R. WAHL. 1984. FIELD SURVEY TO LOMA DE LA ESTRELLA OF OCTOBER 17, 1984.

ESPEY, HUSTON AND ASSOCIATES, INC. 1987. REPORT ON A SURVEY FOR ANTHERICUM CHANDLERI ON THE PLAYA DEL RIO PROJECT SITE, CAMERON COUNTY, TEXAS. ESPEY, HUSTON AND ASSOCIATES, AUSTIN.

Specimen:

UNIVERSITY OF TEXAS-PAN AMERICAN HERBARIUM, EDINBURG. 1973. G. DONOHUE #799, SPECIMEN # NONE PAUH. 6 SEPTEMBER 1973.

Associated Species:

Species Name	Type	Comments

5/17/2012 Page 22 of 42

Element Occurrence Record

Scientific Name: *Chelonia mydas* **Occurrence #:** 12 **Eo Id:** 8993

Common Name: Green Sea Turtle **TX Protection Status:** T **ID Confirmed:** Y

Global Rank: G3 **State Rank:** S3 **Federal Status:** LT

Location Information:

Watershed Code:	Watershed Description:
12110208	South Laguna Madre

County Code:	County Name:	Mapsheet Code:	Mapsheet Name:	State:
TXCAME	Cameron	26097-A2	Port Isabel	TX
		26097-B3	La Coma	TX

Directions:

Southern Laguna Madre. The directions were created by database staff. The directions are generalized as this record consists of multiple populations/observations.

Survey Information:

First Observation: 1979-05-23 **Survey Date:** 2007-06-12 **Last Observation:** 2007-06-12

Eo Type: **EO Rank:** E - Verified extant (viability not assessed) **EO Rank Date:** 2007-06-12

Observed Area (acres): **Estimated Representation Accuracy:** High

Comments:

General Description:

Comments:

Protection Comments:

Management Comments:

Data:

EO Data: 23 May 1979: Two individuals were observed with curved carapace lengths of 472 millimeters and 451 millimeters. 20 Sept 1990: One individual was observed with a curved carapace length of 390 millimeters. 7 June 1994: Two individuals were observed with curved carapace length of 290 millimeters and 295 millimeters. 10 Sep 1996: One individual was observed with a curved carapace length of 301 millimeters. 30 April 1997: One individual was observed with a curved carapace length of 371 millimeters. 07 July 1997: One individual was observed with a curved carapace length of 560 millimeters. 11 June 1998: One individual was observed with a curved carapace length of 293 millimeters. 13 May 1999: Three individuals were observed with curved carapace length of 390 millimeters, 382 millimeters and 282 millimeters. 18 Sep 2001: One individual was observed with a curved carapace length of 418 millimeters. 25 Jan 2005: One individual was observed with a curved carapace length of 676 millimeters. 12 June 2007: One individual was observed with a curved carapace length of 472 millimeters.

5/17/2012 Page 23 of 42

Element Occurrence Record

Managed Area:

Managed Area Name: Managed Area Type:

Reference:

Full Citation:

Texas Parks and Wildlife Department. 2008. Texas Parks and Wildlife Department - Coastal Fisheries Division summary of stranding and catch information for tracked sea turtles and terrapin.

Specimen:

Associated Species:

Species Name	Type	Comments

5/17/2012 Page 24 of 42

Element Occurrence Record

Scientific Name: *Pithecellobium ebano-phaulothamnus spinescens series* Occurrence #: 18 Eo Id: 5561

Common Name: Texas Ebony-snake-eyes Series TX Protection Status: ID Confirmed: Y

Global Rank: G2 State Rank: S2 Federal Status:

Location Information:

Watershed Code: 12110208 Watershed Description: South Laguna Madre

County Code: TXCAME County Name: Cameron Mapsheet Code: 26097-A2 Mapsheet Name: Port Isabel State: TX

Directions:

LANDWARD-MOST LOMA WITHIN SOUTH BAY, LAGUNA MADRE, SOUTH OF BROWNSVILLE SHIP CHANNEL.

Survey Information:

First Observation: Survey Date: Last Observation:

Eo Type: EO Rank: EO Rank Date:

Observed Area (acres): 29 Estimated Representation Accuracy:

Comments:

General Description: DOMINATED BY LOW SUBTROPICAL SHRUBS

Comments:

Protection Comments:

Management Comments:

Data:

EO Data:

Managed Area:

Managed Area Name: Managed Area Type:

Reference:

Full Citation:

JOHNSTON, M. C. 1952. VEGETATION OF EASTERN CAMERON COUNTY, TEXAS. M. S. THESIS, UNIV. OF TEXAS AT AUSTIN.

5/17/2012 Page 25 of 42

Element Occurrence Record

Specimen:

Associated Species:

Species Name	Type	Comments

5/17/2012 Page 26 of 42

Element Occurrence Record

Scientific Name: *Echeandia chandleri* **Occurrence #:** 22 **Eo Id:** 6669

Common Name: lila de los llanos **TX Protection Status:** **ID Confirmed:** Y

Global Rank: G3 **State Rank:** S2S3 **Federal Status:**

Location Information:

Watershed Code: 13090002 **Watershed Description:** Lower Rio Grande

County Code:	County Name:	Mapsheet Code:	Mapsheet Name:	State:
TXCAME	Cameron	25097-H2	Mouth of Rio Grande	TX

Directions:

NORTHERN HALF OF LOMA DE LAS VACAS, PLAYA DEL RIO

Survey Information:

First Observation: **Survey Date:** **Last Observation:** 1987

Eo Type: **EO Rank:** **EO Rank Date:**

Observed Area (acres): **Estimated Representation Accuracy:**

Comments:

General Description: OPEN GRASSY AREAS NEAR EDGE OF BRUSH

Comments:

Protection Comments:

Management Comments:

Data:

EO Data: THREE COLONIES TOTALLING 3100 PLANTS

Managed Area:

Managed Area Name: **Managed Area Type:**

Reference:

Full Citation:

ESPEY, HUSTON AND ASSOCIATES, INC. 1987. REPORT ON A SURVEY FOR ANTHERICUM CHANDLERI ON THE PLAYA DEL RIO PROJECT SITE, CAMERON COUNTY, TEXAS. ESPEY, HUSTON AND ASSOCIATES, AUSTIN.

5/17/2012 Page 27 of 42

Element Occurrence Record

Specimen:

Associated Species:

Species Name	Type	Comments

5/17/2012 Page 28 of 42

Element Occurrence Record

Scientific Name: *Falco peregrinus* **Occurrence #:** 1 **Eo Id:** 6384

Common Name: Peregrine Falcon **TX Protection Status:** **ID Confirmed:** Y

Global Rank: G4 **State Rank:** S3 **Federal Status:**

Location Information:

Watershed Code: 12110208

Watershed Description: South Laguna Madre

County Code: TXCAME **County Name:** Cameron **Mapsheet Code:** 26097-A2 **Mapsheet Name:** Port Isabel **State:** TX

Directions:

NORTHEAST PART OF SOUTH BAY BETWEEN CLARK ISLAND AND BRAZOS ISLAND

Survey Information:

First Observation: **Survey Date:** **Last Observation:** 1991

Eo Type: **EO Rank:** **EO Rank Date:**

Observed Area (acres): **Estimated Representation Accuracy:**

Comments:

General Description:

Comments:

Protection Comments:

Management Comments:

Data:

EO Data:

Managed Area:

Managed Area Name: **Managed Area Type:**

Reference:

Full Citation:

LINAM, LEE ANN JOHNSON. 1992. SECTION 6 PERFORMANCE REPORT. JOB NO. 9.1: PIPING PLOVER AND PEREGRINE FALCON COASTAL HABITAT USE. JANUARY 3, 1992.

5/17/2012 Page 29 of 42

Element Occurrence Record

Specimen:

Associated Species:

Species Name	Type	Comments

5/17/2012 Page 30 of 42

Element Occurrence Record

Scientific Name: *Pithecellobium ebano-phaulothamnus spinescens series* **Occurrence #:** 15 **Eo Id:** 7026

Common Name: Texas Ebony-snake-eyes Series **TX Protection Status:** **ID Confirmed:** Y

Global Rank: G2 **State Rank:** S2 **Federal Status:**

Location Information:

Watershed Code: 12110208

Watershed Description: South Laguna Madre

County Code:	County Name:	Mapsheet Code:	Mapsheet Name:	State:
TXCAME	Cameron	25097-H2	Mouth of Rio Grande	TX

Directions:

SECOND LOMA WITHIN SOUTH BAY, LAGUNA MADRE, NORTH OF FM 4, 1.4 MILES NORTH OF FM 4

Survey Information:

First Observation: **Survey Date:** **Last Observation:**

Eo Type: **EO Rank:** **EO Rank Date:**

Observed Area (acres): 68 **Estimated Representation Accuracy:**

Comments:

General Description: DOMINATED BY LOW SUBTROPICAL SHRUBS

Comments:

Protection Comments:

Management Comments:

Data:

EO Data:

Managed Area:

Managed Area Name: **Managed Area Type:**

Reference:

Full Citation:

JOHNSTON, M. C. 1952. VEGETATION OF EASTERN CAMERON COUNTY, TEXAS. M. S. THESIS, UNIV. OF TEXAS AT AUSTIN.

5/17/2012 Page 31 of 42

Element Occurrence Record

Specimen:

Associated Species:

Species Name	Type	Comments

5/17/2012 Page 32 of 42

Element Occurrence Record

Scientific Name: *Echeandia chandleri* **Occurrence #:** 24 **Eo Id:** 7181

Common Name: lila de los llanos **TX Protection Status:** **ID Confirmed:** Y

Global Rank: G3 **State Rank:** S2S3 **Federal Status:**

Location Information:

Watershed Code: 13090002

Watershed Description: Lower Rio Grande

County Code:	County Name:	Mapsheet Code:	Mapsheet Name:	State:
TXCAME	Cameron	26097-A2	Port Isabel	TX
		25097-H2	Mouth of Rio Grande	TX
		25097-H3	Palmito Hill	TX

Directions:

LOMA PELONA, PLAYA DEL RIO

Survey Information:

First Observation: **Survey Date:** **Last Observation:** 1987

Eo Type: **EO Rank:** **EO Rank Date:**

Observed Area (acres): **Estimated Representation Accuracy:**

Comments:

General Description: OPEN GRASSY AREAS INTERMIXED WITH YUCCA AND OTHER BRUSH

Comments:

Protection Comments:

Management Comments:

Data:

EO Data: FOUR POPULATIONS TOTALLING MORE THAN 400 PLANTS

Managed Area:

Managed Area Name: **Managed Area Type:**

Reference:

5/17/2012 Page 33 of 42

Element Occurrence Record

Full Citation:

ESPEY, HUSTON AND ASSOCIATES, INC. 1987. REPORT ON A SURVEY FOR ANTHERICUM CHANDLERI ON THE PLAYA DEL RIO PROJECT SITE, CAMERON COUNTY, TEXAS. ESPEY, HUSTON AND ASSOCIATES, AUSTIN.

Specimen:

Associated Species:

Species Name	Type	Comments

5/17/2012 Page 34 of 42

Element Occurrence Record

Scientific Name: *Echeandia chandleri* **Occurrence #:** 30 **Eo Id:** 7600

Common Name: lila de los llanos **TX Protection Status:** **ID Confirmed:** Y

Global Rank: G3 **State Rank:** S2S3 **Federal Status:**

Location Information:

Watershed Code:	Watershed Description:
12110208	South Laguna Madre

County Code:	County Name:	Mapsheet Code:	Mapsheet Name:	State:
TXCAME	Cameron	25097-H2	Mouth of Rio Grande	TX
		26097-A2	Port Isabel	TX

Directions:

LOWER RIO GRANDE VALLEY NATIONAL WILDLIFE REFUGE, LOMA PRESERVE TRACT, ON WEST SIDE OF LOMA DEL BURRO

Survey Information:

First Observation: **Survey Date:** 1994-09-06 **Last Observation:** 1994-09-06

Eo Type: **EO Rank:** **EO Rank Date:**

Observed Area (acres): **Estimated Representation Accuracy:**

Comments:

General Description: ONE POPULATION ON TOP OF HIGH BLUFF, AMONG TYPICAL LOMA BRUSH; OTHER ON FLAT SCARCELY ELEVATED ABOVE HALOPHYTE ZONE

Comments:

Protection Comments:

Management Comments:

Data:

EO Data: NO COUNT ATTEMPTED, FEWER THAN 1000 PLANTS SEEN; NOT FLOWERING, NOT EVEN IN BUD

Managed Area:

Managed Area Name: **Managed Area Type:**

Reference:

Full Citation:

CARR, W.R. 1994. FIELD SURVEY OF LOMA PRESERVE TRACT (LRGVNWR), 5-6 SEPTEMBER 1994.

5/17/2012 Page 35 of 42

Element Occurrence Record

Specimen:

Associated Species:

Species Name	Type	Comments

5/17/2012 Page 36 of 42

Element Occurrence Record

Scientific Name: *Uniola paniculata-panicum amarum series* **Occurrence #:** 6 **Eo Id:** 7656

Common Name: Sea Oats-bitter Panicum Series **TX Protection Status:** **ID Confirmed:** Y

Global Rank: G4 **State Rank:** S3 **Federal Status:**

Location Information:

Watershed Code:	Watershed Description:
12110208	South Laguna Madre

County Code:	County Name:	Mapsheet Code:	Mapsheet Name:	State:
TXCAME	Cameron	25097-H2	Mouth of Rio Grande	TX
		26097-A2	Port Isabel	TX

Directions:

BRAZOS ISLAND STATE RECREATION AREA (BOCA CHICA BEACH), ON SAND DUNES AND LOW HUMMOCKS; AREA VISITED LIES WITHIN 500 FEET OF EAST END OF STATE ROUTE 4

Survey Information:

First Observation: **Survey Date:** 1991-12-01 **Last Observation:** 1991-12-01

Eo Type: **EO Rank:** BC - Good or fair estimated viability **EO Rank Date:** 1991-12-01

Observed Area (acres): **Estimated Representation Accuracy:**

Comments:

General Description: DUNES TO CA. 10-12 FEET, SOME STABILIZED BY SEA OATS, BITTER PANICUM, BEACH CROTON (CROTON PUNCTATUS), ETC.; OTHER TERRESTRIAL BARRIER ISLAND PLANT COMMUNITIES NOT WELL DEVELOPED AT SOUTHERN END OF STATE RECREATION AREA

Comments: 4-WHEEL DRIVE VEHICLES WERE DRIVING OVER HIGHEST DUNE TOPS AT TIME OF VISIT; NO TPWD STAFF ON SITE, NO LAW ENFORCEMENT OF ANY KIND

Protection Comments:

Management Comments:

Data:

EO Data: NO DATA COLLECTED, CASUAL VISIT; ONLY SOUTHERN TIP VISITED; NEEDS EXTENSIVE SURVEY

Managed Area:

Managed Area Name:	Managed Area Type:
BRAZOS ISLAND	LCAPK

Reference:

5/17/2012 Page 37 of 42

Element Occurrence Record

Full Citation:

CARR, W.R. 1991. FIELD SURVEY OF BRAZOS ISLAND STATE RECREATION AREA, 1 DECEMBER 1991.

Specimen:

Associated Species:

Species Name	Type	Comments

5/17/2012 Page 38 of 42

Element Occurrence Record

Scientific Name: *Pithecellobium ebano-phaulothamnus spinescens series* **Occurrence #:** 21 **Eo Id:** 8181

Common Name: Texas Ebony-snake-eyes Series **TX Protection Status:** **ID Confirmed:** Y

Global Rank: G2 **State Rank:** S2 **Federal Status:**

Location Information:

Watershed Code:	Watershed Description:
12110208	South Laguna Madre

County Code:	County Name:	Mapsheet Code:	Mapsheet Name:	State:
TXCAME	Cameron	26097-A2	Port Isabel	TX

Directions:

JUST NORTH OF LOMA DE LA BANDERITA WITHIN SOUTH BAY, LAGUNA MADRE, SOUTH OF BROWNSVILLE SHIP CHANNEL

Survey Information:

First Observation: **Survey Date:** **Last Observation:**

Eo Type: **EO Rank:** **EO Rank Date:**

Observed Area (acres): 13 **Estimated Representation Accuracy:**

Comments:

General Description: DOMINATED BY LOW SUBTROPICAL SHRUBS

Comments:

Protection Comments:

Management Comments:

Data:

EO Data:

Managed Area:

Managed Area Name: **Managed Area Type:**

Reference:

Full Citation:

JOHNSTON, M. C. 1952. VEGETATION OF EASTERN CAMERON COUNTY, TEXAS. M. S. THESIS, UNIV. OF TEXAS AT AUSTIN.

5/17/2012 Page 39 of 42

Element Occurrence Record

Specimen:

Associated Species:

Species Name	Type	Comments

5/17/2012 Page 40 of 42

Element Occurrence Record

Scientific Name: *Pithecellobium ebano-phaulothamnus spinescens series* **Occurrence #:** 14 **Eo Id:** 3937

Common Name: Texas Ebony-snake-eyes Series **TX Protection Status:** **ID Confirmed:** Y

Global Rank: G2 **State Rank:** S2 **Federal Status:**

Location Information:

Watershed Code:	Watershed Description:
12110208	South Laguna Madre

County Code:	County Name:	Mapsheet Code:	Mapsheet Name:	State:
TXCAME	Cameron	25097-H2	Mouth of Rio Grande	TX

Directions:

NORTH OF FM 4, THE FIRST LOMA WITHIN SOUTH BAY LAGUNA MADRE, JUST SOUTH OF THE BOUNDARY OF LOMA PRESERVE - A UNIT OF THE LOWER RIO GRANDE VALLEY NATIONAL WILDLIFE REFUGE

Survey Information:

First Observation: **Survey Date:** **Last Observation:**

Eo Type: **EO Rank:** **EO Rank Date:**

Observed Area (acres): 50 **Estimated Representation Accuracy:**

Comments:

General Description: DOMINATED BY LOW SUBTROPICAL SHRUBS

Comments:

Protection Comments:

Management Comments:

Data:

EO Data:

Managed Area:

Managed Area Name: **Managed Area Type:**

Reference:

Full Citation:

JOHNSTON, M. C. 1952. VEGETATION OF EASTERN CAMERON COUNTY, TEXAS. M. S. THESIS, UNIV. OF TEXAS AT AUSTIN.

5/17/2012 Page 41 of 42

Element Occurrence Record

Specimen:

Associated Species:

Species Name	Type	Comments

5/17/2012

Page 42 of 42

Protection of State-Listed Species
Texas Parks and Wildlife Department Guidelines

Protection of State-Listed Species

State law prohibits any take (incidental or otherwise) of state-listed species. State-listed species may only be handled by persons possessing a **Scientific Collecting Permit** or a **Letter of Authorization** issued to relocate a species.

- **Section 68.002 of the Texas Parks and Wildlife (TPW) Code** states that species of fish or wildlife indigenous to Texas are endangered if listed on the United States List of Endangered Native Fish and Wildlife or the list of fish or wildlife threatened with statewide extinction as filed by the director of Texas Park and Wildlife Department. Species listed as Endangered or Threatened by the Endangered Species Act are protected by both Federal and State Law. The State of Texas also lists and protects additional species considered to be threatened with extinction within Texas.

- **Animals** - Laws and regulations pertaining to state-listed endangered or threatened animal species are contained in **Chapters 67 and 68 of the Texas Parks and Wildlife (TPW) Code** and **Sections 65.171 - 65.176 of Title 31 of the Texas Administrative Code (TAC).** State-listed animals may be found at **31 TAC §65.175 & 176**.

- **Plants** - Laws and regulations pertaining to endangered or threatened plant species are contained in **Chapter 88 of the TPW Code and Sections 69.01 - 69.9 of the TAC**. State-listed plants may be found at **31 TAC §69.8(a) & (b).**

Prohibitions on Take of State Listed Species

Section 68.015 of the TPW Code states that no person may capture, trap, take, or kill, or attempt to capture, trap, take, or kill, endangered fish or wildlife.

Section 65.171 of the Texas Administrative Code states that except as otherwise provided in this subchapter or **Parks and Wildlife Code, Chapters 67 or 68**, no person may take, possess, propagate, transport, export, sell or offer for sale, or ship any species of fish or wildlife listed by the department as endangered or threatened.

"Take" is defined in **Section 1.101(5) of the Texas Parks and Wildlife Code** as:

> *"Take," except as otherwise provided by this code, means collect, hook, hunt, net, shoot, or snare, by any means or device, and includes an attempt to take or to pursue in order to take.*

Penalties

The penalties for take of state-listed species (**TPW Code, Chapter 67 or 68**) are:

- 1ST Offense = Class C Misdemeanor:
  $25-$500 fine

- One or more prior convictions = Class B Misdemeanor
  $200-$2,000 fine and/or up to 180 days in jail.

- Two or more prior convictions = Class A Misdemeanor
  $500-$4,000 fine and/or up to 1 year in jail.

Restitution values apply and vary by species. Specific values and a list of species may be obtained from the TPWD Wildlife Habitat Assessment Program.

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Ecological Services
c/o TAMU-CC, Campus Box 338
6300 Ocean Drive
Corpus Christi, Texas 78412

May 30, 2012

Stacy M. Zee
FAA Environmental Protection Specialist
Space-X EIS
c/o Cardno TEC, Inc.
275 West Street, Suite 110
Annapolis, MD 21409

Consultation Number 02ETCC00-2012-TA-0186
ER12-0245

Dear Ms. Zee:

The U.S. Fish and Wildlife Service (Service) has reviewed Department of Transportation, Federal Aviation Administration (FAA), Office of Commercial Space Transportation, Notice of Intent (NOI) to Prepare an Environmental Impact Statement (EIS), Open a Public Scoping Period, and Conduct a Public Scoping Meeting, dated April 10, 2012, for Space Exploration Technologies' (Space-X) proposal to launch the Falcon 9 and Falcon Heavy orbital vertical launch vehicles, and a variety of smaller reusable suborbital launch vehicles. According to the NOI, the proposed sites for the launch site and the launch control center are located on a privately-owned property on Boca Chica Island, Cameron County, Texas. The NOI notes that the development of access and supporting utility infrastructure for the vertical launch area and the control center area may occur on lands outside that which is owned or leased by Space-X.

On May 15, 2012, the Service participated in the Agency Scoping Meeting and Public Scoping Meetings in Brownsville, Texas, a site visit to the proposed launch site, and to the general vicinity of the proposed launch control center. Although the project proponents noted that the launch vehicles would be transported to the site by truck for each launch, no information was provided in the NOI or the meetings regarding the location of the facilities which would house the transport trucks, launch vehicles and payloads prior to each launch event.

General Comments:

The proposed launch site, which involves the development of approximately 5 acres of land along the south side of State Highway (SH) and the launch control center are sited in a remote area of the Texas Gulf Coast in close proximity to federal and state parks and refuges, with federally listed threatened and endangered species and designated critical habitat in the project area. The Service strongly recommends that the project proponents continue to coordinate with the Service and other resource agencies during the development of the Draft EIS (DEIS). Additionally, in the Affected Environment section of the DEIS, the Service recommends that the proposed project area description and map encompass the full range of project facilities and infrastructure needed for the Space-X project.

During the Agency Scoping Meeting, FAA noted that their authorization for the Space-X project could be as an experimental permit, as launch by launch permits, or as a permit for defined actions that occur within a 5-year period. The Service expects that the DEIS will clearly identify which type of launch authorization will be pursued and if a launch by launch is the operational permit type identified that the applicant would consult or confer with the Service regarding each individual permit and project's impacts as appropriate for resource protection.

According to the NOI and in materials presented at the Agency Scoping Meeting, the DEIS will evaluate the full range of potential impacts of the project. The Service's additional comments on the potential impacts of the proposed project and recommendations relative to the development of the DEIS are presented using these evaluation areas as follows:

Land Use, including Section 4(f) properties:

The proposed launch site and launch control centers are in close proximity to lands owned and managed by the Service's South Texas National Wildlife Refuges Complex (Refuge Complex), the Palo Alto Battlefield National Historic Park, the Battle of Palmito Hill National Monument, Boca Chica State Park, Brazos Island State Park, and South Bay Coastal Preserve. Although the sites selected for the launch site and the launch control center are privately owned, the road access to the site, SH 4, and the launch site are bordered by section 4(f) properties. The project as described by the applicant will result in changes to the use of SH 4 directly associated with the Space-X, both during construction of the Boca Chica facilities, and in traffic associated with the operation of these facilities. Furthermore, public use of SH 4 will be altered by the presence and operation of the Space-X facilities, and an increase in traffic along this roadway is likely to occur. Impacts to refuge lands directly bordering SH 4 could occur, and an increase in traffic on this roadway could result in mortalities of the federally listed cats, ocelot (*Leopardus pardalis*), and the Gulf Coast jaguarundi (*Herpailurus yagouaroundi cacomitli*).

Additionally, although the footprint of the Boca Chica facilities is small, and the project proponents indicated that the existing SH 4 would be of sufficient size to transport their launch vehicles, after implementation of the project, the Refuge Complex anticipates major infrastructure development in and around and leading to the site. Changes to the landscape from commercial development, road widening, utilities, and other related development, could directly and indirectly erode the unique character and wildlife values present at Boca Chica, which the Service has responsibility to protect for future generations. We recommend that the scope of review of the DEIS include an assessment of the likely future of the Boca Chica landscape.

The Refuge Complex does not have sufficient law enforcement personnel or technology to ensure that fish and wildlife resources are protected in the Boca Chica area, directly from the operation of this launch facility and the associated increased human presence it will incur.

2

Consequently, we recommend that the DEIS address how Space-X will adequately protect these areas will also be affected by this project.

FAA indicated that a public viewing area may not fall under the scope of review for the DEIS. The enthusiastic public response at the May 15th public scoping meeting highlights the perception that the public will want to view the launches. The impacts of just one insufficiently managed event could have significant and long-term impact to the landscape, including federal refuge and state park lands, as well as to private lands on Boca Chica. In the South Texas coastal habitats, ruts and vehicle tracks on unvegetated sand flats from off road vehicles can persist for many years. Low rainfall means that re-vegetation of coastal prairie areas from similar vehicles can also take many years to recover, if at all. According to the supplemental information that the FAA provided regarding their EIS analysis process, the DEIS will address the socioeconomic impacts of the project on the region; however, the Service recommends that the response of the public to the presence of the Space-X facility, particularly the desire to view launch events, and the associated impacts to the landscape from the public's response, should also fall within the scope of review of the DEIS.

Noise:

The launch facility cannot be operated without causing a significant disturbance (noise) over a large portion of the Refuge Complex during the launches. As Space-X indicates, no people may be present within 1.5 miles due to the extreme noise levels or within a 3-mile safety zone for danger of malfunction. Therefore, it would be reasonable to conclude that adverse effects to important fish and wildlife can be anticipated under launch conditions. In the event of a major malfunction, such as loss of control or explosion near the ground, significant disturbance, damage, and loss of wildlife could occur. The Service recommends that Space-X, in coordination with the Refuge Complex staff, develop an emergency response plan to include actions for assessment and mitigation of impacts to fish and wildlife resources in the event of an on-site accident.

In the scoping meeting, the applicant indicated that air cannons could be used as a means to haze birds from the site prior to a launch. Coastal Texas supports significant avian resources including migrating, wintering, and nesting species. The Refuge Complex has documented 413 bird species. For those birds nesting in the vicinity of the launch site, the Service is concerned that the use of air cannons could result in an impact to nesting birds, eggs, or hatchlings.

The applicant noted that the sound impact for an individual launch is just seconds; however, the effects of both the sound and through-ground vibrations, even if only a second or two, need to be evaluated for their impacts to sub-surface nests, particularly for sea turtles but also for impacts to other wildlife as well.

Visual Resources and Light Emissions:

The Service is concerned that the proposed facility and associated structures would permanently alter the natural views in the Boca Chica area resulting in impairment of the natural character of the Refuge Complex. Furthermore, a large portion of Boca Chica is a federally-recognized Civil

3

War Battlefield (archaeological site). Development in this area may impact significant archaeological and/or cultural resources present in the Boca Chica area. The Service is aware that the applicant is already undertaking an assessment of the area for direct impacts to archaeological sites from the site development. The applicant indicated that prominent vertical structures for the launch facility would be 4 lightning towers and the water tower for the launch cooling procedure. These structures should be included in the applicant's assessment of the project's impact on the visual landscape for the Refuge Complex as well as for the national monument sites. With regard to the protection of historic properties, such as Palo Alto Battlefield National Monument, 36 CFR PART 800 -- PROTECTION OF HISTORIC PROPERTIES (incorporating amendments effective August 5, 2004), and Section 106 of the National Historic Preservation Act, require Federal agencies to take into account the effects of their undertakings on historic properties. As noted in Section 800.5, an assessment should address affects, direct and indirect, to any of the characteristics of a historic property that qualify the property for inclusion in the National Register in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association. In the case of Palo Alto Battlefield National Monument, the view shed of the monument, which aligns with the proposed launch facility, should be addressed in FAA's Section 106 assessment of the proposed Space-X project.

The proposed facility will require 24-hour security and night lighting. Lights and/or night launches could impact sea turtles. The predominant nesting sea turtle on the coast is the Kemp's ridley sea turtle (*Lepidochelys kempii*) and it is a daytime nester while the less frequent nesters such as the loggerhead sea turtle (*Caretta caretta*), green sea turtle (*Chelonia midas*), leatherback sea turtle (*Dermochelys coriacea*), and hawksbill sea turtle (*Eretmochelys imbricata*) are primarily nocturnal nesting species. Lights can disorient or interrupt the nesting process of the nocturnal nesters. All sea turtle nests detected on Texas beaches are collected and the eggs incubated in facilities with hatchlings released in planned events on Texas beaches although lights generally can cause hatchling sea turtles emerging from nests to crawl in the wrong direction away from the sea. Therefore, any nests missed by sea turtle patrols could have hatchlings at risk. Additionally, depending on the type, intensity, and orientation of lighting, migrating birds could be attracted to the facility under certain conditions and could be problematic.

Cultural Resources:

As noted above, the Service is aware that the applicant is already in the process of identifying archaeological and culture sites that could be impacted by the footprint of the launch site and launch control center. The Service recommends that this assessment be extended to the full scope of the proposed project development area, including the other project infrastructure beyond the two components on Boca Chica.

Air Quality and Climate:

Given that Space-X already has an operating facility in Florida, the impact of any air borne pollutants may already be fairly well understood by FAA. The Service will also need to fully understand the nature and scope of emissions produced by the launch events for their direct and

4

indirect impacts to Refuge Complex property, staff and visitors, which are nearby and downwind of the launch site. Perhaps less obvious yet crucial to area fish and wildlife resources, is the potential impact of water and water vapor released to the immediate area as a by-product of launch cooling procedures. Space-X staff indicated that water would be trucked in and stored in a water tower for use in launch cooling procedures. The applicant indicated at the scoping meeting that water could be collected, filtered and re-used, or if contaminated, trucked to a disposal site. Space-X will need to include details of the anticipated cooling procedures, identify how much water would be needed, how much is likely to be collected post-launch, and a disposal site, or sites, for water not returned to the cooling tower. The Service understood that because of the nature of the procedure, only a percentage of the cooling water would be available for collection for re-use or disposal. The Service recommends that the applicant identify both the amount of cooling water that would be converted to steam and/or water vapor, and discuss the fate of aerosolized water. Unvegetated sand and algal flats used by threatened piping plovers (*Charadrius melodus*) are within the immediate vicinity of the proposed project area. Water that settles on or is discharged to these unvegetated habitats could stimulate vegetation encroachment, potentially impacting piping plover critical habitat and habitat for bare-ground nesting avian species. Additionally, water that collects in low areas as pools could attract wildlife to the facility, and become an attractive nuisance.

The applicant noted, during discussion of a fire plan for the facility, that water trucked to the site to be stored in the tower for the launch cooling procedure, could be used for needed fire suppression. The Service recommends that the applicant identify effects related to the use of this water for fire suppression, specifically any contaminants that may be present, if the water has been reclaimed from a previous launch event.

Hazardous Waste Materials & Waste Management:

In the event of a major malfunction such as an explosion near the ground, the Refuge Complex would likely experience wildlife mortality, and receives significant vehicle and human traffic for debris removal and contaminant cleanup during emergency response operations. The use of wheeled and/or tracked vehicles off road would permanently impact the sensitive Refuge Complex habitats such as wind/tidal flats, lomas, and dunes. A catastrophic event would likely introduce contaminants or toxic chemicals into the environment. Transportation or disposal of contaminants could result in contamination to portions of the Refuge Complex from on-site spills and/or during transit along SH 4. The Service is concerned that, in the event of major malfunction, toxic chemicals or contaminants may be dispersed throughout the Refuge Complex's land and water. As noted in the section above on air quality, the Service will need to be fully apprised of the nature and scope of emissions produced by the launch events, of the chemicals stored on-site, and chemicals that would be included in each launch payload for their direct and indirect impacts to Refuge Complex property. Please provide the Service with Material Safety Data Sheets for all hazardous materials. In addition to the chemical components, the Service will need to have an understanding of the heat dispersed into the air from launches which could lead to direct wildlife mortality, particularly birds such as shorebirds, terns, gulls, and pelicans.

5

The Service recommends that Space-X develop a comprehensive contingency plan to address the above-mentioned issues and concerns associated with the proposed project. Development of an adequate contingency plan should be designed to address a wide variety of launch, malfunction, and emergency scenarios (e.g., explosions, debris removal, evacuation, injurious events) as they relate to not only public safety, but to avoid or minimize impacts to important fish and wildlife resources. Although a response plan is vital, the Service just as strongly recommends that the applicant's operation plan be designed to avoid and/or minimize potential impacts to wildlife and their habitats.

Water Resources:

According to information provided during the agency meeting, the proposed launch site would impact jurisdictional wetlands. The Service recommends that a copy of the applicant's wetland delineation, verified by the U.S. Army Corps of Engineers, be provided to the Service. The Service anticipates that the applicant's analysis of the proposed impacts of the project would follow the Services 5-step sequential assessment of potential mitigative alternatives as follows:

a. Avoid the impact altogether by not taking a certain action or parts of an action.

b. Minimize impacts by limiting the degree or magnitude of the action and its implementation.

c. Rectify the impact by repairing, rehabilitating, or restoring the affected environment.

d. Reduce or eliminate the impact over time by preservation and maintenance operations during the life of the action.

e. Compensate for the impact by replacing or providing substitute resources or environments.

The Service recommends if compensatory mitigation is required for unavoidable impacts of an authorized Space-X facility at the proposed site, that consideration include the effects of an on-site mitigation project. Although on-site, in-kind mitigation is most often the preferred mitigation alternative, in this case this alternative could likely result in creating additional attractants to wildlife, including avian species which may then be subsequently impacted by operations.

Coastal Resources:

Portions of the proposed project fall within Coastal Barrier Resources Act (CBRA) zones. The Service, through the Secretary of the Interior, is responsible for administering CBRA, including consulting with Federal agencies that propose spending funds within the Coastal Barrier Resource System (CBRS). The proposed launch site appears to be located in CBRA Unit T12, and the identified area for the proposed launch control center appears to be located in a CBRA Excluded Unit. The entire facility also appears to be within 500 feet of an Otherwise Protected

6

Area, T 12P. The DEIS should list federal funding received for the Space-X project on Boca Chica to facilitate the CBRA review. The CBRA determination must be confirmed by our Washington D.C. Office (D.C. Office), who will stipulate possible restrictions on building in CBRA units. We will provide a copy of this letter and project location maps to our D.C. Office, with your contact information.

The applicants are aware that the proposed site is located in a region which is vulnerable to hurricanes. The Service recommends that the applicant develop, and include in the DEIS, a hurricane response plan. With regard to the proposed site, shifting geological features are present in this dynamic coastal zone that could result in not only damage to the facility but create hazardous conditions or adverse impacts to the unique and sensitive fish and wildlife habitats within the surrounding Refuge Complex lands. The Service recommends that the applicant analyze, and include in the DEIS, the historic vulnerability of the site to hurricane as well as the geological vulnerability of the proposed site. The DEIS will need to explain how the proposed structure designs will be able to withstand extreme tropical storm conditions, including tidal surge.

Biological Resources:

The NOI stated that the EIS would analyze the impacts of the proposed project on threatened and endangered species. The Service recommends that consultation under Section 7 of the Endangered Species Act (ESA) be initiated. You have already been in communication to define federally threatened and endangered species that will be appropriate for consideration in the consultation process. Additionally, you indicated in the agency scoping meeting that FAA anticipates consultation with the Service will be completed prior to the publication of the DEIS. We support this plan of action.

The two proposed facilities are surrounded by Refuge Complex lands, which are managed for the protection of sensitive resources such as threatened and endangered species and migratory birds. The ocelot, Kemp's ridley sea turtle, green sea turtle, loggerhead sea turtle, northern aplomado falcon (*Falco femoralis septentrionalis*), piping plover and its critical habitat, Wilson's plover (*Charadrius wilsonia*) and snowy plover (*Charadrius nivosus*) are some of the species of significant concern in the proposed project area. There are approximately 22,481-acres of Refuge Complex lands in the Boca Chica area and approximately 5,767-acres within the 3-mile impact zone of the proposed facility. This area encompasses habitat for federally-listed species as well as other important fish and wildlife resources which the project may the project may impact, both directly and indirectly.

Furthermore, construction could attract certain species of birds to the site, both for roosting and nesting, such as on the water tower and lightning towers. At the Agency Scoping Meeting, the applicant indicated that one of the substrates around the proposed fuel tanks' spill containment area could be gravel. Certain species of ground nesting shorebirds, such as the least tern (*Sternula antillarum*), snowy plover (*Charadrius alexandrinus*), willet (*Tringa semipalmata*), and killdeer (*Charadrius vociferous*) are attracted to unvegetated sand, shell and gravel, including roadways for nesting. Attracting these birds to the site, then launching during nesting season could result in an impact to birds protected under the Migratory Bird Treaty Act.

7

Launch activities and the increased human presence during the bird nesting season (March through August) may adversely affect federally-endangered northern Aplomado falcons as well as other sensitive nesting birds in the area such as terns, Wilson's and snowy plovers, and reddish egrets (*Egretta rufescens*).

Critical habitat, Texas Unit TX-1, for the wintering piping plover extends from the Brownsville Ship Channel to the Rio Grande. As noted above, the Service anticipates that the consultation process will assess the impacts of the launch procedures, particularly the impacts of noise and ground vibration as well as the use of cooling water during launch, on adjacent sand flats. The introduction of water to unvegetated areas could stimulate the growth of vegetation and significantly alter and impact piping plover critical habitat.

Launch activities may affect federally-threatened and endangered sea turtles such as the Kemp's ridley sea turtle, green sea turtle, and loggerhead sea turtle through effects of vibration and increases in beach driving on undetected nests. These species nest regularly along the Texas coast and also at Boca Chica Beach.

The Service has a Memorandum of Understanding (MOU) with the Mexican States of Tamaulipas and Nuevo Leon to establish and conserve an international wildlife corridor along the Rio Grande River between Falcon Reservoir Dam (in Starr County, Texas) and the Laguna Madre and extending 60 miles north and south of the US/Mexico border. The Refuge Complex is currently working with Mexico to reestablish and reconnect wildlife corridors for the endangered ocelot and jaguarundi between both countries, and to increase genetic diversity for the recovery of the species in South Texas. The increase of infrastructure, development and increase of traffic could have a negative impact to these endangered species and establishment of these important wildlife corridors.

The State of Texas (Texas Parks & Wildlife Department) owns the Brazos Island State Park, which is managed by the Service as part of the Refuge Complex. The proposed Space-X site is bordered on three sides by State park lands and operation of the launch facility could affect the public's enjoyment of these parks. The proposed project could also affect or impair the Refuge Complex's and the State's ability to protect and manage the wildlife resources if launch activities prevent necessary surveys of the area for threatened and endangered species, migratory bird and other wildlife, and the management of public use on the adjacent coastal beaches. The Service recommends that the DEIS include a plan for the oversight and management of these important fish and wildlife resource areas throughout the life of the proposed project.

Socioeconomics & Environmental Justice:

According to Space-X representatives, the proposed site/facility will require evacuation prior to and during launches within a 3-mile safety zone. This would likely result in additional vehicles, aircraft, and/or human traffic on the Refuge Complex, along the periphery of the 3-mile zone. Continual human and vehicle traffic disturbance (e.g., launch personnel and spectators) on the beach and on and off of SH 4 would directly and indirectly affect fish, wildlife, and their habitats. Refuge Complex lands, State-owned lands, Brownsville Navigation District lands, and

8

other public/private lands are inadequately fenced to prevent an increase in unauthorized access by the public due to the attraction of observing rocket launches. As a result, impacts to sensitive soils and dune areas could increase. As noted in the land use section above, if the response from the public at the May 15th meeting is an indicator, Space-X can expect large crowds of spectators to view the launches. Consequently, the Service recommends that the EIS assess this impact and provide a plan for managing and/or accommodating viewers in a safe manner that avoids damage to sensitive fish and wildlife resources.

Construction Impacts:

As previously noted, the Service anticipates that construction and operation of the proposed facility will result in increased traffic. This traffic, including construction contractors, Space-X employees, security, and tourists along SH 4 will be for purposes other than wildlife-dependent recreation. Increased wildlife mortality, including the federally-endangered ocelot is expected to occur from increased vehicle traffic. The Service recommends that the DEIS include a thorough assessment of construction traffic, operation traffic, and traffic associated with the launch-viewing public.

The applicant indicated that data lines and electric utility service from launch control center to the launch facility would need to be installed The Service would like to review complete plans and maps for such infrastructure to ensure that the SH 4 right-of-way will accommodate the construction without impacting Refuge Complex property including native brush and ocelot habitat. The project proponents indicated that issue of needed road widening and additional infrastructure either for site operations or from secondary effects of the project could be part of a Department of Transportation (DOT) analysis. Service recommends that this issue is coordinated with DOT during the project planning development phase so that a plan for resolving this issue can be included in the DEIS. The Service owns property for 14 miles on either side of SH 4 and any widening actions, or need for clearing to install additional utilities, would impact Refuge Complex lands.

Induced Impacts:

At the Agency Scoping Meeting the applicant noted that such issues as traffic control would be handled in a coordinated effort with other area law enforcement agencies. Given that public agencies at all levels generally are operating under budgeting levels that may be inadequate to meet current needs, the applicant needs to proactively address how these issues will be handled. The Service's ability to expand monitoring of impacts to our property from launch sightseers going off-road is extremely limited. One event, insufficiently managed, could result in significant and long-term damage to sensitive wildlife habitat.

Cumulative Impacts:

The applicant stated that launch capsules and payloads would be trucked to the site. This implies the construction or use of additional facilities, beyond the Boca Chica components, and these should be included as components of a complete analysis regarding the project in the DEIS. The Service is concerned that if only the launch site and launch control center are included in the

9

DEIS, other integral components of the project will be developed separately, when they are, in fact, components of the single and complete Space-X project. Given the array of sensitive habitats and resources in South Texas, the Service foresees additional significant impacts from the development of these "additional" facilities to fish and wildlife resources. Where these components are integral to the project, they should not be segmented from the scope of analysis in the EIS. Furthermore, the Service recommends that the study area for the project include the project's physical facility and operational requirements such as changes to traffic patterns. The DEIS should evaluate the effects that will occur over time, particularly to protection and management of Refuge Complex lands.

The proposed Space-X facilities are less than 2 miles from the international border with Mexico. Therefore, the Service recommends that FAA coordinate with the Department of Homeland Security, Customs and Border Protection with regard to the impact of the project on their programs, particularly for additional border security infrastructure needs as these could impact fish and wildlife resources. The Service recommends that this issue be included in the DEIS.

The Service's meeting notes from the Agency Scoping Meeting, reference a statement by the FAA that end-of-project-life actions would not be in their scope of review; however, considering the location of the project site in the vulnerable and highly dynamic coastal environment, the Service recommends that the applicant be required to draft and include in the DEIS a plan for cessation of use of the launch site and launch control site, and restoration of the project site.

The Service appreciates the opportunity to provide comments on the proposed Space-X project. If you have any questions regarding the Service's comments, please contact Ms. Pat Clements at (361) 994-9005 or pat_clements@fws.gov, or Mr. Ernesto Reyes at 984-784-7560 or ernesto_reyes@fws.gov.

Sincerely,

for Allan M. Strand
Field Supervisor

cc:
R. Jess, South Texas Refuges Complex, USFWS, Alamo, TX
B. Winton, South Texas Refuges Complex, USFWS, Alamo, TX
G. Mowad, State Administrator, USFWS, Austin, TX
M. Spier, Palo Alton Battlefield National Historic Park, NPS, Brownsville, TX
M. Kimmel, Regulatory Branch, USACE, Corpus Christi, TX
J. Robinson, Ecosystem Resources Program, TPWD, Corpus Christi, TX
J. Herrington, Wetlands Section, Region 6, EPA, Temple, TX
H. Young, Resource Protection, NMFS, Galveston, TX
T. Williams, Environmental Review, TGLO, Austin, TX
V. Sanchez, USFWS, Albuquerque, NM

10

THIS PAGE INTENTIONALLY LEFT BLANK

Appendix B
Federal Consistency Review: Texas Coastal Management Program

THIS PAGE INTENTIONALLY LEFT BLANK

Federal Consistency Review: Texas Coastal Management Program

for the Proposed SpaceX Texas Launch Site,

Cameron County, Texas

Prepared for:

Federal Aviation Administration

Office of Commercial Space Transportation

Washington, DC

March 2013

THIS PAGE INTENTIONALLY LEFT BLANK

TABLE OF CONTENTS

1.0 INTRODUCTION 1-1

2.0 COASTAL NATURAL RESOURCE AREAS 2-1

- **2.1 Coastal Barriers 2-1**
- **2.2 Coastal Historic Areas 2-1**
- **2.3 Coastal Preserves 2-3**
- **2.4 Coastal Shore Areas 2-3**
- **2.5 Coastal Wetlands 2-3**
- **2.6 Critical Dune Areas 2-8**
- **2.7 Critical Erosion Areas 2-9**
- **2.8 Gulf Beaches 2-9**
- **2.9 Hard Substrate Reefs 2-9**
- **2.10 Oyster Reefs 2-10**
- **2.11 Submerged Land 2-10**
- **2.12 Special Hazard Area 2-12**
- **2.13 Submerged Aquatic Vegetation 2-14**
- **2.14 Tidal Sand or Mud Flats 2-14**
- **2.15 Water of the Open Gulf of Mexico 2-15**
- **2.16 Water under Tidal Influence 2-15**

3.0 COMPLIANCE WITH POLICIES OF THE TCMP 3-1

- **3.1 Compliance with 31 TAC §501.15 – Policy for Major Actions 3-1**
- **3.2 Compliance with 31 TAC §501.16, Policy for Construction of Electric Generating and Transmission Facilities 3-1**
- **3.3 Compliance with 31 TAC §501.19 – Policy for Construction and Operation of Solid Waste Treatment, Storage and Disposal Facilities 3-2**
- **3.4 Compliance with 31 TAC §501.21, Policies for Discharge of Municipal and Industrial Wastewater to Coastal Waters 3-2**
- **3.5 Compliance with 31 TAC §501.23, Policies for Development in Critical Areas 3-3**
- **3.6 Compliance with 31 TAC §501.26, Policies for Construction in the Beach/Dune System 3-3**
- **3.7 Compliance with 31 TAC §501.27, Policies for Development in Coastal Hazard Areas 3-4**
- **3.8 Compliance with 31 TAC §501.28 – Policy for Development within Coastal Barrier Resource System Units and Otherwise Protected Areas on Coastal Beaches 3-5**
- **3.9 Compliance with 31 TAC §501. 30, Policies for Alteration of Coastal Historic Areas 3-5**
- **3.10 Compliance with 31 TAC §501. 32, Policies for Emission of Air Pollutants 3-6**

LIST OF FIGURES

Figure 1. Regional Location of Proposed Launch Site 1-3

Figure 2. Location of Proposed Vertical Launch Area and Control Center Area 1-4

Figure 3. Proposed Launch Day Closure Areas 1-5

Figure 4. Proposed Vertical Launch Area Site Layout 1-8

Figure 5a. Control Center Area Site Layout 1-9

Figure 5b. Control Center Area Site Layout 1-10

Figure 6. Locations of Historical Sites Within and Adjacent to the APE 2-2

Figure 7. Coastal Preserves Within the Vicinity of the Vertical Launch and Control Center Areas 2-4

Figure 8a. Vertical Launch Area Wetland Impacts 2-5

Figure 8b. Control Center Area Wetland Impacts 2-6

Figure 8c. Vertical Launch Area Indirect Wetland Impacts 2-7

Figure 9. TGLO Managed Land within the Vicinity of the ROI 2-11

ACRONYMS AND ABBREVIATIONS

APE	Area of Potential Effects
ARTCC	Air Route Traffic Control Center
AST	Office of Commercial Space Transportation
ATV	all-terrain vehicle
CBRA	Coastal Barrier Resources Act
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CNRA	Coastal Natural Resource Area
CO	carbon monoxide
CO_2	carbon dioxide
CWA	Clean Water Act
CZMA	Coastal Zone Management Act
dBA	A-weighted decibel
DNL	Day-Night Average Sound Level
DOT	U.S. Department of Transportation
EIS	Environmental Impact Statement
FAA	Federal Aviation Administration
FEMA	Federal Emergency Management Agency
ft	feet/foot
LOA	Letter of Authorization
LOX	liquid oxygen
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NFIP	National Flood Insurance Program
NOTAM	Notice to Airmen
NOTMAR	Notice to Mariners
NO_x	nitrogen oxide
NPS	National Park Service
NRHP	National Register of Historic Places
NWR	National Wildlife Refuge
ROW	Right-of-Way
RP-1	refined petroleum-1
PSF	Permanent School Fund
SpaceX	Space Exploration Technologies Corp.
TAC	Texas Administrative Code
TCEQ	Texas Commission on Environmental Quality
TCMP	Texas Coastal Management Program
TGLO	Texas General Land Office
TPWD	Texas Parks and Wildlife Department
TxDOT	Texas Department of Transportation
U.S.	United States
USACE	U.S. Army Corps of Engineers
U.S.C.	United States Code
USFWS	U.S. Fish and Wildlife Service

THIS PAGE INTENTIONALLY LEFT BLANK

1.0 INTRODUCTION

The Federal Aviation Administration (FAA) Office of Commercial Space Transportation (AST) proposes to issue launch licenses and/or experimental permits that would allow Space Exploration Technologies Corp. (SpaceX) to launch the Falcon 9 and Falcon Heavy orbital vertical launch vehicles and a variety of reusable suborbital launch vehicles from a launch site on privately owned property in Cameron County, Texas (Figure 1). As part of the Proposed Action, SpaceX would construct a vertical launch area and a control center area (Figure 2) to support their launch activities. In addition, new underground power lines would be installed in the State Highway 4 (Boca Chica Boulevard) Right-of-Way (ROW) from the control center area to the vertical launch area.

Issuing launch licenses and experimental permits is considered a major Federal action subject to environmental review under the National Environmental Policy Act (NEPA) of 1969 as amended (42 United States Code [U.S.C.] §4321, et seq.). The FAA/AST is preparing an Environmental Impact Statement (EIS) in accordance with NEPA, Council on Environmental Quality (CEQ) Regulations for Implementing the Procedural Provisions of NEPA (40 Code of Federal Regulations [CFR] Parts 1500-1508), and FAA Order 1050.1E, Change 1, *Environmental Impacts: Policies and Procedures*. The completion of the environmental review process does not guarantee the FAA would issue launch licenses and/or experimental permits to SpaceX to launch from the proposed privately owned site in Cameron County, Texas. The Proposed Action, which is the EIS Preferred Alternative, must also meet all FAA safety, risk, and indemnification requirements for obtaining and possessing a launch license and/or experimental permit as described in 14 CFR Parts 400-450. In addition, SpaceX would need to obtain a Letter of Authorization (LOA) from the Houston Air Route Traffic Control Center (ARTCC) to operate the Falcon 9 and Falcon Heavy in the proposed airspace before any launches could commence. SpaceX would coordinate with the Secretariat of Communications and Transportation – Mexico, United States (U.S.) Customs and Border Protection, Cameron County and State of Texas law enforcement agencies, the U.S. Coast Guard, and Houston ARTCC in order to ensure public safety and allow for the issuance of Notice to Mariners (NOTMARs) and Notice to Airmen (NOTAMs). Approximately 3-6 days prior to launch, the public would be notified of the upcoming launch through local media and through the use of NOTMARs and NOTAMs.

Proposed operations would consist of up to 12 launches per year, including a maximum of two Falcon Heavy launches. All Falcon 9 and Falcon Heavy launches would be expected to have commercial payloads, including satellites or experimental payloads. In addition to standard payloads, the Falcon 9 and Falcon Heavy may also carry a capsule, such as the SpaceX Dragon capsule. SpaceX may also elect to launch smaller suborbital launch vehicles from this proposed site, such as a Falcon 9 Stage 1 tank. All launch trajectories would be to the east over the Gulf of Mexico. The majority of launches would be conducted between the hours of 7:00 a.m. and 7:00 p.m. However, there could be up to one nighttime launch per year. All launches, including pre-flight activities, would be conducted under the control of SpaceX, FAA/AST, and in accordance with the LOA from Houston ARTCC.

As part of the licensing and permitting process, SpaceX must implement a plan that defines the process for ensuring that any unauthorized persons, vessels, trains, aircraft, or other vehicles are not within the

hazard area. The plan must include safety and security personnel for each launch, and roadblocks and other security checkpoints. SpaceX also must develop and implement agreements and plans with local authorities whose support is needed to ensure public safety during all launch processing and flight, in accordance with 14 CFR § 417.111. SpaceX would coordinate with U.S. Customs and Border Protection, Cameron County and State of Texas law enforcement agencies, the City of Brownsville, the City of South Padre Island, Padre Island National Seashore, U.S. Fish and Wildlife Service (USFWS), Lower Rio Grande Valley National Wildlife Refuge (NWR), National Park Service (NPS), Texas Parks and Wildlife Department (TPWD), Texas General Land Office (TGLO), Texas Department of Transportation (TxDOT), and U.S. Coast Guard on the preparation of a detailed closure plan that discusses the procedures for land closure and water closure areas that would limit public access on launch day along State Highway 4, on Boca Chica Beach, and offshore areas.

SpaceX proposes to limit public access at two pre-defined checkpoints on State Highway 4 for up to 15 hours on launch day, with 6 hours being the closure time for a nominal launch. The 15-hour closure period allows for potential aborts and contingencies. Therefore, with 12 proposed annual launches, SpaceX proposes a maximum of 180 hours (this includes 15 hours per launch for each of the 12 launches) of annual closure. The two checkpoints include a soft checkpoint on State Highway 4, just east of Massey Way. Government personnel, SpaceX personnel, emergency personnel, and anyone with property beyond this soft checkpoint could pass, but the general public would be denied access. SpaceX may move the soft checkpoint further away from the launch site based on consultations with the USFWS. The second checkpoint would be a hard checkpoint, just before the control center area, which is a “no pass” area determined by the FAA approved hazard area (see Section 2.1.1.8 of the EIS for further discussion of the FAA approved hazard area). No one would be permitted to pass by this hard checkpoint during launch operations. Figure 3 shows the proposed launch day closure areas that SpaceX would implement to ensure that unauthorized persons remain out of the hazard area. SpaceX and law enforcement would monitor the area to the east of the checkpoints to ensure the area is clear. In addition, SpaceX would coordinate with Cameron County, the City of Brownsville, USFWS, Lower Rio Grande Valley NWR, NPS, TPWD, TGLO, and TxDOT to identify a safe location on private land along State Highway 4, before the Massey Way soft checkpoint, for the public to view a launch event.

SpaceX and law enforcement would monitor the area to the east of the checkpoints to ensure the area is clear. Monitoring would be done by vehicle along existing roads including State Highway 4. On the day of a launch, Boca Chica Beach would be closed to the public from the Brownsville Shipping Channel south to the U.S./Mexico border on the Gulf Coast (see Figure 3). SpaceX would continue to monitor the beach area using all-terrain vehicles (ATVs) to ensure the area is clear before launch. The beach closure for launch day would last up to 15 hours.

Figure 1. Regional Location of Proposed Launch Site

Figure 2. Location of Proposed Vertical Launch Area and Control Center Area

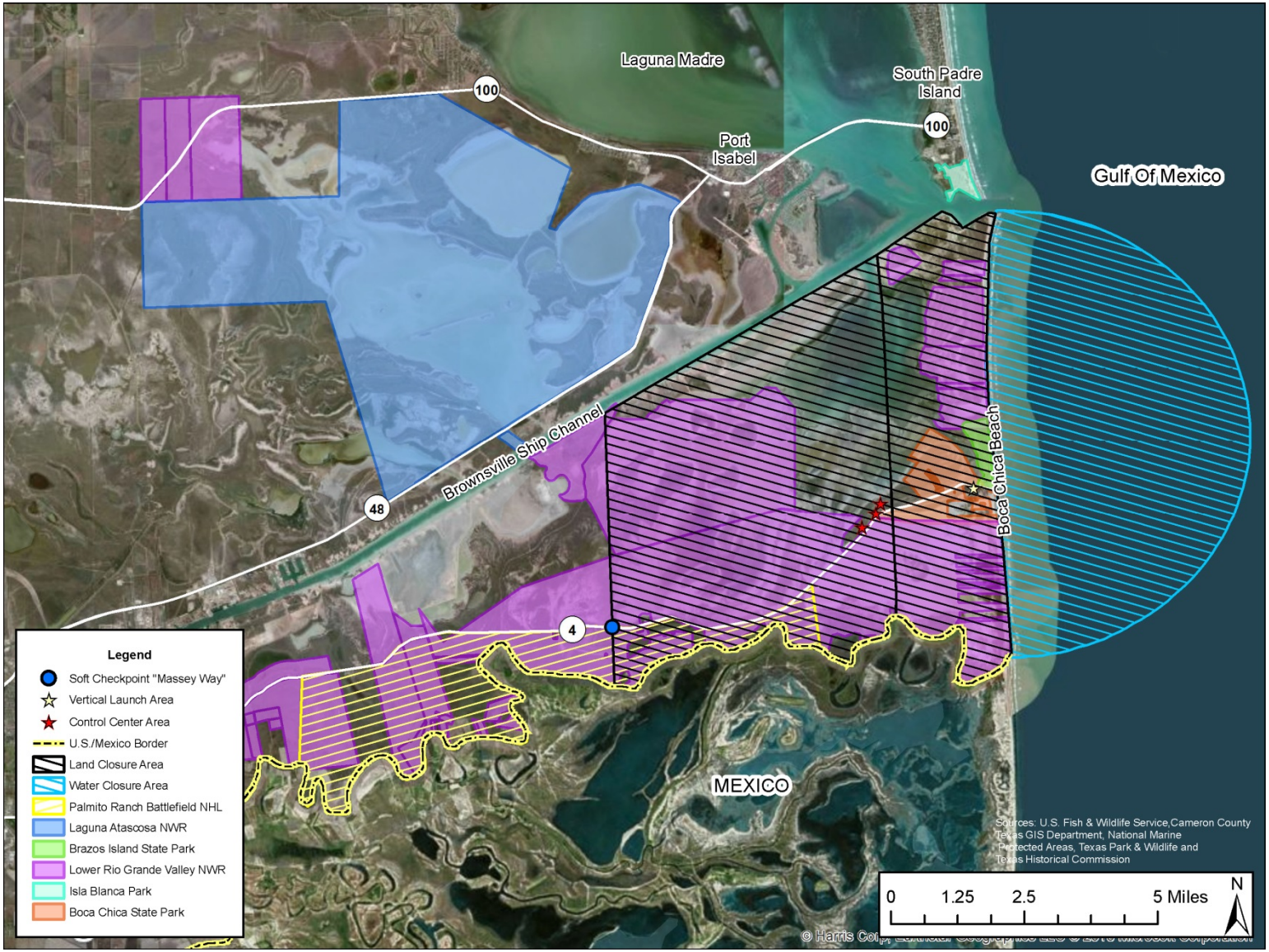


Figure 3. Proposed Launch Day Closure Areas

As part of the licensing process, SpaceX would also develop a plan for clearing offshore areas. This plan would include coordinating with the U.S. Coast Guard, issuing NOTMARs, and clearing the offshore area in order to ensure public safety. The U.S. Coast Guard could conduct boat patrols to sweep the offshore area to make sure the area is clear; this would continue to take place until SpaceX is ready to load propellant to the vehicle (approximately 3 hours from launch). A final sweep of the closure areas by helicopter could also be implemented at this time to ensure the areas are clear.

On the day of launch, the launch vehicle on the transporter erector would be moved to the launch pad from the vertical launch area Integration and Processing Hangar (Hangar) and connected to the launch stand. A wheeled vehicle, such as a small tug or other road equipment, would be used to pull the launch vehicle and transporter erector to the launch pad. Launch vehicles may be erected and de-erected several times prior to launch; the transporter erector is designed to make this operation quick and simple. On the day of launch, the launch vehicle would be erected and final system checks completed. Approximately 3 hours before launch, the vehicle would be loaded with propellant. Just before launch, the transporter erector would be retracted at least 12 degrees from the vehicle. The transporter erector would be moved into the Hangar after the launch. After the launch, SpaceX and the FAA would notify law enforcement when the area has been deemed safe. Individuals needing to conduct nesting sea turtle beach patrols (e.g., Sea Turtle Inc.) would be given one hour to check the beach for sea turtle nests prior to the beach being re-opened for the general public. After completion of the sea turtle patrols, the checkpoints would be raised and the area would be re-opened for the public.

SpaceX plans to construct facilities, structures, and utility connections in order to support the launch of the Falcon 9 and Falcon Heavy launch vehicles. The facilities would be located in two separate areas: vertical launch area and control center area. The command and control functions for a launch are required to be conducted at a safe separation distance from the actual launch pad, which is approximately 2 miles away. As a result, the proposed control center area is approximately 2 miles west from the vertical launch area and north of Boca Chica Boulevard (Figure 2). All facilities would be constructed through private funding and on currently undeveloped private property that would be purchased or leased by SpaceX. All construction staging areas would occur within the proposed project boundaries and no additional areas would be required for staging. The proposed schedule for all construction activities is a 24-month period from start to finish. Minimal construction, such as pouring concrete, would occur at night.

The proposed vertical launch area is located at the eastern terminus of Boca Chica Boulevard (State Highway 4), in a sparsely populated coastal area off the Gulf of Mexico, approximately 3 miles north of the U.S./Mexico border. The property is located south of Boca Chica Boulevard and abuts the beach adjacent to the Gulf of Mexico (Figure 4). The vertical launch area property is approximately 56.5 acres. However, development of the vertical launch area would only occur within 20 acres of the entire 56.5-acre property. The rest of the property would remain open space. Construction of the vertical launch area would generally involve placing fill material to raise land levels enough to avoid frequent flooding. Fill material would be sourced from on-site whenever possible. All on-site material would come from within the 20-acre project area. If necessary, additional clean fill material would be sourced from the

local region. In addition, most of the larger facilities and those that must support heavy loads would be required to have pilings driven to support the facilities. As a result, most of the land area inside the proposed fence lines would be disturbed at some point. Proposed facility and infrastructure construction at the vertical launch area would include the following:

- Integration and Processing Hangar (Hangar)
- Launch pad and stand with its associated flame duct
- Water tower
- Lightning protection towers (four total)
- Retention basin for deluge water
- Propellant storage and handling areas
- Workshop and office area
- Warehouse for parts storage
- Roads, parking areas, fencing, security, lighting, and utilities

The proposed control center area would be located immediately adjacent to Boca Chica Village approximately 2 miles west of the proposed vertical launch area and north of Boca Chica Boulevard. The proposed control center area would consist of three parcels (Figures 5a and 5b). The 4.0-acre Parcel 1 is located the furthest from the proposed vertical launch area and is bounded on the southeastern side by Boca Chica Boulevard and the southwestern side by Remedios Avenue (Figure 5b).

The 4.4-acre Parcel 2 is bounded on the southeastern side by Boca Chica Boulevard, on the southern end by San Martin Boulevard, and on the northwestern side by Esperson Street.

The 4.0-acre Parcel 3, which is the closest to the proposed vertical launch area, is located northeast of Eichorn Boulevard. Proposed facility and infrastructure construction at the control center area would include the following:

- Two launch control center buildings
- Two payload processing facilities
- Launch vehicle processing hangar
- Two radio frequency transmitter/receivers
- Generators and diesel storage facilities
- Roads, parking areas, fencing, security, lighting, and utilities
- A satellite fuels storage facility

Construction at this location would generally involve grading to level the land. As a result, most of the land area inside the proposed fence lines would be disturbed at some point.

A maximum of 30 full-time SpaceX employees/contractors would be present on-site at the vertical launch area and/or control center area in 2013. Full-time SpaceX employees/contractors are anticipated to work a single shift, between the hours of approximately 8:00 a.m. – 5:00 p.m. On a per-mission basis, launch campaigns (i.e., preparation for and conducting of a launch event) would be expected to last up to two weeks. During a launch campaign, an additional 100 local or transient workers would be working at the vertical launch area and/or control center area. During launch campaigns, the additional workers

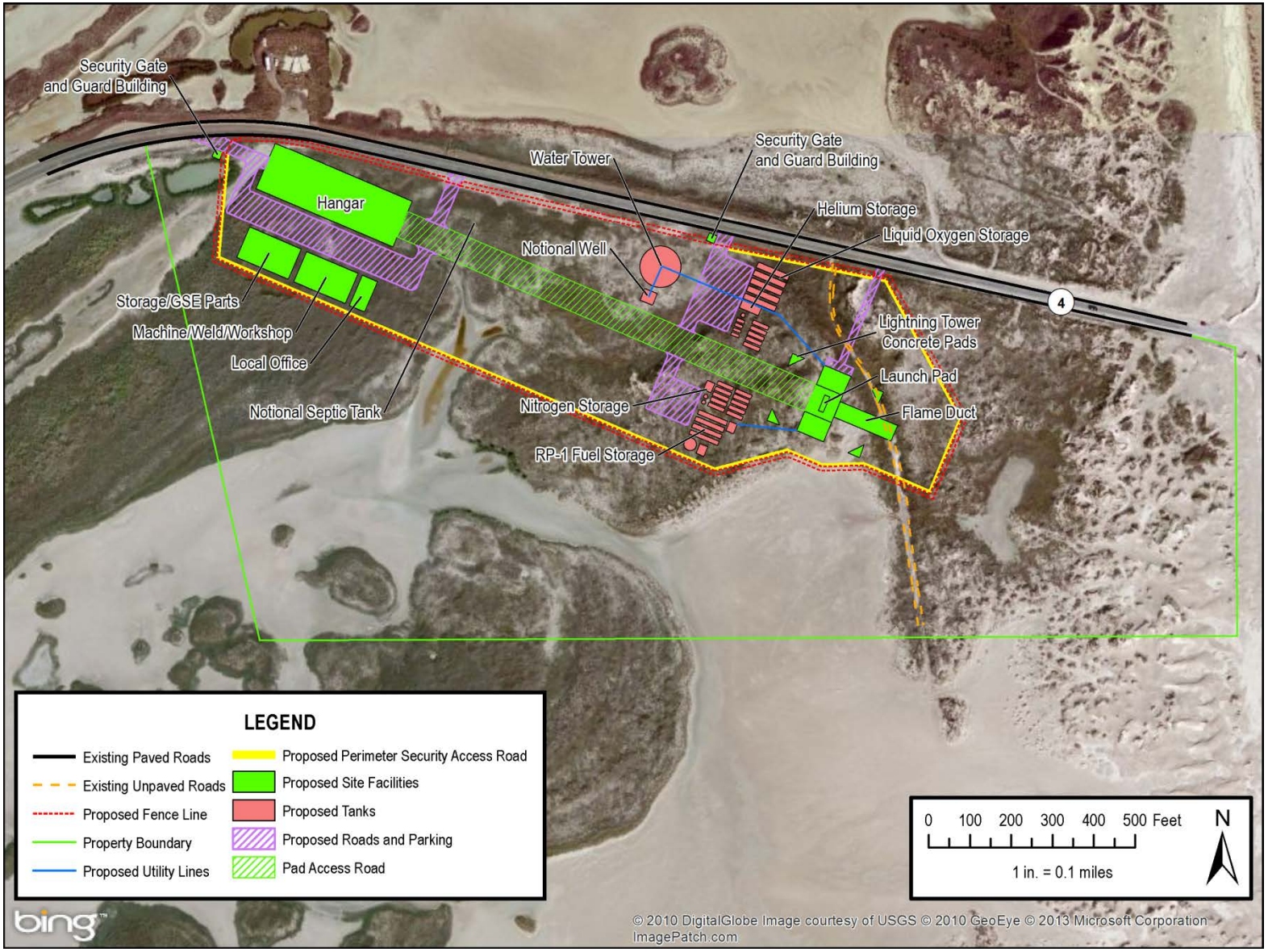


Figure 4. Proposed Vertical Launch Area Site Layout

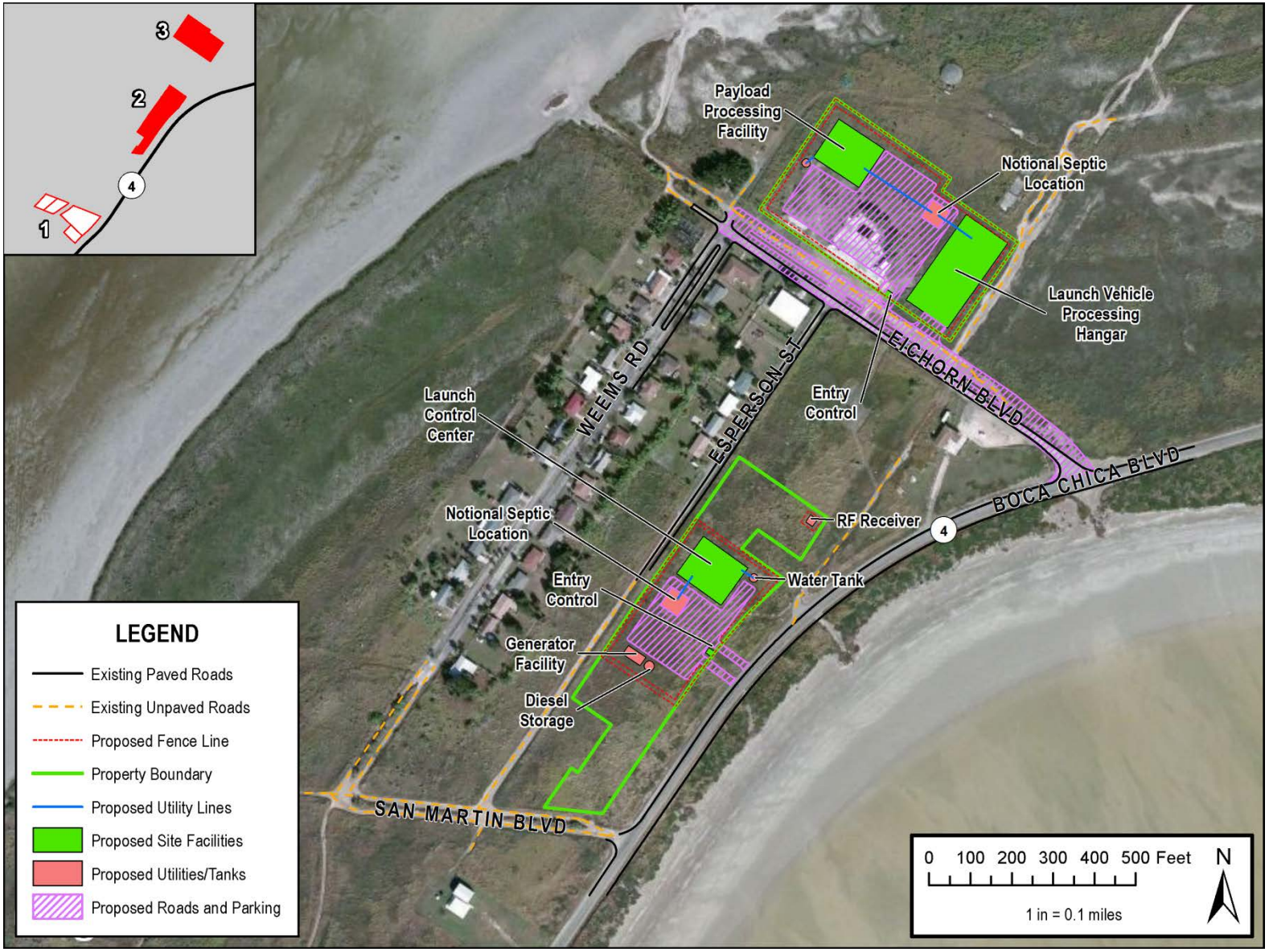


Figure 5a. Control Center Area Site Layout

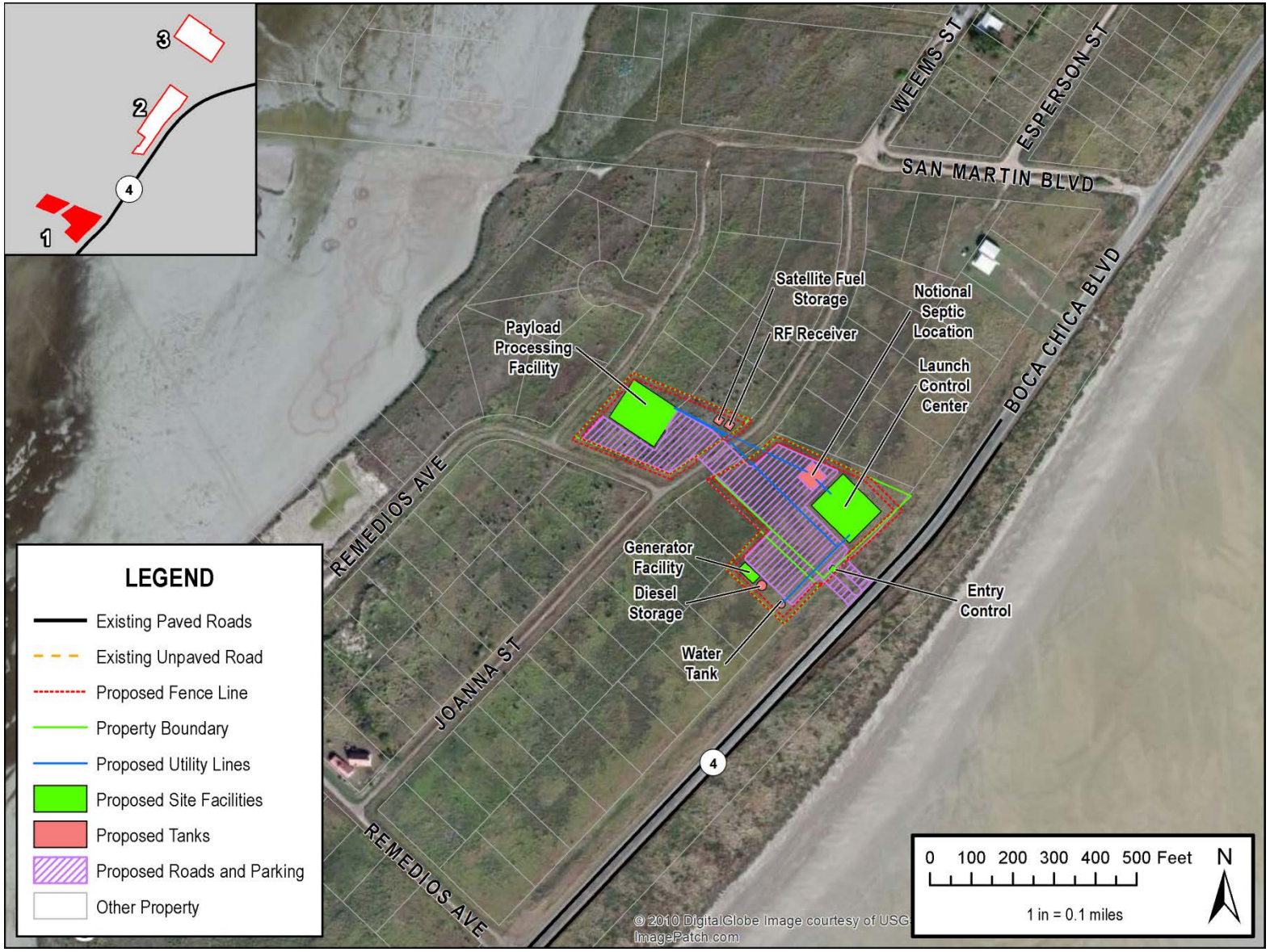


Figure 5b. Control Center Area Site Layout

could work extended hours; however, 2 days prior to launch, full-time SpaceX employees/contractors and the local or transient workers would need to be on-site for up to 24 hours per day. Staffing on-site would return to normal levels (maximum 30 full-time SpaceX employees/contractors) within a day or two after the actual launch. By 2022, it is expected that there would be 150 full-time SpaceX employees/contractors working on-site. The EIS includes the full scope of facilities that would be necessary to support proposed operations at the launch site. At this time, it is not anticipated that there would be a need for expansion of facilities for the phased increase in workforce through 2022. However, if additional facilities are proposed in the future, a supplemental analysis would need to be prepared to address the potential impacts. Supporting documentation and additional detail regarding project impacts can be found in the EIS.

As lead Federal agency for the Proposed Action, the FAA is required to comply with Section 307 of the Coastal Zone Management Act (CZMA) of 1972 (16 U.S.C. §1451 et seq.). The CZMA promotes the "effective management, beneficial use, protection, and development" of the nation's coastal zone; those goals are met through active State involvement to enact the CZMA. In Texas, the TGLO is responsible for maintaining the consistency of federal actions with the CZMA. The TGLO's Texas Coastal Management Program (TCMP) is the State program that executes the CZMA in Texas and coordinates the management of Texas coastal resources. The proposed vertical launch area and control center area are located within the Texas Coastal Zone Boundary defined in the TCMP rules (31 Texas Administrative Code [TAC] §503.1).

Impacts to Coastal Natural Resource Areas (CNRAs) as defined in the TCMP would include visual and noise impacts associated with construction and operational activities. Short-term impacts to the visual setting would result during construction. Also, potential indirect impacts could consist of visual effects on the setting of historic properties in the area of potential effects (APE) from the presence of proposed permanent structures at the vertical launch and control center areas. The noise impacts associated with a typical launch would be limited to a few minutes. The cumulative noise impact resulting from ten Falcon 9 and two Falcon Heavy launches per year would exceed the FAA Order 1050.1E, Change 1, standard[1] of Day-Night Average Sound Level (DNL) 65 A-weighted decibels (dBA) within distances of 1.5, 2.0, and 2.8 miles from the launch site for Scenarios A, B, and C, respectively, as discussed in Section 4.1.1.2 of the EIS. As Boca Chica Village is greater than 1.5 miles from the vertical launch area, the DNL 65 dBA criteria is exceeded only if the scenario includes a launch of either the Falcon 9 or Falcon Heavy during acoustic nighttime hours (10:00 p.m. to 7:00 a.m.).

The FAA is cooperating with the U.S. Army Corps of Engineers (USACE) on mitigation for any impacts to coastal wetlands to minimize functional wetland losses and ecosystem services. SpaceX will avoid to the maximum extent practicable impacts to coastal natural resources at the vertical launch and control center areas.

---

[1] The FAA Order 1050.1E establishes a standard of Day-Night Average Sound Level (DNL) 65 A-weighted decibels (dBA); however, these standards are not specifically designed to assess the impact of intermittent launch noise.

THIS PAGE INTENTIONALLY LEFT BLANK

2.0 COASTAL NATURAL RESOURCE AREAS

As defined in 31 TAC §501.3, CNRAs include coastal barriers, coastal historic areas, coastal preserves, coastal shore areas, coastal wetlands, critical dune areas, critical erosion areas, gulf beaches, hard substrate reefs, oyster reefs, submerged land, special hazard areas, submerged aquatic vegetation, tidal sand or mud flats, water of the open Gulf of Mexico, and water under tidal influence. Potential impacts to CNRAs with implementation of the Proposed Action are described in the following sections.

2.1 COASTAL BARRIERS

The Coastal Barrier Resources Act (CBRA) restricts Federal funding and financial assistance for development within undeveloped coastal barriers, as defined by the USFWS. Portions of the proposed vertical launch area are located within the USFWS designated Coastal Federal Resource System unit T-12. The Proposed Action is not subject to Federal funding and is therefore not subject to siting restrictions under the CBRA. A letter was sent by FAA to USFWS on June 18, 2012, requesting concurrence that the CBRA does not apply to this Proposed Action. A response letter from USFWS dated August 14, 2012, concurred that the Proposed Action is exempt from CBRA under Section 3(3)(C), which states that "assistance for environmental studies, planning, and assessments that are required incident to the issuance of permits or other authorizations under Federal law" are not considered financial assistance and therefore CBRA provisions would not apply. Supporting documentation can be found in the EIS.

2.2 COASTAL HISTORIC AREAS

In consultation with the Texas State Historic Preservation Officer, the FAA defined an APE for direct effects and an APE for indirect effects. The APE for direct effects was defined as the boundaries of the sites for the proposed vertical launch and control center areas. The APE for indirect effects was defined as a 5-mile radius centered on the vertical launch area where historic resources could sustain visual or noise-related impacts as a result of project activities. The eastern end of the Palmito Ranch Battlefield National Historic Landmark, a Civil War battlefield listed on the National Register of Historic Places (NRHP), is located approximately 3 miles west of the vertical launch area and is partially within the APE (Figure 6). Additionally, Palmetto Pilings and Cypress Pilings from former railroad crossings located west of Boca Chica Beach are considered to be NRHP-eligible. Across from the northwest corner of the vertical launch area is the granite historical marker for the Palmetto Pilings. It is a 1936 Texas Centennial Marker, which was a statewide program that identified and commemorated places of significance to the history of Texas. The marker is considered to be eligible for the NRHP. All other architectural resources in the APE for indirect effects are less than 50 years old and are not considered eligible under NRHP criteria. No coastal historic areas would be physically altered or removed as a result of the Proposed Action. The historical marker may be susceptible to impacts from vibrations caused by high noise levels during launches. Potential indirect impacts could consist of visual effects on the setting of the Palmito Ranch Battlefield from the presence of proposed permanent structures at the vertical launch and control center areas. The FAA is in the process of developing a Memorandum of Agreement with the Section 106 consulting parties (Texas Historical Commission, NPS, Advisory Council on Historic Preservation, and SpaceX) to mitigate the adverse effects on historic properties should the Proposed Action be implemented.

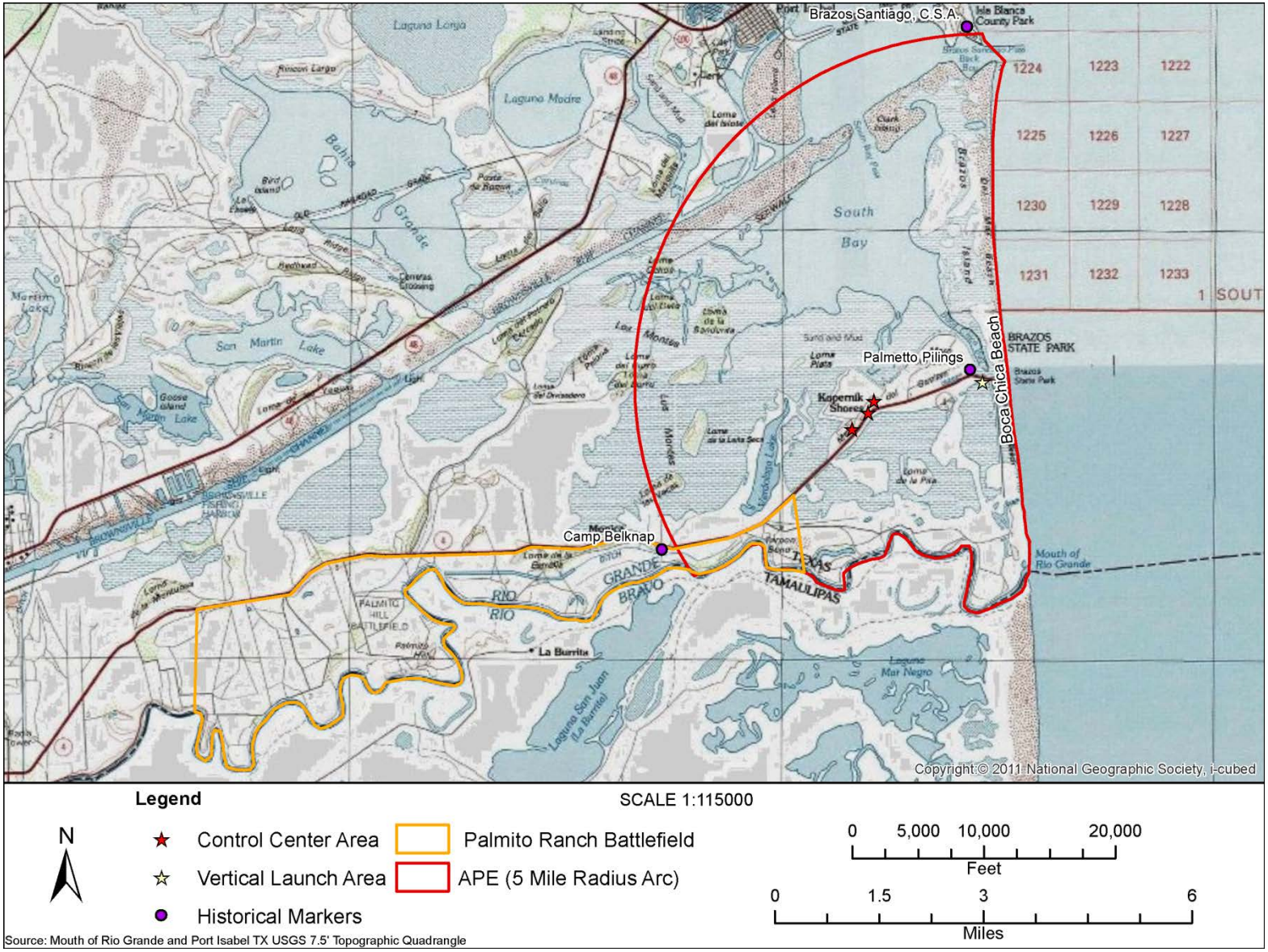


Figure 6. Locations of Historical Sites Within and Adjacent to the APE

2.3 COASTAL PRESERVES

There are several preserves within the vicinity of the proposed vertical launch area, including the South Bay Coastal Preserve, Boca Chica State Park, Brazos Island State Park, and the Lower Rio Grande Valley NWR (Figure 7).

The proposed vertical launch and control center areas are outside the boundaries of these coastal preserves. However, the disturbance from launch operations may result in short-term visual and noise impacts to coastal preserves. Additionally, public access to Boca Chica State Park, Brazos Island State Park, the Lower Rio Grande Valley NWR, and the South Bay Coastal Preserve would be restricted during beach closures on days when launches are scheduled. On the day of launch, the entire Boca Chica Beach area from the Brownsville Shipping Channel to the U.S./Mexico border would be closed for up to 15 hours. SpaceX is working closely with the Cameron County Dunes Committee, the Cameron County Commissioners, and the TGLO in order to allow temporary beach closures during launch days.

Impacts to wildlife resources within coastal preserves would be primarily limited to short-term disturbance associated with increased vehicular traffic, human presence, and noise from construction and launch activities. Increased vehicular traffic and human presence from operational activities associated with the Proposed Action may cause wildlife species found within the vertical launch and control center areas to disperse. Disturbance may temporarily displace wildlife species; however, wildlife in the area is currently exposed to noise from vehicular traffic and human presence along State Highway 4. Impacts to state-listed species (peregrine falcon, reddish egret, sooty tern, white-tailed hawk, white-faced ibis, wood stork, and the black-striped snake) and additional federally listed species (piping plover, jaguarondi, ocelot, the northern aplomado falcon, and sea turtles) would be similar to those described for wildlife (see Section 4.8 of the EIS). A Biological Assessment was completed in accordance with Section 7 of the Endangered Species Act and formal consultation with the USFWS regarding species impact determinations is ongoing.

2.4 COASTAL SHORE AREAS

The proposed vertical launch area boundary is located outside the defined coastal shore area (100 feet [ft] landward of the mean high water mark on submerged lands) along the Gulf of Mexico. Therefore, implementation of the Proposed Action would not physically impact coastal shore areas.

2.5 COASTAL WETLANDS

The proposed vertical launch area includes 25.43 acres of wetlands on-site, including shrub-scrub and emergent wetlands and unvegetated sand flats. Additionally, one emergent depressional wetland (0.4 acre) is located on Parcel 3 of the control center area. A total of 2.60 acres of vegetated wetland habitat, 0.08 acres of unvegetated depressional wetland, and 0.62 acres of unvegetated tidal flats would be removed as a result of construction of the proposed vertical launch area (Figure 8a); and 0.04 acre of vegetated wetland would be removed for construction of the proposed control center area (Figure 8b). In addition, the construction of the vertical launch area would effectively cut off the tidal influence to 2.85 acres of wetland through the construction of buildings and roads.

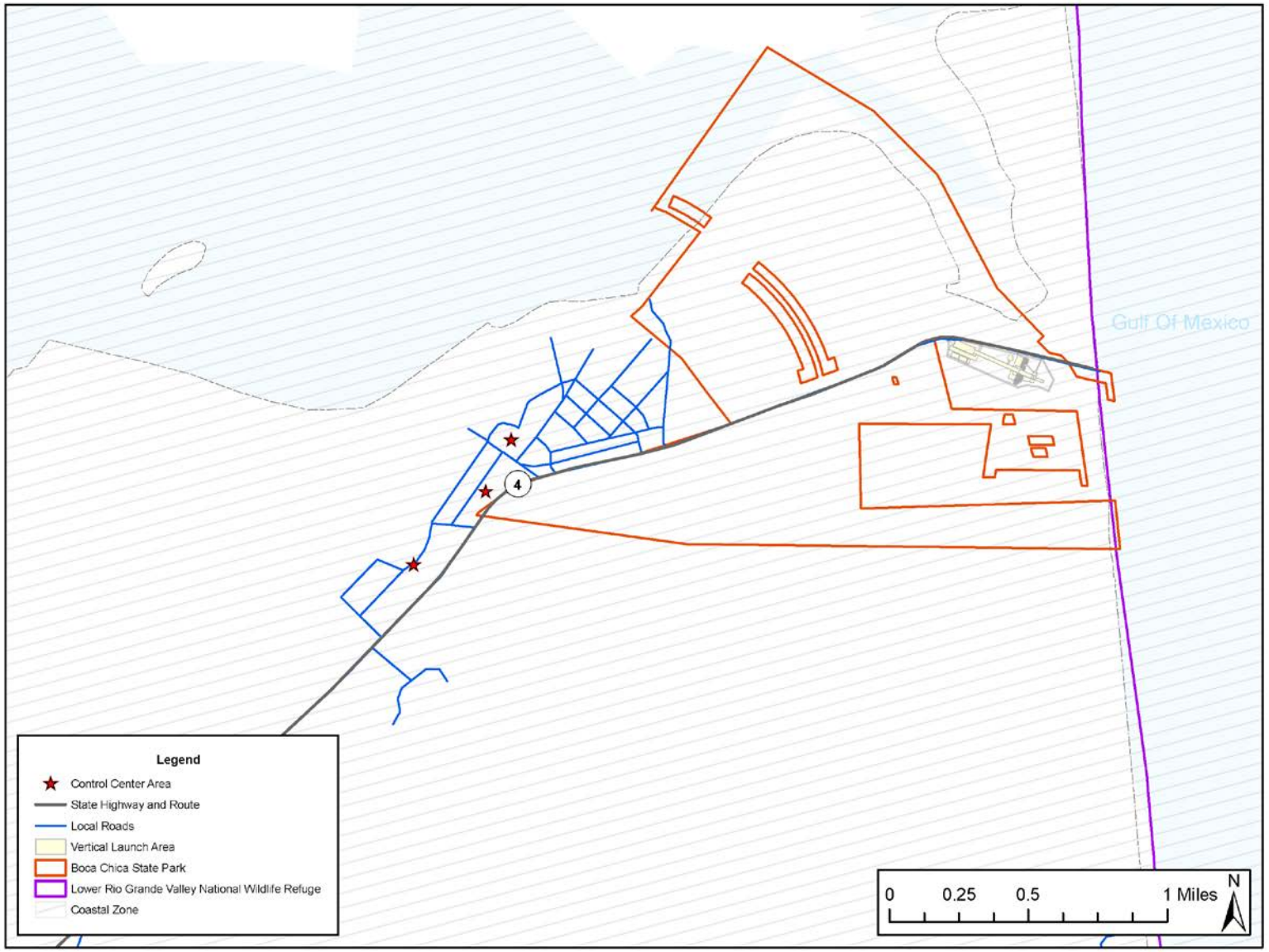


Figure 7. Coastal Preserves Within the Vicinity of the Vertical Launch and Control Center Areas

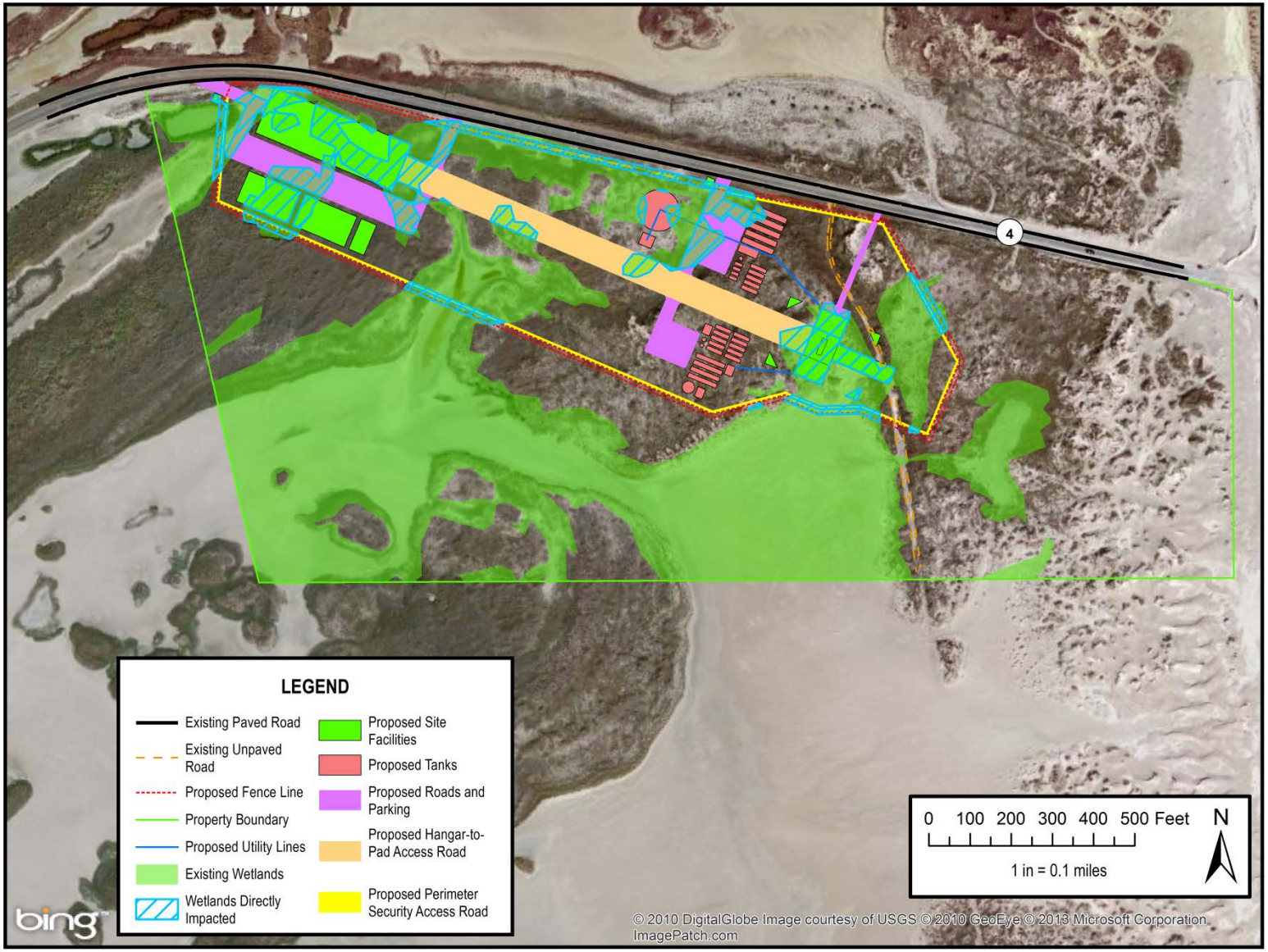


Figure 8a. Vertical Launch Area Wetland Impacts

Figure 8b. Control Center Area Wetland Impacts

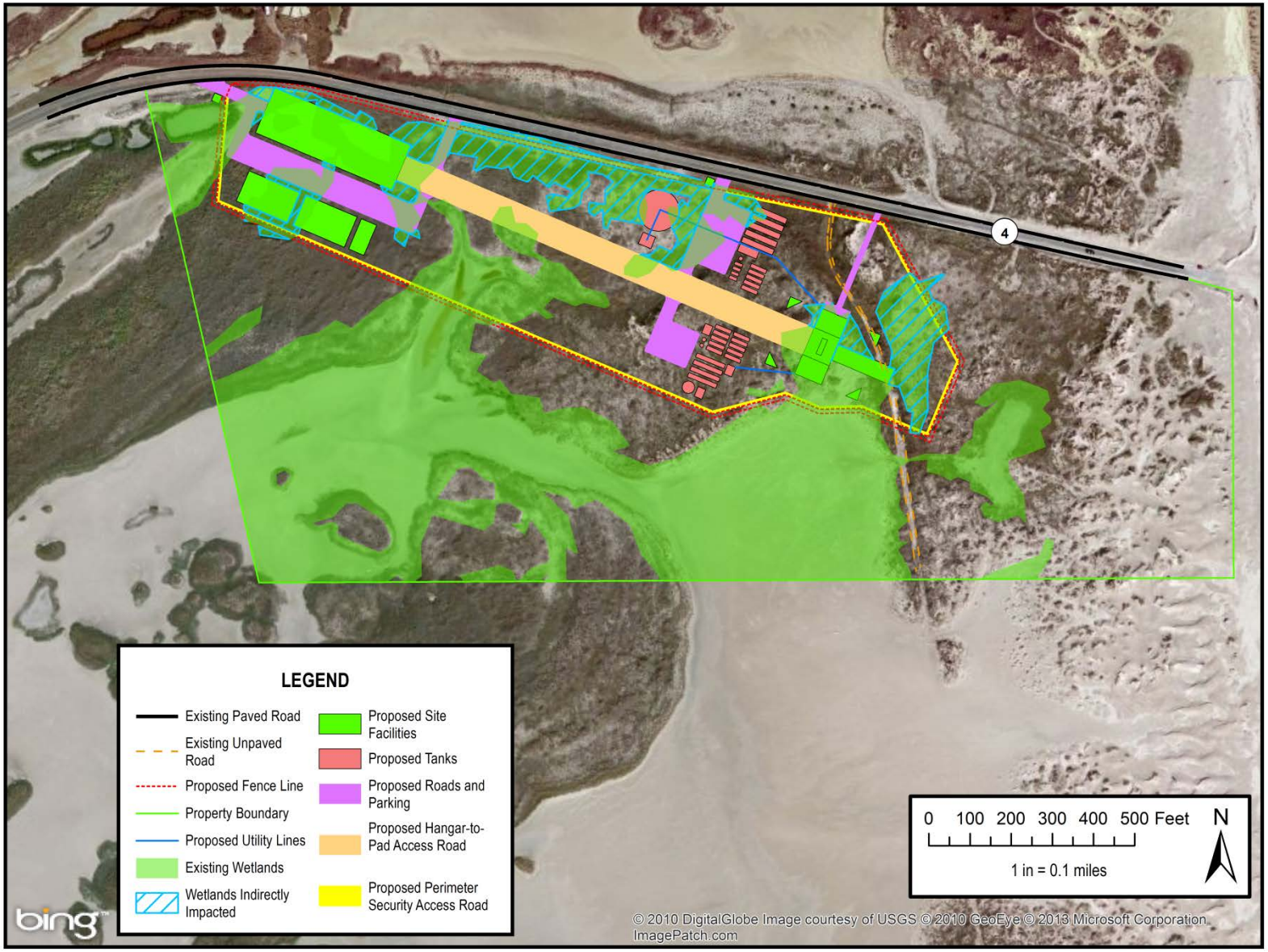


Figure 8c. Vertical Launch Area Indirect Wetland Impacts

Indirect wetland impacts are comprised of 2.54 acres of high marsh vegetated wetlands and 0.31 acres of unvegetated wetland salt flats (Figure 8c). Therefore, a total of 6.19 acres of wetlands would be impacted.

A goal of the FAA's evaluation of the Proposed Action is to minimize adverse effects to wetlands, achieve no net loss of wetlands, and to restore resources and environmental quality in accordance with FAA Order 1050.1E, Change 1. No excavation or fill material would be placed in Clean Water Act (CWA) Section 404 waters of the U.S., except as authorized by a USACE permit. The FAA and SpaceX are coordinating with the USACE to mitigate for losses of wetland area and functions from the Proposed Action. The wetland delineation results were field verified during a site visit on July 6, 2012, with the USACE. The preliminary Jurisdictional Determination was issued by the USACE on August 31, 2012, providing concurrence on the wetland boundaries. A total of 6.19 acres of wetlands would be removed as the result of project construction (Figures 8a, 8b, and 8c). Construction would result in permanent fill of the underlying wetlands. SpaceX is working with USACE to complete an individual permit, under which wetland impacts would require compensatory mitigation by SpaceX. Therefore, the proposed construction would have no significant impacts on wetlands.

2.6 CRITICAL DUNE AREAS

The property boundary for the proposed vertical launch area is immediately adjacent to critical dune areas, defined as a protected sand dune complex on Gulf shoreline parallel to and within 1,000 ft of mean high tide designated by a dune protection line established by local governments. Cameron County established a dune protection line,[2] which changes with shoreline changes. Additionally, there is an area of sand dunes on the eastern portion of the vertical launch area property.

Although the property boundary for the proposed vertical launch area may abut and include dune areas, all construction is proposed inland of the dunes and therefore construction of the vertical launch area is not expected to compromise dune structure or impact dune vegetation.[3] Launch activities would have minimal impacts to vegetation from fire and acidic deposition. Fires are unlikely since launch activities would occur over concrete pads with no surrounding vegetation. Very little acid or particulate deposition is expected since the Falcon 9 and Falcon Heavy vehicles utilize liquid fuels (liquid oxygen [LOX] and refined petroleum-1 [RP-1]). No significant impacts to critical dune areas are expected as a result of project construction or operation.

---

[2] Cameron County. 2010. Cameron County Dune Protection and Beach Access Plan. http://www.co.cameron.tx.us/parks/docs/BeachAccessDunePlan.pdf. Last amended August 26, 2010.

[3] University of Texas Bureau of Economic Geology. 2011. CIAP Lidar Survey Coverage Shapefiles. Available online at http://www.beg.utexas.edu/coastal/morphodynamics.php.

2.7 CRITICAL EROSION AREAS

The proposed vertical launch area is not within a critical erosion area designated by the TGLO in the Texas Coastwide Erosion Response Plan (2009).[4] Therefore, implementation of the Proposed Action would not impact critical erosion areas.

2.8 GULF BEACHES

The proposed vertical launch area is adjacent to Boca Chica Beach along the Gulf of Mexico. The proximity of the vertical launch area to Gulf beaches would result in beach closures during each of the proposed 12 launches per year. Beach closures, as described in Section 2.3, would be limited to the date of each launch and would last up to 15 hours.

SpaceX is working closely with the TGLO, the Cameron County Commissioners Court, the Cameron County Dunes Committee, the State Senator, and the State Representative to ensure that a temporary closure of a public beach and beach access would be allowable under Texas law. As of March 28, 2013, proposed legislation had been filed by State Senator Eddie Lucio, Jr. and State Representative Rene Oliveira that would amend the Texas Natural Resources Code Chapter 61 to allow for the TGLO and/or the Cameron County Commissioners Court to temporarily close a public beach and beach access for space flight activities, including launches. However, if the primary launch date falls on the major summer holidays of Memorial Day, Fourth of July, Labor Day, and/or summer weekends between Memorial Day and Labor Day weekends, additional approval from the TGLO would be required. The proposed legislation would also allow for a Memorandum of Agreement between the TGLO and Cameron County to further define specific requirements for beach and access closure requests, approvals, and related public notices.

Impacts to wildlife resources on Boca Chica Beach would be limited to short-term disturbance associated with increased vehicular traffic, human presence, noise from construction, and launch activities. Increased vehicular traffic and human presence from operational activities associated with the Proposed Action may cause wildlife species found within the vertical launch and control center areas to disperse. However, wildlife in the area is currently exposed to noise from vehicular traffic and human presence along State Highway 4. Impacts to special status species including the piping plover and sea turtles would be similar to those described for wildlife resources (see Section 4.8 of the EIS). A Biological Assessment was completed in accordance with Section 7 of the Endangered Species Act and formal consultation with the USFWS regarding species impact determinations is ongoing.

2.9 HARD SUBSTRATE REEFS

The Proposed Action would not occur in the marine environment. Therefore, there would be no impacts to naturally occurring hard substrate reefs with implementation of the Proposed Action.

---

[4]TGLO. 2009. Texas Coastwide Erosion Response Plan. http://www.glo.texas.gov/what-we-do/caring-for-the-coast/coastal-erosion/response-plans.html. December.

2.10 OYSTER REEFS

The Proposed Action would not occur in the marine environment. Therefore, there would be no impacts to oyster reefs with implementation of the Proposed Action.

2.11 SUBMERGED LAND

The Proposed Action would not occur on submerged lands. Therefore, there would be no impacts to submerged lands from construction or operation of the proposed control center and vertical launch areas. However, state-owned submerged lands are included in the water closure area for launch day activities (Figure 9).

The TGLO manages state-owned submerged land dedicated to generating revenues for the Permanent School Fund (PSF). The TGLO would not be excluded from leasing submerged lands within the water closure area and exploration and production of mineral resources within those areas would not be prevented by the Proposed Action. Therefore, the Proposed Action would not cause a loss of revenue to the PSF. However, as discussed in Section 2.1.1.6 of the EIS, SpaceX must implement a plan that defines the process for ensuring that any unauthorized persons, ships, trains, aircraft or other vehicles are not within the hazard area up to 15 hours during a launch event. Therefore, the Proposed Action would limit public use of state-owned submerged land during a launch event.

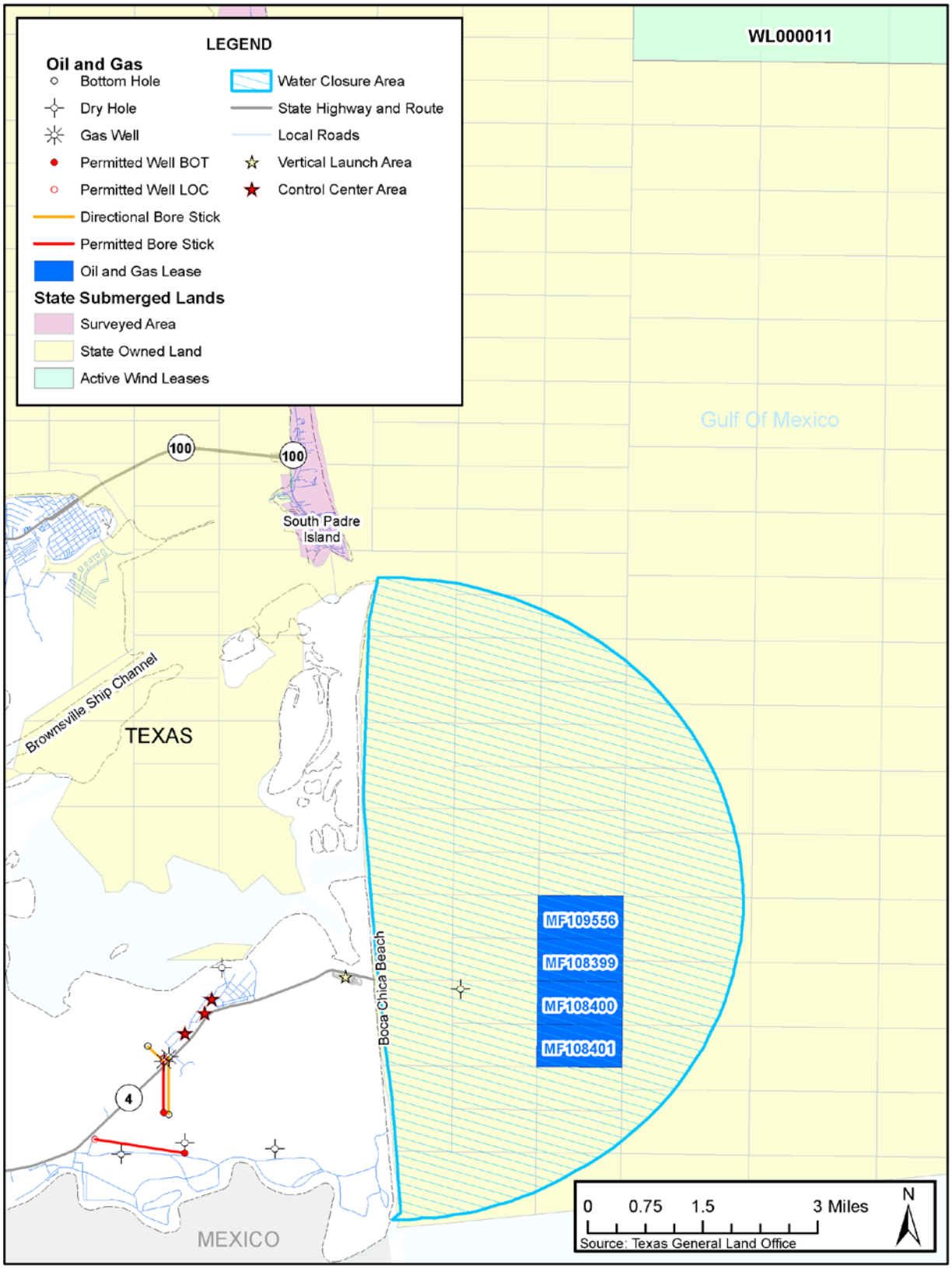


Figure 9. TGLO Managed Land within the Vicinity of the ROI

2.12 SPECIAL HAZARD AREA

Special hazard areas are designated by the Federal Emergency Management Agency (FEMA) as having special flood, flood-related erosion, or mudslide hazards. The proposed vertical launch and control center areas are located within Zone A8 and Zone V10 of the Flood Insurance Rate Map for Cameron County, Texas, and are designated as a special hazard area according to 31 TAC §501.3 of the TCMP. Zone A is defined by FEMA as areas that are subject to inundation by the 1-percent-annual-chance flood event. Zone V includes areas along coasts that are subject to inundation by the 1-percent-annual chance flood events with additional hazards associated with storm-induced waves.

Communities in Texas that participate in the National Flood Insurance Program (NFIP) must meet the minimum floodplain development standards described by FEMA's NFIP regulations. Some participating communities develop floodplain regulations that exceed the minimum standards required by NFIP regulations if the community determines that higher standards are needed to meet their local floodplain management goals. The proposed construction would be conducted in accordance with applicable county zoning and would be coordinated with the Cameron County floodplain administrators to receive a development permit. Additional coordination with Cameron County would be required to ensure the proposed construction meets the requirements of the NFIP. The NFIP permits development in the floodway if it can be demonstrated that "No-Rise" in the base flood elevation will occur. The County of Cameron Building Regulations outline the floodplain development standards that must be followed to comply with the NFIP and development in the floodplain.

Fill material would be required to elevate various components of the vertical launch area out of the floodplain. Fill material would be sourced from on-site whenever possible. All on-site material would come from within the 20-acre project area. If necessary, additional clean fill material would be sourced from the local region. Approximately 4.22 acres of floodplain would be filled in Zone V10 in the proposed vertical launch area and approximately 4.37 acres would be filled in Zone A8 in the western portion of the vertical launch area. The elevation increase at the vertical launch area was assumed to be 4.6 ft. A 30 percent increase in the fill required for the footprint of the vertical launch area facilities was assumed to account for possible design contingencies. The total amount of fill material for the vertical launch area would be 49,574 cubic yards (yd^3).

According to the Brownsville, Texas Code of Ordinances in addition to 44 CFR 60.3, fill material must be placed properly, should be 95 percent of the maximum density, and have graded side slopes no steeper than 2:1. As per the requirements of 44 CFR 60.3, fill material would be used to raise the elevations for parking and open storage areas. Structural support for the Hangar, launch pad, and workshop at the vertical launch area would rely on a pile design. Upon completion of the elevation work, an Elevation Certificate (FEMA Form 81-31) verifying the "as built" elevation of the structure complies with the local floodplain ordinance and NFIP floodplain management requirements would be obtained.

Construction at the control center area would require placing fill material to level the land and construction of impervious surface. The total amount of fill material for the control center area would be approximately 53,137 yd^3 (Table 4.7-2) and would impact approximately 12.4 acres of Zone A8.

Similar to the vertical launch area, an Elevation Certificate (FEMA Form 81-31) verifying the "as built" elevation of the structure complies with the local floodplain ordinance and NFIP floodplain management requirements would be obtained.

In order to comply with the local floodplain zoning required for participation in the NFIP and to obtain development permits, a hydraulic analysis of the floodplain associated with the vertical launch and control center areas would need to be conducted during the preliminary engineering design phase of the project to comply with the local county requirements. The hydraulic analysis would determine if the fill and construction of facilities within the floodplain would affect the base flood elevation. If the study determines that construction would not affect the base flood elevation, a "No-Rise" Determination would be submitted to the county. However, if the hydraulic study determined that the base flood elevation would be affected, further engineering design would need to be conducted to mitigate for the change in base flood elevation in order to comply with NFIP and Cameron County building regulations as required by the National Flood Insurance Act Title 42. The hydraulic study would also ensure that no flood storage would be lost and that the facility is adequately designed to prevent flotation, collapse, or lateral movement of the structure due to hydrodynamic and hydrostatic loads, including the effects of buoyancy. The design engineer would certify that the design elevation would withstand the depth and velocity of 100-year flood events (hydrostatic and hydrodynamic loads), any potential increase in wind load, or any other relevant load factors. Compliance with the NFIP as well as county regulations would ensure that the construction would have no significant impacts on floodplain storage and base flood elevations.

The construction activities would also be required to comply with Executive Order 11988 through compliance with U.S. Department of Transportation (DOT) Order 5650.2. To determine if construction of the proposed vertical launch and control center areas would result in a significant floodplain encroachment per DOT Order 5650.2, each of the following three scenarios have been addressed:

1. The action would have a considerable probability of loss of human life:

   a. Construction of the proposed vertical launch and control center areas would not result in considerable probability of loss of human life. No part of the proposed vertical launch or control center areas would be designed or constructed for human habitation or as a human dwelling. The proposed vertical launch and control center areas would not prohibit people from entering or exiting the area should a flood event occur.

2. The action would likely have substantial, encroachment-associated costs or damage, including interrupting aircraft service or loss of a vital transportation facility (e.g., flooding of a runway or taxiway, important navigational aid out of service due to flooding, etc.):

   a. The proposed vertical launch area would be constructed within a large contiguous floodplain that spans an area of approximately 5,477 acres (4.22 acres of Zone V10 and 4.37 acres of Zone A8). Construction of the vertical launch area would result in the filling of 8.59 acres of floodplain. Filling this relatively small area (less than 1 percent of the contiguous area) would

not result in new areas being subject to 100-year floods, nor would it result in existing areas subject to 100-year floods becoming more prone to floods.

3. The action would cause a notable adverse impact on natural and beneficial floodplain values:

   a. Based on the analysis in Sections 4.1, *Compatible Land Use (Including Farmlands and Coastal Resources*); 4.4, *Visual Resources and Light Emissions*; and 4.8, *Biological Resources (Including Fish, Wildlife, and Plants)* of the EIS, the FAA has determined that construction of the proposed vertical launch and control center areas would result in notable adverse impacts to some of the natural and beneficial floodplain values: land use (outdoor recreation), visual resources (open space, natural beauty), and wildlife (including federally threatened and endangered species). Therefore, based on the expected notable adverse impacts on some of the natural and beneficial floodplain values, the Proposed Action would result in significant floodplain encroachment per DOT Order 5650.2.

Based on the expected notable adverse impacts on the floodplain, the Proposed Action would result in significant floodplain encroachment per DOT Order 5650.2. Alternatives to the Proposed Action were considered and it was determined there are no non-floodplain alternative sites that would meet the requirements of the project as discussed in Section 2.3, *Alternatives Considered but Not Carried Forward*, of the EIS.

2.13 SUBMERGED AQUATIC VEGETATION

The Proposed Action would not occur in the marine environment and the project areas do not contain any freshwater areas that support submerged aquatic vegetation. Therefore, there would be no impacts to submerged aquatic vegetation with implementation of proposed construction and operations within the vertical launch and control center areas. Due to the desire of the public to view a launch, there is the potential for increased boat traffic outside the water closure area during launch days. Elevated boating activity could increase disturbance to submerged aquatic vegetation from rotor wash. However, no significant impacts on seagrass beds as a result of increased boat traffic are expected.

2.14 TIDAL SAND OR MUD FLATS

The proposed vertical launch area includes 13.0 acres of unvegetated tidal sand flats. No mud flats are located in the vertical launch area. The construction of the vertical launch and control center areas would result in the permanent impact of 6.19 acres of wetlands. Within the total acres of wetlands to be impacted, a total of 0.62 acres of tidal sand flats would be removed during project construction at the vertical launch area. In addition, the construction of the vertical launch area would effectively cut off the tidal influence to 2.85 acres of wetland through the construction of buildings and roads. These indirect wetland impacts are comprised of 2.54 acres of high marsh vegetated wetlands and 0.31 acres of unvegetated wetland salt flats. As discussed previously, SpaceX would coordinate with the USACE for mitigation.

2.15 WATER OF THE OPEN GULF OF MEXICO

The Proposed Action would not occur in the marine environment. No impacts to waters of the Gulf are expected as a result of proposed construction activities or operations at the vertical launch and control center areas. Following a launch, the first stage of the Falcon 9 vehicle would land approximately 550 miles downrange of the vertical launch area in the Gulf of Mexico. A salvage ship would recover the first stage, unless the first stage could not be relocated (likely indicating that it was damaged and sank). Spent first stages falling into the Gulf of Mexico are a potential source of pollution to marine environments. Depending on the vehicle, varying quantities of LOX and RP-1 would remain in the fuel tanks at the time of the splashdown. Localized temporary adverse impacts on marine waters in the immediate area surrounding this landing may occur. Long-term impacts would be negligible due to the buffering capacity of the Gulf of Mexico. LOX would dissolve in marine water. However, liquid fuels such as RP-1 that are relatively insoluble in water pose a slight risk to the marine environment until evaporation occurs. When the propellant surfaces, it would form a thin film that would be broken up by wave action, sunlight, and oxygen. All traces of propellant would quickly dissipate within 1 to 2 days.

2.16 WATER UNDER TIDAL INFLUENCE

Tidal wetlands and sand flats are present at the proposed vertical lausnch area, as described in Section 2.14. For construction of the proposed vertical launch area, 3.30 acres of tidally influenced coastal wetlands would be removed. No tidal wetlands are located within the proposed control center area. As described in Section 2.5, the FAA and SpaceX would coordinate with the USACE for mitigation.

3.0 COMPLIANCE WITH POLICIES OF THE TCMP

Based on the nature and location of the Proposed Action, the following enforceable policies of the TCMP were reviewed for compliance.

- 31 TAC §501.15, Policy for Major Actions
- 31 TAC §501.16, Policy for Construction of Electric Generating and Transmission Facilities
- 31 TAC §501.19, Policy for Construction and Operation of Solid Waste Treatment, Storage and Disposal Facilities
- 31 TAC §501.21, Policies for Discharge of Municipal and Industrial Wastewater to Coastal Waters
- 31 TAC §501.23, Policies for Development in Critical Areas
- 31 TAC §501.24, Policies for Construction of Waterfront Facilities and Other Structures on Submerged Lands
- 31 TAC §501.26, Policies for Construction in the Beach/Dune System
- 31 TAC §501.27, Policies for Development in Coastal Hazard Areas
- 31 TAC §501.28, Policies for Development within Coastal Barrier Resource System Units and Otherwise Protected Areas on Coastal Barriers
- 31 TAC §501.30, Policies for Alteration of Coastal Historic Areas
- 31 TAC §501.32, Policies for Emission of Air Pollutants

3.1 COMPLIANCE WITH 31 TAC §501.15 – POLICY FOR MAJOR ACTIONS

The issuance of launch licenses and/or experimental permits is considered a major Federal action subject to environmental review under NEPA. Cumulative and secondary (induced) impacts of the Proposed Action are discussed in the EIS. The purpose of this determination is to demonstrate whether the Proposed Action is consistent with the goals and policies of the TCMP.

3.2 COMPLIANCE WITH 31 TAC §501.16, POLICY FOR CONSTRUCTION OF ELECTRIC GENERATING AND TRANSMISSION FACILITIES

Electric transmission lines in CBRA system units and otherwise protected areas are required to be located, where practicable, in the existing ROW and to avoid construction in critical areas. Under the Proposed Action, it is estimated that the proposed vertical launch and the control center areas would have a total maximum electrical load of 3,000 kilowatts per hour. The lines required to supply power from the existing electrical distribution system to the vertical launch and control center areas would be buried within the State Highway 4 ROW. The specific requirements for the power lines and substation(s) necessary to meet the demands of the Proposed Action are being finalized. However, initial communications between the Magic Valley Electric Cooperative and SpaceX indicate that ample capacity exists in the Magic Valley Electric Cooperative system to meet the power needs of the vertical launch and control center areas without impact to other system users in the vicinity of the proposed vertical launch and control center areas. Because the electrical lines would be located within the existing State Highway 4 ROW, construction of these lines complies with the TCMP policy.

3.3 COMPLIANCE WITH 31 TAC §501.19 – POLICY FOR CONSTRUCTION AND OPERATION OF SOLID WASTE TREATMENT, STORAGE AND DISPOSAL FACILITIES

The siting and operation requirements for hazardous waste storage, treatment, and disposal facilities is described in 31 TAC §501.19. The vertical launch and control center areas would qualify as a waste generator rather than a waste disposal facility in accordance with 40 CFR §260.10. The estimated amount of hazardous waste anticipated to be generated at the facility during both construction and operation would qualify the facility as a small quantity generator of hazardous waste or as a conditionally exempt small quantity generator as defined by 30 TAC Part 1 §335 (c).

Construction contractors would be responsible for safely removing these construction-generated wastes from the vertical launch and control center areas and for arranging for recycling or disposal in accordance with applicable regulations. During operation, hazardous wastes would be managed on site in accordance with applicable Federal, State, and local regulations.

3.4 COMPLIANCE WITH 31 TAC §501.21, POLICIES FOR DISCHARGE OF MUNICIPAL AND INDUSTRIAL WASTEWATER TO COASTAL WATERS

No discharge of industrial wastewater into coastal waters is planned from the proposed project. During a launch activity, a deluge water system would discharge between 50,000 and 200,000 gallons of water for noise and vibration suppression. Following the launch, this water would then be sampled and analyzed to determine if the water contained controlled contaminants at levels that exceed the Texas Commission on Environmental Quality (TCEQ) water quality standards. Appropriate sampling protocols and water quality criteria would be developed in coordination with TCEQ and in accordance with Texas Surface Water Quality Standards. Water containing contaminants that exceed the water quality criteria would be removed and hauled to an approved industrial wastewater treatment facility outside of the vertical launch area. All other water not containing prohibited chemicals would be pumped back to the water tower.

Management of additional wastewater generated during operation of the vertical launch and control center areas would be conducted in coordination with the U.S. Environmental Protection Agency regarding the CWA's National Pollutant Discharge Elimination System (33 U.S.C. §1251 *et seq*.).

Domestic wastewater generated at the vertical launch and control center areas would be managed by septic systems to be installed during construction. Septic system design would be permitted through the Department of Environmental Health at the Cameron County Department of Health and Human Services. If hazardous fluids were released from the septic system, they could migrate to shallow groundwater underlying the site. Permit compliance would require the implementation of leak monitoring systems to limit impacts to the soil and groundwater associated with septic system malfunctions. In addition, a Spill Prevention, Control and Countermeasure Plan and a Hazardous Waste Management Plan would be implemented to minimize the potential for accidental releases from the septic system and associated hazards to human health and the environment. No significant impacts to coastal waters are expected as a result of domestic or industrial wastewater discharge.

3.5 COMPLIANCE WITH 31 TAC §501.23, POLICIES FOR DEVELOPMENT IN CRITICAL AREAS

For any construction in critical areas (coastal wetlands, oyster reefs, hard substrate reefs, submerged aquatic vegetation, tidal sand, or mud flats) subject to the requirements of §501.15, cumulative and secondary adverse effects must be considered, and construction must be planned with the goal of achieving no net loss of critical area functions and values.

Construction of the vertical launch and control center areas is proposed in critical areas including coastal wetlands and tidal sand flats (see Section 2.5). A total of 2.60 acres of vegetated wetland habitat, 0.08 acres of unvegetated depressional wetland, and 0.62 acres of unvegetated tidal flats would be removed as a result of construction of the proposed vertical launch area; and 0.04 acre of vegetated wetland would be removed for construction of the proposed control center area. In addition, the construction of the vertical launch area would effectively cut off the tidal influence to 2.85 acres of wetland through the construction of buildings and roads. These indirect wetland impacts are comprised of 2.54 acres of high marsh vegetated wetlands and 0.31 acres of unvegetated wetland salt flats. Therefore, a total of 6.19 acres of wetlands would be impacted.

The FAA and SpaceX would coordinate with the USACE for mitigation for wetland functional losses. The wetland delineation results were field verified during a site visit on July 6, 2012, with the USACE. The preliminary Jurisdictional Determination was issued by the USACE on August 31, 2012, providing concurrence on the wetland boundaries. Based on the proposed footprint for the vertical launch area, SpaceX would be required to obtain an individual permit from the USACE, which would require compensatory mitigation to offset wetland impacts. Additionally, in accordance with the DOT Order 5660.1A, the FAA has determined there is no practicable alternative to such construction (refer to Section 2.3, *Alternatives Considered but Not Carried Forward*, of the EIS), and the Proposed Action includes all practicable measures to minimize harm to wetlands which may result from construction (see Section 2.3.1, *SpaceX On-Site Alternatives,* of the EIS). Therefore, the proposed construction would have no significant impacts on wetlands. Operation of the vertical launch and control center areas would not result in wetland impacts.

3.6 COMPLIANCE WITH 31 TAC §501.26, POLICIES FOR CONSTRUCTION IN THE BEACH/DUNE SYSTEM

Construction in critical dune areas, protected sand dune complexes on the Gulf of Mexico shoreline within 1,000 ft of the mean high tide line, may not result in “material weakening of dunes and material damage to dune vegetation.”

The property boundary for the proposed vertical launch area abuts the Gulf of Mexico shore beach and includes critical sand dunes. However, no construction is proposed in the sand dunes and therefore construction of the vertical launch area is not expected to compromise dune structure or vegetation. Some of the construction would occur within 1,000 ft of mean high tide. The TGLO rules under the Open Beaches Act and the Dune Protection Act require local governments to issue permits when proposed construction is within 1,000 ft landward from mean-high tide and to ensure that construction does not restrict access or use of local beaches by the public. Before issuing a construction permit, the local

government sends the permit files to the TGLO for comment. Therefore, SpaceX would apply for the required permits and would get approvals before construction would commence.

3.7 COMPLIANCE WITH 31 TAC §501.27, POLICIES FOR DEVELOPMENT IN COASTAL HAZARD AREAS

Coastal hazard areas include critical erosion areas and special hazard areas. The proposed vertical launch area is not within a critical erosion area designated by the TGLO (Section 2.7). The proposed vertical launch and control center areas are located in special hazard areas within Zone A8 and Zone V10 of the Flood Insurance Rate Map for Cameron County, Texas (Section 2.12).

Fill material would be required to elevate various components of the vertical launch area out of the floodplain. Fill material would be sourced from on-site whenever possible. All on-site material would come from within the 20-acre project area. If necessary, additional clean fill material would be sourced from the local region. Approximately 4.22 acres of floodplain would be filled in Zone V10 in the proposed vertical launch area and approximately 4.37 acres would be filled in Zone A8 in the western portion of the vertical launch area. The elevation increase at the vertical launch area was assumed to be 4.6 ft. A 30 percent increase in the fill required for the footprint of the vertical launch area facilities was assumed to account for possible design contingencies. The total amount of fill material for the vertical launch area would be 49,574 cubic yards (yd^3).

As per the requirements of 44 CFR 60.3, fill material would be used to raise the elevations for parking and open storage areas. Structural support for the Hangar, launch pad, and workshop at the vertical launch area would rely on a pile design. Upon completion of the elevation work, an Elevation Certificate (FEMA Form 81-31) verifying the “as built” elevation of the structure complies with the local floodplain ordinance and NFIP floodplain management requirements would be obtained.

Construction at the control center area would require placing fill material to level the land and construction of impervious surface. The total amount of fill material for the control center area would be approximately 53,137 yd3 (Table 4.7-2) and would impact approximately 12.4 acres of Zone A8. Similar to the vertical launch area, an Elevation Certificate (FEMA Form 81-31) verifying the “as built” elevation of the structure complies with the local floodplain ordinance and NFIP floodplain management requirements would be obtained.

In order to comply with the local floodplain zoning required for participation in the NFIP and to obtain development permits, a hydraulic analysis of the floodplain associated with the vertical launch and control center areas would need to be conducted during the preliminary engineering design phase of the project to comply with the local county requirements. The hydraulic analysis would determine if the fill and construction of facilities within the floodplain would affect the base flood elevation. If the study determines that construction would not affect the base flood elevation, a “No-Rise” Determination would be submitted to the county. However, if the hydraulic study determined that the base flood elevation would be affected, further engineering design would need to be conducted to mitigate for the change in base flood elevation in order to comply with NFIP and Cameron County building regulations as required by the National Flood Insurance Act Title 42. The hydraulic study would also ensure that no flood storage would be lost and that the facility is adequately designed to prevent flotation, collapse, or

lateral movement of the structure due to hydrodynamic and hydrostatic loads, including the effects of buoyancy. The design engineer would certify that the design elevation would withstand the depth and velocity of 100-year flood events (hydrostatic and hydrodynamic loads), any potential increase in wind load, or any other relevant load factors. Compliance with the NFIP as well as county regulations would ensure that the construction would have no significant impacts on floodplain storage and base flood elevations.

As discussed in Section 2.12, the construction activities would also be required to comply with EO 11988 through compliance with DOT Order 5650.2 (see Section 3.7 and 4.7 of the EIS for further information). Based on the expected notable adverse impacts on some of the natural and beneficial floodplain values, the Proposed Action would result in significant floodplain encroachment per DOT Order 5650.2.

3.8 COMPLIANCE WITH 31 TAC §501.28 – POLICY FOR DEVELOPMENT WITHIN COASTAL BARRIER RESOURCE SYSTEM UNITS AND OTHERWISE PROTECTED AREAS ON COASTAL BEACHES

Any development of infrastructure within designated Coastal Barrier Resource System Units should be located at sites to the greatest extent practicable to avoid and minimize potential for adverse effects on critical hazard areas and in existing ROWs. Development of publicly funded infrastructure in these areas is limited to that which is essential or required by law. The Proposed Action is not subject to Federal funding, and is therefore not subject to restrictions under the CBRA. A letter was sent by FAA to USFWS on June 18, 2012 requesting concurrence that the CBRA does not apply to this Proposed Action. A response letter from USFWS dated August 14, 2012 concurred that the Proposed Action is exempt from CBRA under Section 3(3)(C) which states that “assistance for environmental studies, planning, and assessments that are required incident to the issuance of permits or other authorizations under Federal law” are not considered financial assistance and therefore CBRA provisions would not apply.

Portions of the proposed vertical launch area are located within the USFWS designated Coastal Federal Resource System Unit T-12, which includes other CNRAs such as coastal preserves, coastal shore areas, coastal wetlands, critical dune areas, critical erosion areas and Gulf beaches. Because the Proposed Action is not expected to significantly impact other CNRAs located within Unit T-12, the Proposed Action would not significantly impact the Coastal Barrier Resource System Unit.

3.9 COMPLIANCE WITH 31 TAC §501. 30, POLICIES FOR ALTERATION OF COASTAL HISTORIC AREAS

Any development affecting a coastal historic area must avoid and minimize disturbance to the historic area. An overview of the historical, architectural, archaeological and cultural resources present within the APE of the vertical launch and control center areas is provided in Section 2.2. The eastern end of the Palmito Ranch Battlefield, an NRHP-listed property, is located approximately 3 miles west of the vertical launch area. Additionally, Palmetto Pilings and Cypress Pilings from former railroad crossings located west of Boca Chica beach, and a 1936 granite marker are considered to be NRHP-eligible sites.

No coastal historic areas are proposed to be physically altered or removed as a result of the Proposed Action. The historical marker may be susceptible to impacts from vibrations caused by high noise levels during launches. Potential indirect impacts to the Palmito Ranch Battlefield could consist of visual effects from construction of permanent structures at the vertical launch area and control center area.

Measures to minimize harm to historic properties from the potential impacts are being developed in consultation with the appropriate Federal agencies.

3.10 COMPLIANCE WITH 31 TAC §501. 32, POLICIES FOR EMISSION OF AIR POLLUTANTS

Emissions of air pollutants within the Texas coastal zone must comply with the Clean Air Act (42 USC §7401) to protect and enhance air quality. Air emissions from the construction activities associated with the Proposed Action would primarily be due to the operation of construction equipment and construction worker commute emissions. Emissions from construction workers driving from the Brownsville area to the proposed vertical launch area and back have been estimated for 47 workers during the years 2014-2015 (a 24-month period). Construction equipment emissions during the period would be intermittent and short-term for various time frames during the construction years. The emissions for the proposed construction of the vertical launch and control center areas represent extremely small percentages of the Cameron County regional emissions and would not cause an exceedance of any of the National Ambient Air Quality Standards (NAAQS). In conclusion, the construction impacts on air quality would not be significant.

Emissions from the Falcon 9 and Falcon Heavy engines have been previously characterized as comprising carbon dioxide (CO_2), carbon monoxide (CO), water vapor, nitrogen oxide (NO_x) and carbon particulates. Most CO emitted by the liquid fuel engines is oxidized to CO_2 during afterburning in the exhaust plume. Thus, CO_2, a greenhouse gas, is the primary emission from the actual launch vehicles and these emissions are presented in the EIS under cumulative impacts. Other pollutants could be emitted during launch operations, including CO that is not oxidized to CO_2. Only a small proportion of the emissions associated with each launch would have the potential to affect ambient air quality, which is defined as the area below the mixing height, and which is typically defined as 3,000 ft above ground level. The launch of both the Falcon 9 and the Falcon Heavy would be expected to reach the mixing height within a few seconds. To estimate the amount of CO that would be released below the mixing height, an estimate of 20 percent of total emissions was used. Further, it was assumed that none of the CO was oxidized to CO_2. Based on this assumption, a total of approximately 2,752 tons per year would be released below the mixing height, which is the equivalent of 4.4 percent of the total CO emissions from sources located in Cameron County. This percentage is not enough to result in an exceedance of the NAAQS for CO. Additionally, it is estimated, based on the assumptions presented, that 11,009 tons per year of CO would be released above the mixing height. Small quantities of other pollutants, such as NO_x would primarily occur above 3,000 ft and would disperse quickly after launch and therefore were not quantified for the analysis. In conclusion, the operational impacts from the Proposed Action on air quality would not be significant.

THIS PAGE INTENTIONALLY LEFT BLANK

Appendix C
Section 106 and Section 4(f) Consultation

TABLE OF CONTENTS

APPENDIX C – SECTION 106 AND SECTION 4(F) CONSULTATION

SECTION 106 CONSULTATION

State Historic Preservation Officer (SHPO), Texas Historical Commission – Agency Scoping Meeting Invitation..... C-3
National Park Service, Intermountain Region – Section 106 Consulting Party Invitation C-9
SHPO, Texas Historical Commission – Determination of Areas of Potential Effects (APEs) C-11
SHPO, Texas Historical Commission –Concurrence of APEs C-17
Advisory Council on Historic Preservation – Section 106 Consultation Invitation C-21
Advisory Council on Historic Preservation– Response to FAA..... C-31
SHPO, Texas Historical Commission –Cultural Resources Reports C-33
SHPO, Texas Historical Commission – Section 106 Comments C-37
SHPO, Texas Historical Commission – Additional Section 106 Comments C-39
SHPO, Texas Historical Commission – Additional Section 106 Comments (ERRATA) C-41
SHPO, Texas Historical Commission – Concurrence of Adverse Effects C-43
FAA Letter to Apache Tribe of Oklahoma C-45
FAA Letter to Comanche Nation of Oklahoma C-49
FAA Letter to Kiowa Tribe of Oklahoma C-53
FAA Letter to Mescalero Apache Tribe..... C-57
FAA Letter to Tonkawa Tribe of Oklahoma C-61

SECTION 4(F) CONSULTATION

SHPO, Texas Historical Commission – Section 4(f) determination C-65
National Park Service, Intermountain Region – Section 4(f) determination C-69
U.S. Fish and Wildlife Service – Section 4(f) determination C-73
Texas Parks and Wildlife – Section 4(f) determination..... C-77

U.S. Department
of Transportation
Federal Aviation Administration

Office of the Associate Administrator for
Commercial Space Transportation

800 Independence Ave., SW
Washington, DC 20591

APR 30 2012

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

Dear Mr. Wolfe:

The Federal Aviation Administration (FAA) Office of Commercial Space Transportation (AST) is in the process of preparing an Environmental Impact Statement (EIS) in accordance with the National Environmental Policy Act (NEPA) to assess the potential environmental impacts of the proposed issuance of launch licenses and/or experimental permits to Space Exploration Technologies Corporation (SpaceX) for operating the Falcon 9 and Falcon Heavy vehicle launch programs from a private site located in Cameron County, Texas. The FAA published a Notice of Intent to prepare an EIS in the *Federal Register* on April 10, 2012 (also attached). The decision on whether to issue launch licenses or experimental permits to SpaceX meets the definition of an "undertaking" under the National Historic Preservation Act (NHPA).

Under this proposal, SpaceX would construct a vertical launch area and a control center area to support up to 12 commercial launches per year. The vehicles to be launched include the Falcon 9, Falcon Heavy (up to two per year), and a variety of smaller reusable suborbital launch vehicles. SpaceX would be required to apply for and obtain the appropriate launch licenses and/or experimental permits to be issued by the FAA. SpaceX would be the exclusive user of the site.

The Falcon 9 orbital vertical launch vehicle is a medium-lift class launch vehicle with a gross lift-off weight of approximately 1,000,000 pounds (lbs) with a maximum length of 230 feet (ft). The Falcon 9 uses liquid oxygen (LOX) and highly refined kerosene, also known as rocket propellant-1 or refined petroleum-1 (RP-1), as propellants to carry payloads into orbit. The Falcon Heavy is similar to the Falcon 9, except it has two additional boosters "strapped on," each booster being almost identical to the Falcon 9 first stage core. The Falcon Heavy is a heavy lift class launch vehicle with a gross lift-off weight of approximately 3,400,000 lbs. It has an overall

maximum length of approximately 230 ft. A reusable suborbital launch vehicle could consist of a Falcon 9 Stage 1 tank with a maximum propellant (RP-1 and LOX) load of approximately 6,900 gallons.

As part of the undertaking, SpaceX would construct a vertical launch area and a control center area. The proposed vertical launch area site is currently undeveloped and is located directly adjacent to the eastern terminus of Texas State Highway 4 (Boca Chica Boulevard) and approximately 3 miles north of the Mexican border on the Gulf Coast. It is located approximately 5 miles south of Port Isabel and South Padre Island. Access to the site is from Boca Chica Boulevard. Facilities proposed for the vertical launch area would include an integration- and processing-hangar, a launch pad and stand with its associated flame duct, propellant storage and handling areas, a workshop and office area, and a warehouse for parts storage. The vertical launch area site is approximately 50 acres.

The control center area would be located inland to the west of the vertical launch area and would include: a control center building and a payload processing facility. The control center area may also include a launch vehicle preparation hangar and satellite fuels storage. All facilities would be constructed on private land owned or leased by SpaceX. The proposed control center area would be approximately 8 acres. The development of access and supporting utility infrastructure for the vertical launch area and the control center area may occur on lands outside that which is owned or leased by SpaceX.

All Falcon 9 and Falcon Heavy launches would be expected to have commercial payloads, including satellites or experimental payloads. In addition to standard payloads, the Falcon 9 and Falcon Heavy may also carry a capsule, such as the SpaceX Dragon capsule. All launch trajectories would be to the east over the Gulf of Mexico.

The potential environmental impacts of all proposed construction activities will be analyzed in the EIS in addition to the impacts from operating the facilities and launching orbital and suborbital launch vehicles. In proceeding with the planning of this undertaking, we intend to coordinate our Section 106 NHPA consultation with the development of the EIS to meet our NEPA requirements pursuant to 36 CFR 800.8, and use the EIS as our primary NHPA consultation documentation. Additionally, to fulfill our responsibilities under 36 CFR 800.3(e) and 800.4(a)(3), we will be holding a public scoping meeting to solicit input from the public on potential environmental issues that may need to be evaluated in the EIS. The scoping meeting will be held on May 15, 2012, from 5:00 pm to 8:00 pm, at the International Technology, Education and Commerce Center (ITEC Center), located at 301 Mexico Boulevard G-1, Brownsville, Texas 78520. In addition to the public scoping meeting, **the FAA would like to invite you to a pre-scoping agency-only meeting to be held May 15, 2012, from 9:00 a.m. to 11:00 a.m., at the Brownsville Economic Development Council Board Room, located at 301 Mexico Blvd., Ste. F-1, Brownsville, Texas 78520**. During this time, the FAA will give a brief presentation of the undertaking and have an open discussion with agencies regarding issues and

concerns. A site visit will be conducted immediately following the agency-only meeting. Please identify any concerns you may have regarding this proposed approach so that we may address those concerns and incorporate them in our process.

The FAA is in the process of determining the area of potential effects (APE) for the undertaking per 36 CFR 800.4(a)(1), and completing background research to identify historic properties within the APE per 36 CFR 800.4(a)(2). To this end and pursuant to 36 CFR 800.3(f)(2), we will be initiating consultation with selected federally recognized Indian tribes in Texas affiliated with the APE to determine if there are any properties that may be of religious or cultural significance to the Tribes and potentially affected by the undertaking. Please provide any comments you have regarding our efforts to identify all potential consulting parties and gather information, as outlined in 36 CFR 800.3(f) and 800.4(a)(4).

The results of these identification efforts, in addition to an assessment of the undertaking's effects on any historic properties within the APE, will be the subject of future consultation with your office on this project.

If you have any questions or need further information on the project, please contact Ms. Stacey Zee, of my staff, at 202-267-9305 or at Stacey.Zee@faa.gov. Thank you in advance for your input on this important project.

Sincerely,

Mr. Glenn Rizner
Deputy Manager, Space Transportation Development Division

Enclosures: Notice of Intent to Prepare an EIS, Open a Public Scoping Period, and Conduct a Public Scoping Meeting
Figure 1 – Regional Map of Proposed Launch Site

Federal Register / Vol. 77, No. 69 / Tuesday, April 10, 2012 / Notices 21619

DEPARTMENT OF STATE

[Public Notice 7814]

Shipping Coordinating Committee; Notice of Committee Meeting

The Shipping Coordinating Committee (SHC) will conduct an open meeting at 9:30 a.m. on Wednesday, April 25, 2012, in Room 2501 of the United States Coast Guard Headquarters Building, 2100 Second Street SW., Washington, DC 20593–7126. The primary purpose of the meeting is to prepare for the 90th Session of the International Maritime Organization's (IMO) Marine Safety Committee to be held at the IMO Headquarters, London, England, United Kingdom, May 16–25, 2012.

The primary matters to be considered include:

Consideration and adoption of amendments to mandatory instruments;
Measures to enhance maritime security;
Goal-based new ship construction standards;
LRIT-related matters;
Flag State implementation;
Radiocommunications and search and rescue;
Ship design and equipment;
Safety of navigation;
Fire protection;
Dangerous goods, solid cargoes and containers;
Stability, load lines and fishing vessel safety;
Bulk liquids and gases;
Implementation of the STCW Convention;
Technical assistance sub-programme in maritime safety and security;
Capacity-building for the implementation of new measures;
Role of the human element;
Formal safety assessment;
Piracy and armed robbery against ships;
General cargo ship safety;
Implementation of instruments and related matters;
Relations with other organizations;
Application of the Committee's Guidelines;
Passenger ship safety.

Members of the public may attend this meeting up to the seating capacity of the room. To facilitate the building security process, and to request reasonable accommodation, those who plan to attend should contact the meeting coordinator, LCDR Matthew Frazee, by email at *imo@uscg.mil*, by phone at (202) 372–1376, or in writing at Commandant (CG–52), U.S. Coast Guard, 2100 2nd Street SW., Stop 7126, Washington, DC 20593–7126 not later than April 18, 2012, 7 days prior to the meeting. Requests made after April 18, 2012 might not be able to be accommodated. Please note that due to security considerations, two valid, government issued photo identifications must be presented to gain entrance to the Headquarters building. The Headquarters building is accessible by taxi and privately owned conveyance (public transportation is not generally available). However, parking in the vicinity of the building is extremely limited. Additional information regarding this and other IMO SHC public meetings may be found at: *www.uscg.mil/imo.*

Dated: March 29, 2012.

Brian Robinson,

Executive Secretary, Shipping Coordinating Committee, Department of State.

[FR Doc. 2012–8636 Filed 4–9–12; 8:45 am]

BILLING CODE 4710–09–P

DEPARTMENT OF TRANSPORTATION

Office of the Secretary

Aviation Proceedings, Agreements Filed the Week Ending March 10, 2011

The following Agreements were filed with the Department of Transportation under the Sections 412 and 414 of the Federal Aviation Act, as amended (49 U.S.C. 1382 and 1384) and procedures governing proceedings to enforce these provisions. Answers may be filed within 21 days after the filing of the application.

Docket Number: DOT–OST–2012–0035.

Date Filed: March 7, 2012.

Parties: Members of the International Air Transport Association.

Subject: Mail Vote 702—Resolution 100 Standard Condition Resolution for Special Fares (Memo 1665) Intended effective date: 1 April 2012.

Renee V. Wright,

Program Manager, Docket Operations, Federal Register Liaison.

[FR Doc. 2012–8446 Filed 4–9–12; 8:45 am]

BILLING CODE 4910–9X–P

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

Office of Commercial Space Transportation; Notice of Intent To Prepare an Environmental Impact Statement (EIS), Open a Public Scoping Period, and Conduct a Public Scoping Meeting

AGENCY: The Federal Aviation Administration (FAA) is the lead Federal agency.

ACTION: Notice of Intent to Prepare an EIS, Open a Public Scoping Period, and Conduct a Public Scoping Meeting.

SUMMARY: This Notice provides information to Federal, State, and local agencies, Native American tribes, and other interested persons regarding the FAA's intent to prepare an EIS for Space Exploration Technologies' (SpaceX's) proposal to launch the Falcon 9 and Falcon Heavy orbital vertical launch vehicles from a private site located in Cameron County, Texas. Under the Proposed Action, SpaceX proposes to construct a vertical launch area and a control center area to support up to 12 commercial launches per year. The vehicles to be launched include the Falcon 9, Falcon Heavy (up to two per year), and a variety of smaller reusable suborbital launch vehicles. SpaceX would be required to apply for the appropriate launch licenses and/or experimental permits to be issued by the FAA. The FAA will prepare the EIS in accordance with the National Environmental Policy Act of 1969 (NEPA; 42 United States Code [U.S.C.] 4321 et seq.), the Council on Environmental Quality Regulations for Implementing the Procedural Provisions of NEPA (40 Code of Federal Regulations [CFR] parts 1500–1508), and FAA Order 1050.1E, Change 1, *Environmental Impacts: Policies and Procedures*, as part of its licensing and permitting process.

DATES: The FAA invites interested agencies, organizations, Native American tribes, and members of the public to submit comments or suggestions to assist in identifying significant environmental issues and in determining the appropriate scope of the EIS. The public scoping period starts with the publication of this notice in the **Federal Register**. To ensure sufficient time to consider issues identified during the public scoping period, comments should be submitted to Ms. Stacey M. Zee, FAA Environmental Protection Specialist, by one of the methods listed below no later than May 30, 2012. All comments will receive the same attention and consideration in the preparation of the EIS.

ADDRESSES: Comments, statements, or questions concerning scoping issues or the EIS process should be mailed to: Ms. Stacey M. Zee, FAA Environmental Protection Specialist, SpaceX EIS c/o Cardno TEC Inc., 275 West Street, Suite 110, Annapolis, MD 21409. Comments can also be sent by email to *faaspacexeis@cardnotec.com* or by fax to (410) 990–0455.

SUPPLEMENTARY INFORMATION:

Background

The FAA is preparing an EIS to analyze the potential environmental

impacts of SpaceX's proposal to launch orbital and suborbital launch vehicles from a private site in Cameron County in southern Texas. The EIS will consider the potential environmental impacts of the Proposed Action and reasonable alternatives, including the No Action Alternative. The successful completion of the environmental review process does not guarantee that the FAA would issue launch licenses and/or experimental permits to SpaceX. The project must also meet all FAA safety, risk, and indemnification requirements.

Proposed Action

The Proposed Action is for the FAA to issue launch licenses and/or experimental permits to SpaceX that would allow SpaceX to launch the Falcon 9 and Falcon Heavy orbital vertical launch vehicles and a variety of reusable suborbital launch vehicles from a launch site on privately-owned property in Cameron County, Texas. The Falcon 9 orbital vertical launch vehicle is a medium-lift class launch vehicle with a gross lift-off weight of approximately 1,000,000 pounds (lbs) with a maximum length of 230 feet (ft). The Falcon 9 uses liquid oxygen (LOX) and highly refined kerosene, also known as rocket propellant-1 or refined petroleum-1 (RP–1), as propellants to carry payloads into orbit. The Falcon Heavy is similar to the Falcon 9, except it has an additional two boosters "strapped on," each booster being almost identical to the Falcon 9 first stage core. The Falcon Heavy is a heavy lift class launch vehicle with a gross lift-off weight of approximately 3,400,000 lbs. It has an overall maximum length of approximately 230 ft.

A reusable suborbital launch vehicle could consist of a Falcon 9 Stage 1 tank with a maximum propellant (RP–1 and LOX) load of approximately 6,900 gallons.

As part of the Proposed Action, SpaceX proposes to construct a vertical launch area and a control center area. The proposed vertical launch area site is currently undeveloped and is located directly adjacent to the eastern terminus of Texas State Highway 4 (Boca Chica Boulevard) and approximately 3 miles north of the Mexican border on the Gulf Coast. It is located approximately 5 miles south of Port Isabel and South Padre Island. At the vertical launch area, the new facilities required would include: an integration- and processing-hangar, a launch pad and stand with its associated flame duct, propellant storage and handling areas, a workshop and office area, and a warehouse for parts storage.

The control center area would be located inland to the west of the vertical launch area and would include: A control center building and a payload processing facility; it might also include a launch vehicle preparation hangar and satellite fuels storage. All facilities would be constructed on private land owned or leased by SpaceX. The development of access and supporting utility infrastructure for the vertical launch area and the control center area may occur on lands outside that which is owned or leased by SpaceX.

Operations would consist of up to 12 launches per year with a maximum of two Falcon Heavy launches. All Falcon 9 and Falcon Heavy launches would be expected to have commercial payloads, including satellites or experimental payloads. In addition to standard payloads, the Falcon 9 and Falcon Heavy may also carry a capsule, such as the SpaceX Dragon capsule. All launch trajectories would be to the east over the Gulf of Mexico.

The potential environmental impacts of all proposed construction activities will be analyzed in the EIS, in addition to the impacts from operating the facilities and launching orbital and suborbital launch vehicles. The EIS will evaluate the potential environmental effects associated with: air quality; noise and compatible land use; land use, including Section 4(f) properties and Farmlands; coastal resources; biological resources, including threatened and endangered species; water resources, including surface waters and wetlands, groundwater, floodplains, and water quality; historical, architectural, archeological, and cultural resources; light emissions and visual resources; hazardous materials, pollution prevention, and solid waste; infrastructure and utilities; and socioeconomics, environmental justice, and children's environmental health and safety. The analysis will include an evaluation of the potential direct and indirect impacts, and will account for cumulative impacts from other relevant activities in the area of Cameron County, Texas.

Alternatives

Alternatives under consideration include the Proposed Action and the No Action Alternative. Under the No Action Alternative, the FAA would not issue a license or experimental permit to SpaceX. Based on comments received during the scoping period, the FAA may propose additional alternatives.

Scoping Meetings

A public scoping meeting will be held to solicit input from the public on potential issues that may need to be evaluated in the EIS. The scoping meeting will be held on May 15, 2012 from 5 p.m. to 8 p.m., at the International Technology, Education and Commerce Center (ITEC Center), located at 301 Mexico Blvd. C–1, Brownsville, Texas 78520. The meeting format will include an open-house workshop from 5 p.m. to 6 p.m. The FAA will provide an overview of the environmental process from 6 p.m. to 6:15 p.m. followed by a public comment period from 6:15 p.m. to 8 p.m.

Issued in Washington, DC on April 3, 2012.

Glenn Rizner,

Deputy Manager, Space Transportation Development Division.

[FR Doc. 2012–8556 Filed 4–9–12; 8:45 am]

BILLING CODE 4910–13–P

DEPARTMENT OF TRANSPORTATION

Federal Railroad Administration

[Docket No. FRA–2012–0033]

Notice of the Buy America Waiver Request for Vossloh 101–LV Concrete Ties

AGENCY: Federal Railroad Administration (FRA), United States Department of Transportation (DOT).

ACTION: Notice of Buy America waiver request and request for comment.

SUMMARY: FRA is issuing this notice to advise the public that the Burlington Northern Santa Fe Railway Co. ("BNSF") has submitted to FRA through or with the support of the Washington Department of Transportation ("WSDOT"), the Illinois Department of Transportation ("IDOT"), the Texas Department of Transportation ("TxDOT"), and the California Department of Transportation ("Caltrans") a waiver request from FRA's Buy America Act requirements for the purchase of Vossloh 101–LV concrete ties, which contain certain components not manufactured in the United States. In furtherance of four FRA High-Speed Intercity Passenger Rail ("HSIPR") grants, BNSF, as the railroad infrastructure owner, will construct certain rail project elements that consist of the installation of Vossloh 101–LV concrete ties. FRA has received this request from the four States for the following projects: (a) The Pacific Northwest Rail Corridor Program (b) the Amtrak Quad Cities to Chicago Service Initiation Project, (c) the Tower 55 At-Grade Improvement Project, and (d) the LA to Fullerton Triple Track—Segment 7 Project.

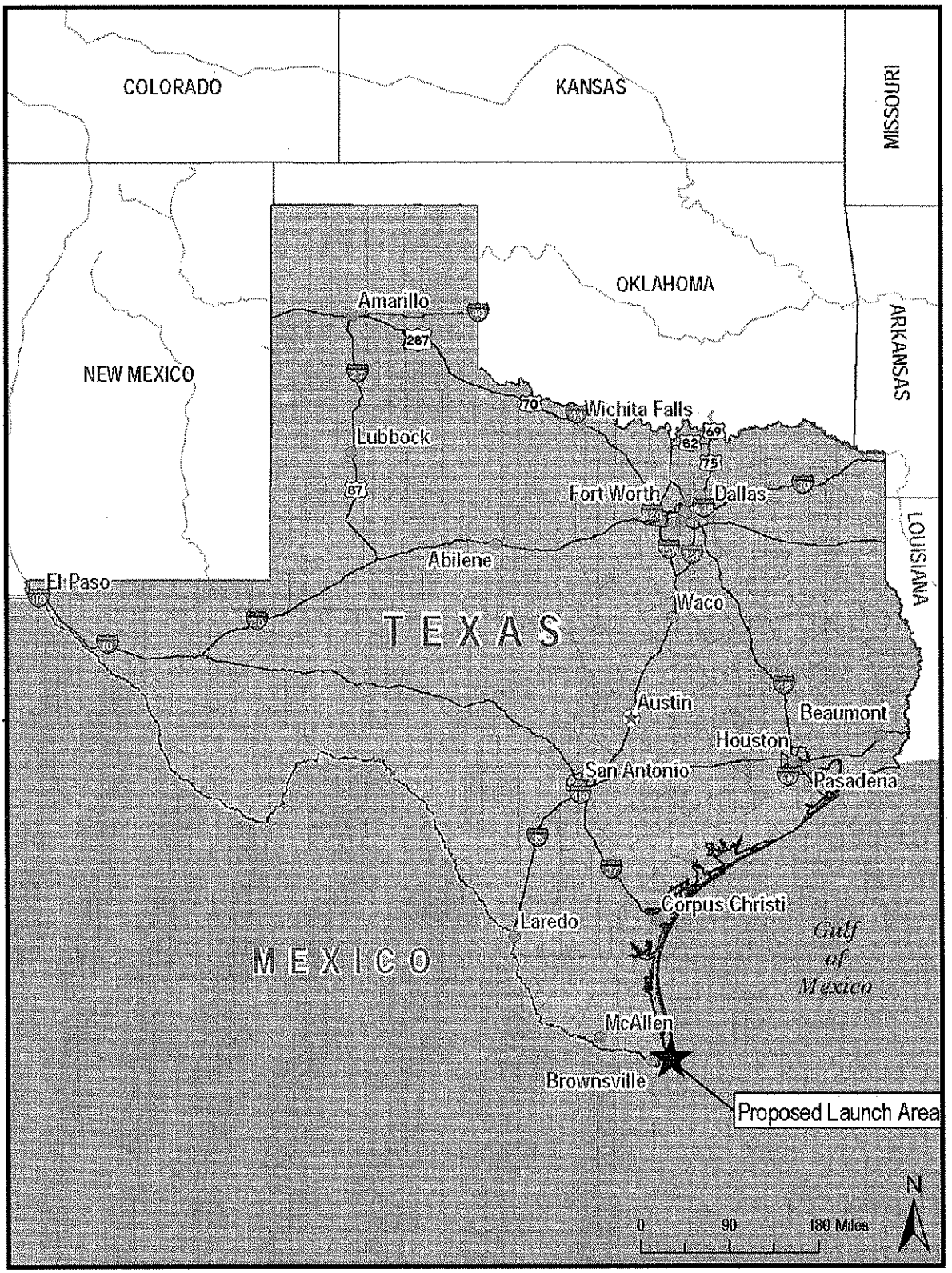


Figure 1 – Regional Map of Proposed Launch Site

U.S. Department
of Transportation
**Federal Aviation
Administration**

Office of the Associate Administrator for
Commercial Space Transportation

800 Independence Ave., SW.
Washington, DC 20591

JUN 18 2012

Mr. John Wessels
Regional Director
Intermountain Region
National Park Service
12795 West Alameda Parkway
Lakewood, CO 80228

RE: Space Exploration Technologies Corp. (SpaceX) Texas Environmental Impact Statement

Dear Mr. Wessel:

Per your May 30th comment letter regarding the Federal Aviation Administration's Notice of Intent to prepare an Environmental Impact Statement (EIS) for SpaceX's proposal to operate launch vehicles from a private site in Cameron County, Texas, you requested to participate as a cooperating agency in the development of the EIS. We accept your request to participate as a cooperating agency and look forward to you providing relevant expertise related to national historic properties to facilitate the National Environmental Policy Act process.

This letter also serves as a formal invitation to the National Park Service to participate in the consultation process per Section 106 of the National Historic Preservation Act and 36 CFR Part 800.2(c). Please let the FAA know if the National Park Service intends to participate in the Section 106 process as a consulting party.

Please feel free to contact Ms. Stacey M. Zee, Environmental Protection Specialist, from my staff at (202) 267-9305 or by email at Stacey.Zee@faa.gov with any questions.

Sincerely,

Mr. Michael McElligott
Manager, Space Transportation Development Division

THIS PAGE INTENTIONALLY LEFT BLANK

U.S. Department
of Transportation
Federal Aviation Administration

Office of the Associate Administrator for
Commercial Space Transportation

800 Independence Ave., SW
Washington, DC 20591

JUN 14 2012

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

SUBJECT: Determination of Areas of Potential Effects for SpaceX Texas Launch Site

Dear Mr. Wolfe:

The Federal Aviation Administration (FAA) Office of Commercial Space Transportation (AST) is in the process of preparing an Environmental Impact Statement (EIS) to assess the potential environmental impacts of the proposed issuance of launch licenses and/or experimental permits to Space Explorations Technologies Corp. (SpaceX) for operating the Falcon 9 and Falcon Heavy vehicle programs from a proposed launch site in Cameron County, Texas. The EIS also evaluates the potential environmental consequences of the construction of necessary infrastructure and operations and maintenance of the proposed SpaceX facilities.

The Proposed Action is for the FAA to issue launch licenses and/or experimental permits to SpaceX that would allow SpaceX to launch the Falcon 9 and Falcon Heavy orbital vertical launch vehicles and a variety of reusable suborbital launch vehicles from a launch site on privately-owned property in Cameron County, Texas. As part of the Proposed Action, SpaceX proposes to construct a vertical launch area and a launch control center area.

The proposed vertical launch area is located on undeveloped land on the south side of Texas State Highway 4 near its eastern terminus at Boca Chica Beach, approximately 3 miles north of the Mexican border on the Gulf Coast (Figure 1). At the vertical launch area, the new facilities required would include an integration- and processing-hangar, a launch pad and stand with its associated flame duct, propellant storage and handling areas, a workshop and office area, and a warehouse for parts storage. The project area is expected to be approximately 50 acres in size.

The control center area would be located approximately 1.5 miles inland to the west of the vertical launch area within three separate parcels adjacent to the Boca Chica housing development on the north side of Texas State Highway 4 (Figure 1). Facilities at the site would include a control center building, parking lot, and a payload processing facility. It might also include a launch vehicle preparation hangar and satellite fuels storage area. All facilities would be constructed on private land owned or leased by SpaceX. Access and utilities infrastructure at the vertical launch area and the control center area may extend on private lands not owned or leased by Space X. The design and location of these elements of the project are still being determined.

The potential environmental impacts of all proposed construction activities will be analyzed in the EIS, in addition to the impacts from operating the facilities and launching orbital and suborbital launch vehicles. In accordance with 36 CFR 800.4(a)(1), an area of potential effects (APE) needs to be established for both the vertical launch area and the control center area by the FAA in consultation with your office and with other stakeholders. As we discussed during a teleconference with Mr. Bill Martin and Ms. Linda Henderson on Thursday, June 7, 2012, the FAA has determined APEs in consideration of both potential direct and indirect impacts to archaeological and architectural resources as a result of implementing the Proposed Action.

Based on the potential for direct and indirect impacts to archaeological resources at the vertical launch area, FAA has determined an APE for archaeological resources that encompasses the entire 50-acre site under consideration (Figure 1). While the current plan of development for the vertical launch area would restrict construction to the northern portion of the parcel, final plans may necessitate some adjustments to the location of some facilities within the parcel.

Based on the potential for direct and indirect impacts to archaeological resources at the control center area, FAA has determined an APE for archaeological resources that encompasses all three parcels under consideration (Figure 1). The total combined area of the three parcels is approximately 21 acres. The final layout of the facilities at the site is currently undetermined, but all development will be contained within the three parcels as shown in Figure 1.

Based on potential direct and indirect impacts to architectural resources, FAA has determined a radial APE of 5 miles centered on the vertical launch area (Figure 2). Direct impacts on architectural resources would be the physical impacts on historic structural properties within the project area from construction and sound pressure. Indirect impacts would consist of potential visual effects to the setting of historic properties from construction of permanent structures at the vertical launch area and control center area and auditory effects from the launches.

Please provide any comments you have regarding the APEs that have been defined by the FAA within 30 days. If you have any questions or need further information on the project, please contact me at 202-267-9305 or at Stacey.Zee@faa.gov. Thank you in advance for your input on this important project.

Sincerely,

Stacey M. Zee

Stacey M. Zee
Environmental Protection Specialist

cc: Najah Duvall-Gabriel, Advisory Council on Historic Preservation
Mark Spier, National Park Service

Enclosures: Figure 1. APE of Proposed Vertical Launch Area and Control Center Area for Archaeological Resources
Figure 2. APE for Architectural Resources

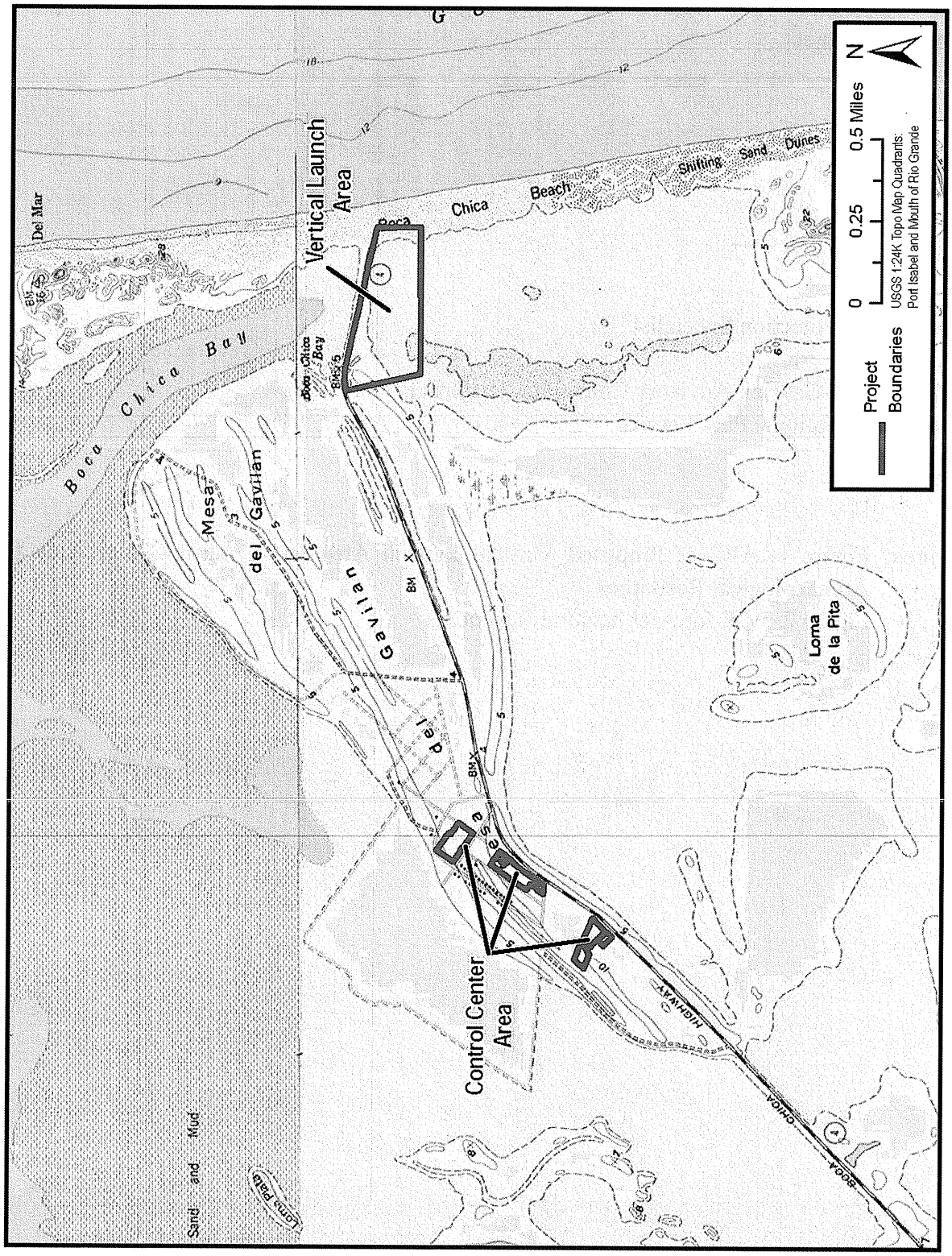


Figure 1. APE of Proposed Vertical Launch Area and Control Center Area for Archaeological Resources

4

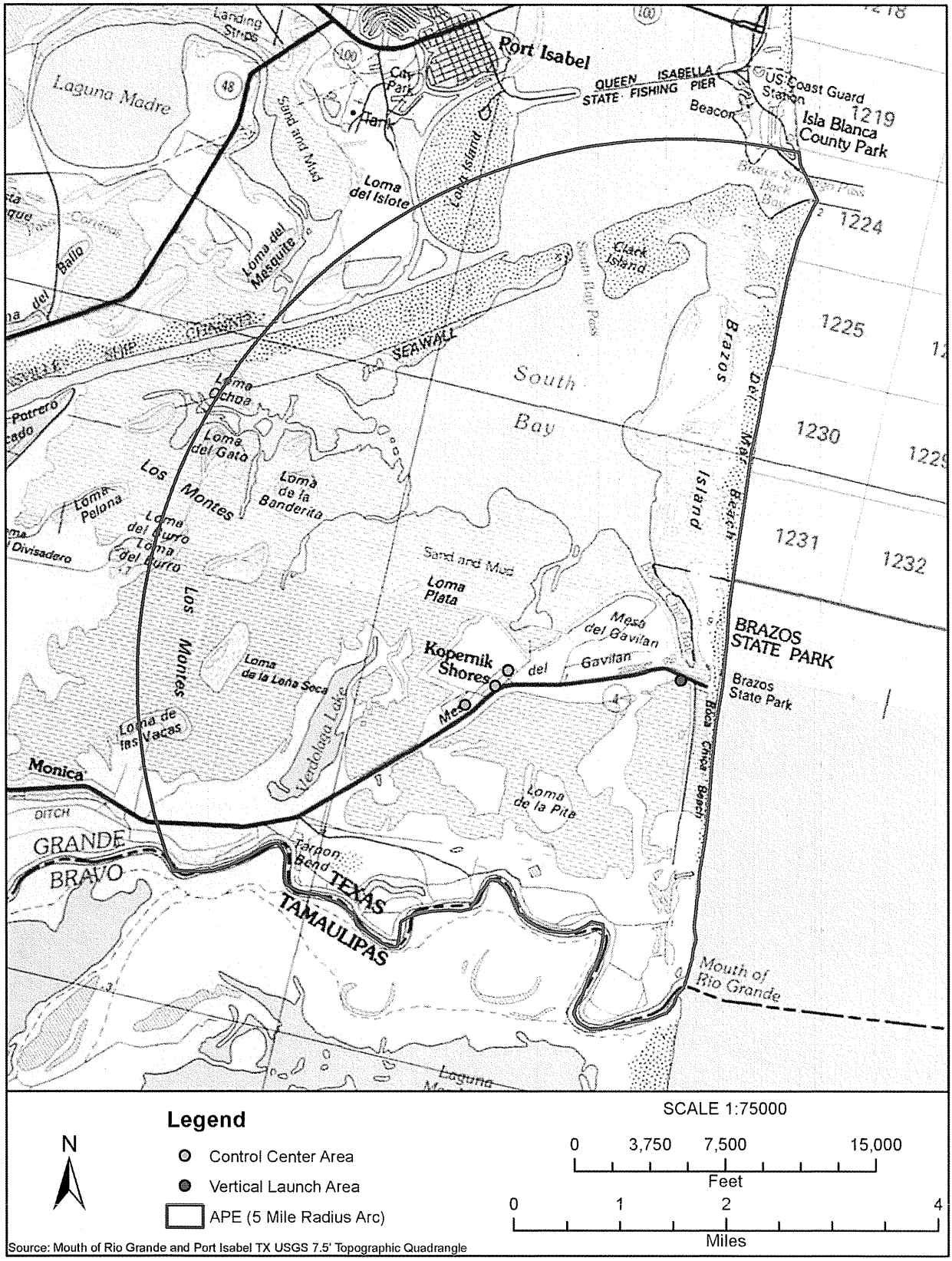


Figure 2. APE for Architectural Resources

THIS PAGE INTENTIONALLY LEFT BLANK

RECEIVED
JUN 20 2012
Texas Historical Commission

U.S. Department
of Transportation
Federal Aviation Administration

Office of the Associate Administrator for
Commercial Space Transportation

800 Independence Ave., SW
Washington, DC 20591

JUN 14 2012

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

SUBJECT: Determination of Areas of Potential Effects for SpaceX Texas Launch Site

Dear Mr. Wolfe:

The Federal Aviation Administration (FAA) Office of Commercial Space Transportation (AST) is in the process of preparing an Environmental Impact Statement (EIS) to assess the potential environmental impacts of the proposed issuance of launch licenses and/or experimental permits to Space Explorations Technologies Corp. (SpaceX) for operating the Falcon 9 and Falcon Heavy vehicle programs from a proposed launch site in Cameron County, Texas. The EIS also evaluates the potential environmental consequences of the construction of necessary infrastructure and operations and maintenance of the proposed SpaceX facilities.

The Proposed Action is for the FAA to issue launch licenses and/or experimental permits to SpaceX that would allow SpaceX to launch the Falcon 9 and Falcon Heavy orbital vertical launch vehicles and a variety of reusable suborbital launch vehicles from a launch site on privately-owned property in Cameron County, Texas. As part of the Proposed Action, SpaceX proposes to construct a vertical launch area and a launch control center area.

The proposed vertical launch area is located on undeveloped land on the south side of Texas State Highway 4 near its eastern terminus at Boca Chica Beach, approximately 3 miles north of the Mexican border on the Gulf Coast (Figure 1). At the vertical launch area, the new facilities required would include an integration- and processing-hangar, a launch pad and stand with its associated flame duct, propellant storage and handling areas, a workshop and office area, and a warehouse for parts storage. The project area is expected to be approximately 50 acres in size.

The control center area would be located approximately 1.5 miles inland to the west of the vertical launch area within three separate parcels adjacent to the Boca Chica housing development on the north side of Texas State Highway 4 (Figure 1). Facilities at the site would include a control center building, parking lot, and a payload processing facility. It might also include a launch vehicle preparation hangar and satellite fuels storage area. All facilities would be constructed on private land owned or leased by SpaceX. Access and utilities infrastructure at the vertical launch area and the control center area may extend on private lands not owned or leased by Space X. The design and location of these elements of the project are still being determined.

The potential environmental impacts of all proposed construction activities will be analyzed in the EIS, in addition to the impacts from operating the facilities and launching orbital and suborbital launch vehicles. In accordance with 36 CFR 800.4(a)(1), an area of potential effects (APE) needs to be established for both the vertical launch area and the control center area by the FAA in consultation with your office and with other stakeholders. As we discussed during a teleconference with Mr. Bill Martin and Ms. Linda Henderson on Thursday, June 7, 2012, the FAA has determined APEs in consideration of both potential direct and indirect impacts to archaeological and architectural resources as a result of implementing the Proposed Action.

Based on the potential for direct and indirect impacts to archaeological resources at the vertical launch area, FAA has determined an APE for archaeological resources that encompasses the entire 50-acre site under consideration (Figure 1). While the current plan of development for the vertical launch area would restrict construction to the northern portion of the parcel, final plans may necessitate some adjustments to the location of some facilities within the parcel.

Based on the potential for direct and indirect impacts to archaeological resources at the control center area, FAA has determined an APE for archaeological resources that encompasses all three parcels under consideration (Figure 1). The total combined area of the three parcels is approximately 21 acres. The final layout of the facilities at the site is currently undetermined, but all development will be contained within the three parcels as shown in Figure 1.

13

Based on potential direct and indirect impacts to architectural resources, FAA has determined a radial APE of 5 miles centered on the vertical launch area (Figure 2). Direct impacts on architectural resources would be the physical impacts on historic structural properties within the project area from construction and sound pressure. Indirect impacts would consist of potential visual effects to the setting of historic properties from construction of permanent structures at the vertical launch area and control center area and auditory effects from the launches.

Please provide any comments you have regarding the APEs that have been defined by the FAA within 30 days. If you have any questions or need further information on the project, please contact me at 202-267-9305 or at Stacey.Zee@faa.gov. Thank you in advance for your input on this important project.

Sincerely,

Stacey M. Zee

Stacey M. Zee
Environmental Protection Specialist

cc: Najah Duvall-Gabriel, Advisory Council on Historic Preservation
Mark Spier, National Park Service

Enclosures: Figure 1. APE of Proposed Vertical Launch Area and Control Center Area for Archaeological Resources
Figure 2. APE for Architectural Resources

CONCUR
by: William A. Martin
for Mark Wolfe
State Historic Preservation Officer
Date: 6/27/12
Time:

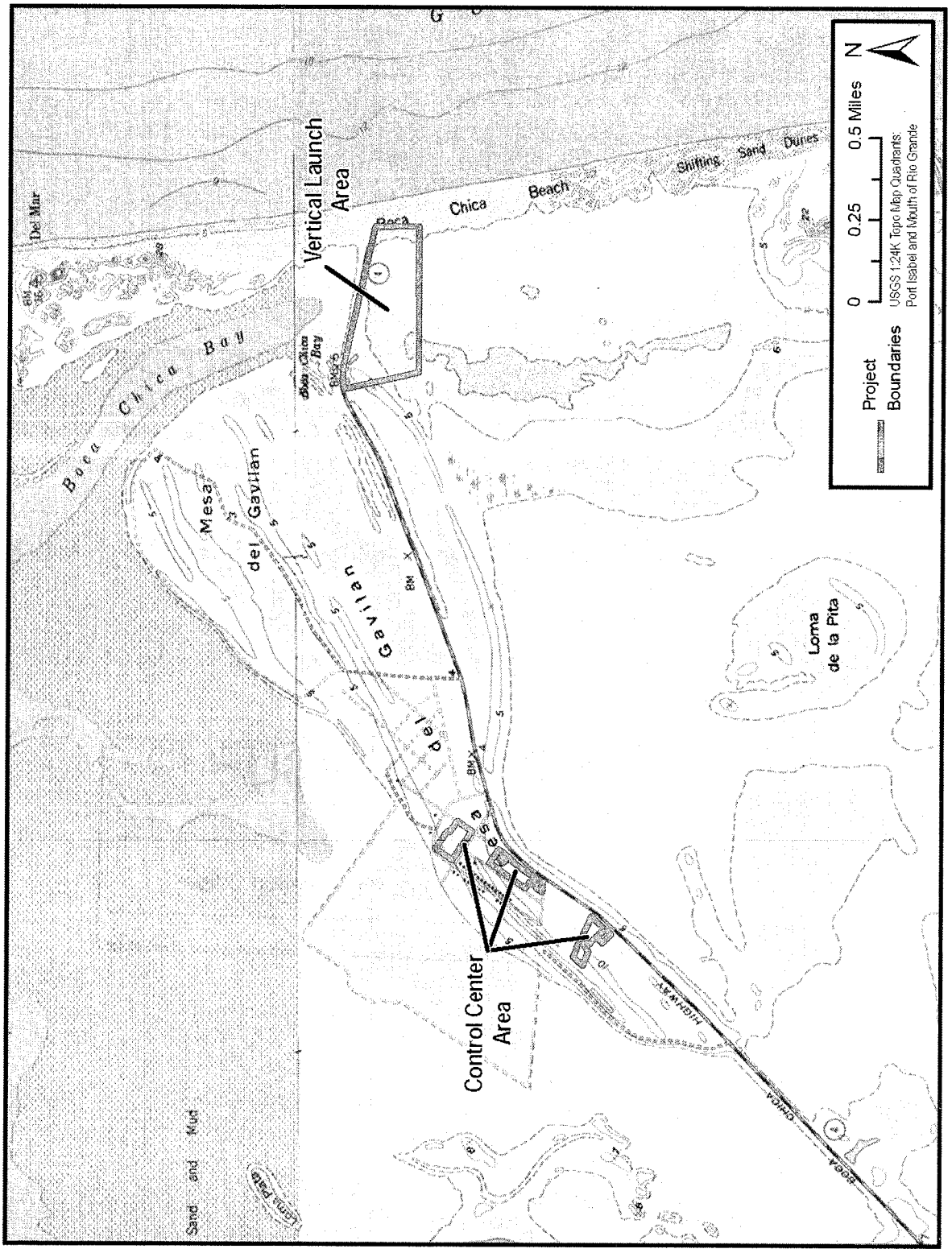


Figure 1. APE of Proposed Vertical Launch Area and Control Center Area for Archaeological Resources

4

U.S. Department
of Transportation
Federal Aviation Administration

Office of the Associate Administrator for
Commercial Space Transportation

800 Independence Ave., SW
Washington, DC 20591

JUN 28 2012

Mr. Reid Nelson
Director, Office of Federal Agency Programs
Advisory Council on Historic Preservation
Office of Federal Agency Programs
1100 Pennsylvania Avenue, NW, Suite 803
Old Post Office Building
Washington, DC 20004

SUBJECT: EIS for SpaceX Texas Launch Site, Cameron County, Texas

Dear Mr. Nelson:

The Federal Aviation Administration (FAA) Office of Commercial Space Transportation (AST) is in the process of preparing an Environmental Impact Statement (EIS) to assess the potential environmental impacts of the proposed issuance of a launch licenses and/or experimental permits to Space Exploration Technologies Corp. (SpaceX) for operating the Falcon 9 and Falcon Heavy vehicle launch programs from a private site located in Cameron County, Texas. Under this proposal, SpaceX would construct a vertical launch area and a control center area, using private funding, to support up to 12 commercial launches per year. The vehicles to be launched include the Falcon 9, Falcon Heavy (up to two per year), and a variety of smaller reusable suborbital launch vehicles. SpaceX would be required to apply for and obtain the appropriate launch licenses and/or experimental permits to be issued by the FAA. SpaceX would be the exclusive user of the site and all construction and operation of the site would be privately funded.

The Falcon 9 orbital vertical launch vehicle is a medium-lift class launch vehicle with a gross lift-off weight of approximately 1,100,000 pounds (lbs) with a maximum length of 230 feet (ft). The Falcon 9 uses liquid oxygen (LOX) and highly refined kerosene, also known as rocket propellant-1 or refined petroleum-1 (RP-1), as propellants to carry payloads into orbit. The Falcon Heavy is similar to the Falcon 9, except it has two additional boosters "strapped on," each booster being almost identical to the Falcon 9 first stage core. The Falcon Heavy is a heavy lift class launch vehicle with a gross lift-off weight of approximately 3,400,000 lbs. It has an overall maximum length of

approximately 230 ft. A reusable suborbital launch vehicle could consist of a Falcon 9 Stage 1 tank with a maximum propellant (RP-1 and LOX) load of approximately 6,900 gallons. All launch trajectories would be to the east over the Gulf of Mexico.

As part of the Proposed Action, SpaceX would construct a vertical launch area and a control center area. The proposed vertical launch area is located on undeveloped land on the south side of Texas State Highway 4 near its eastern terminus at Boca Chica Beach, approximately 3 miles north of the Mexican border on the Gulf Coast and approximately 5 miles south of Port Isabel and South Padre island. At the vertical launch area, the new facilities required would include an integration- and processing-hangar, a launch pad and stand with its associated flame duct, propellant storage and handling areas, a workshop and office area, and a warehouse for parts storage. The project area is approximately 50 acres in size.

The control center area would be located approximately 1.5 miles inland to the west of the vertical launch area within three separate parcels adjacent to the Boca Chica housing development on the north side of Texas State Highway 4. Facilities at the site would include a control center building, parking lot, and a payload processing facility. It might also include a launch vehicle preparation hangar and satellite fuels storage area. The proposed control center area facilities would occupy three parcels of land totaling approximately 13 acres. The design and location of these elements of the project are still being determined. All facilities would be constructed on private land owned or leased by SpaceX. Access and utilities infrastructure at the vertical launch area and the control center area may extend on private lands not owned or leased by Space X.

The potential environmental impacts of all proposed construction activities will be analyzed in the EIS in addition to the impacts from operating the facilities and launching orbital and suborbital launch vehicles. In proceeding with the planning of this undertaking, we intend to coordinate our Section 106 National Historic Preservation Act (NHPA) consultation with the development of the EIS to meet our National Environmental Policy Act (NEPA) requirements pursuant to 36 CFR 800.8, and use the EIS as our primary NHPA consultation documentation. Additionally, to fulfill our responsibilities under 36 CFR 800.3(e) and 800.4(a)(3), we held a public scoping meeting to solicit input from the public on potential environmental issues that may need to be evaluated in the EIS. The scoping meeting was held on May 15, 2012, at the International Technology, Education and Commerce Center (ITEC Center), located at 301 Mexico Boulevard G-1, Brownsville, Texas 78520. In addition to the public scoping meeting, the FAA held an agency scoping meeting on May 15, 2012, from 9:00 a.m. to 11:00 a.m., at the Brownsville Economic Development Council Board Room, located at 301 Mexico Blvd., Ste. F-1, Brownsville, Texas 78520. During that time, FAA gave a brief presentation of the Proposed Action and had an open discussion with agencies regarding

issues and concerns. A site visit was conducted immediately following the agency scoping meeting.

Pursuant to 36 CFR 800.4(a)(1), the FAA, in consultation with the Texas Historical Commission (THC), has determined an Area of Potential Effects (APE) for both the proposed vertical launch area and the control center area. The vertical launch area is located several miles east of the Palmito Ranch Battlefield (41CF93), a notable Civil War battlefield that is currently listed on the National Register of Historic Places (NRHP) and is a designated National Historic Landmark (NHL). The FAA has determined that the APE for the vertical launch area and the control center area will be the entirety of the selected parcels of land. This APE is considered adequate for the assessment of potential direct, indirect, and cumulative impacts on archaeological resources from the proposed undertaking. The FAA determined an APE of a 5-mile radial area around the vertical launch area will be adequate for assessing the potential indirect (i.e., visual and auditory) impacts of the proposed facility on the Palmito Ranch Battlefield and other aboveground historic properties in the vicinity.

To this end and pursuant to 36 CFR 800.3(f)(2), the FAA will be initiating consultation with selected federally recognized Indian tribes in Texas affiliated with the APE to determine if there are any properties that may be of religious or cultural significance to the Tribes and potentially affected by the undertaking. Please provide any comments you have regarding our efforts to identify all potential consulting parties and gather information, as outlined in 36 CFR 800.3(f) and 800.4(a)(4).

Pursuant to 36 CFR 800.4(a)(2), background research and cultural resource surveys of the vertical launch area and the control center area have been initiated to identify historic properties within the APE. The results of these identification efforts, in addition to an assessment of the undertaking's effects on any historic properties within the APE, will be the subject of future consultation with your office on this project as part of the Section 106 process.

The FAA invites the Advisory Council on Historic Preservation to participate in the Section 106 consultation. For this initial phase of consultation, the FAA respectfully requests that you identify any concerns you may have regarding the Proposed Action and respond by July 27th so that we may address those concerns and incorporate them into the Draft EIS.

If you have any questions or need further information on the project, please contact Ms. Stacey Zee, of my staff, at 202-267-9305 or at Stacey.Zee@faa.gov. Thank you in advance for your input on this important project.

Sincerely,

Michael McElligott
Manager, Space Transportation Development Division

Cc Mark Wolfe, Texas Historical Commission
Mark Spier, National Park Service

Enclosures: Notice of Intent to Prepare an EIS, Open a Public Scoping Period, and Conduct a Public Scoping Meeting
Figure 1. Location of the Proposed Vertical Launch Area and the Control Center Area
Figure 2. APE for Archaeological Resources
Figure 3. APE for Architectural Resources

Federal Register / Vol. 77, No. 69 / Tuesday, April 10, 2012 / Notices 21619

DEPARTMENT OF STATE

[Public Notice 7814]

Shipping Coordinating Committee; Notice of Committee Meeting

The Shipping Coordinating Committee (SHC) will conduct an open meeting at 9:30 a.m. on Wednesday, April 25, 2012, in Room 2501 of the United States Coast Guard Headquarters Building, 2100 Second Street SW., Washington, DC 20593–7126. The primary purpose of the meeting is to prepare for the 90th Session of the International Maritime Organization's (IMO) Marine Safety Committee to be held at the IMO Headquarters, London, England, United Kingdom, May 16–25, 2012.

The primary matters to be considered include:

Consideration and adoption of amendments to mandatory instruments;
Measures to enhance maritime security;
Goal-based new ship construction standards;
LRIT-related matters;
Flag State implementation;
Radiocommunications and search and rescue;
Ship design and equipment;
Safety of navigation;
Fire protection;
Dangerous goods, solid cargoes and containers;
Stability, load lines and fishing vessel safety;
Bulk liquids and gases;
Implementation of the STCW Convention;
Technical assistance sub-programme in maritime safety and security;
Capacity-building for the implementation of new measures;
Role of the human element;
Formal safety assessment;
Piracy and armed robbery against ships;
General cargo ship safety;
Implementation of instruments and related matters;
Relations with other organizations;
Application of the Committee's Guidelines;
Passenger ship safety.

Members of the public may attend this meeting up to the seating capacity of the room. To facilitate the building security process, and to request reasonable accommodation, those who plan to attend should contact the meeting coordinator, LCDR Matthew Frazee, by email at *imo@uscg.mil*, by phone at (202) 372–1376, or in writing at Commandant (CG–52), U.S. Coast Guard, 2100 2nd Street SW., Stop 7126, Washington, DC 20593–7126 not later than April 18, 2012, 7 days prior to the meeting. Requests made after April 18, 2012 might not be able to be accommodated. Please note that due to security considerations, two valid, government issued photo identifications must be presented to gain entrance to the Headquarters building. The Headquarters building is accessible by taxi and privately owned conveyance (public transportation is not generally available). However, parking in the vicinity of the building is extremely limited. Additional information regarding this and other IMO SHC public meetings may be found at: *www.uscg.mil/imo.*

Dated: March 29, 2012.

Brian Robinson,

Executive Secretary, Shipping Coordinating Committee, Department of State.

[FR Doc. 2012–8636 Filed 4–9–12; 8:45 am]

BILLING CODE 4710–09–P

DEPARTMENT OF TRANSPORTATION

Office of the Secretary

Aviation Proceedings, Agreements Filed the Week Ending March 10, 2011

The following Agreements were filed with the Department of Transportation under the Sections 412 and 414 of the Federal Aviation Act, as amended (49 U.S.C. 1382 and 1384) and procedures governing proceedings to enforce these provisions. Answers may be filed within 21 days after the filing of the application.

Docket Number: DOT–OST–2012–0035.

Date Filed: March 7, 2012.

Parties: Members of the International Air Transport Association.

Subject: Mail Vote 702—Resolution 100 Standard Condition Resolution for Special Fares (Memo 1665) Intended effective date: 1 April 2012.

Renee V. Wright,

Program Manager, Docket Operations, Federal Register Liaison.

[FR Doc. 2012–8446 Filed 4–9–12; 8:45 am]

BILLING CODE 4910–9X–P

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

Office of Commercial Space Transportation; Notice of Intent To Prepare an Environmental Impact Statement (EIS), Open a Public Scoping Period, and Conduct a Public Scoping Meeting

AGENCY: The Federal Aviation Administration (FAA) is the lead Federal agency.

ACTION: Notice of Intent to Prepare an EIS, Open a Public Scoping Period, and Conduct a Public Scoping Meeting.

SUMMARY: This Notice provides information to Federal, State, and local agencies, Native American tribes, and other interested persons regarding the FAA's intent to prepare an EIS for Space Exploration Technologies' (SpaceX's) proposal to launch the Falcon 9 and Falcon Heavy orbital vertical launch vehicles from a private site located in Cameron County, Texas. Under the Proposed Action, SpaceX proposes to construct a vertical launch area and a control center area to support up to 12 commercial launches per year. The vehicles to be launched include the Falcon 9, Falcon Heavy (up to two per year), and a variety of smaller reusable suborbital launch vehicles. SpaceX would be required to apply for the appropriate launch licenses and/or experimental permits to be issued by the FAA. The FAA will prepare the EIS in accordance with the National Environmental Policy Act of 1969 (NEPA; 42 United States Code [U.S.C.] 4321 et seq.), the Council on Environmental Quality Regulations for Implementing the Procedural Provisions of NEPA (40 Code of Federal Regulations [CFR] parts 1500–1508), and FAA Order 1050.1E, Change 1, *Environmental Impacts: Policies and Procedures*, as part of its licensing and permitting process.

DATES: The FAA invites interested agencies, organizations, Native American tribes, and members of the public to submit comments or suggestions to assist in identifying significant environmental issues and in determining the appropriate scope of the EIS. The public scoping period starts with the publication of this notice in the **Federal Register**. To ensure sufficient time to consider issues identified during the public scoping period, comments should be submitted to Ms. Stacey M. Zee, FAA Environmental Protection Specialist, by one of the methods listed below no later than May 30, 2012. All comments will receive the same attention and consideration in the preparation of the EIS.

ADDRESSES: Comments, statements, or questions concerning scoping issues or the EIS process should be mailed to: Ms. Stacey M. Zee, FAA Environmental Protection Specialist, SpaceX EIS c/o Cardno TEC Inc., 275 West Street, Suite 110, Annapolis, MD 21409. Comments can also be sent by email to *faaspacexeis@cardnotec.com* or by fax to (410) 990–0455.

SUPPLEMENTARY INFORMATION:

Background

The FAA is preparing an EIS to analyze the potential environmental

impacts of SpaceX's proposal to launch orbital and suborbital launch vehicles from a private site in Cameron County in southern Texas. The EIS will consider the potential environmental impacts of the Proposed Action and reasonable alternatives, including the No Action Alternative. The successful completion of the environmental review process does not guarantee that the FAA would issue launch licenses and/or experimental permits to SpaceX. The project must also meet all FAA safety, risk, and indemnification requirements.

Proposed Action

The Proposed Action is for the FAA to issue launch licenses and/or experimental permits to SpaceX that would allow SpaceX to launch the Falcon 9 and Falcon Heavy orbital vertical launch vehicles and a variety of reusable suborbital launch vehicles from a launch site on privately-owned property in Cameron County, Texas. The Falcon 9 orbital vertical launch vehicle is a medium-lift class launch vehicle with a gross lift-off weight of approximately 1,000,000 pounds (lbs) with a maximum length of 230 feet (ft). The Falcon 9 uses liquid oxygen (LOX) and highly refined kerosene, also known as rocket propellant-1 or refined petroleum-1 (RP–1), as propellants to carry payloads into orbit. The Falcon Heavy is similar to the Falcon 9, except it has an additional two boosters "strapped on," each booster being almost identical to the Falcon 9 first stage core. The Falcon Heavy is a heavy lift class launch vehicle with a gross lift-off weight of approximately 3,400,000 lbs. It has an overall maximum length of approximately 230 ft.

A reusable suborbital launch vehicle could consist of a Falcon 9 Stage 1 tank with a maximum propellant (RP–1 and LOX) load of approximately 6,900 gallons.

As part of the Proposed Action, SpaceX proposes to construct a vertical launch area and a control center area. The proposed vertical launch area site is currently undeveloped and is located directly adjacent to the eastern terminus of Texas State Highway 4 (Boca Chica Boulevard) and approximately 3 miles north of the Mexican border on the Gulf Coast. It is located approximately 5 miles south of Port Isabel and South Padre Island. At the vertical launch area, the new facilities required would include: an integration- and processing-hangar, a launch pad and stand with its associated flame duct, propellant storage and handling areas, a workshop and office area, and a warehouse for parts storage.

The control center area would be located inland to the west of the vertical launch area and would include: A control center building and a payload processing facility; it might also include a launch vehicle preparation hangar and satellite fuels storage. All facilities would be constructed on private land owned or leased by SpaceX. The development of access and supporting utility infrastructure for the vertical launch area and the control center area may occur on lands outside that which is owned or leased by SpaceX.

Operations would consist of up to 12 launches per year with a maximum of two Falcon Heavy launches. All Falcon 9 and Falcon Heavy launches would be expected to have commercial payloads, including satellites or experimental payloads. In addition to standard payloads, the Falcon 9 and Falcon Heavy may also carry a capsule, such as the SpaceX Dragon capsule. All launch trajectories would be to the east over the Gulf of Mexico.

The potential environmental impacts of all proposed construction activities will be analyzed in the EIS, in addition to the impacts from operating the facilities and launching orbital and suborbital launch vehicles. The EIS will evaluate the potential environmental effects associated with: air quality; noise and compatible land use; land use, including Section 4(f) properties and Farmlands; coastal resources; biological resources, including threatened and endangered species; water resources, including surface waters and wetlands, groundwater, floodplains, and water quality; historical, architectural, archaeological, and cultural resources; light emissions and visual resources; hazardous materials, pollution prevention, and solid waste; infrastructure and utilities; and socioeconomics, environmental justice, and children's environmental health and safety. The analysis will include an evaluation of the potential direct and indirect impacts, and will account for cumulative impacts from other relevant activities in the area of Cameron County, Texas.

Alternatives

Alternatives under consideration include the Proposed Action and the No Action Alternative. Under the No Action Alternative, the FAA would not issue a license or experimental permit to SpaceX. Based on comments received during the scoping period, the FAA may propose additional alternatives.

Scoping Meetings

A public scoping meeting will be held to solicit input from the public on potential issues that may need to be evaluated in the EIS. The scoping meeting will be held on May 15, 2012 from 5 p.m. to 8 p.m., at the International Technology, Education and Commerce Center (ITEC Center), located at 301 Mexico Blvd. G–1, Brownsville, Texas 78520. The meeting format will include an open-house workshop from 5 p.m. to 6 p.m. The FAA will provide an overview of the environmental process from 6 p.m. to 6:15 p.m. followed by a public comment period from 6:15 p.m. to 8 p.m.

Issued in Washington, DC on April 3, 2012.

Glenn Rizner,

Deputy Manager, Space Transportation Development Division.

[FR Doc. 2012–8556 Filed 4–9–12; 8:45 am]

BILLING CODE 4910–13–P

DEPARTMENT OF TRANSPORTATION

Federal Railroad Administration

[Docket No. FRA–2012–0033]

Notice of the Buy America Waiver Request for Vossloh 101–LV Concrete Ties

AGENCY: Federal Railroad Administration (FRA), United States Department of Transportation (DOT).

ACTION: Notice of Buy America waiver request and request for comment.

SUMMARY: FRA is issuing this notice to advise the public that the Burlington Northern Santa Fe Railway Co. ("BNSF") has submitted to FRA through or with the support of the Washington Department of Transportation ("WSDOT"), the Illinois Department of Transportation ("IDOT"), the Texas Department of Transportation ("TxDOT"), and the California Department of Transportation ("Caltrans") a waiver request from FRA's Buy America Act requirements for the purchase of Vossloh 101–LV concrete ties, which contain certain components not manufactured in the United States. In furtherance of four FRA High-Speed Intercity Passenger Rail ("HSIPR") grants, BNSF, as the railroad infrastructure owner, will construct certain rail project elements that consist of the installation of Vossloh 101–LV concrete ties. FRA has received this request from the four States for the following projects: (a) The Pacific Northwest Rail Corridor Program (b) the Amtrak Quad Cities to Chicago Service Initiation Project, (c) the Tower 55 At-Grade Improvement Project, and (d) the LA to Fullerton Triple Track—Segment 7 Project.

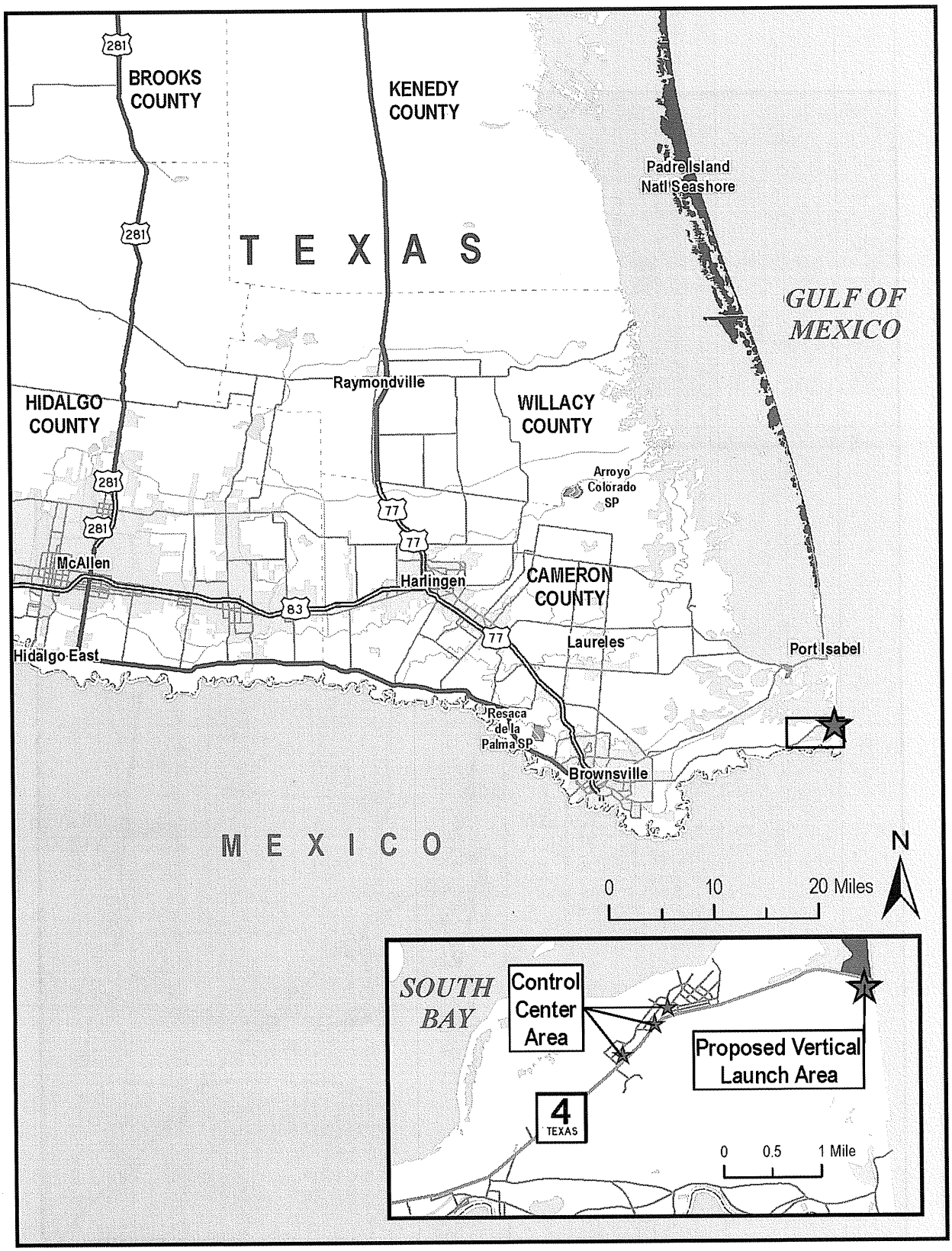


Figure 1. Location of the Proposed Vertical Launch Area and the Control Center Area

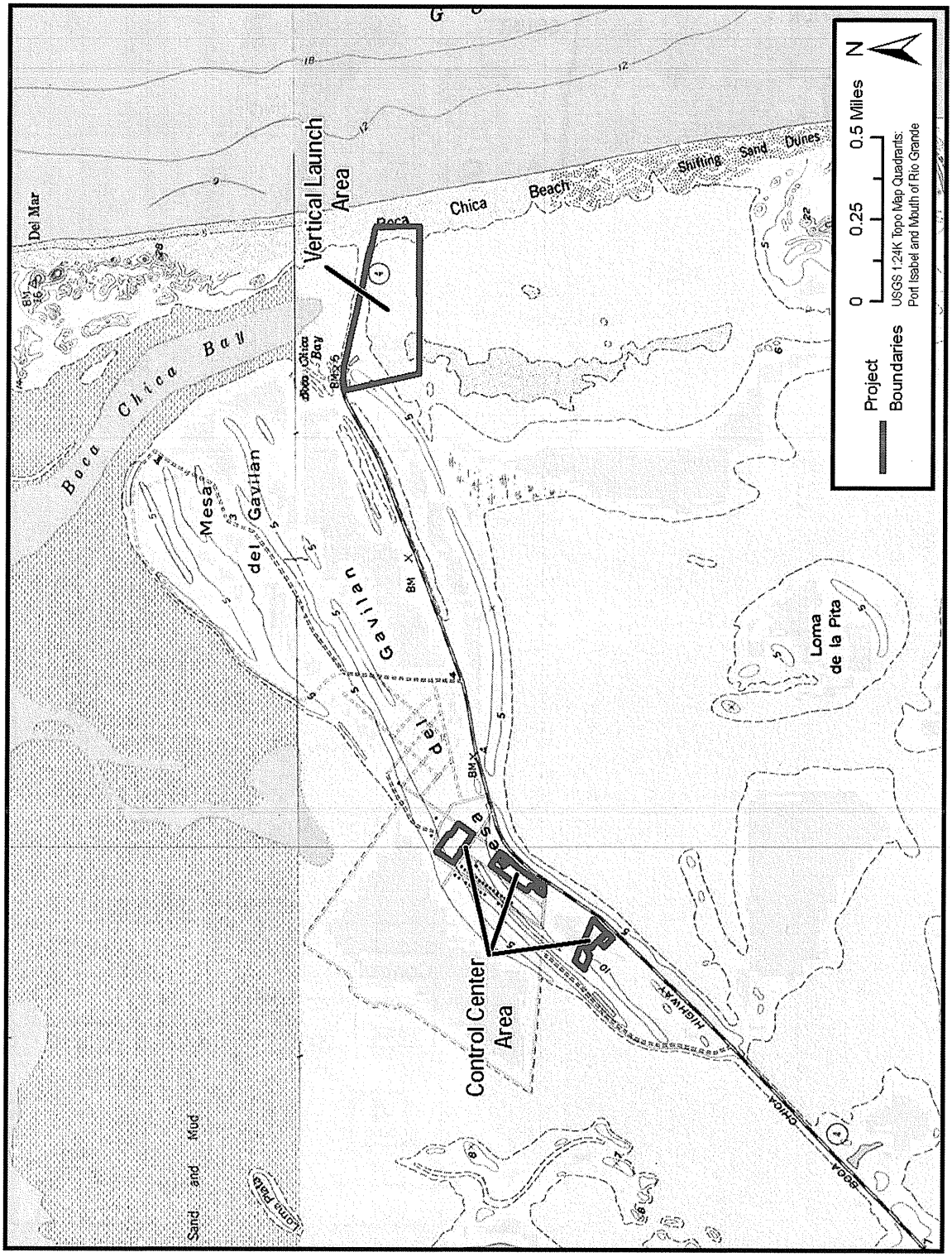


Figure 2. APE for Archaeological Resources

8

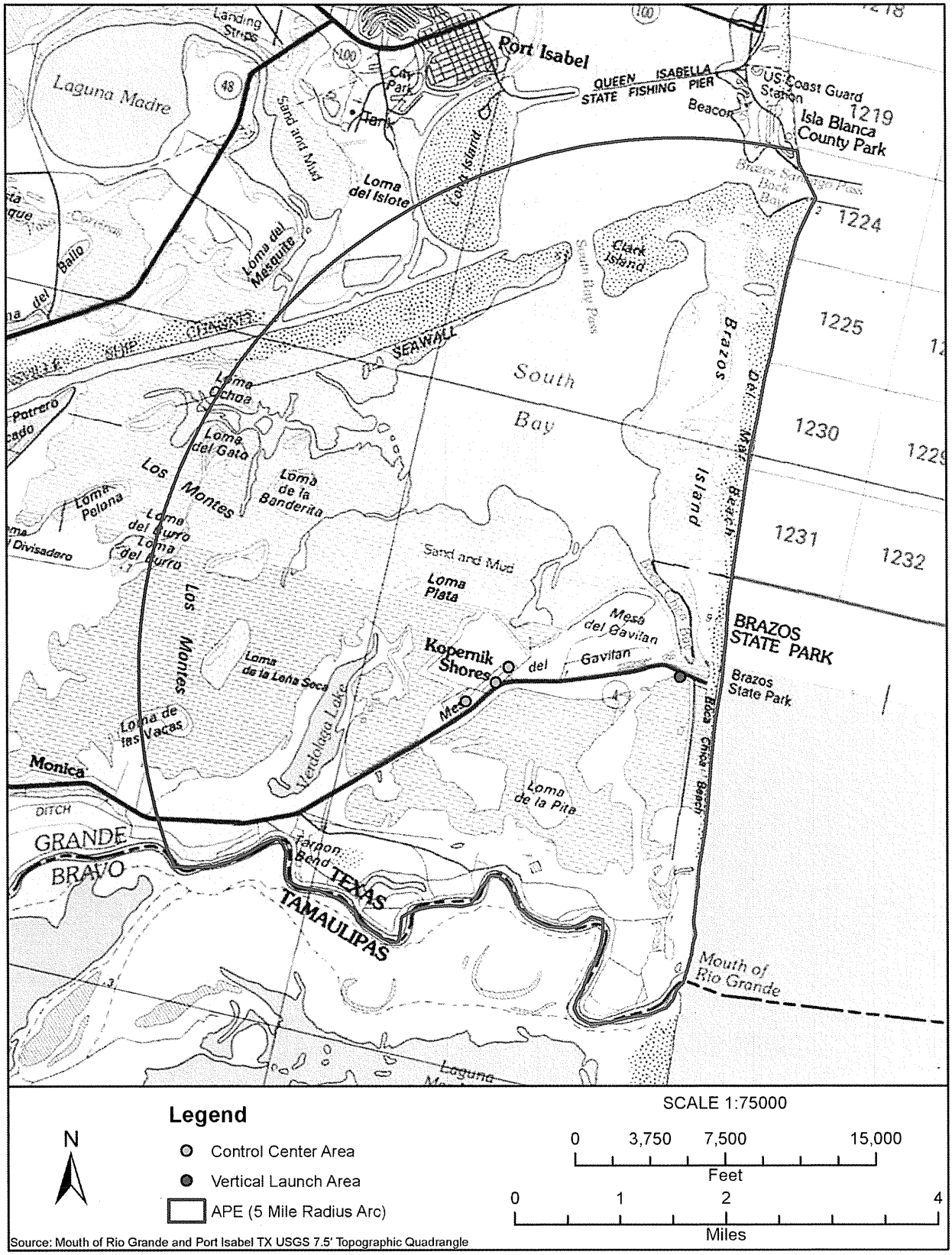


Figure 3. APE for Architectural Resources

THIS PAGE INTENTIONALLY LEFT BLANK

Milford Wayne Donaldson, FAIA
Chairman

Clement A. Price Ph.D.
Vice Chairman

John M. Fowler
Executive Director

Preserving America's Heritage

July 23, 2012

Mr. Michael Huerta
Acting Administrator
Federal Aviation Administration
800 Independence Ave. SW
Washington, DC 20591

Ref: *Proposed Environmental Impact Statement (EIS) for the SpaceX Texas Launch Site Cameron County, Texas*

Dear Mr. Huerta:

In response to a notification from the Federal Aviation Administration (FAA), the Advisory Council on Historic Preservation (ACHP) will participate in the Section 106 consultation for the proposed issuance of a launch license and/or experimental permit to Space Exploration Technologies Corporation (SpaceX) for operating the Falcon 9 and Falcon Heavy vehicle launch programs from a private site in Cameron County, Texas. Our decision to participate in this consultation is based on the *Criteria for Council Involvement in Reviewing Individual Section 106 Cases*, contained within our regulations. The criteria are met for this proposed undertaking because the programs may have substantial impacts on important historic properties.

Section 800.6(a)(1)(iii) of our regulations requires that we notify you, as the head of the agency, of our decision to participate in the consultation. By copy of this letter, we are also notifying Mr. Michael McElligott, Manager of the Space Transportation Development Division, of this decision.

Our participation in this consultation will be handled by Ms. Najah Duvall-Gabriel who can be reached at (202) 606-8585 or via e-mail at ngabriel@achp.gov. We look forward to working with your agency and other consulting parties to consider alternatives to this undertaking that could avoid, minimize, or mitigate potential adverse effects on historic properties.

Sincerely,

John M. Fowler
Executive Director

ADVISORY COUNCIL ON HISTORIC PRESERVATION
1100 Pennsylvania Avenue NW, Suite 803 • Washington, DC 20004
Phone: 202-606-8503 • Fax: 202-606-8647 • achp@achp.gov • www.achp.gov

THIS PAGE INTENTIONALLY LEFT BLANK

U.S. Department
of Transportation
Federal Aviation Administration

Office of the Associate Administrator for
Commercial Space Transportation

800 Independence Ave., SW
Washington, DC 20591

OCT 18 2012

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

SUBJECT: SpaceX Texas Launch Site, Cultural Resources Reports

Dear Mr. Wolfe:

The Federal Aviation Administration (FAA) Office of Commercial Space Transportation (AST) submits for your review the enclosed cultural resources reports on the architectural and archaeological resources investigations of the proposed Space Exploration Technologies Corp. (Space X) private launch site in Cameron County, Texas. SpaceX proposes to operate the Falcon 9 and Falcon Heavy vehicle launch programs from the Project Area and must obtain launch licenses and/or experimental permits from the FAA/AST. As the issuance of launch licenses and/or experimental permits is considered a major Federal action subject to environmental review under the National Environmental Policy Act (NEPA) of 1969 and is considered an undertaking under the regulations of the Advisory Council on Historic Preservation (36 CFR Part 800.16(y)), the enclosed reports are being submitted in partial fulfillment of the requirements of Section 106 of the National Historic Preservation Act (NHPA).

The Area of Potential Effects (APE) for this undertaking was determined in consultation with your office on June 27, 2012. The APE for indirect effects on archaeological and architectural resources was determined to be a 5-mile radial area centered on the vertical launch area. The APE for direct effects on archaeological and architectural resources was determined to be all areas of disturbance for the vertical launch area and the control center area.

Archaeological Resources – Determination of Eligibility

The archaeological resources investigation identified one historic site (LS #1) and 19 isolated finds within the APE for the vertical launch area and the control center area. The FAA

concludes that the historic site and the isolated finds are not eligible for the National Register. The FAA requests your concurrence on these determinations of eligibility.

Fifteen historic and archaeological resources were identified within the 5 mile APE. These include the Palmito Ranch Battlefield National Historic Landmark (NHL), the Palmetto Pilings site, and 13 other archaeological sites. Of the 15 resources, two are listed in the National Register: the Palmito Ranch Battlefield NHL and the Brazos Santiago Depot (41CF4); and five are eligible for inclusion in the National Register: the Del Mar Resort (41CF127), Clarksville town site (41CF7), Pilings Site (41CF117), White's Ranch (41CF6), and the Boca Chica Beach Wreck (41CF125). The Boca Chica Wreck #2 (41CF184) is unevaluated for the National Register, and another ship wreck (41CF5) is of unknown eligibility. The Palmetto Pilings archaeological site, consisting of two sets of pilings, is unevaluated for the National Register, but is assumed to be an eligible site by the FAA for the purposes of this investigation.

Architectural – Determination of Eligibility

Architectural resources within the APE include the 29-residence Boca Chica development, various private residences, a oil and gas tank farm, a drainage channel, and jetties. The FAA has determined that these resources do not qualify for listing in the National Register, and requests your concurrence. A 1936 Texas Centennial Historical Marker is located adjacent to the Palmetto Pilings archaeological site and is assumed by the FAA to be eligible for listing on the National Register for the purposes of this investigation.

Assessment of Adverse Effect

Based on the results of these identification efforts, the FAA applied the criteria of adverse effect (36 CFR 800.5(a)(1)), and has determined that seven historic properties within the APE would be adversely affected by the proposed undertaking. The following summarizes these findings, which are outlined in the attached reports:

- Construction of permanent facilities of the vertical launch area, in particular, a 250-foot tall water tower, would result in adverse visual effects to the following historic properties in which setting is central to their National Register significance:
    - Palmito Ranch Battlefield NHL
    - Brazos Santiago Depot (41CF4)
    - Clarksville Townsite (41CF7)
    - Pilings Site (41CF117)
    - Del Mar Resort (41CF127)
    - Palmetto Pilings (both sets of pilings; no site number)
    - Palmetto Pilings Texas Centennial Historical Marker

- Operation of the launch site would likely result in a direct adverse effect to the Palmetto Pilings (both sets of pilings) and the Palmetto Pilings Texas Centennial Historical Marker

from vibrations caused by high noise levels of the Falcon 9 and Falcon Heavy vehicle launches.

The FAA is requesting your concurrence with the finding of an adverse effect. Potential mitigation measures for the adversely affected historic properties are suggested in the Archaeological Report. The FAA will continue consultation with your office to determine how to effectively mitigate the adverse effects to historic properties, and develop an Agreement document with specific stipuations, which will be incorporated into the forthcoming EIS. The FAA is copying the National Park Service, which is a consulting party in the Section 106 process and a cooperating agency in the development of the EIS, concerning potential adverse effects to the Palmito Ranch Battlefield NHL. Per 36 CFR 800.6(a)(1), the FAA has invited the Advisory Council on Historic Preservation (ACHP) to the Section 106 process. The Council also is copied for notification of the adverse effect finding to an NHL and other historic properties.

On May 2, 2012, the FAA sent letters to the Apache Tribe of Oklahoma, the Comanche Nation of Oklahoma, the Kiowa Tribe of Oklahoma, the Mescalero Apache Tribe, and the Tonkawa Tribe of Oklahoma to request their comments on the proposed undertaking. To date, the FAA has not received responses from any of the tribes.

If you have any questions or need further information on the project, please contact me at 202-267-9305 or at Stacey.Zee@faa.gov.

Sincerely,

Stacey M. Zee

Stacey M. Zee
Environmental Protection Specialist

Enclosures:

- Architectural Survey for the Proposed SpaceX Texas Launch Site, Cameron County, Texas
- Archaeological Resources Investigation for the Proposed SpaceX Texas Launch Site, Cameron County, Texas

cc Najah Duvall-Gabriel, ACHP
Cheryl Eckhardt, NPS
Don Scata, FAA-FPO

THIS PAGE INTENTIONALLY LEFT BLANK

TEXAS HISTORICAL COMMISSION

real places telling real stories

November 16, 2012

Stacey M. Zee
Environmental Protection Specialist
Federal Aviation Administration
U.S. Department of Transportation
800 Independence Avenue, SW
Washington, DC 20591

Re: Section 106 of the National Historic Preservation Act of 1966, as amended
Proposed SpaceX Texas Launch Site, Cameron County, Texas
106/FAA (THC Track #201301576)

Dear Ms. Zee:

Thank you for your correspondence concerning the above referenced project which we received on October 24, 2012. This letter serves as comment on the proposed undertaking from the State Historic Preservation Officer, the Executive Director of the Texas Historical Commission.

It is our understanding that the proposed project consists of the construction of a private space launch site for the Falcon 9 and Falcon Heavy orbital vertical launch vehicles as well as a variety of reusable suborbital launch vehicles. Our staff concurs with your determinations of eligibility for above-ground resources, including that the only National Register-eligible resource within the 5-mile Area of Potential Effect is the 1936 Centennnial marker for the Palmetto Pilings along with the Palmito Ranch Battlefield National Historic Landmark (NHL). Further, we concur that the proposed undertaking will have adverse effects on both the marker and Palmito Ranch Battlefield. Please be sure to copy our agency in correspondence with the National Park Service and Advisory Council on Historic Preservation regarding the undertaking and effects. We look forward to working with you through the consultation process, and anticipate communication on potential avoidance and minimization before negotiating mitigation.

Our Archeology Division staff has the following additional comments. After examining the documentation, the review staff concurs with the assessments of eligibility presented by Cardno TEC staff. Specifically, we concur with the recommendation that site LS #1 is ineligible for inclusion in the National Register of Historic Places. There are few clearly datable materials, and a portion of the site is deflated on the tidal flats. We also concur with the recommendation that the 19 isolated finds are ineligible for inclusion in the National Register of Historic Places. Therefore, there are no historic properties affected in the direct footprint of the project.

RICK PERRY, GOVERNOR • SHERI S. KRAUSE, CHAIRMAN • MARK WOLFE, EXECUTIVE DIRECTOR
P.O. BOX 12276 • AUSTIN, TEXAS • 78711-2276 • P 512.463.6100 • F 512.475.4872 • TDD 1.800.735.2989 • www.thc.state.tx.us

We wish to see some corrections and clarifications included in the final report. Specifically, site LS #1 needs to be listed by its official trinomial in the final report. Also, although we concur that most of the artifacts appear to date to the late 19th and early 20th centuries, the green glass bottle base could be older. The report should include approximate ranges of dates of manufacture for all of the artifacts discovered (aside from unidentifiable iron), citing published references to support the dates.

Finally, there are some minor copy editing issues that should be resolved in the final report. The cities, Corpus Christi, Matamoros, and Bagdad are misspelled throughout most of the report. Please correct the spellings. On p. 5-7, line 24, "which would rendered coastal areas…" should read, "which would have rendered coastal areas." On p. 5-11, line 5, "surrender" should read, "surrendered." Finally, on p. 5-13, line 5, "large parts for the property" should read, "large parts of the property" and in line 14, "airways" should read, "airwaves."

We look forward to further consultation with your office and hope to maintain a partnership that will foster effective historic preservation. Thank you for your cooperation in this federal review process, and for your efforts to preserve the irreplaceable heritage of Texas. **If you have any questions concerning our review or if we can be of further assistance, please contact Kim Barker at 512/463-8952.**

Sincerely,

Kim Barker, Project Reviewer
for: Mark Wolfe, State Historic Preservation Office

cc: Mary Torres, Chair, Cameron County Historical Commission
Najah Duvall-Gabriel, Advisory Council on Historic Preservation
Cheryl Eckhardt, National Park Service

TEXAS HISTORICAL COMMISSION
real places telling real stories

February 6, 2013

Stacey M. Zee
Environmental Protection Specialist
Federal Aviation Administration
U.S. Department of Transportation
800 Independence Avenue, SW
Washington, DC 20591

Re: Section 106 of the National Historic Preservation Act of 1966, as amended
Proposed SpaceX Texas Launch Site, Cameron County, Texas
106/FAA (THC Track #201303691; see also #201301576)

Dear Ms. Zee:

Thank you for your correspondence proving additional information regarding the above referenced project which we received on January 9, 2013. This letter serves as comment on the proposed undertaking from the State Historic Preservation Officer, the Executive Director of the Texas Historical Commission.

In our letter of November 16, 2012, we concurred with your determinations of eligibility and adverse effect on the 1936 Centennial marker for the Palmetto Pilings and the Palmito Ranch Battlefield National Historic Landmark (NHL). Your letter notes that we did not address effects to other resources determined NR-eligible within the APE. This office believes that only direct impact can adversely affect an archeological site, so we do not concur with your determinations that the NR-eligible archeological sites would be adversely affected by impacts to the viewshed. Further, we do not concur to that the pilings would be adversely affected by vibration. Please note that Palo Alto Ranch Battlefield is not only an archeological site as you have identified, but also a cultural landscape, and we believe it is possible to have adverse visual, auditory, and other effects on cultural landscapes.

We appreciate the inclusion of a visual effect study in the final report. Although we believe that the vantage point should have been at the edge of the Palmito Ranch Battlefield NHL instead of one mile to the west, we find that given other modern modifications to the viewshed, the impact of the launch towers appears minimal. We have particularly come to this conclusion given the white coloration shown in the rendering, and seek clarification that the towers will indeed be painted solid white.

Given the minimal visual impact to Palmito Ranch Battlefield NHL shown in the rendering, our previous effect concurrence may have been premature. We now seek additional information that thoroughly describes the undertaking so that we may fully gauge the existence and severity of any potential effects including noise, vibration, light, construction, road widening, viewing stations, related future development, and anything else potentially related to the undertaking. We want to fully consider the potential effects and discuss avoidance prior to negotiating appropriate mitigation, should it be necessary.

RICK PERRY, GOVERNOR • MATTHEW F. KREISLE, III, CHAIRMAN • MARK WOLFE, EXECUTIVE DIRECTOR
P.O. BOX 12276 • AUSTIN, TEXAS • 78711-2276 • P 512.463.6100 • F 512.475.4872 • TDD 1.800.735.2989 • www.thc.state.tx.us

All comments made on the previous draft archeology report appear to have been addressed adequately. Unfortunately, while reviewing the final report, a few errors were noted in the eligibility column of two tables for some of the sites. We understand some of the confusion, but cannot see how some of the determinations were made.

Specifically, how was NRHP eligibility determined as reported in Tables 1-1 and 5-2? The first paragraph on p. 1-2 states that certain sites are recommended as eligible, ineligible or unevaluated. Please clarify who made the eligibility recommendations. Are these the recommendations found on the site forms that were made by the archeologists who originally recorded the sites, or are they determinations made by the SHPO or are they Cardno's recommendations? While we may have ultimately concurred with the assessment listed on the site forms, any such assessment is not the official determination made by this office.

Similarly, it is unclear how the SAL eligibility recommendations were made. Several of the sites are listed in the tables as ineligible for SAL designation, but the site forms (several completed by THC personnel on behalf of the NPS) stated that they had the potential to be designated. In one case (41CF125), the table indicates that this shipwreck is ineligible for SAL designation, but the Archeological Sites Atlas clearly shows that it is already designated as a SAL. Also, in the case of 41CF184, the shipwreck is noted as eligible in the table, but the Atlas indicates that it is already designated. Please correct these inaccuracies.

One final issue is the eligibility of site 41CF117 and the nearby pilings. This is extremely confusing because there are two site forms included in the Atlas, both of which were completed by former THC employees about 15 years apart. The first site form refers to the palmetto pilings from the 1865 bridge as the site (even though the sketch map labels them as the 1846 pilings associated with Taylor). The second form discusses the loma immediately adjacent to the cypress pilings, which contains the remains of a historic camp with 1846-1865 artifacts. That more recent site form actually lists the site number for the camp as "41CF117.2." So, in Table 5-2, the status of the cypress pilings should be changed from unevaluated to eligible. Nobody has ever adequately recorded the extent of the palmetto pilings, at least as far as the Archeological Sites Atlas is concerned. Also, they are so minimal that it is impossible to detect them in the photo included in the report. Is there a close up photo that could be included so that the reader can get a better idea of what they look like?

We look forward to receiving a revised final archeological report. Thank you for your cooperation in this federal review process, and for your efforts to preserve the irreplaceable heritage of Texas. **If you have any questions concerning our review or if we can be of further assistance, please contact Kim Barker at 512/463-8952.**

Sincerely,

Kim Barker, Project Reviewer
for: Mark Wolfe, State Historic Preservation Office

cc: Mary Torres, Chair, Cameron County Historical Commission
Najah Duvall-Gabriel, Advisory Council on Historic Preservation
Cheryl Eckhardt, National Park Service

TEXAS HISTORICAL COMMISSION
real places telling real stories

February 25, 2013

Stacey M. Zee
Environmental Protection Specialist
Federal Aviation Administration
U.S. Department of Transportation
800 Independence Avenue, SW
Washington, DC 20591

Re: Section 106 of the National Historic Preservation Act of 1966, as amended
Proposed SpaceX Texas Launch Site, Cameron County, Texas
106/FAA (THC Track #201303691; see also #201301576)

Dear Ms. Zee:

Our letter of February 6, 2013, incorrectly identified Palmito Ranch Battlefield as Palo Alto Ranch Battlefield in the second paragraph. This letter corrects the mistake; all other information remains the same. We regret the error.

Thank you for your correspondence proving additional information regarding the above referenced project which we received on January 9, 2013. This letter serves as comment on the proposed undertaking from the State Historic Preservation Officer, the Executive Director of the Texas Historical Commission.

In our letter of November 16, 2012, we concurred with your determinations of eligibility and adverse effect on the 1936 Centennial marker for the Palmetto Pilings and the Palmito Ranch Battlefield National Historic Landmark (NHL). Your letter notes that we did not address effects to other resources determined NR-eligible within the APE. This office believes that only direct impact can adversely affect an archeological site, so we do not concur with your determinations that the NR-eligible archeological sites would be adversely affected by impacts to the viewshed. Further, we do not concur to that the pilings would be adversely affected by vibration. Please note that Palmito Ranch Battlefield is not only an archeological site as you have identified, but also a cultural landscape, and we believe it is possible to have adverse visual, auditory, and other effects on cultural landscapes.

We appreciate the inclusion of a visual effect study in the final report. Although we believe that the vantage point should have been at the edge of the Palmito Ranch Battlefield NHL instead of one mile to the west, we find that given other modern modifications to the viewshed, the impact of the launch towers appears minimal. We have particularly come to this conclusion given the white coloration shown in the rendering, and seek clarification that the towers will indeed be painted solid white.

Given the minimal visual impact to Palmito Ranch Battlefield NHL shown in the rendering, our previous effect concurrence may have been premature. We now seek additional information that thoroughly describes the undertaking so that we may fully gauge the existence and severity of any potential effects including noise, vibration, light, construction, road widening, viewing stations, related future development, and anything else potentially related to the undertaking. We want to

fully consider the potential effects and discuss avoidance prior to negotiating appropriate mitigation, should it be necessary.

All comments made on the previous draft archeology report appear to have been addressed adequately. Unfortunately, while reviewing the final report, a few errors were noted in the eligibility column of two tables for some of the sites. We understand some of the confusion, but cannot see how some of the determinations were made.

Specifically, how was NRHP eligibility determined as reported in Tables 1-1 and 5-2? The first paragraph on p. 1-2 states that certain sites are recommended as eligible, ineligible or unevaluated. Please clarify who made the eligibility recommendations. Are these the recommendations found on the site forms that were made by the archeologists who originally recorded the sites, or are they determinations made by the SHPO or are they Cardno's recommendations? While we may have ultimately concurred with the assessment listed on the site forms, any such assessment is not the official determination made by this office.

Similarly, it is unclear how the SAL eligibility recommendations were made. Several of the sites are listed in the tables as ineligible for SAL designation, but the site forms (several completed by THC personnel on behalf of the NPS) stated that they had the potential to be designated. In one case (41CF125), the table indicates that this shipwreck is ineligible for SAL designation, but the Archeological Sites Atlas clearly shows that it is already designated as a SAL. Also, in the case of 41CF184, the shipwreck is noted as eligible in the table, but the Atlas indicates that it is already designated. Please correct these inaccuracies.

One final issue is the eligibility of site 41CF117 and the nearby pilings. This is extremely confusing because there are two site forms included in the Atlas, both of which were completed by former THC employees about 15 years apart. The first site form refers to the palmetto pilings from the 1865 bridge as the site (even though the sketch map labels them as the 1846 pilings associated with Taylor). The second form discusses the loma immediately adjacent to the cypress pilings, which contains the remains of a historic camp with 1846-1865 artifacts. That more recent site form actually lists the site number for the camp as "41CF117.2." So, in Table 5-2, the status of the cypress pilings should be changed from unevaluated to eligible. Nobody has ever adequately recorded the extent of the palmetto pilings, at least as far as the Archeological Sites Atlas is concerned. Also, they are so minimal that it is impossible to detect them in the photo included in the report. Is there a close up photo that could be included so that the reader can get a better idea of what they look like?

We look forward to receiving a revised final archeological report. Thank you for your cooperation in this federal review process, and for your efforts to preserve the irreplaceable heritage of Texas. **If you have any questions concerning our review or if we can be of further assistance, please contact Kim Barker at 512/463-8952.**

Sincerely,

Kim Barker, Project Reviewer
for: Mark Wolfe, State Historic Preservation Office

cc: Mary Torres, Chair, Cameron County Historical Commission
Najah Duvall-Gabriel, Advisory Council on Historic Preservation
Cheryl Eckhardt, National Park Service

TEXAS HISTORICAL COMMISSION
real places telling real stories

March 12, 2013

Stacey M. Zee
Environmental Protection Specialist
Federal Aviation Administration
U.S. Department of Transportation
800 Independence Avenue, SW
Washington, DC 20591

Re: Section 106 of the National Historic Preservation Act of 1966, as amended
Proposed SpaceX Texas Launch Site, Cameron County, Texas
106/FAA (THC Track #201305556; see also #201303691, #201301576)

Dear Ms. Zee:

Thank you for your correspondence providing additional information regarding the above referenced project, which we received on March 4, 2013, as well as through teleconference on March 7th. This letter serves as comment on the proposed undertaking from the State Historic Preservation Officer, the Executive Director of the Texas Historical Commission.

Based on additional consideration and discussion, we now confirm our previous concurrence of adverse effect on the 1936 Centennial marker for the Palmetto Pilings and on the Palmito Ranch Battlefield National Historic Landmark (NHL). Further, we now concur that the proposed project will have adverse effects on both the 1846-65 pilings and the 1865 pilings, both of which are within the APE. We look forward to working with you through Section 106 procedures to resolve these adverse effects.

Thank you for your cooperation in this federal review process, and for your efforts to preserve the irreplaceable heritage of Texas. **If you have any questions concerning our review or if we can be of further assistance, please contact Kim Barker at 512/463-8952.**

Sincerely,

Kim Barker, Project Reviewer
for: Mark Wolfe, State Historic Preservation Office

cc: Mary Torres, Chair, Cameron County Historical Commission
Najah Duvall-Gabriel, Advisory Council on Historic Preservation
Cheryl Eckhardt, National Park Service

RICK PERRY, GOVERNOR • MATTHEW F. KREISLE, III, CHAIRMAN • MARK WOLFE, EXECUTIVE DIRECTOR
P.O. BOX 12276 • AUSTIN, TEXAS • 78711-2276 • P 512.463.6100 • F 512.475.4872 • TDD 1.800.735.2989 • www.thc.state.tx.us

THIS PAGE INTENTIONALLY LEFT BLANK

U.S. Department
of Transportation
Federal Aviation Administration

Office of the Associate Administrator for
Commercial Space Transportation

800 Independence Ave., SW
Washington, DC 20591

MAY 2 2012

Louis Maynahonah
Chairman
Apache Tribe of Oklahoma
P.O. Box 1220
Anadarko, OK 73005

Dear Mr. Maynahonah:

The Federal Aviation Administration (FAA), Office of Commercial Space Transportation is in the process of preparing an Environmental Impact Statement (EIS) to assess the potential environmental impacts of the proposed issuance of launch licenses and/or experimental permits to Space Exploration Technologies Corporation (SpaceX) for operating the Falcon 9 and Falcon Heavy launch vehicle programs from a private site located in Cameron County, Texas. The FAA published a Notice of Intent to prepare an EIS in the *Federal Register* on April 10, 2012 (attached below).

Under this proposal, SpaceX would construct a vertical launch area and a control center area to support up to 12 commercial launches per year. The vehicles to be launched include the Falcon 9, Falcon Heavy (up to two per year), and a variety of smaller reusable suborbital launch vehicles. SpaceX would be required to apply for and obtain the appropriate launch licenses and/or experimental permits to be issued by the FAA. The FAA will prepare the EIS in accordance with the National Environmental Policy Act of 1969 (NEPA; 42 United States Code [U.S.C.] 4321 et seq.), the Council on Environmental Quality Regulations for Implementing the Procedural Provisions of NEPA (40 Code of Federal Regulations [CFR] parts 1500-1508), and FAA Order 1050.1E, Change 1, Environmental Impacts: Policies and Procedures, as part of its licensing and permitting process. The current scope of the EIS includes the proposed construction activities and operations associated with launching orbital and suborbital launch vehicles.

The FAA has invited interested agencies, organizations, Native American tribes, and members of the public to submit comments or suggestions to assist in identifying significant environmental issues and in determining the appropriate scope of the EIS. Accordingly, the FAA will hold a public scoping meeting to solicit input from the public on potential environmental issues that may need to be evaluated in the EIS. The scoping meeting will be held on May 15, 2012, from

5:00 p.m. to 8:00 p.m., at the International Technology, Education and Commerce Center (ITEC Center), located at 301 Mexico Boulevard G-1, Brownsville, Texas. The scoping meeting will include a poster information session from 5:00 p.m. to 6:00 p.m., FAA presentation from 6:00 p.m. to 6:15 p.m., followed by a public statement period in which members of the public may provide up to a 3-minute statement. FAA staff will be present at this meeting to answer general questions on the proposed action and the EIS process. Information on the EIS is available at http://www.faa.gov/about/office_org/headquarters_offices/ast/environmental/nepa_docs/review/documents_progress/spacex_texas_launch_site_environmental_impact_statement/

Public comments can be submitted by attending the public scoping meeting or by mailing comments to: Ms. Stacey M. Zee, Environmental Protection Specialist, Federal Aviation Administration, SpaceX EIS c/o Cardno TEC Inc., 275 West Street, Suite 110, Annapolis, MD 21401; email faaspacexeis@cardnotec.com; or fax (410)-990-0455. Comments must be postmarked by May 30, 2012.

If you have any questions or need further information on the project, please contact Ms. Stacey Zee, of my staff, at 202-267-9305 or at Stacey.Zee@faa.gov. Thank you for your interest in this project.

Sincerely,

Glenn Rizner,
Deputy Manager, Space Transportation Development Division

Federal Register / Vol. 77, No. 69 / Tuesday, April 10, 2012 / Notices 21619

DEPARTMENT OF STATE

[Public Notice 7814]

Shipping Coordinating Committee; Notice of Committee Meeting

The Shipping Coordinating Committee (SHC) will conduct an open meeting at 9:30 a.m. on Wednesday, April 25, 2012, in Room 2501 of the United States Coast Guard Headquarters Building, 2100 Second Street SW., Washington, DC 20593–7126. The primary purpose of the meeting is to prepare for the 90th Session of the International Maritime Organization's (IMO) Marine Safety Committee to be held at the IMO Headquarters, London, England, United Kingdom, May 16–25, 2012.

The primary matters to be considered include:

Consideration and adoption of amendments to mandatory instruments;
Measures to enhance maritime security;
Goal-based new ship construction standards;
LRIT-related matters;
Flag State implementation;
Radiocommunications and search and rescue;
Ship design and equipment;
Safety of navigation;
Fire protection;
Dangerous goods, solid cargoes and containers;
Stability, load lines and fishing vessel safety;
Bulk liquids and gases;
Implementation of the STCW Convention;
Technical assistance sub-programme in maritime safety and security;
Capacity-building for the implementation of new measures;
Role of the human element;
Formal safety assessment;
Piracy and armed robbery against ships;
General cargo ship safety;
Implementation of instruments and related matters;
Relations with other organizations;
Application of the Committee's Guidelines;
Passenger ship safety.

Members of the public may attend this meeting up to the seating capacity of the room. To facilitate the building security process, and to request reasonable accommodation, those who plan to attend should contact the meeting coordinator, LCDR Matthew Frazee, by email at *imo@uscg.mil*, by phone at (202) 372–1376, or in writing at Commandant (CG–52), U.S. Coast Guard, 2100 2nd Street SW., Stop 7126, Washington, DC 20593–7126 not later than April 18, 2012, 7 days prior to the meeting. Requests made after April 18, 2012 might not be able to be accommodated. Please note that due to security considerations, two valid, government issued photo identifications must be presented to gain entrance to the Headquarters building. The Headquarters building is accessible by taxi and privately owned conveyance (public transportation is not generally available). However, parking in the vicinity of the building is extremely limited. Additional information regarding this and other IMO SHC public meetings may be found at: *www.uscg.mil/imo.*

Dated: March 29, 2012.

Brian Robinson,

Executive Secretary, Shipping Coordinating Committee, Department of State.

[FR Doc. 2012–8636 Filed 4–9–12; 8:45 am]

BILLING CODE 4710–09–P

DEPARTMENT OF TRANSPORTATION

Office of the Secretary

Aviation Proceedings, Agreements Filed the Week Ending March 10, 2011

The following Agreements were filed with the Department of Transportation under the Sections 412 and 414 of the Federal Aviation Act, as amended (49 U.S.C. 1382 and 1384) and procedures governing proceedings to enforce these provisions. Answers may be filed within 21 days after the filing of the application.

Docket Number: DOT–OST–2012–0035.

Date Filed: March 7, 2012.

Parties: Members of the International Air Transport Association.

Subject: Mail Vote 702—Resolution 100 Standard Condition Resolution for Special Fares (Memo 1665) Intended effective date: 1 April 2012.

Renee V. Wright,

Program Manager, Docket Operations, Federal Register Liaison.

[FR Doc. 2012–8446 Filed 4–9–12; 8:45 am]

BILLING CODE 4910–9X–P

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

Office of Commercial Space Transportation; Notice of Intent To Prepare an Environmental Impact Statement (EIS), Open a Public Scoping Period, and Conduct a Public Scoping Meeting

AGENCY: The Federal Aviation Administration (FAA) is the lead Federal agency.

ACTION: Notice of Intent to Prepare an EIS, Open a Public Scoping Period, and Conduct a Public Scoping Meeting.

SUMMARY: This Notice provides information to Federal, State, and local agencies, Native American tribes, and other interested persons regarding the FAA's intent to prepare an EIS for Space Exploration Technologies' (SpaceX's) proposal to launch the Falcon 9 and Falcon Heavy orbital vertical launch vehicles from a private site located in Cameron County, Texas. Under the Proposed Action, SpaceX proposes to construct a vertical launch area and a control center area to support up to 12 commercial launches per year. The vehicles to be launched include the Falcon 9, Falcon Heavy (up to two per year), and a variety of smaller reusable suborbital launch vehicles. SpaceX would be required to apply for the appropriate launch licenses and/or experimental permits to be issued by the FAA. The FAA will prepare the EIS in accordance with the National Environmental Policy Act of 1969 (NEPA; 42 United States Code [U.S.C.] 4321 et seq.), the Council on Environmental Quality Regulations for Implementing the Procedural Provisions of NEPA (40 Code of Federal Regulations [CFR] parts 1500–1508), and FAA Order 1050.1E, Change 1, *Environmental Impacts: Policies and Procedures*, as part of its licensing and permitting process.

DATES: The FAA invites interested agencies, organizations, Native American tribes, and members of the public to submit comments or suggestions to assist in identifying significant environmental issues and in determining the appropriate scope of the EIS. The public scoping period starts with the publication of this notice in the **Federal Register**. To ensure sufficient time to consider issues identified during the public scoping period, comments should be submitted to Ms. Stacey M. Zee, FAA Environmental Protection Specialist, by one of the methods listed below no later than May 30, 2012. All comments will receive the same attention and consideration in the preparation of the EIS.

ADDRESSES: Comments, statements, or questions concerning scoping issues or the EIS process should be mailed to: Ms. Stacey M. Zee, FAA Environmental Protection Specialist, SpaceX EIS c/o Cardno TEC Inc., 275 West Street, Suite 110, Annapolis, MD 21409. Comments can also be sent by email to *faaspacexeis@cardnotec.com* or by fax to (410) 990–0455.

SUPPLEMENTARY INFORMATION:

Background

The FAA is preparing an EIS to analyze the potential environmental

impacts of SpaceX's proposal to launch orbital and suborbital launch vehicles from a private site in Cameron County in southern Texas. The EIS will consider the potential environmental impacts of the Proposed Action and reasonable alternatives, including the No Action Alternative. The successful completion of the environmental review process does not guarantee that the FAA would issue launch licenses and/or experimental permits to SpaceX. The project must also meet all FAA safety, risk, and indemnification requirements.

Proposed Action

The Proposed Action is for the FAA to issue launch licenses and/or experimental permits to SpaceX that would allow SpaceX to launch the Falcon 9 and Falcon Heavy orbital vertical launch vehicles and a variety of reusable suborbital launch vehicles from a launch site on privately-owned property in Cameron County, Texas. The Falcon 9 orbital vertical launch vehicle is a medium-lift class launch vehicle with a gross lift-off weight of approximately 1,000,000 pounds (lbs) with a maximum length of 230 feet (ft). The Falcon 9 uses liquid oxygen (LOX) and highly refined kerosene, also known as rocket propellant-1 or refined petroleum-1 (RP–1), as propellants to carry payloads into orbit. The Falcon Heavy is similar to the Falcon 9, except it has an additional two boosters "strapped on," each booster being almost identical to the Falcon 9 first stage core. The Falcon Heavy is a heavy lift class launch vehicle with a gross lift-off weight of approximately 3,400,000 lbs. It has an overall maximum length of approximately 230 ft.

A reusable suborbital launch vehicle could consist of a Falcon 9 Stage 1 tank with a maximum propellant (RP–1 and LOX) load of approximately 6,900 gallons.

As part of the Proposed Action, SpaceX proposes to construct a vertical launch area and a control center area. The proposed vertical launch area site is currently undeveloped and is located directly adjacent to the eastern terminus of Texas State Highway 4 (Boca Chica Boulevard) and approximately 3 miles north of the Mexican border on the Gulf Coast. It is located approximately 5 miles south of Port Isabel and South Padre Island. At the vertical launch area, the new facilities required would include: an integration- and processing-hangar, a launch pad and stand with its associated flame duct, propellant storage and handling areas, a workshop and office area, and a warehouse for parts storage.

The control center area would be located inland to the west of the vertical launch area and would include: A control center building and a payload processing facility; it might also include a launch vehicle preparation hangar and satellite fuels storage. All facilities would be constructed on private land owned or leased by SpaceX. The development of access and supporting utility infrastructure for the vertical launch area and the control center area may occur on lands outside that which is owned or leased by SpaceX.

Operations would consist of up to 12 launches per year with a maximum of two Falcon Heavy launches. All Falcon 9 and Falcon Heavy launches would be expected to have commercial payloads, including satellites or experimental payloads. In addition to standard payloads, the Falcon 9 and Falcon Heavy may also carry a capsule, such as the SpaceX Dragon capsule. All launch trajectories would be to the east over the Gulf of Mexico.

The potential environmental impacts of all proposed construction activities will be analyzed in the EIS, in addition to the impacts from operating the facilities and launching orbital and suborbital launch vehicles. The EIS will evaluate the potential environmental effects associated with: air quality; noise and compatible land use; land use, including Section 4(f) properties and Farmlands; coastal resources; biological resources, including threatened and endangered species; water resources, including surface waters and wetlands, groundwater, floodplains, and water quality; historical, architectural, archaeological, and cultural resources; light emissions and visual resources; hazardous materials, pollution prevention, and solid waste; infrastructure and utilities; and socioeconomics, environmental justice, and children's environmental health and safety. The analysis will include an evaluation of the potential direct and indirect impacts, and will account for cumulative impacts from other relevant activities in the area of Cameron County, Texas.

Alternatives

Alternatives under consideration include the Proposed Action and the No Action Alternative. Under the No Action Alternative, the FAA would not issue a license or experimental permit to SpaceX. Based on comments received during the scoping period, the FAA may propose additional alternatives.

Scoping Meetings

A public scoping meeting will be held to solicit input from the public on potential issues that may need to be evaluated in the EIS. The scoping meeting will be held on May 15, 2012 from 5 p.m. to 8 p.m., at the International Technology, Education and Commerce Center (ITEC Center), located at 301 Mexico Blvd. G–1, Brownsville, Texas 78520. The meeting format will include an open-house workshop from 5 p.m. to 6 p.m. The FAA will provide an overview of the environmental process from 6 p.m. to 6:15 p.m. followed by a public comment period from 6:15 p.m. to 8 p.m.

Issued in Washington, DC on April 3, 2012.

Glenn Rizner,

Deputy Manager, Space Transportation Development Division.

[FR Doc. 2012–8556 Filed 4–9–12; 8:45 am]

BILLING CODE 4910–13–P

DEPARTMENT OF TRANSPORTATION

Federal Railroad Administration

[Docket No. FRA–2012–0033]

Notice of the Buy America Waiver Request for Vossloh 101–LV Concrete Ties

AGENCY: Federal Railroad Administration (FRA), United States Department of Transportation (DOT).

ACTION: Notice of Buy America waiver request and request for comment.

SUMMARY: FRA is issuing this notice to advise the public that the Burlington Northern Santa Fe Railway Co. ("BNSF") has submitted to FRA through or with the support of the Washington Department of Transportation ("WSDOT"), the Illinois Department of Transportation ("IDOT"), the Texas Department of Transportation ("TxDOT"), and the California Department of Transportation ("Caltrans") a waiver request from FRA's Buy America Act requirements for the purchase of Vossloh 101–LV concrete ties, which contain certain components not manufactured in the United States. In furtherance of four FRA High-Speed Intercity Passenger Rail ("HSIPR") grants, BNSF, as the railroad infrastructure owner, will construct certain rail project elements that consist of the installation of Vossloh 101–LV concrete ties. FRA has received this request from the four States for the following projects: (a) The Pacific Northwest Rail Corridor Program (b) the Amtrak Quad Cities to Chicago Service Initiation Project, (c) the Tower 55 At-Grade Improvement Project, and (d) the LA to Fullerton Triple Track—Segment 7 Project.

U.S. Department
of Transportation
Federal Aviation Administration

Office of the Associate Administrator for
Commercial Space Transportation

800 Independence Ave., SW
Washington, DC 20591

MAY 2 2012

Mr. Johnny Wauqua
Chairman
Comanche Nation of Oklahoma
HC-32, Box 1720
Lawton, OK 73502

Dear Mr. Wauqua:

The Federal Aviation Administration (FAA), Office of Commercial Space Transportation is in the process of preparing an Environmental Impact Statement (EIS) to assess the potential environmental impacts of the proposed issuance of launch licenses and/or experimental permits to Space Exploration Technologies Corporation (SpaceX) for operating the Falcon 9 and Falcon Heavy launch vehicle programs from a private site located in Cameron County, Texas. The FAA published a Notice of Intent to prepare an EIS in the *Federal Register* on April 10, 2012 (attached below).

Under this proposal, SpaceX would construct a vertical launch area and a control center area to support up to 12 commercial launches per year. The vehicles to be launched include the Falcon 9, Falcon Heavy (up to two per year), and a variety of smaller reusable suborbital launch vehicles. SpaceX would be required to apply for and obtain the appropriate launch licenses and/or experimental permits to be issued by the FAA. The FAA will prepare the EIS in accordance with the National Environmental Policy Act of 1969 (NEPA; 42 United States Code [U.S.C.] 4321 et seq.), the Council on Environmental Quality Regulations for Implementing the Procedural Provisions of NEPA (40 Code of Federal Regulations [CFR] parts 1500-1508), and FAA Order 1050.1E, Change 1, Environmental Impacts: Policies and Procedures, as part of its licensing and permitting process. The current scope of the EIS includes the proposed construction activities and operations associated with launching orbital and suborbital launch vehicles.

The FAA has invited interested agencies, organizations, Native American tribes, and members of the public to submit comments or suggestions to assist in identifying significant environmental issues and in determining the appropriate scope of the EIS. Accordingly, the FAA will hold a public scoping meeting to solicit input from the public on potential environmental issues that may need to be evaluated in the EIS. The scoping meeting will be held on May 15, 2012, from

5:00 p.m. to 8:00 p.m., at the International Technology, Education and Commerce Center (ITEC Center), located at 301 Mexico Boulevard G-1, Brownsville, Texas. The scoping meeting will include a poster information session from 5:00 p.m. to 6:00 p.m., FAA presentation from 6:00 p.m. to 6:15 p.m., followed by a public statement period in which members of the public may provide up to a 3-minute statement. FAA staff will be present at this meeting to answer general questions on the proposed action and the EIS process. Information on the EIS is available at http://www.faa.gov/about/office_org/headquarters_offices/ast/environmental/nepa_docs/review/documents_progress/spacex_texas_launch_site_environmental_impact_statement/

Public comments can be submitted by attending the public scoping meeting or by mailing comments to: Ms. Stacey M. Zee, Environmental Protection Specialist, Federal Aviation Administration, SpaceX EIS c/o Cardno TEC Inc., 275 West Street, Suite 110, Annapolis, MD 21401; email faaspacexeis@cardnotec.com; or fax (410)-990-0455. Comments must be postmarked by May 30, 2012.

If you have any questions or need further information on the project, please contact Ms. Stacey Zee, of my staff, at 202-267-9305 or at Stacey.Zee@faa.gov. Thank you for your interest in this project.

Sincerely,

Glenn Rizner,
Deputy Manager, Space Transportation Development Division

DEPARTMENT OF STATE

[Public Notice 7814]

Shipping Coordinating Committee; Notice of Committee Meeting

The Shipping Coordinating Committee (SHC) will conduct an open meeting at 9:30 a.m. on Wednesday, April 25, 2012, in Room 2501 of the United States Coast Guard Headquarters Building, 2100 Second Street SW., Washington, DC 20593–7126. The primary purpose of the meeting is to prepare for the 90th Session of the International Maritime Organization's (IMO) Marine Safety Committee to be held at the IMO Headquarters, London, England, United Kingdom, May 16–25, 2012.

The primary matters to be considered include:

Consideration and adoption of amendments to mandatory instruments;
Measures to enhance maritime security;
Goal-based new ship construction standards;
LRIT-related matters;
Flag State implementation;
Radiocommunications and search and rescue;
Ship design and equipment;
Safety of navigation;
Fire protection;
Dangerous goods, solid cargoes and containers;
Stability, load lines and fishing vessel safety;
Bulk liquids and gases;
Implementation of the STCW Convention;
Technical assistance sub-programme in maritime safety and security;
Capacity-building for the implementation of new measures;
Role of the human element;
Formal safety assessment;
Piracy and armed robbery against ships;
General cargo ship safety;
Implementation of instruments and related matters;
Relations with other organizations;
Application of the Committee's Guidelines;
Passenger ship safety.

Members of the public may attend this meeting up to the seating capacity of the room. To facilitate the building security process, and to request reasonable accommodation, those who plan to attend should contact the meeting coordinator, LCDR Matthew Frazee, by email at *imo@uscg.mil*, by phone at (202) 372–1376, or in writing at Commandant (CG–52), U.S. Coast Guard, 2100 2nd Street SW., Stop 7126, Washington, DC 20593–7126 not later than April 18, 2012, 7 days prior to the meeting. Requests made after April 18, 2012 might not be able to be accommodated. Please note that due to security considerations, two valid, government issued photo identifications must be presented to gain entrance to the Headquarters building. The Headquarters building is accessible by taxi and privately owned conveyance (public transportation is not generally available). However, parking in the vicinity of the building is extremely limited. Additional information regarding this and other IMO SHC public meetings may be found at: *www.uscg.mil/imo.*

Dated: March 29, 2012.

Brian Robinson,

Executive Secretary, Shipping Coordinating Committee, Department of State.

[FR Doc. 2012–8636 Filed 4–9–12; 8:45 am]

BILLING CODE 4710–09–P

DEPARTMENT OF TRANSPORTATION

Office of the Secretary

Aviation Proceedings, Agreements Filed the Week Ending March 10, 2011

The following Agreements were filed with the Department of Transportation under the Sections 412 and 414 of the Federal Aviation Act, as amended (49 U.S.C. 1382 and 1384) and procedures governing proceedings to enforce these provisions. Answers may be filed within 21 days after the filing of the application.

Docket Number: DOT–OST–2012–0035.

Date Filed: March 7, 2012.

Parties: Members of the International Air Transport Association.

Subject: Mail Vote 702—Resolution 100 Standard Condition Resolution for Special Fares (Memo 1665) Intended effective date: 1 April 2012.

Renee V. Wright,

Program Manager, Docket Operations, Federal Register Liaison.

[FR Doc. 2012–8446 Filed 4–9–12; 8:45 am]

BILLING CODE 4910–9X–P

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

Office of Commercial Space Transportation; Notice of Intent To Prepare an Environmental Impact Statement (EIS), Open a Public Scoping Period, and Conduct a Public Scoping Meeting

AGENCY: The Federal Aviation Administration (FAA) is the lead Federal agency.

ACTION: Notice of Intent to Prepare an EIS, Open a Public Scoping Period, and Conduct a Public Scoping Meeting.

SUMMARY: This Notice provides information to Federal, State, and local agencies, Native American tribes, and other interested persons regarding the FAA's intent to prepare an EIS for Space Exploration Technologies' (SpaceX's) proposal to launch the Falcon 9 and Falcon Heavy orbital vertical launch vehicles from a private site located in Cameron County, Texas. Under the Proposed Action, SpaceX proposes to construct a vertical launch area and a control center area to support up to 12 commercial launches per year. The vehicles to be launched include the Falcon 9, Falcon Heavy (up to two per year), and a variety of smaller reusable suborbital launch vehicles. SpaceX would be required to apply for the appropriate launch licenses and/or experimental permits to be issued by the FAA. The FAA will prepare the EIS in accordance with the National Environmental Policy Act of 1969 (NEPA; 42 United States Code [U.S.C.] 4321 et seq.), the Council on Environmental Quality Regulations for Implementing the Procedural Provisions of NEPA (40 Code of Federal Regulations [CFR] parts 1500–1508), and FAA Order 1050.1E, Change 1, *Environmental Impacts: Policies and Procedures*, as part of its licensing and permitting process.

DATES: The FAA invites interested agencies, organizations, Native American tribes, and members of the public to submit comments or suggestions to assist in identifying significant environmental issues and in determining the appropriate scope of the EIS. The public scoping period starts with the publication of this notice in the **Federal Register**. To ensure sufficient time to consider issues identified during the public scoping period, comments should be submitted to Ms. Stacey M. Zee, FAA Environmental Protection Specialist, by one of the methods listed below no later than May 30, 2012. All comments will receive the same attention and consideration in the preparation of the EIS.

ADDRESSES: Comments, statements, or questions concerning scoping issues or the EIS process should be mailed to: Ms. Stacey M. Zee, FAA Environmental Protection Specialist, SpaceX EIS c/o Cardno TEC Inc., 275 West Street, Suite 110, Annapolis, MD 21409. Comments can also be sent by email to *faaspacexeis@cardnotec.com* or by fax to (410) 990–0455.

SUPPLEMENTARY INFORMATION:

Background

The FAA is preparing an EIS to analyze the potential environmental

impacts of SpaceX's proposal to launch orbital and suborbital launch vehicles from a private site in Cameron County in southern Texas. The EIS will consider the potential environmental impacts of the Proposed Action and reasonable alternatives, including the No Action Alternative. The successful completion of the environmental review process does not guarantee that the FAA would issue launch licenses and/or experimental permits to SpaceX. The project must also meet all FAA safety, risk, and indemnification requirements.

Proposed Action

The Proposed Action is for the FAA to issue launch licenses and/or experimental permits to SpaceX that would allow SpaceX to launch the Falcon 9 and Falcon Heavy orbital vertical launch vehicles and a variety of reusable suborbital launch vehicles from a launch site on privately-owned property in Cameron County, Texas. The Falcon 9 orbital vertical launch vehicle is a medium-lift class launch vehicle with a gross lift-off weight of approximately 1,000,000 pounds (lbs) with a maximum length of 230 feet (ft). The Falcon 9 uses liquid oxygen (LOX) and highly refined kerosene, also known as rocket propellant-1 or refined petroleum-1 (RP–1), as propellants to carry payloads into orbit. The Falcon Heavy is similar to the Falcon 9, except it has an additional two boosters "strapped on," each booster being almost identical to the Falcon 9 first stage core. The Falcon Heavy is a heavy lift class launch vehicle with a gross lift-off weight of approximately 3,400,000 lbs. It has an overall maximum length of approximately 230 ft.

A reusable suborbital launch vehicle could consist of a Falcon 9 Stage 1 tank with a maximum propellant (RP–1 and LOX) load of approximately 6,900 gallons.

As part of the Proposed Action, SpaceX proposes to construct a vertical launch area and a control center area. The proposed vertical launch area site is currently undeveloped and is located directly adjacent to the eastern terminus of Texas State Highway 4 (Boca Chica Boulevard) and approximately 3 miles north of the Mexican border on the Gulf Coast. It is located approximately 5 miles south of Port Isabel and South Padre Island. At the vertical launch area, the new facilities required would include: an integration- and processing-hangar, a launch pad and stand with its associated flame duct, propellant storage and handling areas, a workshop and office area, and a warehouse for parts storage.

The control center area would be located inland to the west of the vertical launch area and would include: A control center building and a payload processing facility; it might also include a launch vehicle preparation hangar and satellite fuels storage. All facilities would be constructed on private land owned or leased by SpaceX. The development of access and supporting utility infrastructure for the vertical launch area and the control center area may occur on lands outside that which is owned or leased by SpaceX.

Operations would consist of up to 12 launches per year with a maximum of two Falcon Heavy launches. All Falcon 9 and Falcon Heavy launches would be expected to have commercial payloads, including satellites or experimental payloads. In addition to standard payloads, the Falcon 9 and Falcon Heavy may also carry a capsule, such as the SpaceX Dragon capsule. All launch trajectories would be to the east over the Gulf of Mexico.

The potential environmental impacts of all proposed construction activities will be analyzed in the EIS, in addition to the impacts from operating the facilities and launching orbital and suborbital launch vehicles. The EIS will evaluate the potential environmental effects associated with: air quality; noise and compatible land use; land use, including Section 4(f) properties and Farmlands; coastal resources; biological resources, including threatened and endangered species; water resources, including surface waters and wetlands, groundwater, floodplains, and water quality; historical, architectural, archaeological, and cultural resources; light emissions and visual resources; hazardous materials, pollution prevention, and solid waste; infrastructure and utilities; and socioeconomics, environmental justice, and children's environmental health and safety. The analysis will include an evaluation of the potential direct and indirect impacts, and will account for cumulative impacts from other relevant activities in the area of Cameron County, Texas.

Alternatives

Alternatives under consideration include the Proposed Action and the No Action Alternative. Under the No Action Alternative, the FAA would not issue a license or experimental permit to SpaceX. Based on comments received during the scoping period, the FAA may propose additional alternatives.

Scoping Meetings

A public scoping meeting will be held to solicit input from the public on potential issues that may need to be evaluated in the EIS. The scoping meeting will be held on May 15, 2012 from 5 p.m. to 8 p.m., at the International Technology, Education and Commerce Center (ITEC Center), located at 301 Mexico Blvd. G–1, Brownsville, Texas 78520. The meeting format will include an open-house workshop from 5 p.m. to 6 p.m. The FAA will provide an overview of the environmental process from 6 p.m. to 6:15 p.m. followed by a public comment period from 6:15 p.m. to 8 p.m.

Issued in Washington, DC on April 3, 2012.

Glenn Rizner,

Deputy Manager, Space Transportation Development Division.

[FR Doc. 2012–8556 Filed 4–9–12; 8:45 am]

BILLING CODE 4910–13–P

DEPARTMENT OF TRANSPORTATION

Federal Railroad Administration

[Docket No. FRA–2012–0033]

Notice of the Buy America Waiver Request for Vossloh 101–LV Concrete Ties

AGENCY: Federal Railroad Administration (FRA), United States Department of Transportation (DOT).

ACTION: Notice of Buy America waiver request and request for comment.

SUMMARY: FRA is issuing this notice to advise the public that the Burlington Northern Santa Fe Railway Co. ("BNSF") has submitted to FRA through or with the support of the Washington Department of Transportation ("WSDOT"), the Illinois Department of Transportation ("IDOT"), the Texas Department of Transportation ("TxDOT"), and the California Department of Transportation ("Caltrans") a waiver request from FRA's Buy America Act requirements for the purchase of Vossloh 101–LV concrete ties, which contain certain components not manufactured in the United States. In furtherance of four FRA High-Speed Intercity Passenger Rail ("HSIPR") grants, BNSF, as the railroad infrastructure owner, will construct certain rail project elements that consist of the installation of Vossloh 101–LV concrete ties. FRA has received this request from the four States for the following projects: (a) The Pacific Northwest Rail Corridor Program (b) the Amtrak Quad Cities to Chicago Service Initiation Project, (c) the Tower 55 At-Grade Improvement Project, and (d) the LA to Fullerton Triple Track—Segment 7 Project.

U.S. Department
of Transportation
Federal Aviation Administration

Office of the Associate Administrator for
Commercial Space Transportation

800 Independence Ave., SW
Washington, DC 20591

MAY 2 2012

Mr. Ron Twohatchet
Chairman
Kiowa Tribe of Oklahoma
P.O. Box 369
Carnegie, OK 73015

Dear Mr. Twohatchet:

The Federal Aviation Administration (FAA), Office of Commercial Space Transportation is in the process of preparing an Environmental Impact Statement (EIS) to assess the potential environmental impacts of the proposed issuance of launch licenses and/or experimental permits to Space Exploration Technologies Corporation (SpaceX) for operating the Falcon 9 and Falcon Heavy launch vehicle programs from a private site located in Cameron County, Texas. The FAA published a Notice of Intent to prepare an EIS in the *Federal Register* on April 10, 2012 (attached below).

Under this proposal, SpaceX would construct a vertical launch area and a control center area to support up to 12 commercial launches per year. The vehicles to be launched include the Falcon 9, Falcon Heavy (up to two per year), and a variety of smaller reusable suborbital launch vehicles. SpaceX would be required to apply for and obtain the appropriate launch licenses and/or experimental permits to be issued by the FAA. The FAA will prepare the EIS in accordance with the National Environmental Policy Act of 1969 (NEPA; 42 United States Code [U.S.C.] 4321 et seq.), the Council on Environmental Quality Regulations for Implementing the Procedural Provisions of NEPA (40 Code of Federal Regulations [CFR] parts 1500-1508), and FAA Order 1050.1E, Change 1, Environmental Impacts: Policies and Procedures, as part of its licensing and permitting process. The current scope of the EIS includes the proposed construction activities and operations associated with launching orbital and suborbital launch vehicles.

The FAA has invited interested agencies, organizations, Native American tribes, and members of the public to submit comments or suggestions to assist in identifying significant environmental issues and in determining the appropriate scope of the EIS. Accordingly, the FAA will hold a public scoping meeting to solicit input from the public on potential environmental issues that may need to be evaluated in the EIS. The scoping meeting will be held on May 15, 2012, from

5:00 p.m. to 8:00 p.m., at the International Technology, Education and Commerce Center (ITEC Center), located at 301 Mexico Boulevard G-1, Brownsville, Texas. The scoping meeting will include a poster information session from 5:00 p.m. to 6:00 p.m., FAA presentation from 6:00 p.m. to 6:15 p.m., followed by a public statement period in which members of the public may provide up to a 3-minute statement. FAA staff will be present at this meeting to answer general questions on the proposed action and the EIS process. Information on the EIS is available at http://www.faa.gov/about/office_org/headquarters_offices/ast/environmental/nepa_docs/review/documents_progress/spacex_texas_launch_site_environmental_impact_statement/

Public comments can be submitted by attending the public scoping meeting or by mailing comments to: Ms. Stacey M. Zee, Environmental Protection Specialist, Federal Aviation Administration, SpaceX EIS c/o Cardno TEC Inc., 275 West Street, Suite 110, Annapolis, MD 21401; email faaspacexeis@cardnotec.com; or fax (410)-990-0455. Comments must be postmarked by May 30, 2012.

If you have any questions or need further information on the project, please contact Ms. Stacey Zee, of my staff, at 202-267-9305 or at Stacey.Zee@faa.gov. Thank you for your interest in this project.

Sincerely,

Glenn Rizner,
Deputy Manager, Space Transportation Development Division

Federal Register / Vol. 77, No. 69 / Tuesday, April 10, 2012 / Notices 21619

DEPARTMENT OF STATE

[Public Notice 7814]

Shipping Coordinating Committee; Notice of Committee Meeting

The Shipping Coordinating Committee (SHC) will conduct an open meeting at 9:30 a.m. on Wednesday, April 25, 2012, in Room 2501 of the United States Coast Guard Headquarters Building, 2100 Second Street SW., Washington, DC 20593–7126. The primary purpose of the meeting is to prepare for the 90th Session of the International Maritime Organization's (IMO) Marine Safety Committee to be held at the IMO Headquarters, London, England, United Kingdom, May 16–25, 2012.

The primary matters to be considered include:

Consideration and adoption of amendments to mandatory instruments;
Measures to enhance maritime security;
Goal-based new ship construction standards;
LRIT-related matters;
Flag State implementation;
Radiocommunications and search and rescue;
Ship design and equipment;
Safety of navigation;
Fire protection;
Dangerous goods, solid cargoes and containers;
Stability, load lines and fishing vessel safety;
Bulk liquids and gases;
Implementation of the STCW Convention;
Technical assistance sub-programme in maritime safety and security;
Capacity-building for the implementation of new measures;
Role of the human element;
Formal safety assessment;
Piracy and armed robbery against ships;
General cargo ship safety;
Implementation of instruments and related matters;
Relations with other organizations;
Application of the Committee's Guidelines;
Passenger ship safety.

Members of the public may attend this meeting up to the seating capacity of the room. To facilitate the building security process, and to request reasonable accommodation, those who plan to attend should contact the meeting coordinator, LCDR Matthew Frazee, by email at *imo@uscg.mil*, by phone at (202) 372–1376, or in writing at Commandant (CG–52), U.S. Coast Guard, 2100 2nd Street SW., Stop 7126, Washington, DC 20593–7126 not later than April 18, 2012, 7 days prior to the meeting. Requests made after April 18, 2012 might not be able to be accommodated. Please note that due to security considerations, two valid, government issued photo identifications must be presented to gain entrance to the Headquarters building. The Headquarters building is accessible by taxi and privately owned conveyance (public transportation is not generally available). However, parking in the vicinity of the building is extremely limited. Additional information regarding this and other IMO SHC public meetings may be found at: *www.uscg.mil/imo.*

Dated: March 29, 2012.

Brian Robinson,

Executive Secretary, Shipping Coordinating Committee, Department of State.

[FR Doc. 2012–8636 Filed 4–9–12; 8:45 am]

BILLING CODE 4710–09–P

DEPARTMENT OF TRANSPORTATION

Office of the Secretary

Aviation Proceedings, Agreements Filed the Week Ending March 10, 2011

The following Agreements were filed with the Department of Transportation under the Sections 412 and 414 of the Federal Aviation Act, as amended (49 U.S.C. 1382 and 1384) and procedures governing proceedings to enforce these provisions. Answers may be filed within 21 days after the filing of the application.

Docket Number: DOT–OST–2012–0035.

Date Filed: March 7, 2012.

Parties: Members of the International Air Transport Association.

Subject: Mail Vote 702—Resolution 100 Standard Condition Resolution for Special Fares (Memo 1665) Intended effective date: 1 April 2012.

Renee V. Wright,

Program Manager, Docket Operations, Federal Register Liaison.

[FR Doc. 2012–8446 Filed 4–9–12; 8:45 am]

BILLING CODE 4910–9X–P

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

Office of Commercial Space Transportation; Notice of Intent To Prepare an Environmental Impact Statement (EIS), Open a Public Scoping Period, and Conduct a Public Scoping Meeting

AGENCY: The Federal Aviation Administration (FAA) is the lead Federal agency.

ACTION: Notice of Intent to Prepare an EIS, Open a Public Scoping Period, and Conduct a Public Scoping Meeting.

SUMMARY: This Notice provides information to Federal, State, and local agencies, Native American tribes, and other interested persons regarding the FAA's intent to prepare an EIS for Space Exploration Technologies' (SpaceX's) proposal to launch the Falcon 9 and Falcon Heavy orbital vertical launch vehicles from a private site located in Cameron County, Texas. Under the Proposed Action, SpaceX proposes to construct a vertical launch area and a control center area to support up to 12 commercial launches per year. The vehicles to be launched include the Falcon 9, Falcon Heavy (up to two per year), and a variety of smaller reusable suborbital launch vehicles. SpaceX would be required to apply for the appropriate launch licenses and/or experimental permits to be issued by the FAA. The FAA will prepare the EIS in accordance with the National Environmental Policy Act of 1969 (NEPA; 42 United States Code [U.S.C.] 4321 et seq.), the Council on Environmental Quality Regulations for Implementing the Procedural Provisions of NEPA (40 Code of Federal Regulations [CFR] parts 1500–1508), and FAA Order 1050.1E, Change 1, *Environmental Impacts: Policies and Procedures*, as part of its licensing and permitting process.

DATES: The FAA invites interested agencies, organizations, Native American tribes, and members of the public to submit comments or suggestions to assist in identifying significant environmental issues and in determining the appropriate scope of the EIS. The public scoping period starts with the publication of this notice in the **Federal Register**. To ensure sufficient time to consider issues identified during the public scoping period, comments should be submitted to Ms. Stacey M. Zee, FAA Environmental Protection Specialist, by one of the methods listed below no later than May 30, 2012. All comments will receive the same attention and consideration in the preparation of the EIS.

ADDRESSES: Comments, statements, or questions concerning scoping issues or the EIS process should be mailed to: Ms. Stacey M. Zee, FAA Environmental Protection Specialist, SpaceX EIS c/o Cardno TEC Inc., 275 West Street, Suite 110, Annapolis, MD 21409. Comments can also be sent by email to *faaspacexeis@cardnotec.com* or by fax to (410) 990–0455.

SUPPLEMENTARY INFORMATION:

Background

The FAA is preparing an EIS to analyze the potential environmental

impacts of SpaceX's proposal to launch orbital and suborbital launch vehicles from a private site in Cameron County in southern Texas. The EIS will consider the potential environmental impacts of the Proposed Action and reasonable alternatives, including the No Action Alternative. The successful completion of the environmental review process does not guarantee that the FAA would issue launch licenses and/or experimental permits to SpaceX. The project must also meet all FAA safety, risk, and indemnification requirements.

Proposed Action

The Proposed Action is for the FAA to issue launch licenses and/or experimental permits to SpaceX that would allow SpaceX to launch the Falcon 9 and Falcon Heavy orbital vertical launch vehicles and a variety of reusable suborbital launch vehicles from a launch site on privately-owned property in Cameron County, Texas. The Falcon 9 orbital vertical launch vehicle is a medium-lift class launch vehicle with a gross lift-off weight of approximately 1,000,000 pounds (lbs) with a maximum length of 230 feet (ft). The Falcon 9 uses liquid oxygen (LOX) and highly refined kerosene, also known as rocket propellant-1 or refined petroleum-1 (RP–1), as propellants to carry payloads into orbit. The Falcon Heavy is similar to the Falcon 9, except it has an additional two boosters "strapped on," each booster being almost identical to the Falcon 9 first stage core. The Falcon Heavy is a heavy lift class launch vehicle with a gross lift-off weight of approximately 3,400,000 lbs. It has an overall maximum length of approximately 230 ft.

A reusable suborbital launch vehicle could consist of a Falcon 9 Stage 1 tank with a maximum propellant (RP–1 and LOX) load of approximately 6,900 gallons.

As part of the Proposed Action, SpaceX proposes to construct a vertical launch area and a control center area. The proposed vertical launch area site is currently undeveloped and is located directly adjacent to the eastern terminus of Texas State Highway 4 (Boca Chica Boulevard) and approximately 3 miles north of the Mexican border on the Gulf Coast. It is located approximately 5 miles south of Port Isabel and South Padre Island. At the vertical launch area, the new facilities required would include: an integration- and processing-hangar, a launch pad and stand with its associated flame duct, propellant storage and handling areas, a workshop and office area, and a warehouse for parts storage.

The control center area would be located inland to the west of the vertical launch area and would include: A control center building and a payload processing facility; it might also include a launch vehicle preparation hangar and satellite fuels storage. All facilities would be constructed on private land owned or leased by SpaceX. The development of access and supporting utility infrastructure for the vertical launch area and the control center area may occur on lands outside that which is owned or leased by SpaceX.

Operations would consist of up to 12 launches per year with a maximum of two Falcon Heavy launches. All Falcon 9 and Falcon Heavy launches would be expected to have commercial payloads, including satellites or experimental payloads. In addition to standard payloads, the Falcon 9 and Falcon Heavy may also carry a capsule, such as the SpaceX Dragon capsule. All launch trajectories would be to the east over the Gulf of Mexico.

The potential environmental impacts of all proposed construction activities will be analyzed in the EIS, in addition to the impacts from operating the facilities and launching orbital and suborbital launch vehicles. The EIS will evaluate the potential environmental effects associated with: air quality; noise and compatible land use; land use, including Section 4(f) properties and Farmlands; coastal resources; biological resources, including threatened and endangered species; water resources, including surface waters and wetlands, groundwater, floodplains, and water quality; historical, architectural, archaeological, and cultural resources; light emissions and visual resources; hazardous materials, pollution prevention, and solid waste; infrastructure and utilities; and socioeconomics, environmental justice, and children's environmental health and safety. The analysis will include an evaluation of the potential direct and indirect impacts, and will account for cumulative impacts from other relevant activities in the area of Cameron County, Texas.

Alternatives

Alternatives under consideration include the Proposed Action and the No Action Alternative. Under the No Action Alternative, the FAA would not issue a license or experimental permit to SpaceX. Based on comments received during the scoping period, the FAA may propose additional alternatives.

Scoping Meetings

A public scoping meeting will be held to solicit input from the public on potential issues that may need to be evaluated in the EIS. The scoping meeting will be held on May 15, 2012 from 5 p.m. to 8 p.m., at the International Technology, Education and Commerce Center (ITEC Center), located at 301 Mexico Blvd. G–1, Brownsville, Texas 78520. The meeting format will include an open-house workshop from 5 p.m. to 6 p.m. The FAA will provide an overview of the environmental process from 6 p.m. to 6:15 p.m. followed by a public comment period from 6:15 p.m. to 8 p.m.

Issued in Washington, DC on April 3, 2012.

Glenn Rizner,

Deputy Manager, Space Transportation Development Division.

[FR Doc. 2012–8556 Filed 4–9–12; 8:45 am]

BILLING CODE 4910–13–P

DEPARTMENT OF TRANSPORTATION

Federal Railroad Administration

[Docket No. FRA–2012–0033]

Notice of the Buy America Waiver Request for Vossloh 101–LV Concrete Ties

AGENCY: Federal Railroad Administration (FRA), United States Department of Transportation (DOT).

ACTION: Notice of Buy America waiver request and request for comment.

SUMMARY: FRA is issuing this notice to advise the public that the Burlington Northern Santa Fe Railway Co. ("BNSF") has submitted to FRA through or with the support of the Washington Department of Transportation ("WSDOT"), the Illinois Department of Transportation ("IDOT"), the Texas Department of Transportation ("TxDOT"), and the California Department of Transportation ("Caltrans") a waiver request from FRA's Buy America Act requirements for the purchase of Vossloh 101–LV concrete ties, which contain certain components not manufactured in the United States. In furtherance of four FRA High-Speed Intercity Passenger Rail ("HSIPR") grants, BNSF, as the railroad infrastructure owner, will construct certain rail project elements that consist of the installation of Vossloh 101–LV concrete ties. FRA has received this request from the four States for the following projects: (a) The Pacific Northwest Rail Corridor Program (b) the Amtrak Quad Cities to Chicago Service Initiation Project, (c) the Tower 55 At-Grade Improvement Project, and (d) the LA to Fullerton Triple Track—Segment 7 Project.

U.S. Department
of Transportation
Federal Aviation Administration

Office of the Associate Administrator for
Commercial Space Transportation

800 Independence Ave., SW
Washington, DC 20591

MAY 2 2012

Ms. Holly Houghten
THPO
Mescalero Apache Tribe
P.O. Box 227
Mescalero, NM 88340

Dear Ms. Houghten:

The Federal Aviation Administration (FAA), Office of Commercial Space Transportation is in the process of preparing an Environmental Impact Statement (EIS) to assess the potential environmental impacts of the proposed issuance of launch licenses and/or experimental permits to Space Exploration Technologies Corporation (SpaceX) for operating the Falcon 9 and Falcon Heavy launch vehicle programs from a private site located in Cameron County, Texas. The FAA published a Notice of Intent to prepare an EIS in the *Federal Register* on April 10, 2012 (attached below).

Under this proposal, SpaceX would construct a vertical launch area and a control center area to support up to 12 commercial launches per year. The vehicles to be launched include the Falcon 9, Falcon Heavy (up to two per year), and a variety of smaller reusable suborbital launch vehicles. SpaceX would be required to apply for and obtain the appropriate launch licenses and/or experimental permits to be issued by the FAA. The FAA will prepare the EIS in accordance with the National Environmental Policy Act of 1969 (NEPA; 42 United States Code [U.S.C.] 4321 et seq.), the Council on Environmental Quality Regulations for Implementing the Procedural Provisions of NEPA (40 Code of Federal Regulations [CFR] parts 1500-1508), and FAA Order 1050.1E, Change 1, Environmental Impacts: Policies and Procedures, as part of its licensing and permitting process. The current scope of the EIS includes the proposed construction activities and operations associated with launching orbital and suborbital launch vehicles.

The FAA has invited interested agencies, organizations, Native American tribes, and members of the public to submit comments or suggestions to assist in identifying significant environmental issues and in determining the appropriate scope of the EIS. Accordingly, the FAA will hold a public scoping meeting to solicit input from the public on potential environmental issues that may need to be evaluated in the EIS. The scoping meeting will be held on May 15, 2012, from

5:00 p.m. to 8:00 p.m., at the International Technology, Education and Commerce Center (ITEC Center), located at 301 Mexico Boulevard G-1, Brownsville, Texas. The scoping meeting will include a poster information session from 5:00 p.m. to 6:00 p.m., FAA presentation from 6:00 p.m. to 6:15 p.m., followed by a public statement period in which members of the public may provide up to a 3-minute statement. FAA staff will be present at this meeting to answer general questions on the proposed action and the EIS process. Information on the EIS is available at http://www.faa.gov/about/office_org/headquarters_offices/ast/environmental/nepa_docs/review/documents_progress/spacex_texas_launch_site_environmental_impact_statement/

Public comments can be submitted by attending the public scoping meeting or by mailing comments to: Ms. Stacey M. Zee, Environmental Protection Specialist, Federal Aviation Administration, SpaceX EIS c/o Cardno TEC Inc., 275 West Street, Suite 110, Annapolis, MD 21401; email faaspacexeis@cardnotec.com; or fax (410)-990-0455. Comments must be postmarked by May 30, 2012.

If you have any questions or need further information on the project, please contact Ms. Stacey Zee, of my staff, at 202-267-9305 or at Stacey.Zee@faa.gov. Thank you for your interest in this project.

Sincerely,

Glenn Rizner,
Deputy Manager, Space Transportation Development Division

Federal Register / Vol. 77, No. 69 / Tuesday, April 10, 2012 / Notices 21619

DEPARTMENT OF STATE

[Public Notice 7814]

Shipping Coordinating Committee; Notice of Committee Meeting

The Shipping Coordinating Committee (SHC) will conduct an open meeting at 9:30 a.m. on Wednesday, April 25, 2012, in Room 2501 of the United States Coast Guard Headquarters Building, 2100 Second Street SW., Washington, DC 20593–7126. The primary purpose of the meeting is to prepare for the 90th Session of the International Maritime Organization's (IMO) Marine Safety Committee to be held at the IMO Headquarters, London, England, United Kingdom, May 16–25, 2012.

The primary matters to be considered include:

Consideration and adoption of amendments to mandatory instruments;
Measures to enhance maritime security;
Goal-based new ship construction standards;
LRIT-related matters;
Flag State implementation;
Radiocommunications and search and rescue;
Ship design and equipment;
Safety of navigation;
Fire protection;
Dangerous goods, solid cargoes and containers;
Stability, load lines and fishing vessel safety;
Bulk liquids and gases;
Implementation of the STCW Convention;
Technical assistance sub-programme in maritime safety and security;
Capacity-building for the implementation of new measures;
Role of the human element;
Formal safety assessment;
Piracy and armed robbery against ships;
General cargo ship safety;
Implementation of instruments and related matters;
Relations with other organizations;
Application of the Committee's Guidelines;
Passenger ship safety.

Members of the public may attend this meeting up to the seating capacity of the room. To facilitate the building security process, and to request reasonable accommodation, those who plan to attend should contact the meeting coordinator, LCDR Matthew Frazee, by email at *imo@uscg.mil*, by phone at (202) 372–1376, or in writing at Commandant (CG–52), U.S. Coast Guard, 2100 2nd Street SW., Stop 7126, Washington, DC 20593–7126 not later than April 18, 2012, 7 days prior to the meeting. Requests made after April 18, 2012 might not be able to be accommodated. Please note that due to security considerations, two valid, government issued photo identifications must be presented to gain entrance to the Headquarters building. The Headquarters building is accessible by taxi and privately owned conveyance (public transportation is not generally available). However, parking in the vicinity of the building is extremely limited. Additional information regarding this and other IMO SHC public meetings may be found at: *www.uscg.mil/imo.*

Dated: March 29, 2012.

Brian Robinson,

Executive Secretary, Shipping Coordinating Committee, Department of State.

[FR Doc. 2012–8636 Filed 4–9–12; 8:45 am]

BILLING CODE 4710–09–P

DEPARTMENT OF TRANSPORTATION

Office of the Secretary

Aviation Proceedings, Agreements Filed the Week Ending March 10, 2011

The following Agreements were filed with the Department of Transportation under the Sections 412 and 414 of the Federal Aviation Act, as amended (49 U.S.C. 1382 and 1384) and procedures governing proceedings to enforce these provisions. Answers may be filed within 21 days after the filing of the application.

Docket Number: DOT–OST–2012–0035.

Date Filed: March 7, 2012.

Parties: Members of the International Air Transport Association.

Subject: Mail Vote 702—Resolution 100 Standard Condition Resolution for Special Fares (Memo 1665) Intended effective date: 1 April 2012.

Renee V. Wright,

Program Manager, Docket Operations, Federal Register Liaison.

[FR Doc. 2012–8446 Filed 4–9–12; 8:45 am]

BILLING CODE 4910–9X–P

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

Office of Commercial Space Transportation; Notice of Intent To Prepare an Environmental Impact Statement (EIS), Open a Public Scoping Period, and Conduct a Public Scoping Meeting

AGENCY: The Federal Aviation Administration (FAA) is the lead Federal agency.

ACTION: Notice of Intent to Prepare an EIS, Open a Public Scoping Period, and Conduct a Public Scoping Meeting.

SUMMARY: This Notice provides information to Federal, State, and local agencies, Native American tribes, and other interested persons regarding the FAA's intent to prepare an EIS for Space Exploration Technologies' (SpaceX's) proposal to launch the Falcon 9 and Falcon Heavy orbital vertical launch vehicles from a private site located in Cameron County, Texas. Under the Proposed Action, SpaceX proposes to construct a vertical launch area and a control center area to support up to 12 commercial launches per year. The vehicles to be launched include the Falcon 9, Falcon Heavy (up to two per year), and a variety of smaller reusable suborbital launch vehicles. SpaceX would be required to apply for the appropriate launch licenses and/or experimental permits to be issued by the FAA. The FAA will prepare the EIS in accordance with the National Environmental Policy Act of 1969 (NEPA; 42 United States Code [U.S.C.] 4321 et seq.), the Council on Environmental Quality Regulations for Implementing the Procedural Provisions of NEPA (40 Code of Federal Regulations [CFR] parts 1500–1508), and FAA Order 1050.1E, Change 1, *Environmental Impacts: Policies and Procedures*, as part of its licensing and permitting process.

DATES: The FAA invites interested agencies, organizations, Native American tribes, and members of the public to submit comments or suggestions to assist in identifying significant environmental issues and in determining the appropriate scope of the EIS. The public scoping period starts with the publication of this notice in the **Federal Register**. To ensure sufficient time to consider issues identified during the public scoping period, comments should be submitted to Ms. Stacey M. Zee, FAA Environmental Protection Specialist, by one of the methods listed below no later than May 30, 2012. All comments will receive the same attention and consideration in the preparation of the EIS.

ADDRESSES: Comments, statements, or questions concerning scoping issues or the EIS process should be mailed to: Ms. Stacey M. Zee, FAA Environmental Protection Specialist, SpaceX EIS c/o Cardno TEC Inc., 275 West Street, Suite 110, Annapolis, MD 21409. Comments can also be sent by email to *faaspacexeis@cardnotec.com* or by fax to (410) 990–0455.

SUPPLEMENTARY INFORMATION:

Background

The FAA is preparing an EIS to analyze the potential environmental

impacts of SpaceX's proposal to launch orbital and suborbital launch vehicles from a private site in Cameron County in southern Texas. The EIS will consider the potential environmental impacts of the Proposed Action and reasonable alternatives, including the No Action Alternative. The successful completion of the environmental review process does not guarantee that the FAA would issue launch licenses and/or experimental permits to SpaceX. The project must also meet all FAA safety, risk, and indemnification requirements.

Proposed Action

The Proposed Action is for the FAA to issue launch licenses and/or experimental permits to SpaceX that would allow SpaceX to launch the Falcon 9 and Falcon Heavy orbital vertical launch vehicles and a variety of reusable suborbital launch vehicles from a launch site on privately-owned property in Cameron County, Texas. The Falcon 9 orbital vertical launch vehicle is a medium-lift class launch vehicle with a gross lift-off weight of approximately 1,000,000 pounds (lbs) with a maximum length of 230 feet (ft). The Falcon 9 uses liquid oxygen (LOX) and highly refined kerosene, also known as rocket propellant-1 or refined petroleum-1 (RP–1), as propellants to carry payloads into orbit. The Falcon Heavy is similar to the Falcon 9, except it has an additional two boosters "strapped on," each booster being almost identical to the Falcon 9 first stage core. The Falcon Heavy is a heavy lift class launch vehicle with a gross lift-off weight of approximately 3,400,000 lbs. It has an overall maximum length of approximately 230 ft.

A reusable suborbital launch vehicle could consist of a Falcon 9 Stage 1 tank with a maximum propellant (RP–1 and LOX) load of approximately 6,900 gallons.

As part of the Proposed Action, SpaceX proposes to construct a vertical launch area and a control center area. The proposed vertical launch area site is currently undeveloped and is located directly adjacent to the eastern terminus of Texas State Highway 4 (Boca Chica Boulevard) and approximately 3 miles north of the Mexican border on the Gulf Coast. It is located approximately 5 miles south of Port Isabel and South Padre Island. At the vertical launch area, the new facilities required would include: an integration- and processing-hangar, a launch pad and stand with its associated flame duct, propellant storage and handling areas, a workshop and office area, and a warehouse for parts storage.

The control center area would be located inland to the west of the vertical launch area and would include: A control center building and a payload processing facility; it might also include a launch vehicle preparation hangar and satellite fuels storage. All facilities would be constructed on private land owned or leased by SpaceX. The development of access and supporting utility infrastructure for the vertical launch area and the control center area may occur on lands outside that which is owned or leased by SpaceX.

Operations would consist of up to 12 launches per year with a maximum of two Falcon Heavy launches. All Falcon 9 and Falcon Heavy launches would be expected to have commercial payloads, including satellites or experimental payloads. In addition to standard payloads, the Falcon 9 and Falcon Heavy may also carry a capsule, such as the SpaceX Dragon capsule. All launch trajectories would be to the east over the Gulf of Mexico.

The potential environmental impacts of all proposed construction activities will be analyzed in the EIS, in addition to the impacts from operating the facilities and launching orbital and suborbital launch vehicles. The EIS will evaluate the potential environmental effects associated with: air quality; noise and compatible land use; land use, including Section 4(f) properties and Farmlands; coastal resources; biological resources, including threatened and endangered species; water resources, including surface waters and wetlands, groundwater, floodplains, and water quality; historical, architectural, archaeological, and cultural resources; light emissions and visual resources; hazardous materials, pollution prevention, and solid waste; infrastructure and utilities; and socioeconomics, environmental justice, and children's environmental health and safety. The analysis will include an evaluation of the potential direct and indirect impacts, and will account for cumulative impacts from other relevant activities in the area of Cameron County, Texas.

Alternatives

Alternatives under consideration include the Proposed Action and the No Action Alternative. Under the No Action Alternative, the FAA would not issue a license or experimental permit to SpaceX. Based on comments received during the scoping period, the FAA may propose additional alternatives.

Scoping Meetings

A public scoping meeting will be held to solicit input from the public on potential issues that may need to be evaluated in the EIS. The scoping meeting will be held on May 15, 2012 from 5 p.m. to 8 p.m., at the International Technology, Education and Commerce Center (ITEC Center), located at 301 Mexico Blvd. G–1, Brownsville, Texas 78520. The meeting format will include an open-house workshop from 5 p.m. to 6 p.m. The FAA will provide an overview of the environmental process from 6 p.m. to 6:15 p.m. followed by a public comment period from 6:15 p.m. to 8 p.m.

Issued in Washington, DC on April 3, 2012.

Glenn Rizner,

Deputy Manager, Space Transportation Development Division.

[FR Doc. 2012–8556 Filed 4–9–12; 8:45 am]

BILLING CODE 4910–13–P

DEPARTMENT OF TRANSPORTATION

Federal Railroad Administration

[Docket No. FRA–2012–0033]

Notice of the Buy America Waiver Request for Vossloh 101–LV Concrete Ties

AGENCY: Federal Railroad Administration (FRA), United States Department of Transportation (DOT).

ACTION: Notice of Buy America waiver request and request for comment.

SUMMARY: FRA is issuing this notice to advise the public that the Burlington Northern Santa Fe Railway Co. ("BNSF") has submitted to FRA through or with the support of the Washington Department of Transportation ("WSDOT"), the Illinois Department of Transportation ("IDOT"), the Texas Department of Transportation ("TxDOT"), and the California Department of Transportation ("Caltrans") a waiver request from FRA's Buy America Act requirements for the purchase of Vossloh 101–LV concrete ties, which contain certain components not manufactured in the United States. In furtherance of four FRA High-Speed Intercity Passenger Rail ("HSIPR") grants, BNSF, as the railroad infrastructure owner, will construct certain rail project elements that consist of the installation of Vossloh 101–LV concrete ties. FRA has received this request from the four States for the following projects: (a) The Pacific Northwest Rail Corridor Program (b) the Amtrak Quad Cities to Chicago Service Initiation Project, (c) the Tower 55 At-Grade Improvement Project, and (d) the LA to Fullerton Triple Track—Segment 7 Project.

U.S. Department
of Transportation
Federal Aviation Administration

Office of the Associate Administrator for
Commercial Space Transportation

800 Independence Ave., SW
Washington, DC 20591

MAY 2 2012

Mr. Donal Patterson
President
Tonkawa Tribe of Oklahoma
1 Rush Buffalo Rd.
Tonkawa, OK 74653-4449

Dear Mr. Patterson:

The Federal Aviation Administration (FAA), Office of Commercial Space Transportation is in the process of preparing an Environmental Impact Statement (EIS) to assess the potential environmental impacts of the proposed issuance of launch licenses and/or experimental permits to Space Exploration Technologies Corporation (SpaceX) for operating the Falcon 9 and Falcon Heavy launch vehicle programs from a private site located in Cameron County, Texas. The FAA published a Notice of Intent to prepare an EIS in the *Federal Register* on April 10, 2012 (attached below).

Under this proposal, SpaceX would construct a vertical launch area and a control center area to support up to 12 commercial launches per year. The vehicles to be launched include the Falcon 9, Falcon Heavy (up to two per year), and a variety of smaller reusable suborbital launch vehicles. SpaceX would be required to apply for and obtain the appropriate launch licenses and/or experimental permits to be issued by the FAA. The FAA will prepare the EIS in accordance with the National Environmental Policy Act of 1969 (NEPA; 42 United States Code [U.S.C.] 4321 et seq.), the Council on Environmental Quality Regulations for Implementing the Procedural Provisions of NEPA (40 Code of Federal Regulations [CFR] parts 1500-1508), and FAA Order 1050.1E, Change 1, Environmental Impacts: Policies and Procedures, as part of its licensing and permitting process. The current scope of the EIS includes the proposed construction activities and operations associated with launching orbital and suborbital launch vehicles.

The FAA has invited interested agencies, organizations, Native American tribes, and members of the public to submit comments or suggestions to assist in identifying significant environmental issues and in determining the appropriate scope of the EIS. Accordingly, the FAA will hold a public scoping meeting to solicit input from the public on potential environmental issues that may need to be evaluated in the EIS. The scoping meeting will be held on May 15, 2012, from

5:00 p.m. to 8:00 p.m., at the International Technology, Education and Commerce Center (ITEC Center), located at 301 Mexico Boulevard G-1, Brownsville, Texas. The scoping meeting will include a poster information session from 5:00 p.m. to 6:00 p.m., FAA presentation from 6:00 p.m. to 6:15 p.m., followed by a public statement period in which members of the public may provide up to a 3-minute statement. FAA staff will be present at this meeting to answer general questions on the proposed action and the EIS process. Information on the EIS is available at http://www.faa.gov/about/office_org/headquarters_offices/ast/environmental/nepa_docs/review/documents_progress/spacex_texas_launch_site_environmental_impact_statement/

Public comments can be submitted by attending the public scoping meeting or by mailing comments to: Ms. Stacey M. Zee, Environmental Protection Specialist, Federal Aviation Administration, SpaceX EIS c/o Cardno TEC Inc., 275 West Street, Suite 110, Annapolis, MD 21401; email faaspacexeis@cardnotec.com; or fax (410)-990-0455. Comments must be postmarked by May 30, 2012.

If you have any questions or need further information on the project, please contact Ms. Stacey Zee, of my staff, at 202-267-9305 or at Stacey.Zee@faa.gov. Thank you for your interest in this project.

Sincerely,

Glenn Rizner,
Deputy Manager, Space Transportation Development Division

Federal Register / Vol. 77, No. 69 / Tuesday, April 10, 2012 / Notices 21619

DEPARTMENT OF STATE

[Public Notice 7814]

Shipping Coordinating Committee; Notice of Committee Meeting

The Shipping Coordinating Committee (SHC) will conduct an open meeting at 9:30 a.m. on Wednesday, April 25, 2012, in Room 2501 of the United States Coast Guard Headquarters Building, 2100 Second Street SW., Washington, DC 20593–7126. The primary purpose of the meeting is to prepare for the 90th Session of the International Maritime Organization's (IMO) Marine Safety Committee to be held at the IMO Headquarters, London, England, United Kingdom, May 16–25, 2012.

The primary matters to be considered include:

Consideration and adoption of amendments to mandatory instruments;
Measures to enhance maritime security;
Goal-based new ship construction standards;
LRIT-related matters;
Flag State implementation;
Radiocommunications and search and rescue;
Ship design and equipment;
Safety of navigation;
Fire protection;
Dangerous goods, solid cargoes and containers;
Stability, load lines and fishing vessel safety;
Bulk liquids and gases;
Implementation of the STCW Convention;
Technical assistance sub-programme in maritime safety and security;
Capacity-building for the implementation of new measures;
Role of the human element;
Formal safety assessment;
Piracy and armed robbery against ships;
General cargo ship safety;
Implementation of instruments and related matters;
Relations with other organizations;
Application of the Committee's Guidelines;
Passenger ship safety.

Members of the public may attend this meeting up to the seating capacity of the room. To facilitate the building security process, and to request reasonable accommodation, those who plan to attend should contact the meeting coordinator, LCDR Matthew Frazee, by email at *imo@uscg.mil*, by phone at (202) 372–1376, or in writing at Commandant (CG–52), U.S. Coast Guard, 2100 2nd Street SW., Stop 7126, Washington, DC 20593–7126 not later than April 18, 2012, 7 days prior to the meeting. Requests made after April 18, 2012 might not be able to be accommodated. Please note that due to security considerations, two valid, government issued photo identifications must be presented to gain entrance to the Headquarters building. The Headquarters building is accessible by taxi and privately owned conveyance (public transportation is not generally available). However, parking in the vicinity of the building is extremely limited. Additional information regarding this and other IMO SHC public meetings may be found at: *www.uscg.mil/imo.*

Dated: March 29, 2012.

Brian Robinson,

Executive Secretary, Shipping Coordinating Committee, Department of State.

[FR Doc. 2012–8636 Filed 4–9–12; 8:45 am]

BILLING CODE 4710–09–P

DEPARTMENT OF TRANSPORTATION

Office of the Secretary

Aviation Proceedings, Agreements Filed the Week Ending March 10, 2011

The following Agreements were filed with the Department of Transportation under the Sections 412 and 414 of the Federal Aviation Act, as amended (49 U.S.C. 1382 and 1384) and procedures governing proceedings to enforce these provisions. Answers may be filed within 21 days after the filing of the application.

Docket Number: DOT–OST–2012–0035.

Date Filed: March 7, 2012.

Parties: Members of the International Air Transport Association.

Subject: Mail Vote 702—Resolution 100 Standard Condition Resolution for Special Fares (Memo 1665) Intended effective date: 1 April 2012.

Renee V. Wright,

Program Manager, Docket Operations, Federal Register Liaison.

[FR Doc. 2012–8446 Filed 4–9–12; 8:45 am]

BILLING CODE 4910–9X–P

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

Office of Commercial Space Transportation; Notice of Intent To Prepare an Environmental Impact Statement (EIS), Open a Public Scoping Period, and Conduct a Public Scoping Meeting

AGENCY: The Federal Aviation Administration (FAA) is the lead Federal agency.

ACTION: Notice of Intent to Prepare an EIS, Open a Public Scoping Period, and Conduct a Public Scoping Meeting.

SUMMARY: This Notice provides information to Federal, State, and local agencies, Native American tribes, and other interested persons regarding the FAA's intent to prepare an EIS for Space Exploration Technologies' (SpaceX's) proposal to launch the Falcon 9 and Falcon Heavy orbital vertical launch vehicles from a private site located in Cameron County, Texas. Under the Proposed Action, SpaceX proposes to construct a vertical launch area and a control center area to support up to 12 commercial launches per year. The vehicles to be launched include the Falcon 9, Falcon Heavy (up to two per year), and a variety of smaller reusable suborbital launch vehicles. SpaceX would be required to apply for the appropriate launch licenses and/or experimental permits to be issued by the FAA. The FAA will prepare the EIS in accordance with the National Environmental Policy Act of 1969 (NEPA; 42 United States Code [U.S.C.] 4321 et seq.), the Council on Environmental Quality Regulations for Implementing the Procedural Provisions of NEPA (40 Code of Federal Regulations [CFR] parts 1500–1508), and FAA Order 1050.1E, Change 1, *Environmental Impacts: Policies and Procedures*, as part of its licensing and permitting process.

DATES: The FAA invites interested agencies, organizations, Native American tribes, and members of the public to submit comments or suggestions to assist in identifying significant environmental issues and in determining the appropriate scope of the EIS. The public scoping period starts with the publication of this notice in the **Federal Register**. To ensure sufficient time to consider issues identified during the public scoping period, comments should be submitted to Ms. Stacey M. Zee, FAA Environmental Protection Specialist, by one of the methods listed below no later than May 30, 2012. All comments will receive the same attention and consideration in the preparation of the EIS.

ADDRESSES: Comments, statements, or questions concerning scoping issues or the EIS process should be mailed to: Ms. Stacey M. Zee, FAA Environmental Protection Specialist, SpaceX EIS c/o Cardno TEC Inc., 275 West Street, Suite 110, Annapolis, MD 21409. Comments can also be sent by email to *faaspacexeis@cardnotec.com* or by fax to (410) 990–0455.

SUPPLEMENTARY INFORMATION:

Background

The FAA is preparing an EIS to analyze the potential environmental

impacts of SpaceX's proposal to launch orbital and suborbital launch vehicles from a private site in Cameron County in southern Texas. The EIS will consider the potential environmental impacts of the Proposed Action and reasonable alternatives, including the No Action Alternative. The successful completion of the environmental review process does not guarantee that the FAA would issue launch licenses and/or experimental permits to SpaceX. The project must also meet all FAA safety, risk, and indemnification requirements.

Proposed Action

The Proposed Action is for the FAA to issue launch licenses and/or experimental permits to SpaceX that would allow SpaceX to launch the Falcon 9 and Falcon Heavy orbital vertical launch vehicles and a variety of reusable suborbital launch vehicles from a launch site on privately-owned property in Cameron County, Texas. The Falcon 9 orbital vertical launch vehicle is a medium-lift class launch vehicle with a gross lift-off weight of approximately 1,000,000 pounds (lbs) with a maximum length of 230 feet (ft). The Falcon 9 uses liquid oxygen (LOX) and highly refined kerosene, also known as rocket propellant-1 or refined petroleum-1 (RP–1), as propellants to carry payloads into orbit. The Falcon Heavy is similar to the Falcon 9, except it has an additional two boosters "strapped on," each booster being almost identical to the Falcon 9 first stage core. The Falcon Heavy is a heavy lift class launch vehicle with a gross lift-off weight of approximately 3,400,000 lbs. It has an overall maximum length of approximately 230 ft.

A reusable suborbital launch vehicle could consist of a Falcon 9 Stage 1 tank with a maximum propellant (RP–1 and LOX) load of approximately 6,900 gallons.

As part of the Proposed Action, SpaceX proposes to construct a vertical launch area and a control center area. The proposed vertical launch area site is currently undeveloped and is located directly adjacent to the eastern terminus of Texas State Highway 4 (Boca Chica Boulevard) and approximately 3 miles north of the Mexican border on the Gulf Coast. It is located approximately 5 miles south of Port Isabel and South Padre Island. At the vertical launch area, the new facilities required would include: an integration- and processing-hangar, a launch pad and stand with its associated flame duct, propellant storage and handling areas, a workshop and office area, and a warehouse for parts storage.

The control center area would be located inland to the west of the vertical launch area and would include: A control center building and a payload processing facility; it might also include a launch vehicle preparation hangar and satellite fuels storage. All facilities would be constructed on private land owned or leased by SpaceX. The development of access and supporting utility infrastructure for the vertical launch area and the control center area may occur on lands outside that which is owned or leased by SpaceX.

Operations would consist of up to 12 launches per year with a maximum of two Falcon Heavy launches. All Falcon 9 and Falcon Heavy launches would be expected to have commercial payloads, including satellites or experimental payloads. In addition to standard payloads, the Falcon 9 and Falcon Heavy may also carry a capsule, such as the SpaceX Dragon capsule. All launch trajectories would be to the east over the Gulf of Mexico.

The potential environmental impacts of all proposed construction activities will be analyzed in the EIS, in addition to the impacts from operating the facilities and launching orbital and suborbital launch vehicles. The EIS will evaluate the potential environmental effects associated with: air quality; noise and compatible land use; land use, including Section 4(f) properties and Farmlands; coastal resources; biological resources, including threatened and endangered species; water resources, including surface waters and wetlands, groundwater, floodplains, and water quality; historical, architectural, archaeological, and cultural resources; light emissions and visual resources; hazardous materials, pollution prevention, and solid waste; infrastructure and utilities; and socioeconomics, environmental justice, and children's environmental health and safety. The analysis will include an evaluation of the potential direct and indirect impacts, and will account for cumulative impacts from other relevant activities in the area of Cameron County, Texas.

Alternatives

Alternatives under consideration include the Proposed Action and the No Action Alternative. Under the No Action Alternative, the FAA would not issue a license or experimental permit to SpaceX. Based on comments received during the scoping period, the FAA may propose additional alternatives.

Scoping Meetings

A public scoping meeting will be held to solicit input from the public on potential issues that may need to be evaluated in the EIS. The scoping meeting will be held on May 15, 2012 from 5 p.m. to 8 p.m., at the International Technology, Education and Commerce Center (ITEC Center), located at 301 Mexico Blvd. G–1, Brownsville, Texas 78520. The meeting format will include an open-house workshop from 5 p.m. to 6 p.m. The FAA will provide an overview of the environmental process from 6 p.m. to 6:15 p.m. followed by a public comment period from 6:15 p.m. to 8 p.m.

Issued in Washington, DC on April 3, 2012.

Glenn Rizner,

Deputy Manager, Space Transportation Development Division.

[FR Doc. 2012–8556 Filed 4–9–12; 8:45 am]

BILLING CODE 4910–13–P

DEPARTMENT OF TRANSPORTATION

Federal Railroad Administration

[Docket No. FRA–2012–0033]

Notice of the Buy America Waiver Request for Vossloh 101–LV Concrete Ties

AGENCY: Federal Railroad Administration (FRA), United States Department of Transportation (DOT).

ACTION: Notice of Buy America waiver request and request for comment.

SUMMARY: FRA is issuing this notice to advise the public that the Burlington Northern Santa Fe Railway Co. ("BNSF") has submitted to FRA through or with the support of the Washington Department of Transportation ("WSDOT"), the Illinois Department of Transportation ("IDOT"), the Texas Department of Transportation ("TxDOT"), and the California Department of Transportation ("Caltrans") a waiver request from FRA's Buy America Act requirements for the purchase of Vossloh 101–LV concrete ties, which contain certain components not manufactured in the United States. In furtherance of four FRA High-Speed Intercity Passenger Rail ("HSIPR") grants, BNSF, as the railroad infrastructure owner, will construct certain rail project elements that consist of the installation of Vossloh 101–LV concrete ties. FRA has received this request from the four States for the following projects: (a) The Pacific Northwest Rail Corridor Program (b) the Amtrak Quad Cities to Chicago Service Initiation Project, (c) the Tower 55 At-Grade Improvement Project, and (d) the LA to Fullerton Triple Track—Segment 7 Project.

U.S. Department
of Transportation
**Federal Aviation
Administration**

Office of the Associate Administrator for
Commercial Space Transportation

800 Independence Ave., SW.
Washington, DC 20591

MAR 21 2013

Mark Wolfe
Executive Director
State Historic Preservation Officer
Texas Historic Commission
108 W 16th Street
Austin, Texas 78701

Dear Mr. Wolfe:

As you are aware, the Federal Aviation Administration Office of Commercial Space Transportation (FAA/AST) is preparing an Environmental Impact Statement (EIS) in accordance with the National Environmental Policy Act to assess the potential environmental impacts of the proposed issuance of launch licenses and/or experimental permits to Space Exploration Technologies Corp. (SpaceX) for operating the Falcon 9 and Falcon Heavy vehicle launch programs from a private site located in Cameron County, Texas. The vehicles that would be launched include the Falcon 9, Falcon Heavy (up to two launches per year), and a variety of smaller reusable suborbital launch vehicles. Under this proposal, SpaceX would construct a vertical launch area and a control center area to support up to 12 commercial launches per year. The proposed vertical launch area is currently undeveloped and is located directly adjacent to the eastern terminus of Texas State Highway 4 (Boca Chica Boulevard) and approximately 5 miles south of Port Isabel and South Padre Island. The proposed control center would be located immediately adjacent to Boca Chica Village, approximately 2 miles west of the proposed vertical launch area and north of Boca Chica Boulevard. Further details of the Proposed Action are described in the Preliminary Draft EIS (PDEIS) that was provided to you on March 4, 2013.

Section 4(f) of the Department of Transportation Act provides that the Secretary of Transportation will not approve any program or project that requires the use of any publicly owned land from a public park, recreation area, or wildlife or waterfowl refuge of national, state, or local significance, or land from any publicly or privately owned historic site of national, state, or local significance, unless there is no feasible and prudent alternative to the use of such land or such program and the project includes all possible planning to minimize harm resulting from the use. For historic sites, Section 4(f) does not apply to archaeological resources that are important chiefly for data recovery. As the Texas State Historic Preservation Office, the Texas Historical Commission has jurisdiction over Section 4(f) properties that are publicly or privately owned historic sites of national, state, or local significance. Therefore, the purposes of this letter are to: notify you of the FAA/AST's determination on the applicability of Section 4(f) to historic archaeological sites located near the proposed launch facility; notify you of our Section

4(f) determination for the properties in which Section 4(f) applies; and to request your concurrence on both determinations.

Eleven historic sites are located near the proposed launch site and control center and are being considered under Section 106 of the National Historic Preservation Act (NHPA). Of these, the FAA/AST has concluded that seven are archaeological sites that are important chiefly for data recovery, and as such, are not applicable to Section 4(f). These seven sites include a prehistoric site, four historic sites, and two historic shipwreck sites that have been evaluated as eligible for the National Register of Historic Places because they have the potential to answer important research questions. None of the sites contain intact structural remains that would warrant them being considered eligible for the National Register under any other criteria. They are important chiefly because of the information they could provide, and not because they contain any structural remains that would be worthy of preservation in place. Therefore, of the 11 historic sites being considered under Section 106, the FAA/AST has determined that the following four historic sites are protected under Section 4(f):

- Palmito Ranch Battlefield National Historic Landmark (41CF93)
- 1846 Cypress Pilings (41CF117.1)
- 1865 Palmetto Pilings (no site number)
- Palmetto Pilings Texas Centennial Historical Marker (no site number)

The FAA/AST evaluated the potential impacts on these four properties to determine if the properties would be "used" by the Proposed Action's operational or construction activities. "Use" in the Section 4(f) context has a very specific meaning and could fall into one of three categories: physical use, temporary occupancy, or constructive use. With respect to physical use of a Section 4(f) property, a *de minimis* impact determination may be made if, after taking into account any measures to minimize harm, the result is a determination that a project would not adversely affect the activities, features, or attributes qualifying the property for protection under Section 4(f). A *de minimis* impact determination does not require an analysis and finding that there are no feasible and prudent alternatives or a finding that all possible planning has been done to minimize harm. When there is no physical use and no temporary occupancy, but there is the possibility of constructive use, the FAA must determine if the potential impacts would substantially impair the 4(f) property. Substantial impairment occurs when the protected activities, features, or attributes of the Section 4(f) property are substantially diminished.

Construction

Construction of the proposed facilities would not involve the physical use (i.e., actual taking of lands) or temporary occupancy of any of the properties listed above; all land where construction activities would occur is privately owned and would be purchased or leased by SpaceX. Construction would occur over a 24-month period. Construction activities would result in some noise, but it would be short-term and temporary. The noise would not substantially limit the use or diminish the quality of any of the properties, such that their value is impaired. Therefore, construction activities would not constitute a constructive use of the four properties listed above.

Construction of the vertical launch and control center areas would result in indirect visual effects on the setting of one of the four historic sites: the Palmito Ranch Battlefield National Historic Landmark (NHL). The setting, an open, gently rolling plain of dunes and tidal flats with lomas, is one of the

primary attributes that contributes to the significance of the NHL. Little development has occurred in this area, and what has been developed largely comprises one-story residences. The 250-foot tall water tower and the up to 200-foot tall lightning protection towers would be visible from much of the NHL (refer to Exhibit 4.4-1 in the PDEIS). However, these facilities would have a small profile on the horizon due to the relative distance of the vertical launch area from the NHL (approximately 3 miles from its eastern end). To minimize the visibility of the facilities in the landscape, SpaceX would paint the water tower, lightning towers, and other launch facilities as necessary a non-reflective, light tan color. Additional measures to minimize harm may be developed in consultation with your office and consulting parties in accordance with the Section 106 process. Taking this into account, the FAA/AST concluded that construction of the launch facilities is unlikely to cause a substantial diminishment of setting to the level of severity that would cause the Palmito Ranch Battlefield to no longer qualify as an NHL. Therefore, the FAA/AST determined that construction activities would not constitute a constructive use of the NHL.

The FAA/AST also considered potential reasonably foreseeable future effects from the Proposed Action on the four properties. The proposed launch campaigns would be expected to attract tourists to the area to view a launch event. The presence of increased numbers of people would bring greater attention to the historic sites listed above. The launches may result in increased traffic and parking along State Highway 4. During launches, however, public access to State Highway 4 would be closed for safety and security reasons at a pre-defined checkpoint and SpaceX would monitor the area to the east of the checkpoint, which encompasses the eastern third of the NHL and the locations of the pilings and historical marker, to ensure that the area is clear (refer to Exhibit 2-1 in the PDEIS). SpaceX would educate the public on safe and lawful areas where they could watch launches. The presence of the launch facility may attract visitors to the area between launch campaigns. Concerning entry and use of the Palmito Ranch Battlefield, all visitors would be subject to the same rules and regulations year-round. Increased foot or vehicular traffic, particularly from off-road vehicles, could impact both pilings sites. The FAA/AST will be developing measures to minimize harm to the pilings in consultation with your office and consulting parties in accordance with the Section 106 process. The FAA/AST has determined that increased visitation to the area to view launches or the launch facility would not result in induced impacts that would substantially impair the activities, features, or attributes of the four properties listed above, and thus, would not result in a constructive use under Section 4(f).

Operation

The FAA/AST reviewed modeled noise levels from the vertical launch of the Falcon 9 and Falcon Heavy vehicles to determine whether there would be significant noise increases such that the value of the four above-listed Section 4(f) properties in terms of their respective significance and quality would be substantially impaired, thus constituting a constructive use of the Section 4(f) properties. The noise modeling demonstrates that both sets of pilings and the Palmetto Pilings Historical Marker, but not the Palmito Ranch Battlefield NHL, would be within the DNL 65 dBA noise contour, the standard used by the FAA to measure a significant noise impact, for the three launch event scenarios that were modeled based on the number of daytime and nighttime launch events (refer to Exhibit 4.1-1 in the PDEIS). The proposed launches would produce short-term high levels of noise that would last approximately 3 to 5 minutes for each launch, and there would be no more than 12 launches per year. When launches are not occurring (i.e., approximately 97 percent of the year), the normal quiet setting of the properties would persist. Because of the short-term and intermittent nature of the noise generated from launches, the

FAA/AST determined the Proposed Action would not substantially diminish any of the attributes that contribute to the significance of the properties. Therefore, the FAA/AST determined that the noise generated by the launches would not constitute a constructive use of the four Section 4(f) properties listed above.

In addition to noise, the FAA/AST reviewed modeled noise levels from the vertical launch of the Falcon 9 and Falcon Heavy vehicles to assess the potential for vibrations caused by launch operations under the Proposed Action. According to the noise modeling, the probability of noise-induced structural vibration damage to structures is 1 in 100 within areas exposed to unweighted noise levels of 119 dB or greater, which for the Falcon 9 is within 3.4 miles of the vertical launch area and 6.4 miles for the Falcon Heavy. Of the four Section 4(f) properties listed above, both sets of pilings and the Palmetto Pilings Historical Marker would be susceptible to noise-induced vibrations from launches. The three sites are northwest of the east end of the vertical launch area, within 2,000 feet of where the launch pad and associated flame duct would be positioned. In fact, all three sites are within the 135 dB contour, increasing the chance of damage to the resources. Potential damage could include displacement or breakage of the structural features of the pilings, and cracking of the marker's foundation or the marker toppling over. The FAA/AST will develop mitigation measures to mitigate and minimize potential harm in consultation with your office and consulting parties in accordance with the Section 106 process. As such, the FAA/AST concluded that operations of the launch facility are unlikely to cause a substantial impairment to the historical integrity of the Cypress Pilings, Palmetto Pilings, or Palmetto Pilings Historical Marker, and thus, would not constitute a constructive use of any of these properties.

If your office has no objection to the Section 4(f) property determinations stated above, please provide written concurrence by April 21, 2013 to Ms. Stacey M. Zee, Environmental Specialist, 800 Independence Ave., SW, Suite 325, Washington, DC 20591. If you have any questions or concerns, please contact Ms. Zee at 202-267-9305 or via e-mail at Stacey.Zee@faa.gov.

Sincerely,

Michael J. McElligott
Manager, Space Systems Development Division

cc Kim Barker
Najah Duvall-Gabriel, Advisory Council on Historic Preservation

U.S. Department
of Transportation
**Federal Aviation
Administration**

Office of the Associate Administrator for
Commercial Space Transportation

800 Independence Ave., SW.
Washington, DC 20591

MAR 21 2013

Cheryl Eckhardt
Environmental Compliance Specialist
National Park Service
Intermountain Regional Office
12795 W. Alameda Parkway
Denver, Colorado 80225-0287

Dear Ms. Eckhardt:

As you are aware, the Federal Aviation Administration Office of Commercial Space Transportation (FAA/AST) is preparing an Environmental Impact Statement (EIS) in accordance with the National Environmental Policy Act to assess the potential environmental impacts of the proposed issuance of launch licenses and/or experimental permits to Space Exploration Technologies Corp. (SpaceX) for operating the Falcon 9 and Falcon Heavy vehicle launch programs from a private site located in Cameron County, Texas. The vehicles that would be launched include the Falcon 9, Falcon Heavy (up to two launches per year), and a variety of smaller reusable suborbital launch vehicles. Under this proposal, SpaceX would construct a vertical launch area and a control center area to support up to 12 commercial launches per year. The proposed vertical launch area is currently undeveloped and is located directly adjacent to the eastern terminus of Texas State Highway 4 (Boca Chica Boulevard) and approximately 5 miles south of Port Isabel and South Padre Island. The proposed control center would be located immediately adjacent to Boca Chica Village, approximately 2 miles west of the proposed vertical launch area and north of Boca Chica Boulevard. Further details of the Proposed Action are described in the Preliminary Draft EIS (PDEIS) that was provided to you on January 4, 2013.

Section 4(f) of the Department of Transportation Act provides that the Secretary of Transportation will not approve any program or project that requires the use of any publicly owned land from a public park, recreation area, or wildlife or waterfowl refuge of national, state, or local significance, or land from any publicly or privately owned historic site of national, state, or local significance, unless there is no feasible and prudent alternative to the use of such land or such program and the project includes all possible planning to minimize harm resulting from the use. Section 4(f) properties that are administered by the National Park Service and are located near the proposed vertical launch area and control center area include the Palmito Ranch Battlefield National Historic Landmark (NHL) (refer to Exhibit 3.1-1 in the PDEIS for the locations of the vertical launch and control center areas relative to the NHL). The purpose of this letter is to notify you of the FAA/AST's Section 4(f) determination for the NHL and to request your concurrence.

The FAA/AST evaluated the potential impacts on the NHL to determine if it would be "used" by the Proposed Action's construction or operational activities. "Use" in the Section 4(f) context has a very

specific meaning and could fall into one of three categories: physical use, temporary occupancy, or constructive use. With respect to physical use of a Section 4(f) property, a *de minimis* impact determination may be made if, after taking into account any measures to minimize harm, the result is a determination that a project would not adversely affect the activities, features, or attributes qualifying the property for protection under Section 4(f). A *de minimis* impact determination does not require an analysis and finding that there are no feasible and prudent alternatives or a finding that all possible planning has been done to minimize harm. When there is no physical use and no temporary occupancy, but there is the possibility of constructive use, the FAA must determine if the potential impacts would substantially impair the Section 4(f) property. Substantial impairment occurs when the protected activities, features, or attributes of the Section 4(f) property are substantially diminished.

Construction

Construction of the proposed facilities would not involve the physical use (i.e., actual taking of lands) or temporary occupancy of the NHL; all land where construction activities would occur is privately owned and would be purchased or leased by SpaceX. Construction would occur over a 24-month period. During this time, vehicular access to the NHL would not be restricted, and there would be no permanent, long-term access restrictions to the property. Construction activities would result in some noise from passing construction/delivery vehicles, but it would be short-term and temporary. The noise would not substantially limit the use or diminish the quality of the NHL, such that the value is impaired.

Construction of the vertical launch and control center areas would introduce new elements within the view shed of the NHL. The setting of the NHL is one of the primary attributes that contribute to its significance. Little development has occurred in this area, and what has been developed largely comprises one-story residences. The 250-foot tall water tower and the up to 200-foot tall lightning protection towers would be visible from much of the NHL (refer to Exhibit 4.4-1 in the PDEIS). However, these facilities would have a small profile on the horizon due to the relative distance of the vertical launch area from the NHL (approximately 3 miles from its eastern end). In addition, SpaceX would paint the water tower, lightning towers, and other launch facilities as necessary a non-reflective, light tan color to minimize the visibility of the facilities in the landscape. In consideration of this minimization measure and the relative distance of the facilities from the NHL, construction of the facilities is unlikely to result in a substantial diminishment of setting to the level of severity that would cause the Palmito Ranch Battlefield to no longer qualify as an NHL. Therefore, the FAA/AST determined that construction activities would not constitute a constructive use of the NHL.

Operation

During launches, public access to the eastern third of the NHL would be closed for safety and security reasons (refer to Exhibit 2-1 in the PDEIS). The closures would occur on an intermittent basis, up to 12 times per year, and would be temporary (up to 15 hours for each launch). SpaceX would notify the National Park Service in advance of launches so your agency could plan for the closures and avoid conflicts for special events or programs. The western two-thirds of the NHL, which comprises the core area of the battlefield, would be accessible to and open for use by the public during launches. Therefore, the closures would not substantially reduce the use or enjoyment of the NHL because impacts from closures during launches would be intermittent and temporary.

In addition to closures, the FAA/AST reviewed modeled noise levels from the vertical launch of the Falcon 9 and Falcon Heavy vehicles to determine whether there would be significant noise increases such that the value of the NHL in terms of its significance and quality would be substantially impaired, thus constituting a constructive use of the NHL. The Palmito Ranch Battlefield NHL is outside of the DNL 65 dBA noise contour, the standard used by the FAA to measure a significant noise impact, for the three launch event scenarios that were modeled based on the number of daytime and nighttime launch events (refer to Exhibit 4.1-1 in the PDEIS). The FAA/AST used additional noise metrics to consider the significance of noise impacts on a noise sensitive area such as the NHL. The sound levels from a single launch event of the Falcon 9 and Falcon Heavy were modeled at the east and west borders of the NHL (approximately 3.5 and 12.1 miles, respectively, from the vertical launch area). The results indicate that the 115 dBA OSHA hearing conservation guideline for single noise events would not be exceeded at either location of the NHL. Specifically, for a Falcon 9 launch, the model predicted maximum overall sound pressure levels of 105 dBA and 94 dBA at the eastern and western borders of the NHL, respectively. For a Falcon Heavy launch, the predicted overall sound pressure levels are 110 dBA and 99 dBA at the eastern and western borders of the NHL, respectively.

Another supplemental metric modeled the potential speech interference of a launch event using time above an overall sound pressure of 66 dBA. Outdoor speech interference can be expressed as a percentage of sentence intelligibility between two people standing at approximately 3.28 feet (1 meter) apart and speaking in a normal voice, with 95 percent speech intelligibility as the threshold for reliable communication. The model results indicate that speech intelligibility at the east and west borders of the NHL would drop below 95 percent for a period of less than 3 to 5 minutes per launch. To account for outdoor interpretive programs where the communication distance may be greater than 3.28 feet, time above an overall sound pressure of 52 dBA was used to estimate potential speech interference between two people standing 16.4 feet (5 meters) apart with normal voice levels, or 32.8 feet (10 meters) apart with raised voice levels. The results of this model indicate that speech intelligibility at either location in the NHL would drop below 95 percent for a period of up to 6 to 8 minutes per launch.

Operations of the vertical launch area and the control center areas under the Proposed Action would not substantially impair the use or significant attributes of the NHL because impacts from closures and noise during launches would be short-term and intermittent. Therefore, the FAA/AST determined that operational activities would not constitute a constructive use of the NHL.

If your office has no objection to the Section 4(f) property determinations stated above, please provide written concurrence by April 21, 2013 to Ms. Stacey M. Zee, Environmental Specialist, 800 Independence Ave., SW, Suite 325, Washington, DC 20591. If you have any questions or concerns, please contact Ms. Zee at 202-267-9305 or via e-mail at Stacey.Zee@faa.gov.

Sincerely,

Michael J. McElligott
Manager, Space Systems Development Division

THIS PAGE INTENTIONALLY LEFT BLANK

U.S. Department
of Transportation
**Federal Aviation
Administration**

Office of the Associate Administrator for
Commercial Space Transportation

800 Independence Ave., SW.
Washington, DC 20591

MAR 21 2013

Allan Strand
Field Supervisor
US Fish and Wildlife Service
Ecological Services
c/o TAMU-CC, Campus Box 338
6300 Ocean Drive
Corpus Christi, Texas 78412

Dear Mr. Strand:

As you are aware, the Federal Aviation Administration Office of Commercial Space Transportation (FAA/AST) is preparing an Environmental Impact Statement (EIS) in accordance with the National Environmental Policy Act to assess the potential environmental impacts of the proposed issuance of launch licenses and/or experimental permits to Space Exploration Technologies Corp. (SpaceX) for operating the Falcon 9 and Falcon Heavy vehicle launch programs from a private site located in Cameron County, Texas. The vehicles that would be launched include the Falcon 9, Falcon Heavy (up to two launches per year), and a variety of smaller reusable suborbital launch vehicles. Under this proposal, SpaceX would construct a vertical launch area and a control center area to support up to 12 commercial launches per year. The proposed vertical launch area is currently undeveloped and is located directly adjacent to the eastern terminus of Texas State Highway 4 (Boca Chica Boulevard) and approximately 5 miles south of Port Isabel and South Padre Island. The proposed control center would be located immediately adjacent to Boca Chica Village, approximately 2 miles west of the proposed vertical launch area and north of Boca Chica Boulevard. Further details of the Proposed Action are described in the Preliminary Draft EIS (PDEIS) that was provided to you on January 4, 2013.

Section 4(f) of the Department of Transportation Act provides that the Secretary of Transportation will not approve any program or project that requires the use of any publicly owned land from a public park, recreation area, or wildlife or waterfowl refuge of national, state, or local significance, or land from any publicly or privately owned historic site of national, state, or local significance, unless there is no feasible and prudent alternative to the use of such land or such program and the project includes all possible planning to minimize harm resulting from the use. Section 4(f) properties that are managed by the U.S. Fish and Wildlife Service (USFWS) and are located near the proposed launch vertical launch area and control center area include the Lower Rio Grande Valley National Wildlife Refuge (NWR) and the Palmito Ranch Battlefield National Historic Landmark (NHL), which is largely contained within the NWR (refer to Exhibit 3.1-1 in the PDEIS for the locations of the vertical launch and control center areas relative to the NWR and NHL). The purpose of this letter is to notify you of the FAA/AST's Section 4(f) determination for the NWR and NHL and to request your concurrence.

The FAA/AST evaluated the potential impacts on the NWR and NHL to determine if the properties would be "used" by the Proposed Action's operational or construction activities. "Use" in the Section 4(f) context has a very specific meaning and could fall into one of three categories: physical use, temporary occupancy, or constructive use. With respect to physical use of a Section 4(f) property, a *de minimis* impact determination may be made if, after taking into account any measures to minimize harm, the result is a determination that a project would not adversely affect the activities, features, or attributes qualifying the property for protection under Section 4(f). A *de minimis* impact determination does not require an analysis and finding that there are no feasible and prudent alternatives or a finding that all possible planning has been done to minimize harm. When there is no physical use and no temporary occupancy, but there is the possibility of constructive use, the FAA must determine if the potential impacts would substantially impair the 4(f) property. Substantial impairment occurs when the protected activities, features, or attributes of the Section 4(f) property are substantially diminished.

Construction

Construction of the proposed facilities would not involve the physical use (i.e., actual taking of lands) or temporary occupancy of the NWR or NHL; all land where construction activities would occur is privately owned and would be purchased or leased by SpaceX. Construction would occur over a 24-month period. During this time, vehicular access to the NWR and NHL would not be restricted, and there would be no permanent, long-term access restrictions to either property. Construction activities would result in some noise, but it would be short-term and temporary. The noise would not substantially limit the use or diminish the quality of the NWR or the NHL, such that their respective value is impaired. Therefore, the FAA/AST determined construction activities would not constitute a constructive use of the NWR or the NHL.

Construction of the vertical launch and control center areas would introduce new elements within the view shed of the Palmito Ranch Battlefield NHL. The setting of the NHL is one of the primary attributes that contribute to its significance. Little development has occurred in this area, and what has been developed largely comprises one-story residences. The 250-foot tall water tower and the up to 200-foot tall lightning protection towers would be visible from much of the NHL (refer to Exhibit 4.4-1 in the PDEIS). However, these facilities would have a small profile on the horizon due to the relative distance of the vertical launch area from the NHL (approximately 3 miles from its eastern end). In addition, SpaceX would paint the water tower, lightning towers, and other launch facilities as necessary a non-reflective, light tan color to minimize the visibility of the facilities in the landscape. In consideration of this minimization measure and the relative distance of the facilities from the NHL, construction of the commercial launch facilities is unlikely to result in a substantial diminishment of setting to the level of severity that would cause the Palmito Ranch Battlefield to no longer qualify as an NHL. Therefore, the FAA/AST determined construction activities would not constitute a constructive use of the NHL.

Operation

During launches, public access to portions of the NWR and the NHL would be closed for safety and security reasons (refer to Exhibit 2-1 in the PDEIS). The closures would occur on an intermittent basis, up to 12 times per year, and would be temporary (up to 15 hours for each launch). SpaceX would notify the USFWS in advance of launches so your agency could plan for the closures and avoid conflicts for

special events or programs. All portions of the NWR and the NHL outside of the closure area would be accessible to and open for use by the public during launches. Therefore, the closures would not substantially reduce the use or enjoyment of the NWR or the NHL because impacts from closures during launches would be intermittent and temporary.

In addition to closures, the FAA/AST reviewed modeled noise levels from the vertical launch of the Falcon 9 and Falcon Heavy vehicles to determine whether there would be significant noise increases such that the respective values of the NWR and NHL in terms of their purpose and quality would be substantially impaired, thus constituting a constructive use. The noise modeling demonstrates that portions of the NWR would be within the DNL 65 dBA noise contour, the standard used by the FAA to measure a significant noise impact, for the three launch event scenarios that were modeled based on the number of daytime and nighttime launch events (refer to Exhibit 4.1-1 in the PDEIS). The NHL, however, is outside of the DNL 65 dBA noise contour for each launch scenario. The proposed launches would produce short-term, loud noise that would last approximately 3 to 5 minutes for each launch, and there would be no more than 12 launches per year. When launches are not occurring (i.e., approximately 97 percent of the year), the normal quiet setting of the NWR and NHL would persist.

The FAA/AST used additional noise metrics to consider the significance of noise impacts on a noise sensitive area such as the NHL. The sound levels from a single launch event of the Falcon 9 and Falcon Heavy were modeled at the east and west borders of the NHL (approximately 3 and 12 miles, respectively, from the vertical launch area); both locations are within the NWR. The results indicate that the 115 dBA OSHA hearing conservation guideline for single noise events would not be exceeded at either location. Specifically, for a Falcon 9 launch, the model predicted maximum overall sound pressure levels of 105 dBA and 94 dBA at the eastern and western borders of the NHL, respectively. For a Falcon Heavy launch, the predicted overall sound pressure levels are 110 dBA and 99 dBA at the eastern and western borders of the NHL, respectively.

Another supplemental metric modeled the potential speech interference of a launch event using time above an overall sound pressure of 66 dBA. Outdoor speech interference can be expressed as a percentage of sentence intelligibility between two people standing at approximately 3.28 feet (1 meter) apart and speaking in a normal voice, with 95 percent speech intelligibility as the threshold for reliable communication. The model results indicate that speech intelligibility at the east and west borders of the NHL would drop below 95 percent for a period of less than 3 to 5 minutes per launch.

Because of the short-term and intermittent nature of the noise generated from launches, the Proposed Action would not substantially diminish the attributes (i.e., quiet setting) that contribute to the enjoyment of the NWR or the significance of the NHL. Therefore, the FAA/AST determined that operational activities would not constitute a constructive use of the NHL or the NWR.

If your office has no objection to the Section 4(f) property determinations stated above, please provide written concurrence by April 21, 2013 to Ms. Stacey M. Zee, Environmental Specialist, 800 Independence Ave., SW, Suite 325, Washington, DC 20591. If you have any questions or concerns, please contact Ms. Zee at 202-267-9305 or via e-mail at Stacey.Zee@faa.gov.

Sincerely,

Michael J. McElligott
Manager, Space Systems Development Division

U.S. Department
of Transportation
**Federal Aviation
Administration**

Office of the Associate Administrator for
Commercial Space Transportation

800 Independence Ave., SW.
Washington, DC 20591

MAR 21 2013

Ross Melinchuk
Deputy Executive Director, Natural Resources
Texas Parks and Wildlife
4200 Smith School Rd
Austin, TX 78744

Dear Mr. Melinchuk:

The Federal Aviation Administration Office of Commercial Space Transportation (FAA/AST) is preparing an Environmental Impact Statement (EIS) to assess the potential environmental impacts of the proposed issuance of launch licenses and/or experimental permits to Space Exploration Technologies Corp. (SpaceX) for operating the Falcon 9 and Falcon Heavy vehicle launch programs from a private site located in Cameron County, Texas. Under this proposal, SpaceX would construct a vertical launch area and a control center area to support up to 12 commercial launches per year. A description of the Proposed Action is enclosed (refer to Attachment 1).

Section 4(f) of the Department of Transportation Act provides that the Secretary of Transportation will not approve any program or project that requires the use of any publicly owned land from a public park, recreation area, or wildlife or waterfowl refuge of national, state, or local significance, or land from any publicly or privately owned historic site of national, state, or local significance, unless there is no feasible and prudent alternative to the use of such land or such program and the project includes all possible planning to minimize harm resulting from the use. Section 4(f) properties that are managed by the Texas Parks and Wildlife Department (TPWD) and are located near the proposed vertical launch area and control center area include: (1) Boca Chica State Park, (2) Brazos Island State Park, and (3) South Bay Coastal Preserve (refer to Attachment 2). The purpose of this letter is to notify you of the FAA/AST's Section 4(f) determination for these properties and to request your concurrence.

The FAA/AST evaluated the potential impacts on the three properties listed above to determine if the properties would be "used" by the Proposed Action's operational or construction activities. "Use" in the Section 4(f) context has a very specific meaning and could fall into one of three categories: physical use, temporary occupancy, or constructive use. With respect to physical use of a Section 4(f) property, a *de minimis* impact determination may be made if, after taking into account any measures to minimize harm, the result is a determination that a project would not adversely affect the activities, features, or attributes qualifying the property for protection under Section 4(f). A *de minimis* impact determination does not require an analysis and finding that there are no feasible and prudent alternatives or a finding that all possible planning has been done to minimize harm. When there is no physical use and no temporary occupancy, but there is

the possibility of constructive use, the FAA must determine if the potential impacts would substantially impair the 4(f) property. Substantial impairment occurs when the protected activities, features, or attributes of the Section 4(f) property are substantially diminished.

Construction

Construction of the proposed facilities would not involve the physical use (i.e., actual taking of lands) or temporary occupancy of any of the three properties listed above; all land where construction activities would occur is privately owned and would be purchased or leased by SpaceX. Construction would occur over a 24-month period, during which time vehicular access to Boca Chica State Park, Brazos Island State Park, and South Bay Coastal Preserve may be slowed or delayed several times a day when construction vehicles are traveling to and from the proposed vertical launch area and control center area. There would be no permanent, long-term access restrictions to these Section 4(f) properties. Construction activities would result in some noise, but it would be short-term and temporary. The noise would not substantially limit the use or diminish the quality of any of the Section 4(f) properties, such that the value is impaired. Therefore, the FAA/AST determined construction activities would not constitute a constructive use of the three properties listed above.

Operation

Operation of the proposed vertical launch area and control center area would have temporary, intermittent impacts on the use of the three properties listed above. During launches, public access to Boca Chica State Park, Brazos Island State Park, and South Bay Coastal Preserve would be closed for safety and security reasons (refer to Attachment 3). The closures would occur on an intermittent basis, up to 12 times per year, and would be temporary (up to 15 hours for each launch). The FAA/AST determined the closures would not substantially reduce the use or enjoyment of the two parks or the preserve because impacts from closures during launches would be intermittent and temporary, and thus, would not constitute a constructive use of the three properties.

In addition to closures, the FAA/AST reviewed modeled noise levels from the vertical launch of the Falcon 9 and Falcon Heavy vehicles to determine whether there would be significant noise increases such that the value of the TPWD-managed properties in terms of their purpose and quality would be substantially impaired, thus constituting a constructive use of the Section 4(f) properties. The noise modeling demonstrates that all of Boca Chica State Park and Brazos Island State Park, and portions of the South Bay Coastal Preserve, would be within the DNL 65 dBA noise contour, the standard used by the FAA to measure a significant noise impact, for the three launch event scenarios that were modeled based on the number of daytime and nighttime launch events (refer to Attachment 4). The proposed launches would produce short-term high levels of noise that would last approximately 3 to 5 minutes for each launch, and there would be no more than 12 launches per year. When launches are not occurring (i.e., approximately 97 percent of the year), the normal quiet setting of the two parks and coastal preserve would persist. Because of the short-term and intermittent nature of the noise generated from launches, the FAA/AST determined the Proposed Action would not substantially diminish the attributes (i.e., quiet setting) that contribute to the enjoyment or quality of the three properties listed above. Therefore, the FAA/AST determined that the noise generated by the launches would not constitute a constructive use of the three properties.

If your office has no objection to the Section 4(f) property determinations stated above, please provide written concurrence by April 21, 2013 to Ms. Stacey M. Zee, Environmental Specialist, 800 Independence Ave., SW, Suite 325, Washington, DC 20591. If you have any questions or concerns, please contact Ms. Zee at 202-267-9305 or via e-mail at Stacey.Zee@faa.gov.

Sincerely,

Michael J. McElligott
Manager, Space Systems Development Division

Enclosure: Attachment 1. Description of the Proposed Action
Attachment 1-A. Proposed Vertical Launch Area Layout
Attachment 1-B. Proposed Control Center Area Layout, Parcels 2 and 3
Attachment 1-C. Proposed Control Center Area Layout, Parcel 1
Attachment 2. Locations of Section 4(f) Properties in Relation to Vertical Launch and Control Center Areas
Attachment 3. Proposed Launch Day Closure Areas
Attachment 4. DNL 65 dBA Noise Contours for Three Annual Operations Scenarios

Attachment 1. Description of the Proposed Action

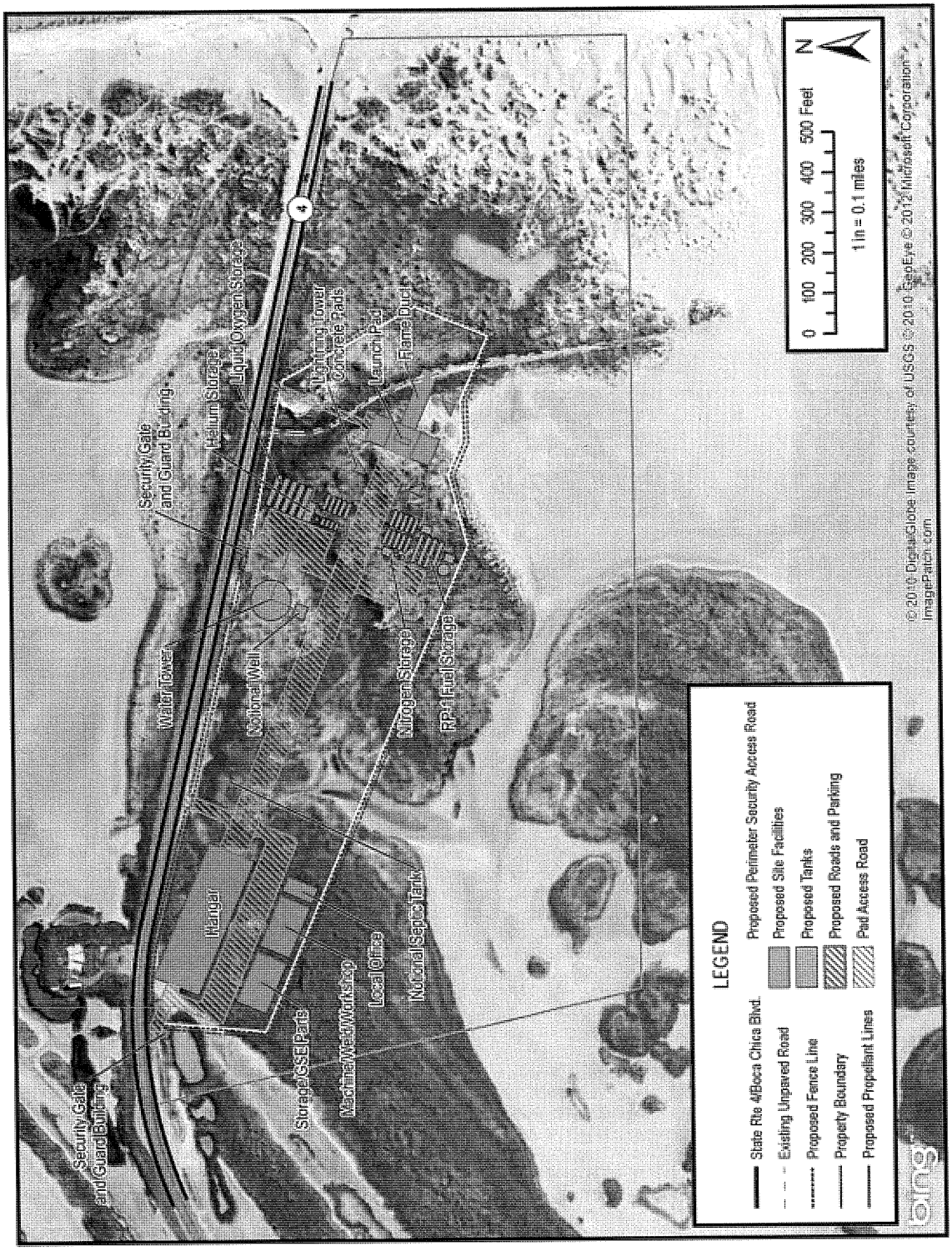
As part of FAA's Proposed Action of issuing launch licenses and/or experimental permits to SpaceX, SpaceX would construct a vertical launch area and a control center area to support up to 12 launches per year. The vehicles that would be launched include the Falcon 9, Falcon Heavy (up to two launches per year), and a variety of smaller reusable suborbital launch vehicles. SpaceX would be required to apply for the appropriate launch licenses and/or experimental permits to be issued by the FAA. SpaceX would be the exclusive user of the site.

The proposed vertical launch area is currently undeveloped and is located directly adjacent to the eastern terminus of Texas State Highway 4 (Boca Chica Boulevard) and approximately 3 miles north of the Mexican border on the Gulf Coast. It is located approximately 5 miles south of Port Isabel and South Padre Island. Access to the area is from Boca Chica Boulevard. Proposed facility and infrastructure construction at the vertical launch area would include an integration and processing hangar; a launch pad and stand with its associated flame duct; a water tower; a retention basin for deluge water (including a water tower); propellant storage and handling areas; a workshop and office area; a warehouse for parts storage; and roads, parking areas, fencing, security gates, and utilities. The parcel where the vertical launch area would be located is 56.5 acres; however, development of the vertical launch area would only comprise approximately 20 acres (see Attachment 1-A).

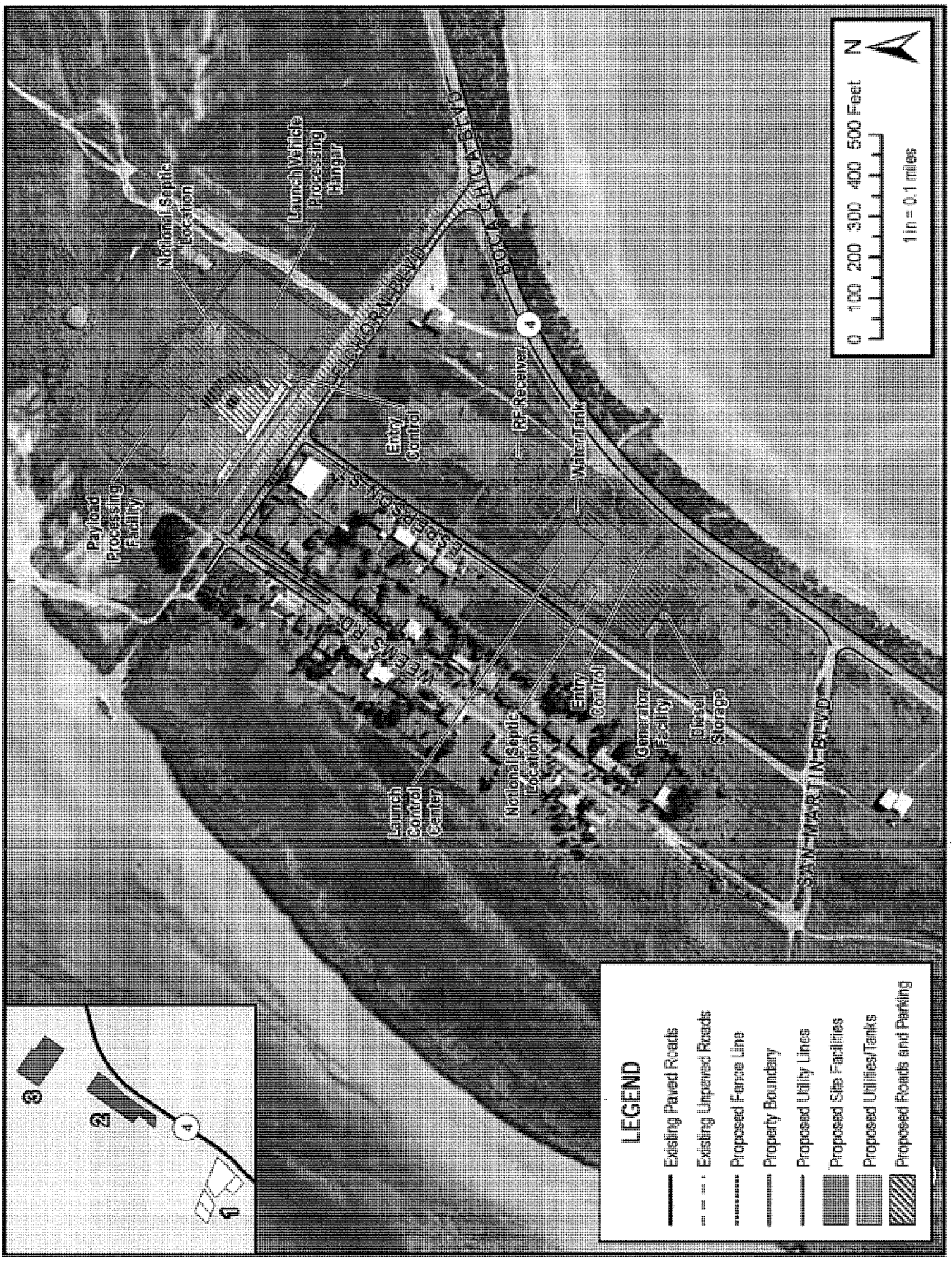
The proposed control center would be located immediately adjacent to Boca Chica Village, approximately 2 miles west of the proposed vertical launch area and north of Boca Chica Boulevard. Proposed facility and infrastructure construction at the control center area would include two launch control center buildings; two payload processing facilities; a launch vehicle processing hangar; two radio frequency transmitter/receivers; generators and diesel storage facilities; roads, parking areas, fencing, utilities; and a satellite fuels storage facility. In addition, upgraded and new power lines would be installed underground in the Boca Chica Boulevard road right-of-way from the control center area to the vertical launch area (see Attachments 1-B and 1-C).

The Falcon 9 is a medium-lift class launch vehicle with a gross lift-off weight of approximately 1,100,000 pounds (lbs.) with an approximate length of 224 feet (ft.). The Falcon 9 uses liquid oxygen (LOX) and highly refined kerosene, also known as rocket propellant-1 or refined petroleum-1 (RP-1), as propellants to carry payloads into orbit. The Falcon Heavy is a heavy-lift class launch vehicle with a gross lift-off weight of approximately 3,400,000 lbs. It has a width of 36 ft. and an overall length of approximately 224 ft.

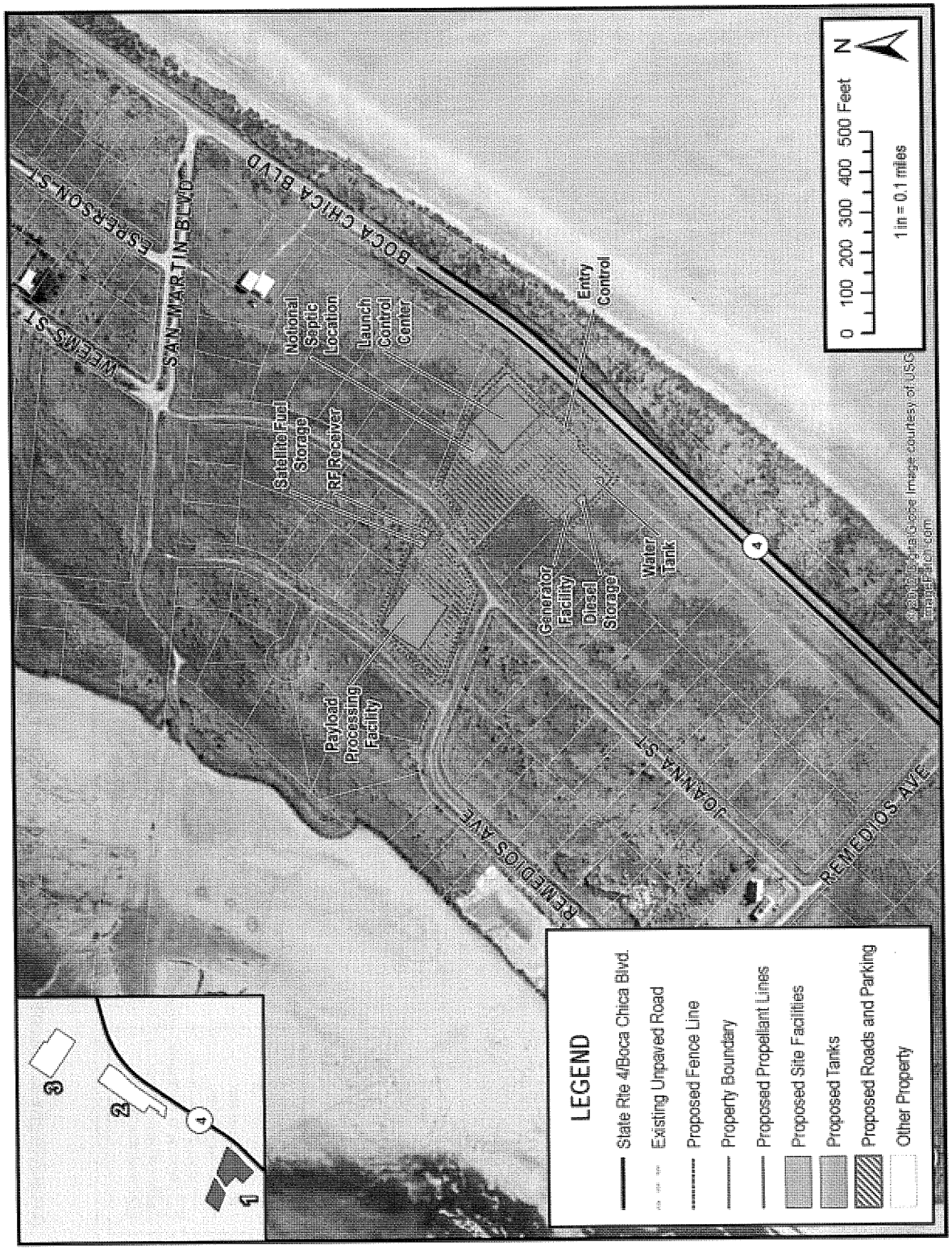
All Falcon 9 and Falcon Heavy launches would be expected to have payloads, including satellites or experimental payloads. In addition to standard payloads, the Falcon 9 and Falcon Heavy may also carry a capsule, such as the SpaceX Dragon capsule. Most payloads would be commercial; however, some could be from the National Aeronautics and Space Administration (or NASA) or the U.S. Department of Defense. All launch trajectories would be to the east over the Gulf of Mexico.



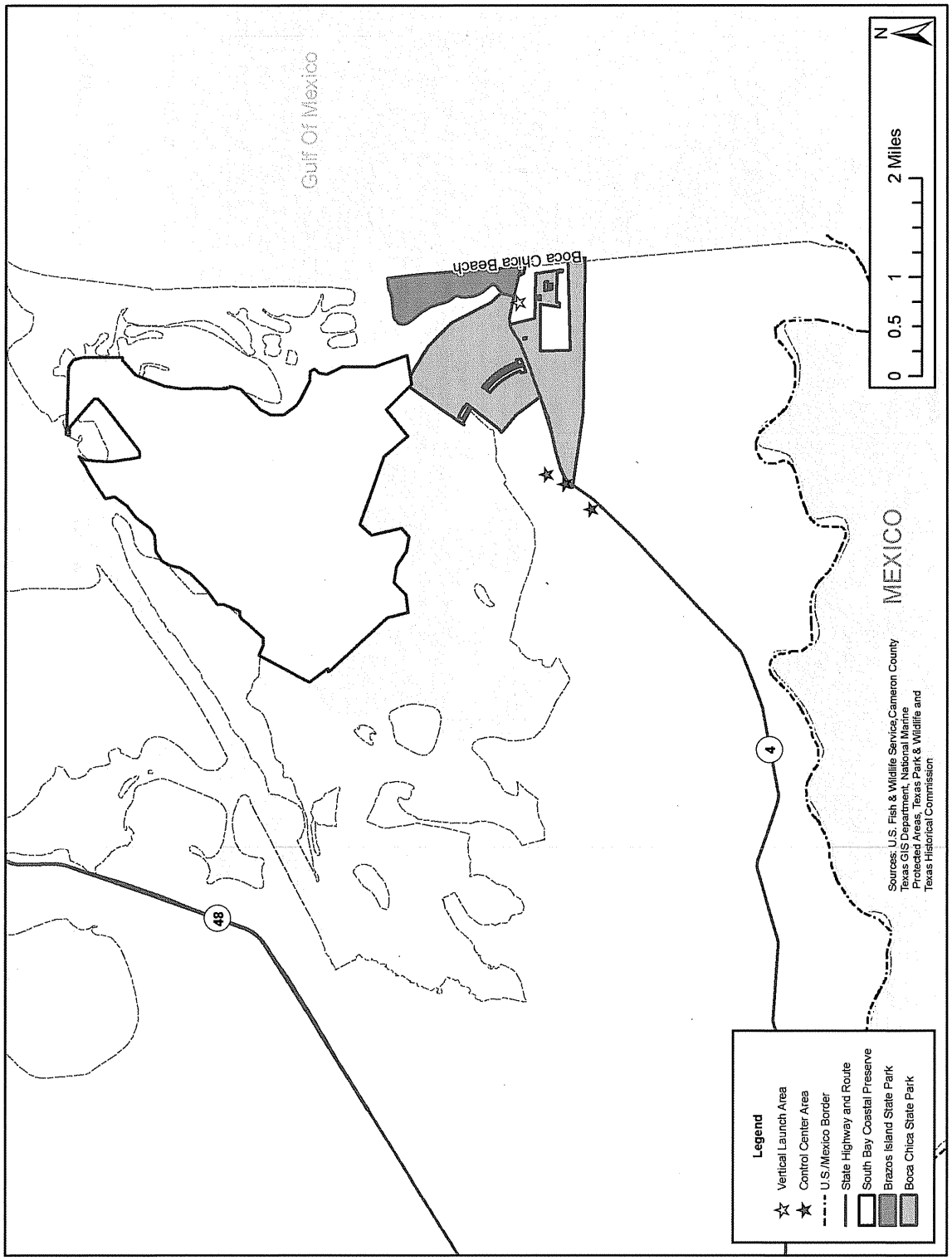
Attachment 1-A. Proposed Vertical Launch Area Layout



Attachment 1-B. Proposed Control Center Area Layout, Parcels 2 and 3

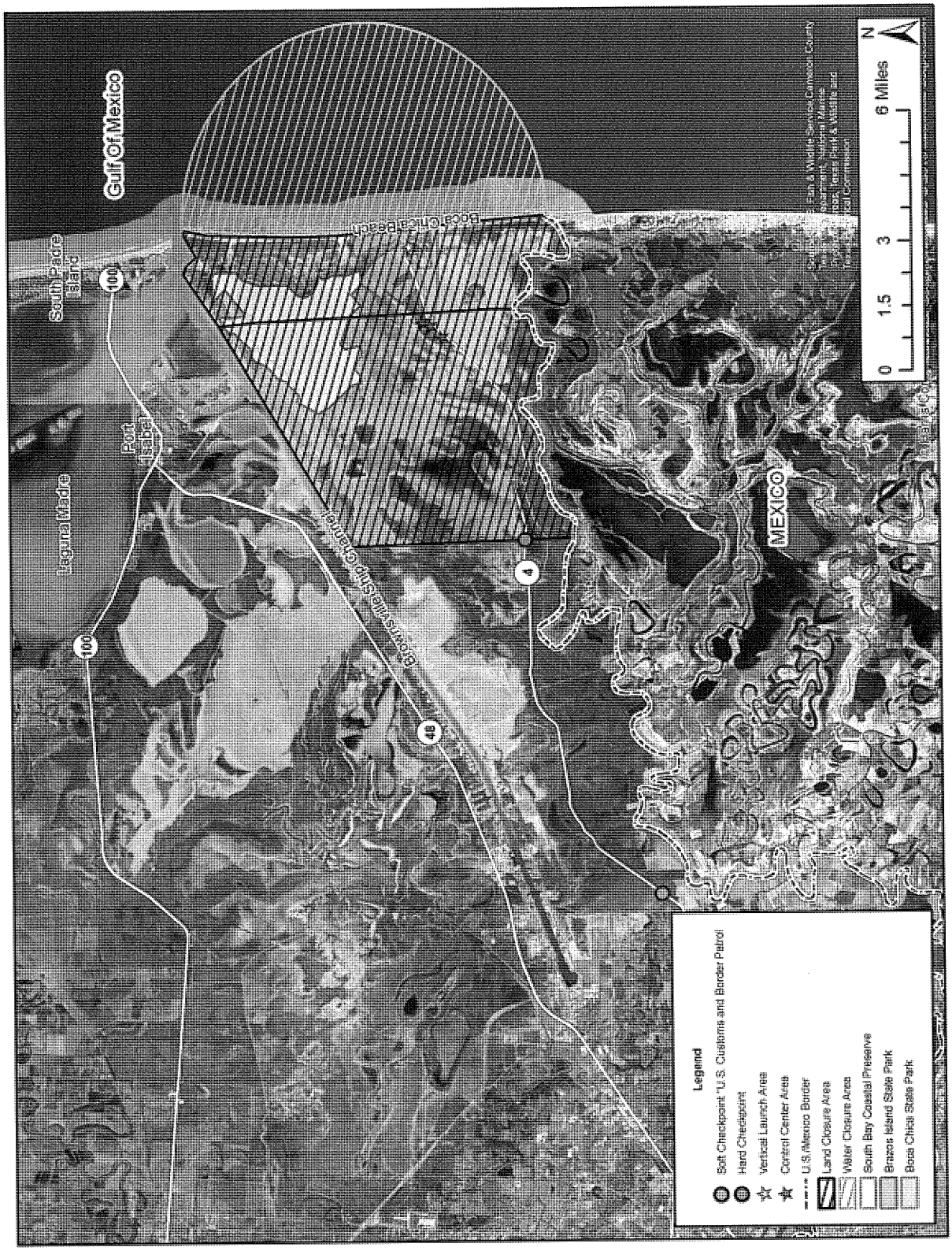


Attachment 1-C. Proposed Control Center Area Layout, Parcel 1

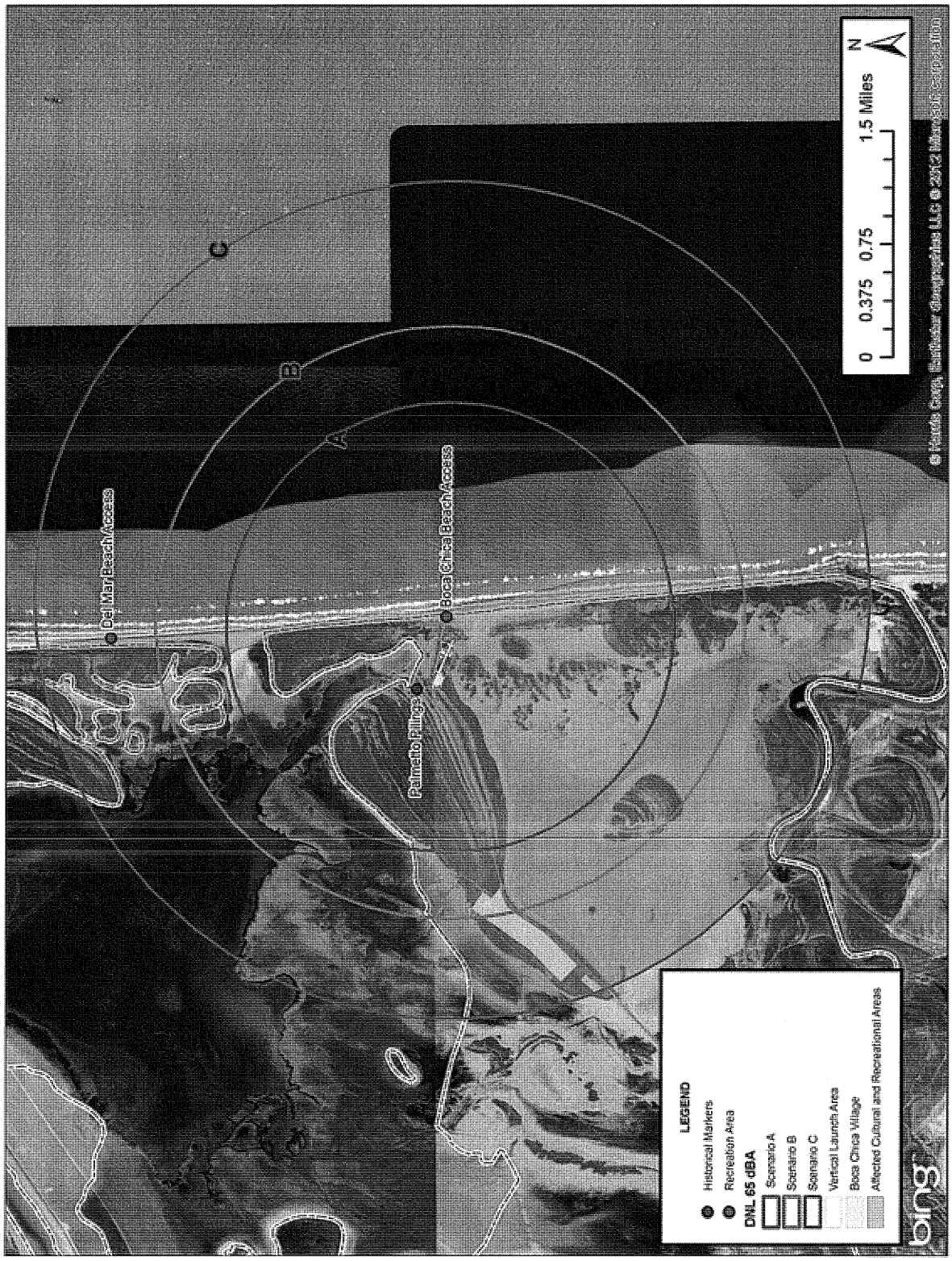


Attachment 2. Locations of Section 4(f) Properties in Relation to Vertical Launch and Control Center Areas

Page **8** of **10**



Attachment 3. Proposed Launch Day Closure Areas



Attachment 4. DNL 65 dBA Noise Contours for Three Annual Operations Scenarios

Appendix D
Launch Noise Modeling Report

THIS PAGE INTENTIONALLY LEFT BLANK

Blue Ridge Research and Consulting, LLC

Final (Revised Oct 2012)

Far-Field Launch Noise During Falcon 9 and Falcon Heavy Liftoff from Texas Launch Site

October 2012

Prepared for:
Cardno® TEC, Inc
Jaclyn Johnson
275 West Street, Suite 110
Annapolis, MD 21401

Prepared by:
Michael James, M.S.
Alexandria Salton, M.S.
Micah Downing, Ph.D.

Blue Ridge Research and Consulting
15 W. Walnut St., Suite C
Asheville, NC 28801
(p) 828-252-2209
(f) 831-603-8321
www.BlueRidgeResearch.com

Contract Number:
9877-27417

BRRC Report Number:
BRRC 12-05 Rev 1

FOR OFFICIAL USE ONLY – NOT FOR PUBLIC RELEASE

Table of Contents

Table of Figures 3
Table of Tables 3
1 Introduction 4
2 Noise Metrics and Criteria 6
2.1 Noise Metrics 6
2.2 Noise Criteria 7
2.2.1 Human Annoyance 7
2.2.2 Hearing Conservation 7
2.2.3 Structural Damage 8
3 Acoustic Modeling Methodology 9
3.1 Launch Noise 9
3.2 Far-Field Launch Noise Modeling 9
3.2.1 Acoustic Efficiency 11
3.2.2 Source Directivity 11
3.2.3 Doppler Effect 12
3.2.4 Ground Interference 13
3.2.5 Atmospheric Absorption and Nonlinear Effects 13
3.3 Sonic Boom Noise Modeling 14
4 Results 15
4.1 Maximum A-weighted OASPL Contour Maps 15
4.2 Maximum Unweighted OASPL Contour Maps 19
4.3 A-weighted SEL Contour Maps 23
4.4 DNL Contour Map 27
4.5 Sonic Boom Noise Contours 29
4.6 OASPL at Nearest House Location 30
5 Summary 32
6 Works Cited 33

FOR OFFICIAL USE ONLY – NOT FOR PUBLIC RELEASE

Table of Figures

Figure 1. Proposed launch site location in Cameron County, Texas 4
Figure 2. Falcon 9 (left), Falcon Heavy (center), SpaceX Merlin 1D Engine (right) 5
Figure 3. Trajectory (top), altitude profile (bottom left), and flight path angle (bottom right) of Falcon 9 (blue) and Falcon Heavy (red) 11
Figure 4. Effect of expanding wavefronts (decrease in frequency) that an observer would notice for higher relative speeds of the rocket relative to the observer for: a) stationary source b) source velocity < speed of sound c) source velocity = speed of sound d) source velocity > speed of sound 12
Figure 5. Sound propagation near the ground is modeled as the combination of a direct wave (blue) and a reflected wave (red) from the source to the receiver. 13
Figure 6. Falcon 9 $L_{A,max}$ within 6-mile radius from launch site 16
Figure 7. Falcon 9 $L_{A,max}$ within 20-mile radius from launch site 16
Figure 8. Falcon Heavy $L_{A,max}$ within 6-mile radius from launch site 17
Figure 9. Falcon Heavy $L_{A,max}$ within 20-mile radius from launch site 17
Figure 10. Falcon 9 L_{max} within 6-mile radius from launch site 20
Figure 11. Falcon 9 L_{max} within 20-mile radius from launch site 20
Figure 12. Falcon Heavy L_{max} within 6-mile radius from launch site 21
Figure 13. Falcon Heavy L_{max} within 20-mile radius from launch site 21
Figure 14. Falcon 9 SEL within 6-mile radius from launch site 24
Figure 15. Falcon 9 SEL within 20-mile radius from launch site 24
Figure 16. Falcon Heavy SEL within 6-mile radius from launch site 25
Figure 17. Falcon Heavy SEL within 20-mile radius from launch site 25
Figure 18. DNL 65 dBA noise contours for the three annual operations scenarios 28
Figure 19. Falcon 9 sonic boom footprint within a 100-mile radius from launch site 29
Figure 20. Falcon Heavy sonic boom footprint within a 100-mile radius from launch site 29
Figure 21. Location of nearest house in reference to the proposed launch site 30
Figure 22. Falcon 9 OASPL time history at nearest house location 31
Figure 23. Falcon Heavy OASPL time history at nearest house location 31

Table of Tables

Table 1. Total thrust of the Falcon 9 and Falcon Heavy launch vehicles 10
Table 2. Maximum predicted $L_{A,max}$ versus distance 18
Table 3. Maximum predicted L_{max} versus distance 22
Table 4. Maximum predicted SEL versus distance 26
Table 5. Annual operations scenarios used to compute DNL noise contours 28
Table 6. L_{max} at nearest house location 31

FOR OFFICIAL USE ONLY – NOT FOR PUBLIC RELEASE

1 Introduction

This noise analysis supports the Environmental Impact Statement (EIS) for the Federal Aviation Administration (FAA) Office of Commercial Space Transportation (AST) Proposed Action to issue launch licenses and/or experimental permits to Space Exploration Technologies Corp. (SpaceX) that would allow SpaceX to conduct launches of the Falcon 9 and Falcon Heavy orbital vertical launch vehicles and a variety of reusable suborbital launch vehicles from a launch site on privately owned property in Cameron County, Texas (Figure 1). The Falcon 9 is a medium-lift class launch vehicle, which is designed to provide cargo and crew to the International Space Station and other low Earth orbit (LEO) destinations. The Falcon Heavy is a heavy-lift class launch vehicle, designed to place satellites/payloads into LEO and Geostationary Transfer Orbit [1]. SpaceX has proposed to conduct up to twelve total launches per year between the Falcon 9 and Falcon heavy (up to two per year). The majority of launches would occur between the hours of 7:00 a.m. and 7:00 p.m. However, there could be up to one nighttime launch per year. All launches, including pre-flight activities, would be conducted under the control of SpaceX, FAA/AST, and the Launch Operations Area with Houston Air Route Traffic Control Center.

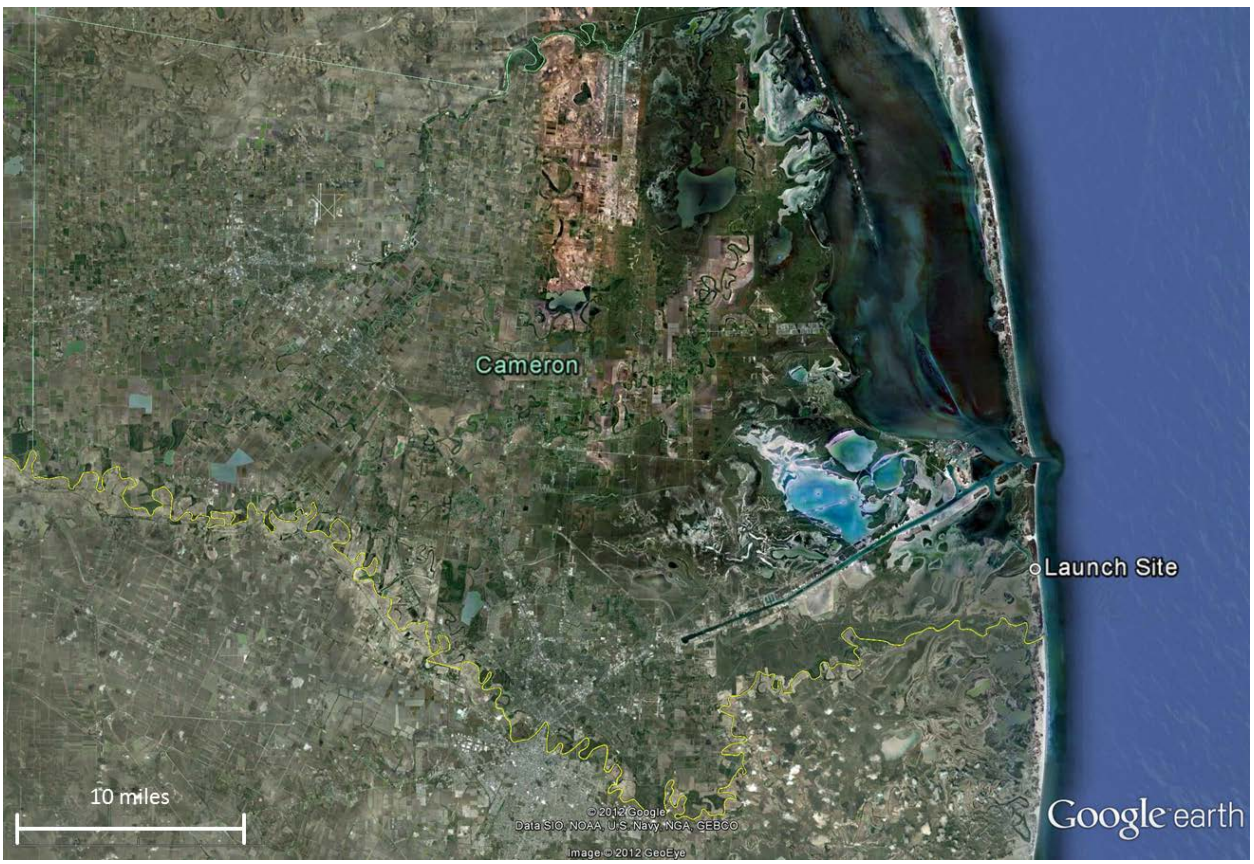


Figure 1. Proposed launch site location in Cameron County, Texas

In support of the EIS, advanced acoustic models were used to generate noise contours for assessing the noise levels and exposures in the area surrounding the proposed launch site. The acoustic models consider many aspects of the launch vehicle including its engine characteristics, ascent trajectory, and

FOR OFFICIAL USE ONLY – NOT FOR PUBLIC RELEASE

the vehicle dimensions. Both vehicles are shown in Figure 2[1], and they use the SpaceX Merlin 1D liquid-propellant rocket engine, shown in the far right image of Figure 2. The first stage of the Falcon 9 utilizes one nine-engine core while the Falcon Heavy utilizes three nine-engine cores. Both vehicles use liquid oxygen (LOX) and highly refined kerosene, also known as rocket propellant-1 or refined petroleum-1 (RP-1), as propellants to carry payloads into orbit.

This noise study describes the environmental noise associated with the proposed Falcon 9 and Falcon Heavy operations. Section 2 summarizes the noise metrics discussed throughout this report. Section 3 describes the general methodology of the launch noise model and sonic boom noise model. The modeling results are presented in Section 4 and Section 5 summarizes the notable findings of this noise study.

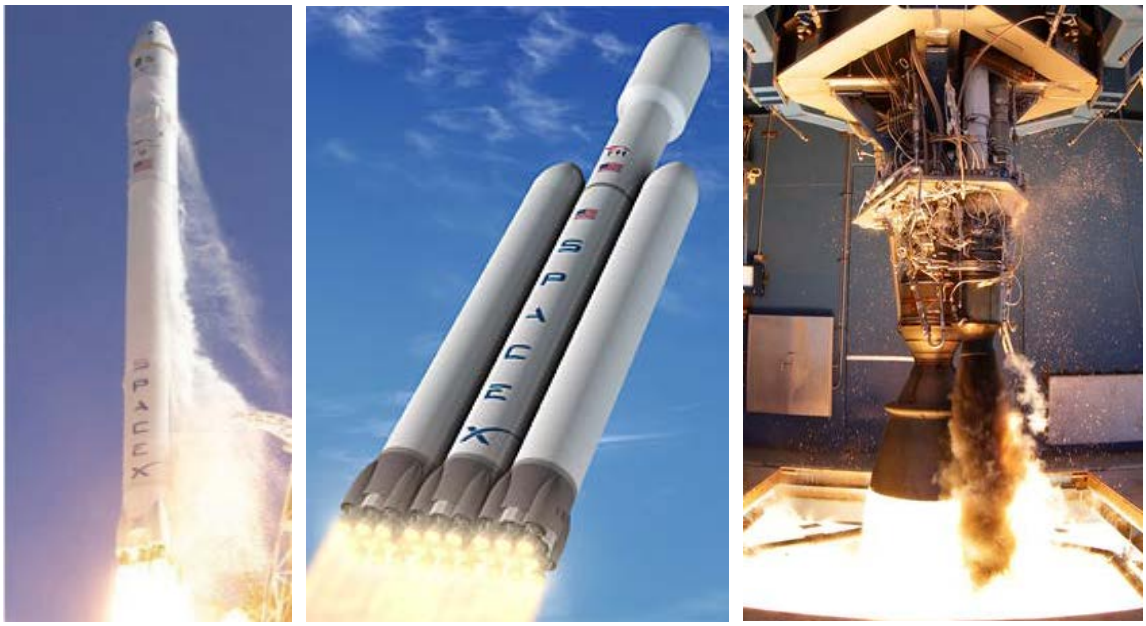


Figure 2. Falcon 9 (left), Falcon Heavy (center), SpaceX Merlin 1D Engine (right)

[1] Images courtesy of SpaceX (www.spacex.com)

FOR OFFICIAL USE ONLY – NOT FOR PUBLIC RELEASE

2 Noise Metrics and Criteria

2.1 Noise Metrics

Any unwanted sound that interferes with normal activities or the natural environment can be defined as noise. Noise sources can be continuous (constant) or transient (short-duration) and contain a wide range of frequency (pitch) content. Determining the character and level of sound aids in predicting the way it is perceived. Both launch noise and sonic booms are classified as transient noise events.

The decibel (dB) is a ratio that compares the sound pressure of the sound source of interest (e.g. the rocket launch) to a reference pressure (the quietest sound we can hear, 20 µPa (micropascal)). Standard weighting filters help to shape the levels in reference to how they are perceived. An "A-weighting" filter approximates the frequency response of human hearing, adjusting low and high frequencies to match the sensitivity of human hearing. For this reason, the A-weighted decibel level (dBA) is commonly used to assess community noise. However, if the structural response is of importance to the analysis, a "Flat-weighted" (unweighted) level is more appropriate.

The impact of noise can be described with the use of noise metrics, which depend on the nature of the event and who or what is affected by the sound. Individual time-varying noise events have two main characteristics: a sound level that changes throughout the event and a period of time during which the event is heard. The overall sound pressure level (OASPL) provides a measure of the sound level at any given time, while the maximum OASPL (L_{max}) indicates the maximum OASPL achieved over the duration of the event. Sound Exposure Level (SEL) represents both the magnitude of a sound and its duration. SEL provides a measure of the cumulative noise exposure of the entire acoustic event, but it does not directly represent the sound level heard at any given time. Mathematically, it represents the sound level of a constant sound that would, in one second, generate the same acoustic energy as the actual time-varying acoustic event. For sound generated by rocket launches, which last more than one second, the SEL is greater than the L_{max} because an individual launch can take minutes and the L_{max} occurs instantaneously.

The Day-Night Average Sound Level (DNL) is a cumulative noise metric that accounts for the SEL of all noise events in a 24-hour period. Typically DNL values are expressed as the level over a 24-hour annual average day. In order to account for increased human sensitivity to noise at night, a 10 dB penalty is applied to nighttime events (occurring between the hours of 10:00 p.m. and 7:00 a.m.). Noise contour maps of these metrics are comprised of lines of equal noise level or exposure, and they serve as visual aids for assessing the impact of noise on a community.

FOR OFFICIAL USE ONLY – NOT FOR PUBLIC RELEASE

2.2 Noise Criteria

Noise criteria have been developed in order to protect the public health and welfare of the surrounding community. The following noise criteria address human annoyance, hearing conservation, and structural damage.

2.2.1 Human Annoyance

FAA order 1050.1E, Change 1 [2], guidance on noise indicates that a significant noise impact would occur if analysis shows that the Proposed Action will cause noise sensitive areas to experience an increase in noise of DNL 1.5 dB or more at or above DNL 65 dBA noise exposure when compared to the no action alternative during the same time frame. DNL has been found to correlate well with adverse community impacts for regularly occurring events including aircraft, rail, and road noise [3, 4]. DNL is based on long-term consistent noise exposures. However, the Proposed Action is for up to twelve total launches per year. Thus, it is acknowledged that the suitability of DNL for infrequent noise events is uncertain with respect to current research and dose response studies. The DNL contours are provided to estimate the potential annoyance in compliance with FAA requirements.

2.2.2 Hearing Conservation

Multiple federal government agencies have provided guidelines on permissible noise exposure limits. These documented guidelines are in place to protect one's hearing from long-term continuous daily exposures to high noise levels and aid in the prevention of noise-induced hearing loss (NIHL). The National Institute for Occupational Safety and Health (NIOSH) has standardized employee noise exposure requirements based on level and duration allowed during an 8-hour workday [5]. NIOSH recommendations are designed such that over a 40-year lifetime exposure, the excess risk of developing occupational NIHL is 8%. NIOSH established a recommended exposure limit (REL) for noise at 85 dBA with a 3 dB exchange rate, which means as the level increases by 3 dB the duration is reduced by a factor of two. The Occupational Safety and Health Administration (OSHA) permissible exposure limit (PEL) for noise starts at 90 dBA for an 8-hour period [6]. However, the OSHA exchange rate is 5 dB.

For the entire American public at all times rather than the American worker during his workday, the U. S. Environmental Protection Agency (EPA) has recommended an exposure limit of 70 dBA for 24 hours which provides a margin of safety [7]. EPA recommendations are designed such that over a 40-year lifetime exposure, the excess risk of developing occupational NIHL is 4% [7]. For exchange rates the EPA recommends two separate rates for continuous and short exposure periods (less than 15 minute), 3 dB and 6 dB, respectively. In terms of upper limits on the noise levels, NIOSH set the maximum exposure at 140 dBA, and OSHA set it at 115 dBA. The EPA does not state a maximum level for non-impulsive noise. Therefore, a maximum noise level of 115 dBA will be used to identify potential locations where hearing protection should be considered for a rocket launch. This level is conservative for NIHL since rocket launches will occur at a rate of once a month. At this level the different guidelines provide a range of exposure times from 15 minutes (OSHA) to 28 seconds (NIOSH and EPA).

The Department of Defense occupational Hearing Conservation Program states that the maximum allowable exposure to steady-state noise is 130 dBA [8]. Thus, in the event the sound levels were greater

FOR OFFICIAL USE ONLY – NOT FOR PUBLIC RELEASE

than the predicted values there would be 15 dBA margin of safety before a threat of hearing damage for a short-term continuous level of 130 dBA.

2.2.3 Structural Damage

Generally, the most sensitive components of a structure to launch noise are windows, and infrequently, the plastered walls and ceilings. A NASA technical memo written by Guest and Sloan [9] found a relationship between structural damage claims and overall sound pressure level from rocket firings. The study was based on community responses to the 45 ground tests of the first and second stages of the Saturn V rocket system conducted in Southern Mississippi over a period of five years. Guest and Sloan [9] determined that "the probability of structural damage [was] proportional to the intensity of the low frequency sound." The study concluded that one damage claim in 1,000 households exposed is expected at an average continuous level of 111 dB, and one in 100 households at 119 dB. The sound levels used to develop the criteria were mean modeled sound levels. It is important to highlight the difference between the static ground tests in which the probability of structural damage is based on and the launch events of concern for this noise analysis. The ground tests occurred for durations much greater than the exposure duration expected for the proposed launch events. Additionally, during ground tests, the engine remains in one position which results in longer exposure duration to continuous levels as opposed to the transient noise occurring from the moving vehicle during a launch event. However, the relationship between damage claims and level documented by Guest and Sloan [9] is the best available noise criteria regarding structural damage resulting from rocket noise. The distances at which the cited levels occur are presented in this noise analysis to provide a general guideline for assessing potential risk to structural damage claims. In addition, a report from the Office of Naval Research on the "Guidelines for Preparing Environmental Impact Statements on Noise" [10] states that one may conservatively consider all sound lasting more than one second with levels exceeding 130 dB (unweighted) as potentially damaging to structures. However, this report is not specific to the low-frequency noise generated by large rockets.

FOR OFFICIAL USE ONLY – NOT FOR PUBLIC RELEASE

3 Acoustic Modeling Methodology

3.1 Launch Noise

The majority of the noise generated by a rocket launch is created by the rocket plume, or jet exhaust, interacting with the atmosphere along the entire plume, and combustion noise of the propellants. Launch noise occurs in the region surrounding the launch pad and radiates in all directions. However, it is highly directive meaning that a significant portion of the source's acoustic power is concentrated in a specific direction. Additionally, the level of noise received depends on the distance from the source. Noise decreases as the distance from the source increases, for example, there is a 6 dB decrease in OASPL per doubling of distance when described by spherical spreading.

In addition to the launch noise, a launch vehicle can create sonic booms as a result of the shock waves created from supersonic flight, when the vehicle travels faster than the speed of sound. The perception of a sonic boom depends on the distance from the vehicle to the observer as well as the physical characteristics of the vehicle and the atmospheric conditions. The noise is perceived as a deep double boom, with most of its energy concentrated in the low frequency range. Although sonic booms generally last less than one second, their potential for impact is considerable.

3.2 Far-Field Launch Noise Modeling

The acoustic model developed to predict far-field noise from launch vehicles is based on Eldred's Distributed Source Method 1 (DSM-1) reported in NASA SP-8072 [11]. The noise level observed depends on the vehicle specific sound power and the location of the observer in reference to the vehicle's noise source. Sound power is a measure of the acoustic energy per unit of time. The DSM-1 model determines the launch vehicle's total sound power based on its total thrust and exhaust-velocity. Both vehicles utilize SpaceX Merlin 1D Engines, each of which have a diameter of 33.8 in (0.85 m) and produce a thrust of 147,000 lbf (6.5×10^5 N). Both vehicles use the same rocket propellant, which produces an exhaust exit velocity of approximately 9,500 ft/s (2,900 m/s). Only the first stage of the vehicle's launch is considered in this analysis, during which time the total thrust and exhaust velocity are assumed constant.

For launch vehicles with multiple tightly clustered equivalent engines, such as the Falcon 9, the engines can be modeled as a single engine with an effective exit diameter and total thrust [11]. For the Falcon 9, this equates to an effective diameter of 101.4 in (2.6 m) and a total thrust of 1,320,000 lbf (5.8×10^6 N). The three nine-engine cores of the Falcon Heavy are handled differently, by multiplying the observed pressure for one nine-engine core by a scale factor of three, equivalent to a 4.7 dB addition. Table 1 displays the total thrust of the Falcon 9 and Falcon Heavy launch vehicles.

FOR OFFICIAL USE ONLY – NOT FOR PUBLIC RELEASE

Table 1. Total thrust of the Falcon 9 and Falcon Heavy launch vehicles

Parameter	Falcon 9	Falcon Heavy
Number of Engines	9	27 (9 x 3 cores)
Total Thrust	1,320,000 lbf (5.8×10^6 N)	3,800,000 lbf (17.0×10^6 N)

The modeled noise source comprises a range of frequencies, each of which contains a portion of the total sound power. The portion of sound power contained in each frequency band is not equal and the distribution depends on the ratio of the nozzle exit diameter to exhaust exit velocity [11]. The modeled noise source is actually represented by a set of noise sources distributed along the vehicle exhaust plume, hence the name "Distributed Source Method." The defining feature of the DSM-1 is that each noise source corresponds to a unique frequency. The location of each source influences the distance and angle to the observer. However, for far-field observer locations, the variation in distance and angle from each source to the observer is minimal. Therefore, the set of distributed sources can be modeled as a compact source located at the nozzle exit with an equivalent total sound power and range of frequencies.

The sound pressure level observed is a function of the sound power generated by the engine and the location of the observer in reference to the noise source. The observed sound pressure level decreases as the distance from the source increases. The noise source radiates sound in all directions, however, it is highly directive meaning the acoustic power is concentrated in a specific direction and the sound pressure observed will depend on the angle from the noise source to the observer location. Section 3.2.2 describes the source directivity in more detail. The distance and angles are calculated based on the provided trajectory paths (Figure 3) courtesy of SpaceX, which include the ground location and altitude with respect to time.

FOR OFFICIAL USE ONLY – NOT FOR PUBLIC RELEASE

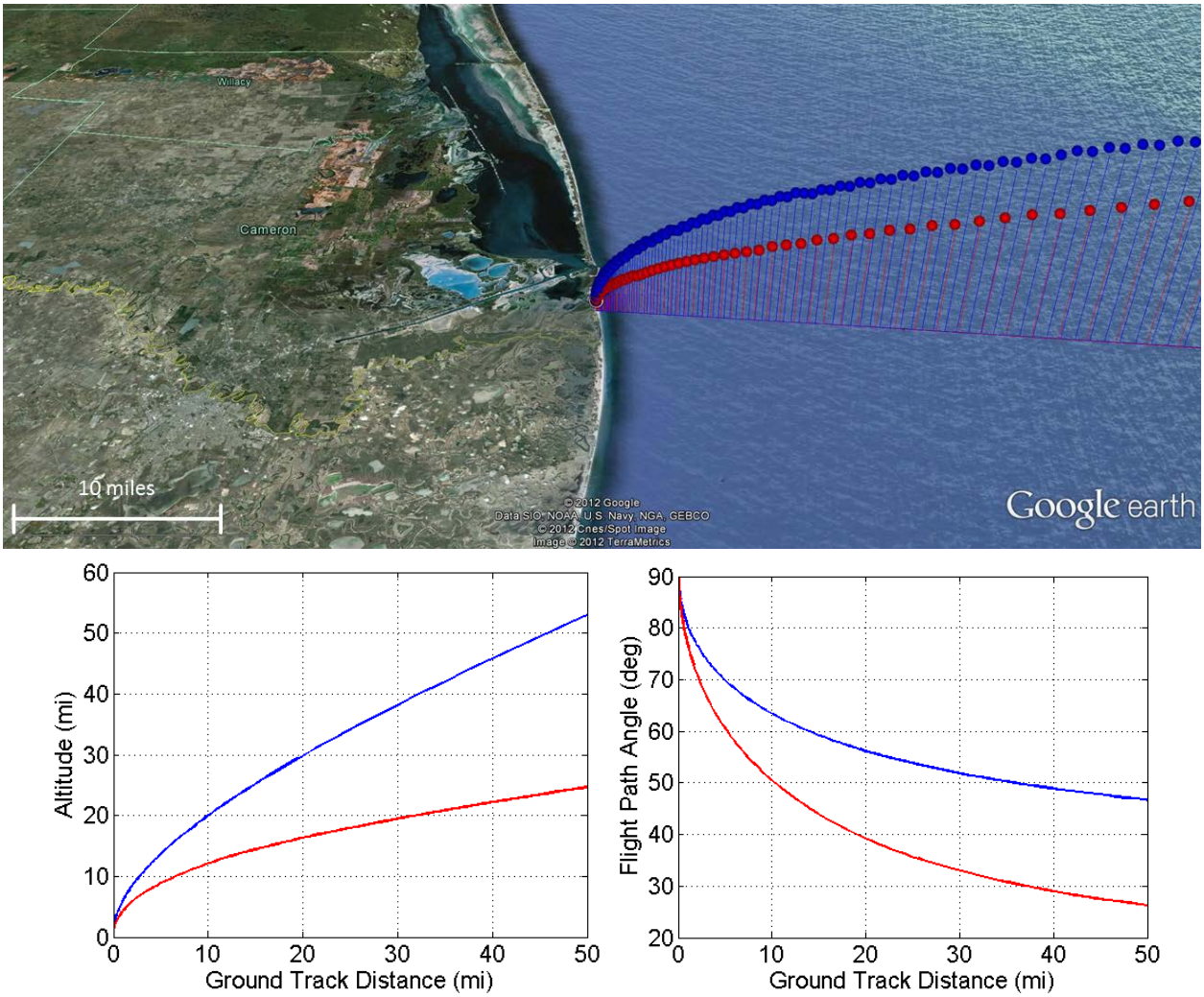


Figure 3. Trajectory (top), altitude profile (bottom left), and flight path angle (bottom right) of Falcon 9 (blue) and Falcon Heavy (red)

3.2.1 Acoustic Efficiency

The acoustic efficiency, defined as the ratio of the sound power to the exhaust mechanical power, determines the percentage of energy in the exhaust that is converted to acoustic energy. The launch vehicle's total sound power depends on the acoustic efficiency of the engine. The acoustic efficiencies of rocket engines generally range from 0.2% to 1.0%, with 1.0% considered a conservative upper bound and 0.5% the most probable [11]. The acoustic efficiency of the rocket engine was modeled using the best available methods. Guest's [12] variable acoustic efficiency model predicted an acoustic efficiency based on the total mechanical power of the engine. The predicted result, used in this study, is an acoustic efficiency of 0.4% for the SpaceX Merlin 1D Engine.

3.2.2 Source Directivity

Directivity is the measure of the focusing of the noise source's sound power and its value depends on the frequency and the angle to the observer. Eldred's report [11] includes a set of directivity indices based on the best available data at the time. NASA's Project Constellation Program has made significant

FOR OFFICIAL USE ONLY – NOT FOR PUBLIC RELEASE

improvements in determining launch vehicle directivity, which resulted from measurements taken of the static firings of the reusable solid rocket motor (RSRM) of NASA Ares I – Crew Launch [13]. The RSRM directivity indices incorporate a larger range of frequencies and angles then previously available data. These updated directivity indices were used for this analysis.

3.2.3 Doppler Effect

Doppler effect is defined as the change in frequency of a wave for an observer moving relative to its source. It is commonly heard when a vehicle sounding a siren or horn approaches, passes, and recedes from an observer. The perceived frequency is related to the actual frequency by the speed of the source and receiver and the speed of the waves in the medium. The received frequency is higher (compared to the emitted frequency) during the approach, it is identical at the instant of passing by, and it is lower during the recession. The relative changes in frequency can be explained as follows. When the source of the waves is moving toward the observer, each successive wave crest is emitted from a position closer to the observer than the previous wave. Therefore each wave takes slightly less time to reach the observer than the previous wave. Therefore the time between the arrival of successive wave crests at the observer is reduced, causing an increase in the frequency. While they are travelling, the distance between successive wave fronts is reduced; so the waves "bunch together". Conversely, if the source of waves is moving away from the observer each wave is emitted from a position farther from the observer than the previous wave, so the arrival time between successive waves is increased, reducing the frequency. The distance between successive wave fronts is increased, so the waves "spread out". This spreading effect is illustrated in Figure 4 for an observer in a series of images, where a) the source is stationary, b) the source is moving less than the speed of sound, c) the source is moving at the speed of sound, and d) the source is moving faster than the speed of sound. During a rocket launch an observer on the ground will hear a downward shift in the frequency of the sound as the rocket increases its speed relative to the observer. In this case, the difference in observed frequency to emitted frequency increases as the distance from the source to receiver increases. As the frequency is shifted lower the A-Weighting filtering on the spectrum results in a decreased A-weighted sound level. Note there would be no change in the unweighted sound levels.

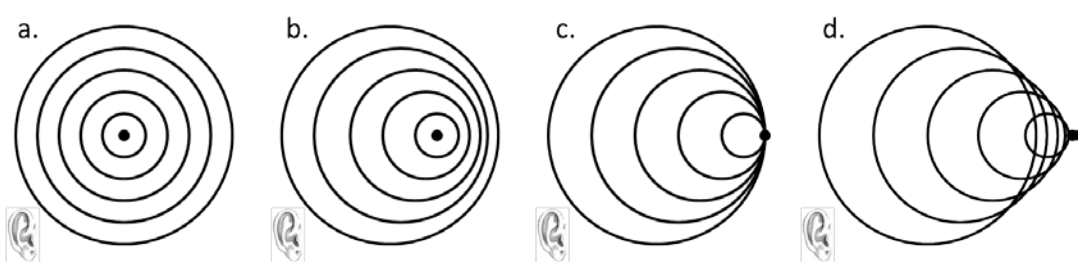


Figure 4. Effect of expanding wavefronts (decrease in frequency) that an observer would notice for higher relative speeds of the rocket relative to the observer for: a) stationary source b) source velocity < speed of sound c) source velocity = speed of sound d) source velocity > speed of sound

FOR OFFICIAL USE ONLY – NOT FOR PUBLIC RELEASE

3.2.4 Ground Interference

Sound propagation using NASA SP-8072 [11] results in the prediction of a free-field sound level at the receiver. However, sound propagation near the ground is most accurately modeled as the combination of a direct wave (source to receiver) and a reflected wave (source to ground to receiver) shown in Figure 5. The ground will reflect sound energy back toward the receiver. Depending on the frequency of the wave and the geometry, this reflected wave may interfere with the direct wave causing constructive or destructive interference. Additionally, the ground may absorb a portion of the sound energy causing the reflected wave to propagate a smaller portion of energy to the receiver. The acoustic model accounts for the attenuation of sound by the ground [14, 15] by including the effect of the ground on a receiver when estimating the received noise. A receiver height of 5 feet is assumed along with a homogeneous semi-hard ground surface. It should be noted that noise levels directly above a water surface may see an increase of up to 3 dB because of the acoustical hardness of the water surface.

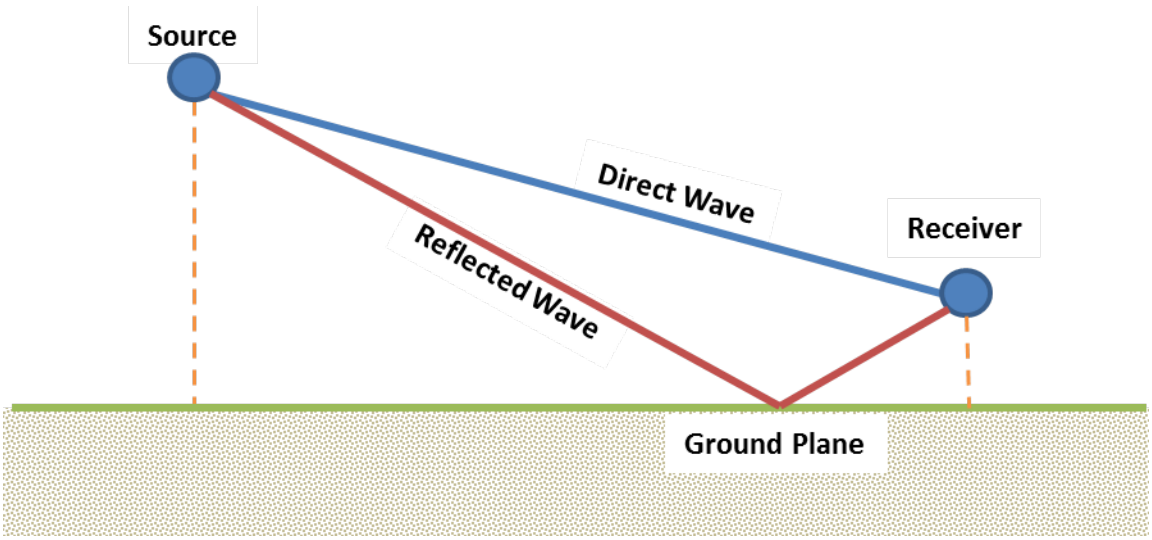


Figure 5. Sound propagation near the ground is modeled as the combination of a direct wave (blue) and a reflected wave (red) from the source to the receiver.

3.2.5 Atmospheric Absorption and Nonlinear Effects

Atmospheric absorption is a measure of the sound attenuation due to the temperature, pressure and relative humidity of the air. The attenuation of sound due to atmospheric absorption generally increases with frequency. However, due to the distortion of high-pressure sound waves as they travel through the medium, nonlinear propagation effects may counteract the effect of atmospheric absorption at certain distances.

The results of a study conducted by McInerny and Ölçmen [16] showed that rocket noise can be viewed as a distribution of nonlinear effects due to weak shocks and small-scale random noise. McInerny and Ölçmen also note that as the propagation distance increases, the importance of the shocks decreases and the noise is subjected to the linear effects of atmospheric absorption. However, McInerny and Ölçmen [16] state that even 9.3 miles (15 km) from the source, "the Titan IV sound-pressure data

FOR OFFICIAL USE ONLY – NOT FOR PUBLIC RELEASE

retained vestiges of weak shock behavior." Additionally, in a study documented by Gee et al. [17], measurements of high-power jet aircraft appeared to have greater high-frequency energy than predicted by linear theory, indicating evidence of nonlinear propagation effects. Furthermore, nonlinear predicted spectra, which neglected atmospheric variability, showed better agreement with measured spectra than linear predictions with atmospheric absorption. Considering the results of these studies, the nonlinear effects are assumed to counteract the effects of atmospheric absorption within the region of study and therefore, both of these behaviors are neglected in the acoustic model.

3.3 Sonic Boom Noise Modeling

The single-event prediction model, PCBOOM4 [18, 19], provided by the Air Force Center for Engineering and Environment (AFCEE) is used to predict the sonic boom footprint. PCBOOM4 calculates the magnitude and location of sonic boom overpressures on the ground due to supersonic flight. Several inputs are required to calculate the sonic boom impact, including the aircraft model, the trajectory path, the atmospheric conditions and the ground surface height. Predicted sonic boom footprints are in the form of constant pressure contours.

FOR OFFICIAL USE ONLY – NOT FOR PUBLIC RELEASE

4 Results

The following sections present the results of the acoustic models described in Section 3, with the purpose of supporting the EIS for FAA's Proposed Action to issue launch licenses and/or experimental permits to SpaceX to conduct operations of its Falcon 9 and Falcon Heavy orbital vertical launch vehicles from a launch site in Cameron County, Texas. The modeled launch noise impact is represented by four acoustic metrics, A-weighted OASPL ($L_{A,max}$), unweighted OASPL (L_{max}), SEL, and DNL, and presented in the form of noise contour maps. The launch noise model utilizes a flight trajectory profile provided by SpaceX (Figure 3), in which only the first stage is considered. The modeled noise does not include the effect of atmospheric absorption or nonlinear propagation effects as described in Section 3.2.5.

In addition to the noise contour maps, special consideration is given to the noise levels observed at the nearest house location. The time history of the OASPL is presented to assess the launch noise levels in reference to the noise criteria described in Section 2.2. Lastly, the results of the sonic boom model are presented to provide a complete assessment of the noise impact.

4.1 Maximum A-weighted OASPL Contour Maps

The OASPL provides a measure of the level at any given time. The $L_{A,max}$ represents the maximum A-weighted OASPL observed over a duration of an event. The noise levels resulting from the launch of the Falcon 9 launch vehicle are shown in the six-mile-radial and twenty-mile-radial contour maps in Figure 6 and Figure 7, respectively. The Falcon Heavy launch $L_{A,max}$ contour maps are shown in Figure 8 and Figure 9. The contour maps are centered on the launch site and the contour lines are labeled with their respective levels in 5 dBA increments. As a reference location, the site of the nearest house is marked with a black diamond. The asymmetric extension of the contours directly below the flight path is a consequence of the vehicle's trajectory, specifically the flight path angle and its altitude, which is more prevalent for the Falcon Heavy as its trajectory lies closer to the ground in comparison to the Falcon 9.

The maximum $L_{A,max}$ at any given distance from the launch pad is shown Table 2 for the Falcon 9 and Falcon Heavy.. The level presented for a given distance encompasses all headings, resulting in the collapse of the contour data to a line. It should be noted that distances less than 2,000 ft are approaching the near-field range where a more rigorous study would be required to account for a non-compact source, the deflection of the plume off the pad and the pad structure, the effect of the deluge system, and near-field propagation, among other effects. Hearing protection to reduce levels below 115 dBA is recommended at distances up to 1.2 and 2.1 miles for the Falcon 9 and Falcon Heavy, respectively.

FOR OFFICIAL USE ONLY – NOT FOR PUBLIC RELEASE

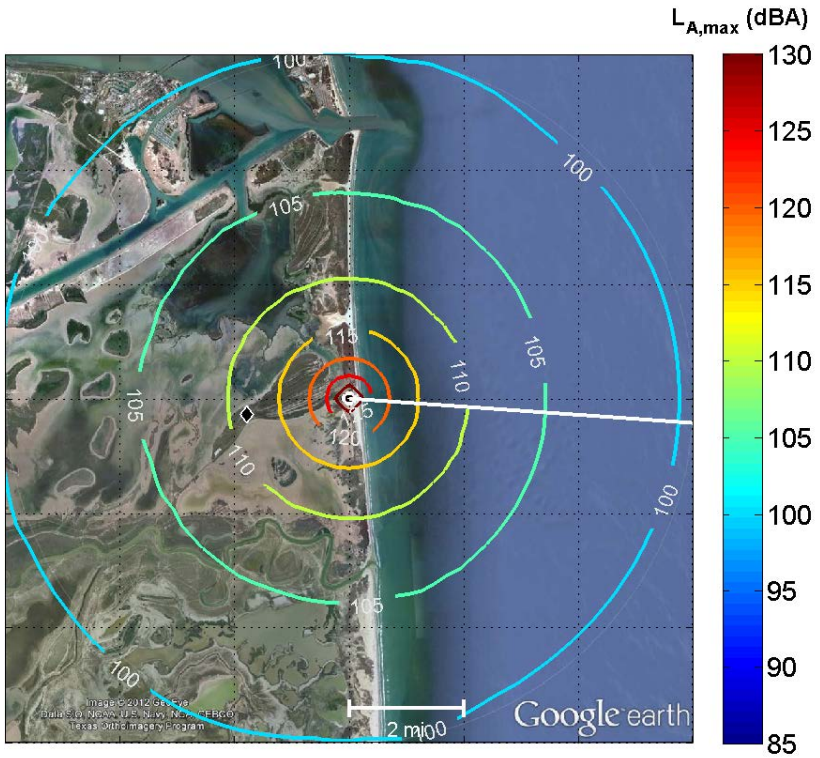


Figure 6. Falcon 9 $L_{A,max}$ within 6-mile radius from launch site

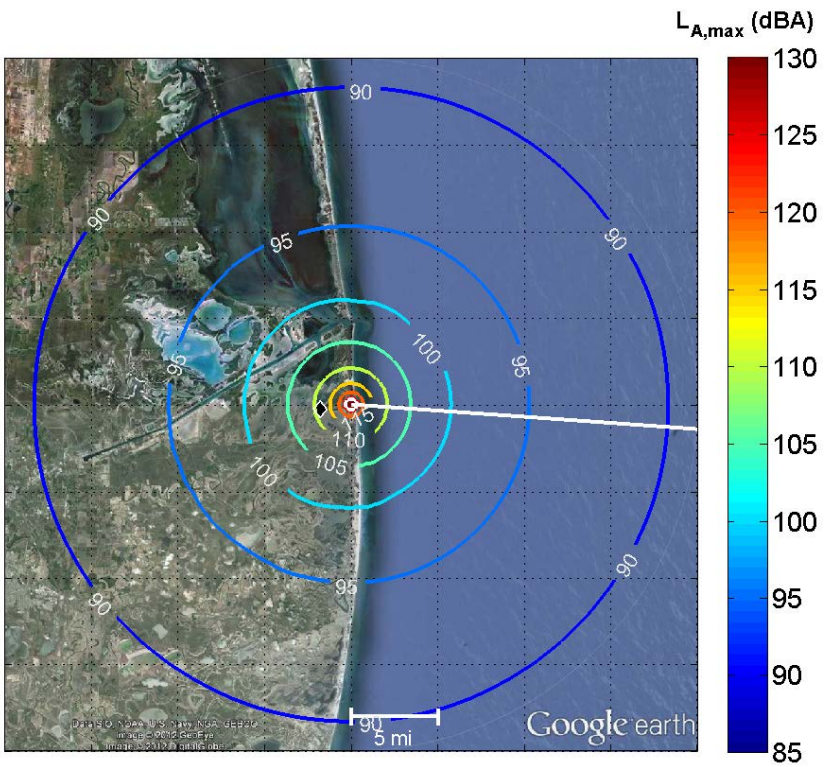


Figure 7. Falcon 9 $L_{A,max}$ within 20-mile radius from launch site

FOR OFFICIAL USE ONLY – NOT FOR PUBLIC RELEASE

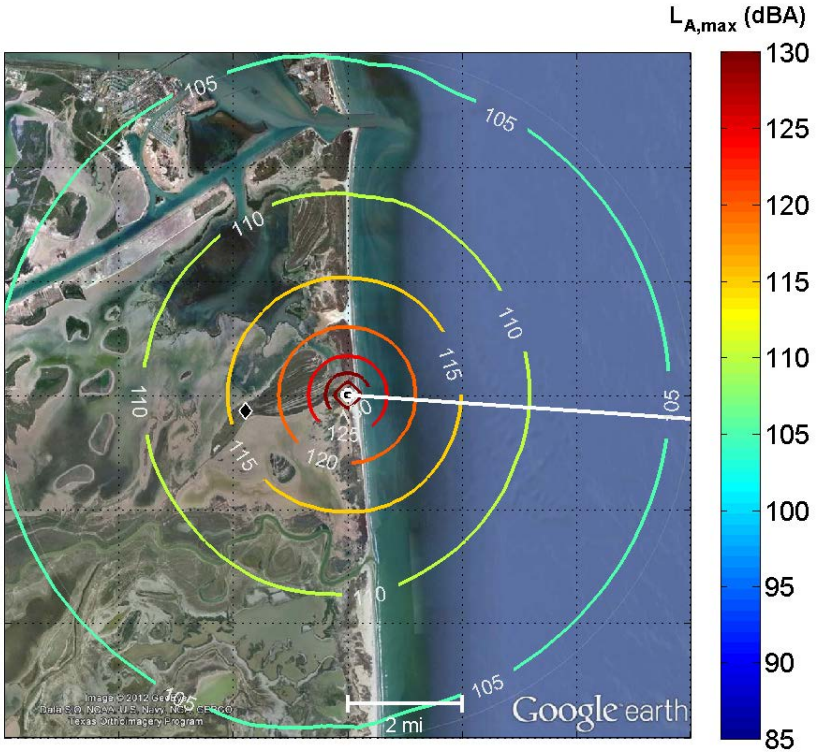


Figure 8. Falcon Heavy $L_{A,max}$ within 6-mile radius from launch site

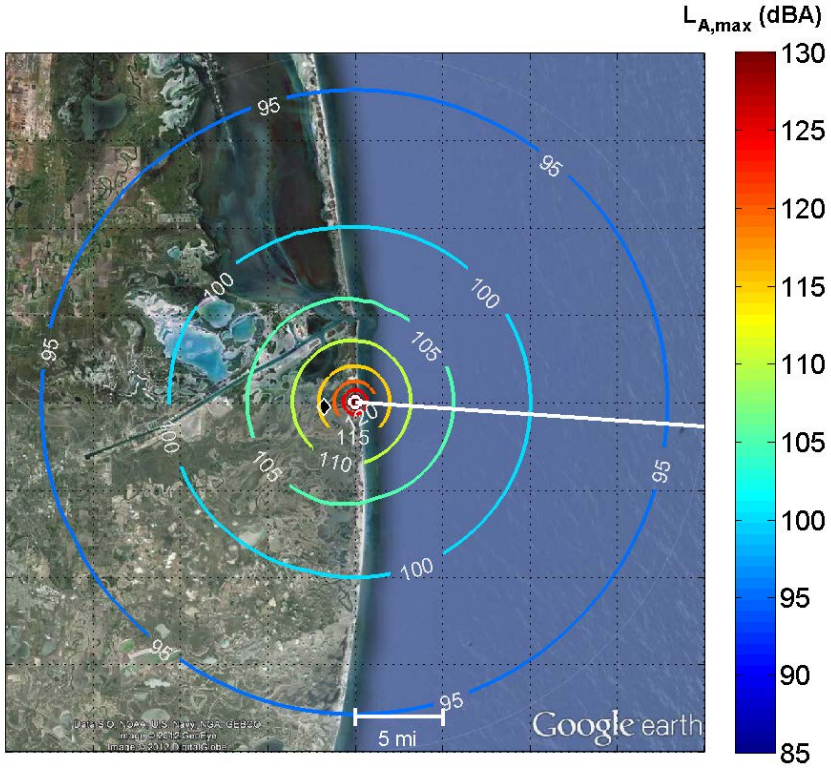


Figure 9. Falcon Heavy $L_{A,max}$ within 20-mile radius from launch site

FOR OFFICIAL USE ONLY – NOT FOR PUBLIC RELEASE

Table 2. Maximum predicted $L_{A,max}$ versus distance

Maximum Predicted $L_{A,max}$ (dBA)		
Distance (mi)	Falcon 9	Falcon Heavy
0.2	130	135
0.3	128	133
0.4	125	130
0.5	123	128
0.6	122	126
0.7	120	125
0.8	119	123
0.9	118	123
1.0	117	122
1.5	113	118
2	111	115
3	107	112
4	104	109
5	102	107
6	100	105
7	99	104
8	98	103
9	96	101
10	95	100
12	94	99
15	92	97
17	91	95
20	89	94

FOR OFFICIAL USE ONLY – NOT FOR PUBLIC RELEASE

4.2 Maximum Unweighted OASPL Contour Maps

A NASA technical memo written by Guest and Sloan [9] found a relationship between structural damage claims and overall sound pressure level from rocket firings, where "the probability of structural damage [was] proportional to the intensity of the low frequency sound." The study concluded that one damage claim in 1,000 households exposed is expected at an average level of 111 dB, and one in 100 households at an average level of 119 dB. These specific levels are provided as a general guideline to assess the potential risk for structural damage when reviewing the L_{max} contour maps. The noise levels resulting from the launch of the Falcon 9 launch vehicle are shown in the six-mile-radial and twenty-mile-radial contour maps in Figure 10 and Figure 11, respectively. The Falcon Heavy launch L_{max} contour maps are shown in Figure 12 and Figure 13. The contour maps are centered on the launch site and the contour lines are labeled with their respective levels in 5 dB increments. As a reference location, the site of the nearest house is marked with a black diamond. The asymmetric extension of the contours directly below the flight path, shown in Figure 13, is a consequence of the vehicle's trajectory, specifically the flight path angle and its altitude, which is more prevalent for the Falcon Heavy as its trajectory lies closer to the ground in comparison to the Falcon 9.

The maximum L_{max} at any given distance from the launch pad is shown in Table 3 for the Falcon 9 and Falcon Heavy. The level presented for a given distance encompasses all headings, resulting in the collapse of the contour data to a line. The relationship between damage claims and level documented by Guest and Sloan is the best available noise criteria regarding structural damage resulting from rocket noise. The distances at which the cited levels occur are presented in this noise analysis to provide a general guideline for assessing potential risk to structural damage claims. The area on land exposed to levels of 119 dB or greater is included within 3.4 and 6.4 miles from the launch site for the Falcon 9 and Falcon Heavy, respectively. The area on land exposed to levels of 111 dB or greater is included within 9.1 and 17.3 miles from the launch site for the Falcon 9 and Falcon Heavy, respectively.

FOR OFFICIAL USE ONLY – NOT FOR PUBLIC RELEASE

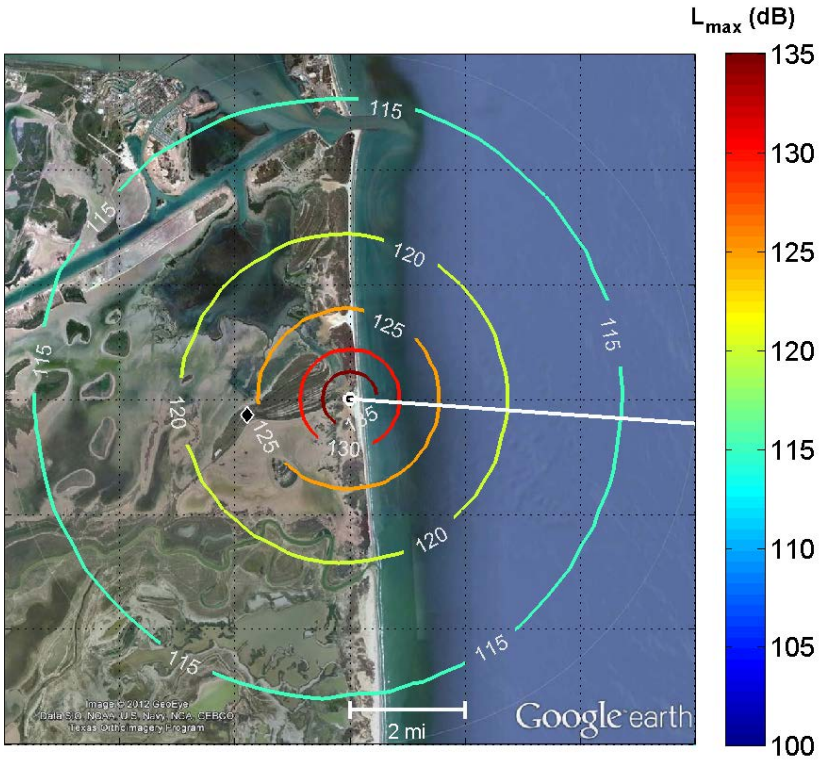


Figure 10. Falcon 9 L_{max} within 6-mile radius from launch site

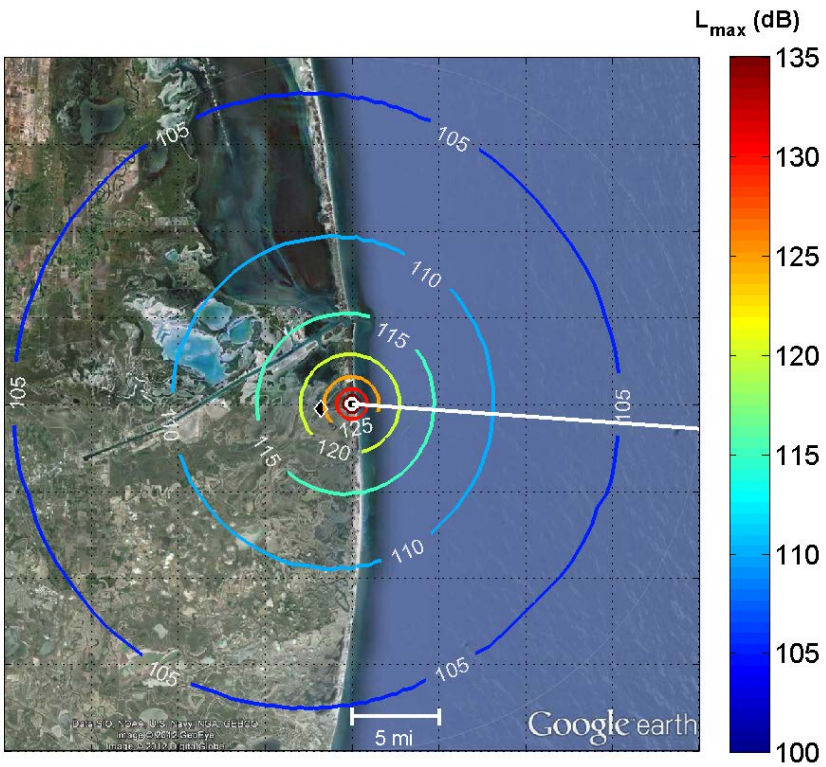


Figure 11. Falcon 9 L_{max} within 20-mile radius from launch site

FOR OFFICIAL USE ONLY – NOT FOR PUBLIC RELEASE

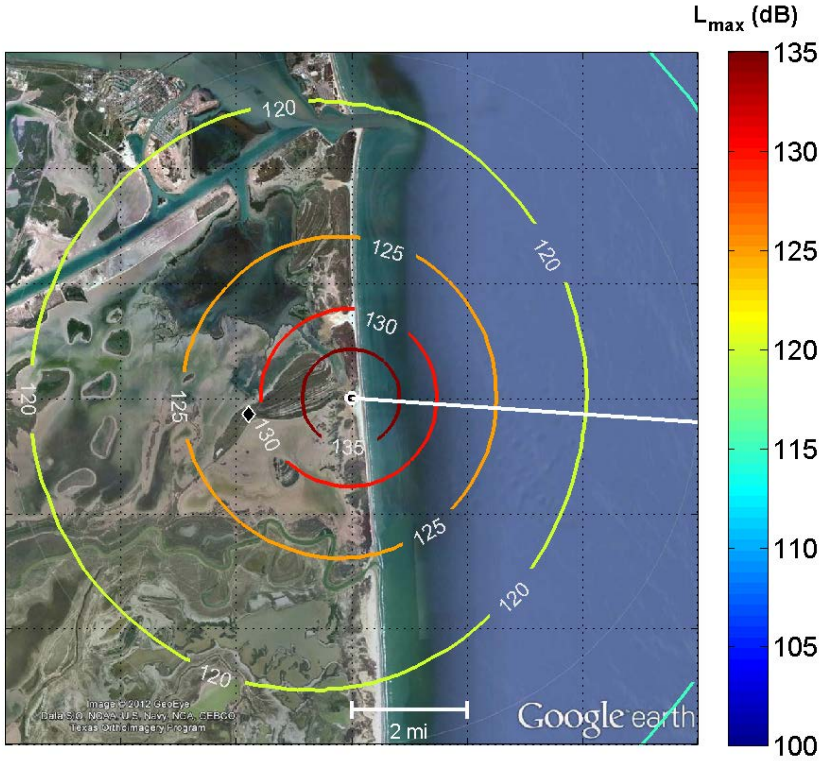


Figure 12. Falcon Heavy L_{max} within 6-mile radius from launch site

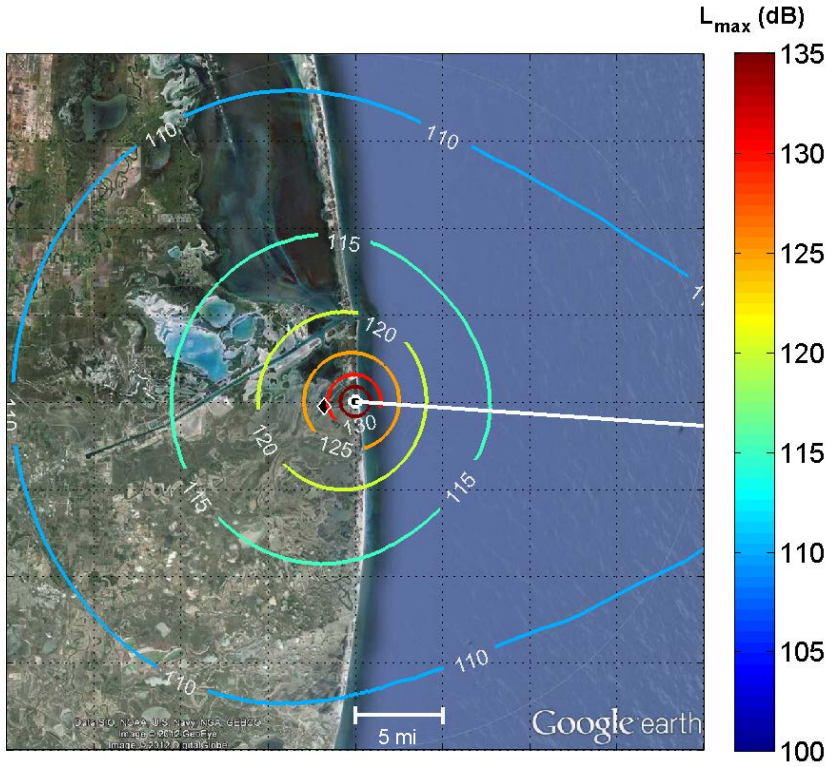


Figure 13. Falcon Heavy L_{max} within 20-mile radius from launch site

FOR OFFICIAL USE ONLY – NOT FOR PUBLIC RELEASE

Table 3. Maximum predicted L_{max} versus distance

Maximum Predicted L_{max} (dB)		
Distance (mi)	Falcon 9	Falcon Heavy
0.2	141	146
0.3	139	144
0.4	137	142
0.5	135	140
0.6	133	138
0.7	132	137
0.8	130	135
0.9	130	135
1.0	129	134
1.5	126	130
2	123	128
3	120	125
4	117	122
5	116	121
6	114	119
7	113	118
8	112	117
9	111	116
10	110	115
12	109	114
15	107	112
17	106	111
20	105	111

FOR OFFICIAL USE ONLY – NOT FOR PUBLIC RELEASE

4.3 A-weighted SEL Contour Maps

SEL represents both the magnitude of a sound and its duration. SEL provides a measure of the net exposure of the entire acoustic event, but it does not directly represent the sound level heard at any given time. The modeled A-weighted SEL resulting from the launch of the Falcon 9 launch vehicle are shown in the six-mile-radial and twenty-mile-radial contour maps in Figure 14 and Figure 15, respectively. The Falcon Heavy launch SEL contour maps are shown in Figure 16 and Figure 17. The contour maps are centered on the launch site and the contour lines are labeled with their respective levels in 5 dBA increments. As a reference location, the site of the nearest house is marked with a black diamond. The asymmetric extension of the contours directly below the flight path is a consequence of the vehicle's trajectory, specifically the flight path angle and its altitude, which is more prevalent for the Falcon Heavy as its trajectory lies closer to the ground in comparison to the Falcon 9. The receptor locations along the flight path are exposed to larger sound levels for a longer duration as they experience the noise from the vehicle approaching their position directly overhead in addition to the vehicle moving farther away.

The maximum SEL at any given distance from the launch pad is shown in Table 4 for the Falcon 9 and Falcon Heavy. The level presented for a given distance encompasses all headings, resulting in the collapse of the contour data to a line.

FOR OFFICIAL USE ONLY – NOT FOR PUBLIC RELEASE

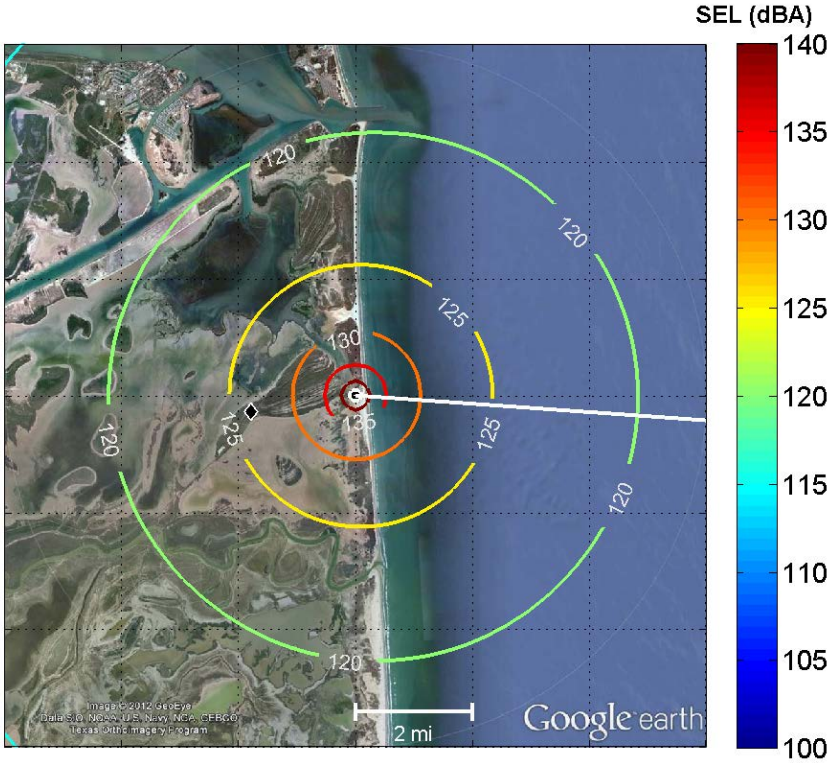


Figure 14. Falcon 9 SEL within 6-mile radius from launch site

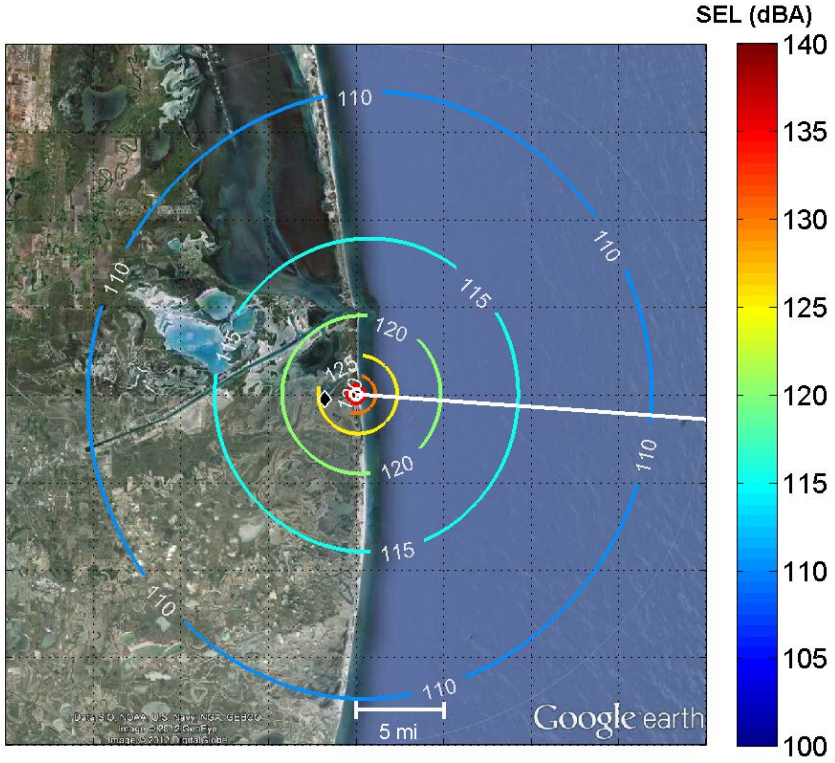


Figure 15. Falcon 9 SEL within 20-mile radius from launch site

FOR OFFICIAL USE ONLY – NOT FOR PUBLIC RELEASE

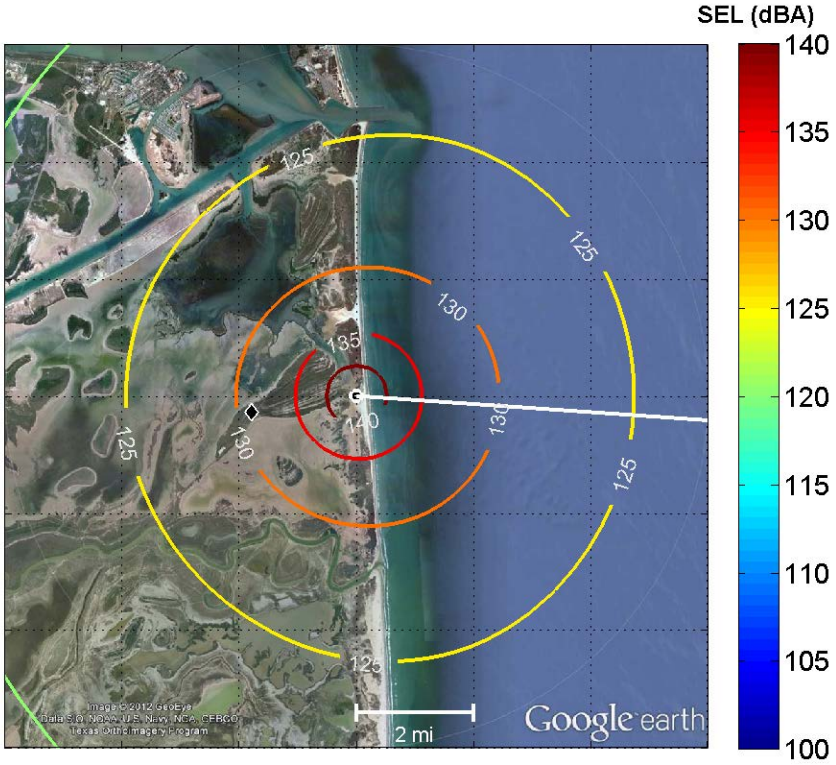


Figure 16. Falcon Heavy SEL within 6-mile radius from launch site

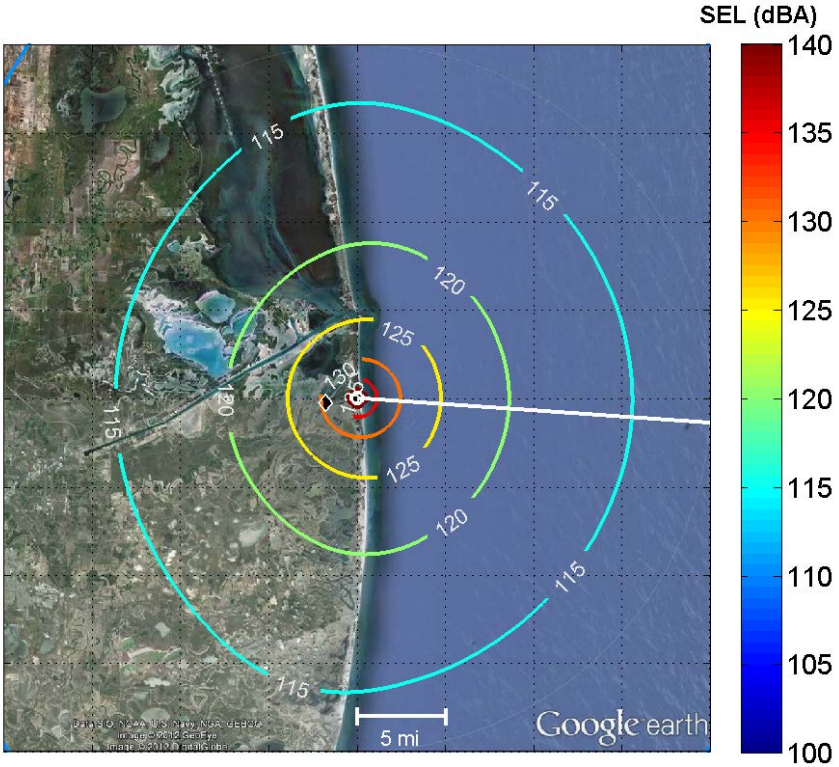


Figure 17. Falcon Heavy SEL within 20-mile radius from launch site

FOR OFFICIAL USE ONLY – NOT FOR PUBLIC RELEASE

Table 4. Maximum predicted SEL versus distance

Maximum Predicted SEL (dBA)		
Distance (mi)	Falcon 9	Falcon Heavy
0.2	141	145
0.3	139	144
0.4	137	142
0.5	135	140
0.6	134	139
0.7	133	138
0.8	132	137
0.9	131	136
1.0	131	136
1.5	128	133
2	126	131
3	123	129
4	121	126
5	120	125
6	118	123
7	117	122
8	116	121
9	115	120
10	114	119
12	113	118
15	111	116
17	110	115
20	109	113

FOR OFFICIAL USE ONLY – NOT FOR PUBLIC RELEASE

4.4 DNL Contour Map

Daily average sound levels are typically used for the evaluation of community annoyance. DNL is a composite metric that accounts for the SEL of all noise events in a 24-hour period. Typically DNL levels are expressed as the level over a 24-hour annual average day. In order to account for increased human sensitivity to noise at night, a 10 dB penalty is applied to nighttime events (occurring between the hours of 10:00 p.m. and 7:00 a.m.). Therefore, the DNL is dependent on the number of annual daytime and nighttime events. The Proposed Action includes up to twelve total launches per year which equates to 0.033 average daily events.

The Proposed Action includes up to one nighttime launch per year. Three scenarios are outlined in Table 5 and their respective 65 dBA noise contours are shown in Figure 18. Scenario A includes ten Falcon 9 and two Falcon Heavy daytime launch events. Scenario B includes one nighttime event for a Falcon 9 and Scenario C includes one nighttime event for a Falcon Heavy. Each scenario shows a significant increase in the DNL relative to current conditions as defined by FAA order 1050.1E, Change 1 [2] as the current background noise levels are estimated at approximately 45 dBA [20]. The area inside the DNL 65 dBA contour levels extend to distances of 1.5, 2.0, and 2.8 miles, for Scenario A, B, and C, respectively. The number of households within the DNL 65 dBA is estimated using Google Earth as 0, 13, and 39, for Scenario's A, B, and C, respectively. However, the Proposed Action is for up to twelve total launches per year. Thus, it is acknowledged that the suitability of DNL for infrequent noise events is uncertain with respect to current research and dose response studies. The DNL 65 dBA noise contours are provided in this section to comply with FAA requirements.

FOR OFFICIAL USE ONLY – NOT FOR PUBLIC RELEASE

Table 5. Annual operations scenarios used to compute DNL noise contours

Scenario	Falcon 9 Annual Operations		Falcon Heavy Annual Operations		Total Operations
	Daytime	Nighttime	Daytime	Nighttime	
A	10	0	2	0	**12**
B	9	1	2	0	**12**
C	10	0	1	1	**12**

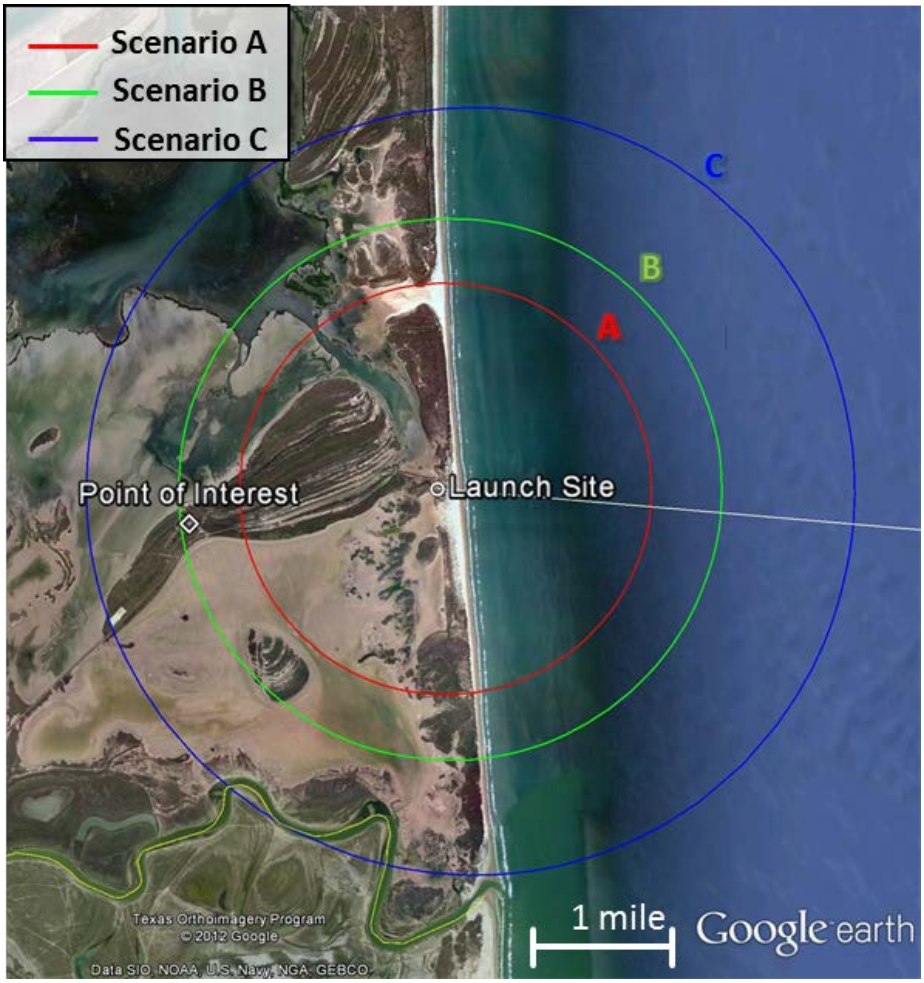


Figure 18. DNL 65 dBA noise contours for the three annual operations scenarios

FOR OFFICIAL USE ONLY – NOT FOR PUBLIC RELEASE

4.5 Sonic Boom Noise Contours

The Falcon 9 and Falcon Heavy sonic boom footprints due to supersonic flight are presented in Figure 19 and Figure 20, respectively. The sonic boom overpressure is measured in pounds per square foot (psf) and the contours may not close due to the finite time steps of the trajectory profile. The trajectory is plotted in white for reference. The sonic booms modeled intercept the ground well off the coast of the study area in the Gulf of Mexico.

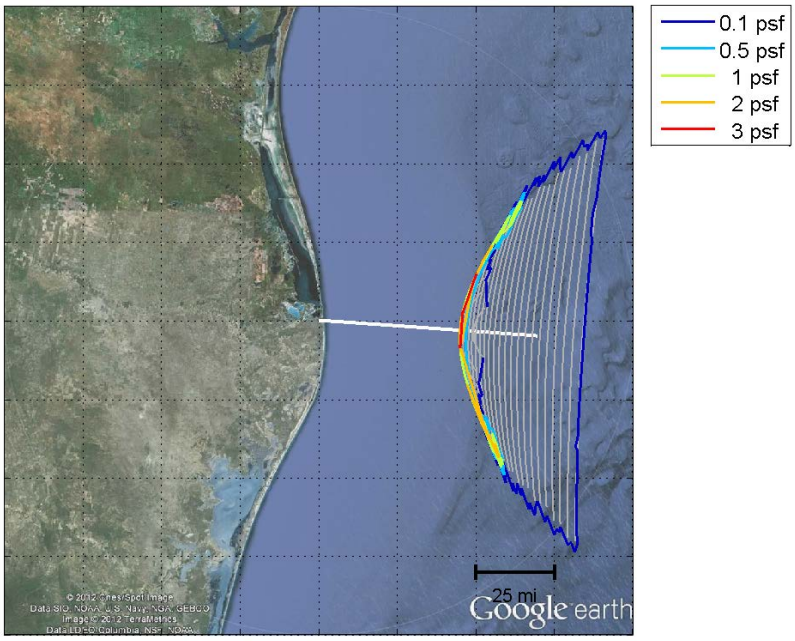


Figure 19. Falcon 9 sonic boom footprint within a 100-mile radius from launch site

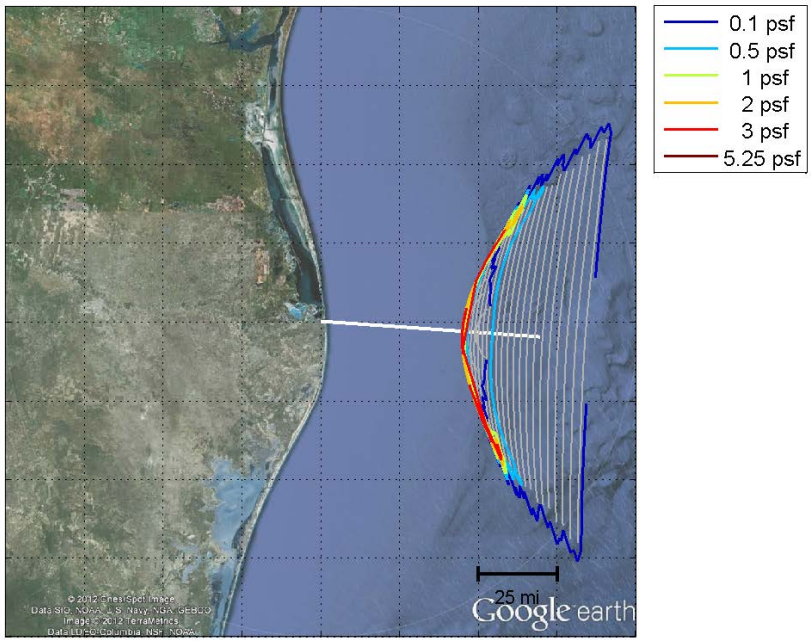


Figure 20. Falcon Heavy sonic boom footprint within a 100-mile radius from launch site

FOR OFFICIAL USE ONLY – NOT FOR PUBLIC RELEASE

4.6 OASPL at Nearest House Location

The nearest house location was modeled as a specific point of interest to determine the sound levels due to a single launch event of the Falcon 9 and Falcon Heavy. The nearest house, shown in Figure 21, is located approximately 1.8 miles from the proposed launch site at a latitude and longitude of, 25.99279167° N and 97.18148611° W [21]. Assessment methods include a presentation of the "A-weighted" OASPL with respect to time at the nearest house location in addition to the noise contours.

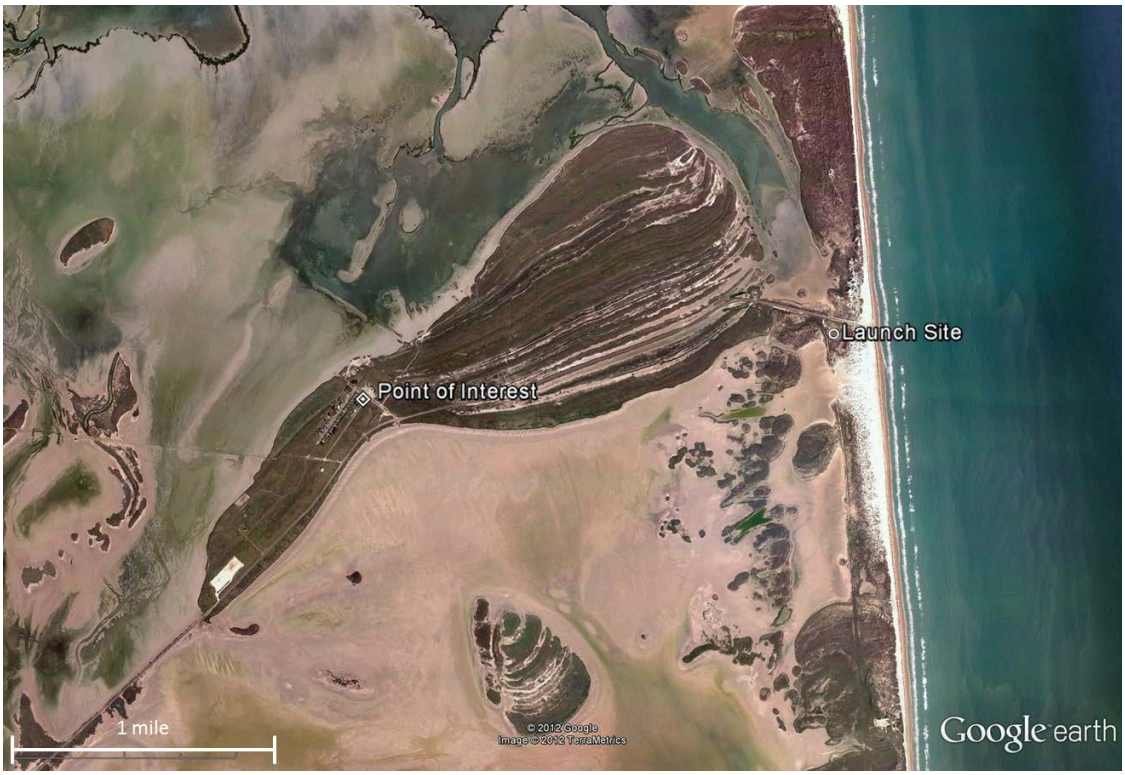


Figure 21. Location of nearest house in reference to the proposed launch site

The model predicted maximum OASPL of 111 dBA and 116 dBA for the Falcon 9 and Falcon Heavy, respectively, as shown in Table 6. The OASPL time history observed at this location for the Falcon 9 and Falcon Heavy, are shown in Figure 22 and Figure 23, respectively. Near the end of the first stage, the OASPL appears to decrease at a slower rate, which is due to the nature of the trajectory. Although the vehicle is moving farther away, its orientation to the ground is shifting so that more acoustic energy is directed towards the house based on the angle from the source to receiver. In addition, as the launch vehicle moves away from the house, the time required for a doubling of distance, equating to a level decrease of 6 dB, increases, resulting in a reduced slope.

Occupants at this location should consider the use of hearing protection during a launch event based on the 115 dBA OSHA standard. For the structure, the probability of a noise induced structural vibration damage claim will be greater than one in 100 for a launch event.

FOR OFFICIAL USE ONLY – NOT FOR PUBLIC RELEASE

Table 6. L_{max} at nearest house location

OASPL at Nearest House Location	Unweighted OASPL (dB)	A-weighted OASPL (dBA)
Falcon 9	124	111
Falcon Heavy	129	116

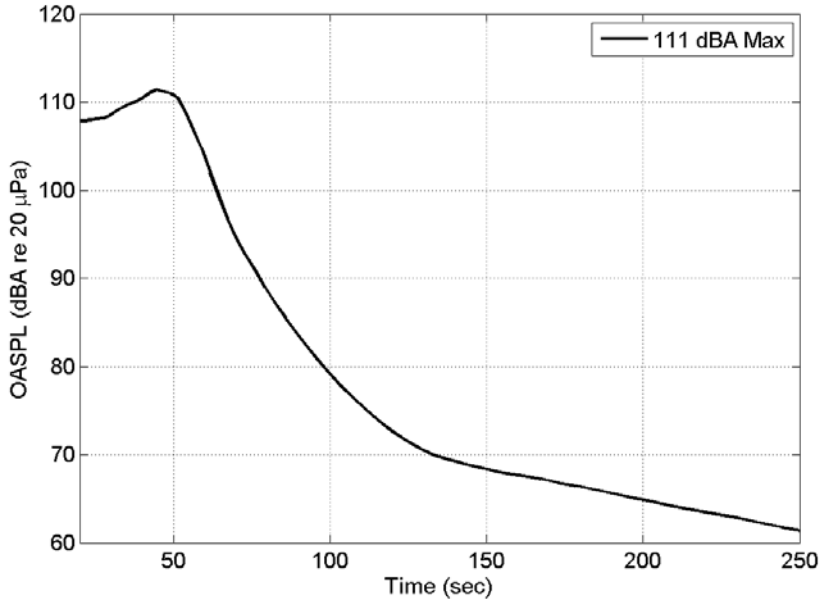


Figure 22. Falcon 9 OASPL time history at nearest house location

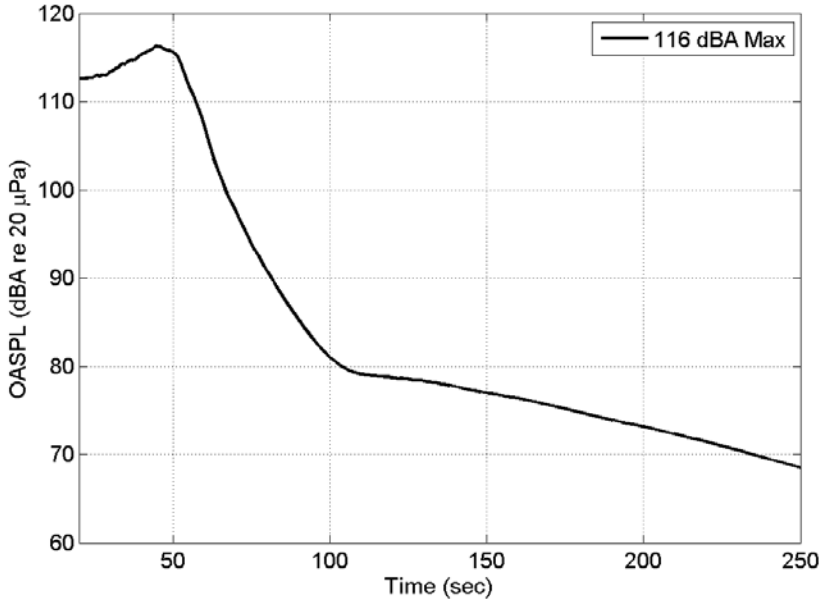


Figure 23. Falcon Heavy OASPL time history at nearest house location

FOR OFFICIAL USE ONLY – NOT FOR PUBLIC RELEASE

5 Summary

This noise analysis supports the EIS for the FAA/AST Proposed Action to issue launch licenses and/or experimental permits to SpaceX that would allow SpaceX to conduct launches of the Falcon 9 and Falcon Heavy orbital vertical launch vehicles and a variety of reusable suborbital launch vehicles from a launch site on privately owned property in Cameron County, Texas. The launch noise impact assessment utilizes noise contour maps generated with an advanced acoustic model and should be viewed in reference to the noise criteria presented in Section 2.2.

To assess the noise impact on humans, "A-weighted" OASPL noise contours are presented in reference to the 115 dBA OSHA guidelines. The noise level is greatest nearest to the launch site and decreases as the distance from the launch site increases. Therefore, when considering the 115 dBA guideline, the 115 dBA contour line will encompass the area of concern and any location outside of the contour should experience levels less than 115 dBA. The results of this study conclude that levels may exceed the 115 dBA guideline within distances of approximately 1.2 and 2.1 miles for the Falcon 9 and Falcon Heavy, respectively. However, the public is notified in advance of launch dates, and while some observers may, under appropriate atmospheric conditions, find the noise from a launch to be an annoyance, the noise is maintained for short durations, is of low frequency, attenuates rapidly, and occurs infrequently.

Special consideration was given to the nearest house, located approximately 1.8 miles from the launch site, where the model predicted a $L_{A,max}$ of 111 dBA and 116 dBA for the Falcon 9 and Falcon Heavy. Although, the 115 dBA guideline may be a conservative limit when considering the relatively short-term increase to this level, it is recommended that persons should wear sufficient hearing protection during a launch.

To assess the potential for increases in community annoyance DNL 65 dBA contours are provided for three scenarios. Each scenario shows a significant increase in the DNL relative to current conditions as defined by FAA order 1050.1E, Change 1 [2] as the current background noise levels are estimated at approximately 45 dBA [20]. The area inside the DNL 65 dBA contour levels extend to distances of 1.5, 2.0, and 2.8 miles, for Scenario A, B, and C, respectively, as defined in Section 4.4. The number of households within the DNL 65 dBA is estimated using Google Earth as 0, 13, and 39, for Scenario's A, B, and C, respectively. However, the Proposed Action is for up to twelve total launches per year. Thus, it is acknowledged that the suitability of DNL for infrequent noise events is uncertain with respect to current research and dose response studies. The DNL contours are provided to estimate the potential annoyance in compliance with FAA requirements.

To assess the structural impact resulting from the launch noise, the unweighted levels of 111 dB and 119 dB are highlighted as a general guideline for assessing potential risk to structural damage claims based on the study by Guest and Sloan [9]. The study concluded that one damage claim in 1,000 households exposed is expected at an average level of 111 dB, and one in 100 households at an average level of 119 dB. The area on land exposed to levels of 119 dB or greater is included within 3.4

FOR OFFICIAL USE ONLY – NOT FOR PUBLIC RELEASE

and 6.4 miles from the launch site for the Falcon 9 and Falcon Heavy, respectively. The area on land exposed to levels of 111 dB or greater is included within 9.1 and 17.3 miles from the launch site for the Falcon 9 and Falcon Heavy, respectively. The unweighted levels at the nearest house during a Falcon 9 or Falcon Heavy launch suggest that the probability of a noise induced structural vibration damage claim will be greater than one in a 100.

In addition to modeling the launch noise, the ground overpressure due to sonic booms was modeled to give a complete view of the noise impact generated by a launch event. Results of the sonic boom analysis clearly show that the ground intercept of the sonic boom is observed more than 40-miles off the coast in the Gulf of Mexico.

6 Works Cited

[1] Space Exploration Technologies Corp., "Falcon 9 Launch Vehicle Payload User's Guide," 2009.

[2] Federal Aviation Administration Order 1050.1E, "Change 1, Environmental Impacts: Policies and Procedures, March 2006," March 2006.

[3] T. Schultz, "Synthesis of Social Surveys on Noise Annoyance," *Journal of the Acoustical Society of America,* pp. 377-405, August 1978.

[4] L. Finegold, C. Harris and H. v. Gierke, "Community Annoyance and Sleep Disturbance: Updated Criteria for Assessing the Impacts of General Transportation Noise on People"," *Noise Control Engineering Journal,* vol. 42, pp. 25-30, January - February 1994.

[5] National Institute for Occupational Safety and Health (NIOSH), "Criteria for a Recommended Standard-Occupational Exposure to Noise – Revised Criteria 1998," DHHS (NIOSH) Pub. No. 98-126, 1998.

[6] Occupational Safety & Health Administration (OSHA), "Occupational Saftey and Health Standards," 1910.95 App A.

[7] The U. S. Environmental Protection Agency (EPA), "Information on levels of environmental noise requisite to protect public health and welfare with an adequate margin of safety," 55/9-74-004, 1974.

[8] Department of Defense, "Instruction: Hearing Conservation Program (HCP)," DoDI 6055.12, 2010.

FOR OFFICIAL USE ONLY – NOT FOR PUBLIC RELEASE

[9] S. Guest and R. M. Sloane Jr., "Structural Damage Claims Resulting from Acoustic Environments Developed During Static Firing of Rocket Engines," in *NASA Space Shuttle Technology Conference*, San Antonio, Texas, April 1972.

[10] Committee on Hearing, Bioacoustics, and Biomechanics, "Guidelines for Preparing Environmental Impact Statements on Noise," National Academy of Sciences, Washington DC, 1977.

[11] K. Eldred, "Acoustic Loads Generated By the Propulsion Systems," National Aeronautics and Space Administration, 1971.

[12] S. H. Guest, "Acoustic Efficiency Trends for High Thrust Boosters," NASA TN D-1999, MSFC, July 1964.

[13] J. Haynes and J. R. Kenny, "Modifications to the NASA SP-8072 Distributed Source Method II," in *15th AIAA/CEAS Aeroacoustics Conference (30th AIAA Aeroacoustics Conference)*, Miami, Florida, 2009.

[14] C. Chessel, "Propagation of noise along a finite impedance boundary," *Journal of the Acoustical Society of America,* vol. 62, no. 4, pp. 825-834, 1977.

[15] T. Embleton, J. Piercy and G. Daigie, "Effective flow resistivity of ground surfaces determined by acoustical measurements," *Journal of the Acoustical Society of America,* vol. 74, no. 4, pp. 1239-1244, 1983.

[16] S. A. McInerny and S. M. Ölçmen, "High-Intensity Rocket Noise: Nonlinear Propagation, Atmospheric Absorption, and Characterization," *Journal of the Acoustical Society of America (JASA),* vol. 117, no. 2, pp. 578-591, 2005.

[17] K. L. Gee, V. W. Sparrow, M. M. James, J. M. Downing, C. M. Hobbs, T. B. Gabrielson and A. A. Atchley, "Measurement and Prediction of Noise Propagation from a High-Power Jet Aircraft," *American Institute of Aeronautics and Astronautics,* 2005.

[18] K. J. Plotkin, "PCBoom3 Sonic Boom Prediction Model: Version 1.0c, Wyle Research Report WR 95-22C," May 1996.

[19] K. Plotkin, "Review of Sonic Boom Theory," *AIAA,* pp. 89-1105, 1989.

[20] C. M. Harris, Handbook of Acoustical Measurments and Noise Control, Third Edition, 1998.

[21] Z. Rubin, "Far-Field Acoustics During F9 and Heavy Liftoff From Texas Launch Site," 2011.

FOR OFFICIAL USE ONLY – NOT FOR PUBLIC RELEASE

Appendix E
Air Quality Calculations and Assumptions

THIS PAGE INTENTIONALLY LEFT BLANK

TAB A. EMISSIONS SUMMARY

Vertical Launch Area Construction Summary

YEAR	VOC T/yr	CO T/yr	NOx T/yr	SO2 T/yr	PM10 T/yr	PM2.5 T/yr	CO2 MT/yr
2014	**0.47**	**5.92**	**4.96**	**0.06**	**12.43**	**1.47**	**427**
2015	**0.47**	**5.92**	**4.96**	**0.06**	**6.34**	**0.86**	**427**
Control Center Area Construction Summary							
YEAR	**VOC** T/yr	**CO** T/yr	**NOx** T/yr	**SO2** T/yr	**PM10** T/yr	**PM2.5** T/yr	**CO2** MT/yr
2014	**0.42**	**5.67**	**4.16**	**0.05**	**5.67**	**0.76**	**371**
2015	**0.42**	**5.67**	**4.16**	**0.05**	**5.67**	**0.76**	**371**
TOTALS							
YEAR	**VOC** T/yr	**CO** T/yr	**NOx** T/yr	**SO2** T/yr	**PM10** T/yr	**PM2.5** T/yr	**CO2** MT/yr
2014	**0.89**	**11.59**	**9.13**	**0.11**	**18.09**	**2.23**	**798**
2015	**0.89**	**11.59**	**9.13**	**0.11**	**12.01**	**1.62**	**798**

TAB B. CONSTRUCTION EMISSIONS - VERTICAL LAUNCH AREA

Basic Conversions

453.59	grams per pound
43,560	Conversion from Acre to SF
0.03704	Cubic feet to Cubic Yards
0.1111	Square Feet to Square Yards
1.4	tons/CY for Gravel
80,000	lbs/Truck Load for Delivery
1.66	CY for each CY of asphalt/concrete demo
0.333333333	asphalt thickness for demolition
0.333333333	asphalt thickness for pavement
2000	pounds per ton
145	lb/ft^3 density of Hot Mix Asphalt
0.666666667	asphalt thickness for pavement on runways

Table 1. Vertical Launch Area, All Areas - Clearing - 2014 and 2015

9.7 Acres

Off-road Equipment	Cumulative Hours of Operation[1]	Engine HP	Load Factor	VOC[2] g/hp-hr	CO[2] g/hp-hr	NOx[2] g/hp-hr	SO_2[2] g/hp-hr	PM10[2] g/hp-hr	PM2.5[2] g/hp-hr	CO_2[2] g/hp-hr	VOC lb	CO lb	NOx lb	SO2 lb	PM10 lb	PM2.5 lb	CO_2 lb
Dozer	28	145	0.58	0.38	1.41	4.17	0.12	0.30	0.29	535.69	1.96	7.34	21.67	0.60	1.54	1.49	2,781
Loader w/ integral Backhoe	112	87	0.21	1.43	7.35	6.35	0.15	1.06	1.03	691.66	6.46	33.16	28.64	0.67	4.80	4.65	3,121
Small backhoe	28	55	0.21	1.43	7.35	6.35	0.15	1.06	1.03	691.66	1.02	5.24	4.53	0.11	0.76	0.74	493
On-road Equipment	**Cumulative Hours of Operation[1]**	**Engine HP**	**Productivity based Speed (miles/hour)**	**VOC[3] lb/mile**	**CO[3] lb/mile**	**NOx[3] lb/mile**	**SO_2[3] lb/mile**	**PM10[3] lb/mile**	**PM2.5[3] lb/mile**	**CO_2[3] lb/mile**	**VOC lb**	**CO lb**	**NOx lb**	**SO2 lb**	**PM10 lb**	**PM2.5 lb**	**CO_2 lb**
Dump Truck	13	230	16	0.00158934	8.31E-03	3.78E-02	1.79E-05	1.60E-03	1.56E-03	3.42	0.33	1.73	7.87	0.00	0.33	0.32	710
										Subtotal (lbs):	**10**	**47**	**63**	**1**	**7**	**7**	**7,105**

Table 2. Vertical Launch Area Site Prep - Excavate/Fill - Trenching - Grading 2014 and 2015

Site Prep - Excavate/Fill (CY)	81,033 CY	Assume 100% hauled in or out	81,033 CY hauled			
Trenching (LF)	2,285 LF	Assume 2 ft deep trench, 2 feet wide	339 CY		Assume 100% hauled in or out	339 CY hauled
Grading (SY)	420,634 SF	Convert	46,732 SY		Assume compact 0.5 feet (0.166 yards)	7,789 CY compacted

Off-road Equipment	Cumulative Hours of Operation[1]	Engine HP	Load Factor	VOC[2] g/hp-hr	CO[2] g/hp-hr	NOx[2] g/hp-hr	SO_2[2] g/hp-hr	PM10[2] g/hp-hr	PM2.5[2] g/hp-hr	CO_2[2] g/hp-hr	VOC lb	CO lb	NOx lb	SO2 lb	PM10 lb	PM2.5 lb	CO_2 lb
Backhoe Excavator	270	243	0.59	0.34	1.21	4.03	0.12	0.22	0.22	535.79	29.36	103.24	344.02	9.84	19.02	18.45	45,743.30
Skid Steer Loader	324	160	0.23	0.38	1.47	4.34	0.12	0.31	0.30	535.67	10.08	38.65	114.09	3.03	8.03	7.79	14,086.46
Dozer	294	145	0.59	0.38	1.41	4.17	0.12	0.30	0.29	535.69	20.86	78.32	231.10	6.38	16.39	15.90	29,663.41
Scraper Hauler Excavator	294	365	0.58	0.38	1.42	4.19	0.12	0.30	0.29	535.69	51.69	194.49	573.72	15.79	40.63	39.41	73,404.13
Compactor	58	103	0.58	0.40	1.57	4.57	0.12	0.32	0.31	535.63	3.00	11.93	34.69	0.88	2.42	2.35	4,070.08
Grader	17	285	0.58	0.34	1.21	4.07	0.12	0.23	0.22	535.79	2.08	7.31	24.61	0.70	1.36	1.32	3,240.33
Trenching with backhoe loader	5	87	0.59	0.35	1.25	4.23	0.12	0.24	0.23	535.77	0.19	0.68	2.32	0.06	0.13	0.13	293.23
On-road Equipment	**Cumulative Hours of Operation[1]**	**Engine HP**	**Productivity based Speed (miles/hour)**	**VOC[3] lb/mile**	**CO[3] lb/mile**	**NOx[3] lb/mile**	**SO_2[3] lb/mile**	**PM10[3] lb/mile**	**PM2.5[3] lb/mile**	**CO_2[3] lb/mile**	**VOC lb**	**CO lb**	**NOx lb**	**SO2 lb**	**PM10 lb**	**PM2.5 lb**	**CO_2 lb**
Dump Truck (12 CY capacity)	4,861	230	16	0.00159	0.00831	0.03785	0.00002	0.00160	0.00156	3.42	125.28	655.42	2,983.34	1.41	126.12	122.59	269,194.21
Delivery Truck	6	365	45	0.00159	0.00831	0.03785	0.00002	0.00160	0.00156	3.42	0.41	2.14	9.73	0.00	0.41	0.40	877.89
										Subtotal (lbs):	**243**	**1,092**	**4,318**	**38**	**215**	**208**	**440,573**

Table 3. Vertical Launch Area Gravel Work - 2014 and 2015

5,368 CY

Off-road Equipment	Cumulative Hours of Operation[1]	Engine HP	Load Factor	VOC[2] g/hp-hr	CO[2] g/hp-hr	NOx[2] g/hp-hr	SO_2[2] g/hp-hr	PM10[2] g/hp-hr	PM2.5[2] g/hp-hr	CO_2[2] g/hp-hr	VOC lb	CO lb	NOx lb	SO2 lb	PM10 lb	PM2.5 lb	CO_2 lb
Dozer	54	185	0.59	0.34	1.21	4.08	0.12	0.23	0.22	535.79	4.44	15.60	52.71	1.49	2.92	2.83	6,921.02
Wheel Loader for Spreading	67	87	0.59	0.35	1.25	4.23	0.12	0.24	0.23	535.77	2.65	9.48	32.15	0.88	1.81	1.76	4,068.32
Compactor	40	100	0.43	0.36	1.34	4.45	0.12	0.26	0.25	535.74	1.36	5.05	16.78	0.43	0.97	0.94	2,019.49
On-road Equipment	**Cumulative Hours of Operation[1]**	**Engine HP**	**Productivity based Speed (miles/hour)**	**VOC[3] lb/mile**	**CO[3] lb/mile**	**NOx[3] lb/mile**	**SO_2[3] lb/mile**	**PM10[3] lb/mile**	**PM2.5[3] lb/mile**	**CO_2[3] lb/mile**	**VOC lb**	**CO lb**	**NOx lb**	**SO2 lb**	**PM10 lb**	**PM2.5 lb**	**CO_2 lb**
Dump Truck (gravel delivery)	693	230	26	0.00159	0.00831	0.03785	0.00002	0.00160	0.00156	3.42	28.44	148.78	677.22	0.32	28.63	27.83	61,107.59
										Subtotal (lbs):	**37**	**179**	**779**	**3**	**34**	**33**	**74,116**

Table 4. Vertical Launch Area Concrete Work - Foundations and Sidewalks - 2014 and 2015

Total Concrete 32,700 CY

Off-road Equipment	Cumulative Hours of Operation[1]	Engine HP	Load Factor	VOC[2] g/hp-hr	CO[2] g/hp-hr	NOx[2] g/hp-hr	SO_2[2] g/hp-hr	PM10[2] g/hp-hr	PM2.5[2] g/hp-hr	CO_2[2] g/hp-hr	VOC lb	CO lb	NOx lb	SO2 lb	PM10 lb	PM2.5 lb	CO_2 lb
Concrete Mixer	1,722	3.5	0.43	0.69	3.04	6.17	0.13	0.54	0.52	588.29	3.93	17.39	35.26	0.72	3.09	3.00	3,361.16
Concrete Truck	1,557	300	0.43	0.38	1.75	6.18	0.11	0.27	0.26	529.89	168.09	773.11	2,737.90	50.48	118.99	115.42	234,664.25
										Subtotal (lbs):	**172**	**791**	**2,773**	**51**	**122**	**118**	**238,025**

Table 5. Vertical Launch Area Building Construction - 2014 and 2015

6,400 SF

Off-road Equipment	Cumulative Hours of Operation[1]	Engine HP	Load Factor	VOC[2] g/hp-hr	CO[2] g/hp-hr	NOx[2] g/hp-hr	SO_2[2] g/hp-hr	PM10[2] g/hp-hr	PM2.5[2] g/hp-hr	CO_2[2] g/hp-hr	VOC lb	CO lb	NOx lb	SO2 lb	PM lb	PM2.5 lb	CO_2 lb
Crane	3	330	0.58	0.25	1.22	5.26	0.11	0.21	0.20	530.30	0.33	1.65	7.10	0.15	0.28	0.27	716.06
Concrete truck	32	300	0.43	0.19	1.45	4.32	0.12	0.21	0.20	536.26	1.71	13.24	39.32	1.05	1.91	1.85	4880.38
Diesel Generator (Assume 5 generators at 40 HP each)	26	40	0.43	0.26	1.41	3.51	0.11	0.23	0.22	536.20	0.25	1.37	3.41	0.10	0.23	0.22	520.51
On-road Equipment	**Cumulative Hours of Operation[1]**	**Engine HP**	**Productivity based Speed (miles/hour)**	**VOC[3]** lb/mile	**CO[3]** lb/mile	**NOx[3]** lb/mile	**SO_2[3]** lb/mile	**PM10[3]** lb/mile	**PM2.5[3]** lb/mile	**CO_2[3]** lb/mile	**VOC** lb	**CO** lb	**NOx** lb	**SO2** lb	**PM** lb	**PM2.5** lb	**CO_2** lb
Diesel Pickup Truck	2	400	30	0.00159	0.00831	0.03785	0.00002	0.00160	0.00156	3.42	0.11	0.57	2.62	0.00	0.11	0.11	236
Delivery Truck	154	365	60	0.00159	0.00831	0.03785	0.00002	0.00160	0.00156	3.42	14.65	76.63	348.80	0.16	14.75	14.33	31,473
										Subtotal (lbs):	**17**	**93**	**401**	**1**	**17**	**17**	**37,826**

Footnotes for Tables 1 through 5

[1]Complied from 2010 National Estimator, Equipment Manufacture's websites such as Freightliner and Cat, PACES, U.S. EPA. Open Burning and Construction Activities: Improved PM Fine Emission Estimation Techniques in the Nation Emissions Inventory, Ohio Emergency Management Agency. Appendix F Debris Estimating Guides, and Henderson, Chris. Project Management for Construction. Fundamental Concepts for Owners, Engineers, Architects, and Builders. Version 2.2. 2008

[2] EPA NONROAD2008a Model

[3]MOVES (Motor Vehicle Emission Simulator) 2010

Table 6. Vertical Launch Area - Launch Pad Construction - 2014 and 2015

Concrete Surface	12,004	SF	0.3 acres
Convert	1,334	SY	1.66666667 yards thick

				[6,7]Emission Factors							Annual Emissions						
[1]Off-road Equipment	[2]Cumulative Hours of Operation	[3]Engine HP	[4]Load Factor	VOC g/hp-hr	CO g/hp-hr	NOx g/hp-hr	SO_2 g/hp-hr	PM10 g/hp-hr	PM2.5 g/hp-hr	CO_2 g/hp-hr	VOC lb	CO lb	NOx lb	SO2 lb	PM lb	PM2.5 lb	CO_2 lb
Grader (CAT 120M2 or similar)	15	150	0.61	1.06	3.52	8.24	0.06	0.47	0.47	568.30	3.26	10.80	25.27	0.17	1.44	1.44	1,743.10
Steel drum roller/soil compactor	152	401	0.56	0.70	3.18	7.20	0.05	0.28	0.28	568.30	52.47	239.60	541.69	3.76	21.23	21.23	42,779.35
Paving/Concrete Machine	152	164	0.53	1.14	3.71	8.87	0.49	0.49	0.49	568.30	33.07	107.95	258.53	14.39	14.39	14.39	16,558.52
Curbing Machine	8	130	0.59	1.14	3.71	8.87	0.49	0.49	0.49	568.30	1.46	4.76	11.41	0.64	0.64	0.64	730.58
Cement and Motar Mixer 1	152	9	0.56	0.92	2.64	5.41	0.07	0.35	0.35	568.30	1.55	4.46	9.14	0.11	0.59	0.59	960.13
Cement and Motar Mixer 2	152	9	0.56	0.92	2.64	5.41	0.07	0.35	0.35	568.30	1.55	4.46	9.14	0.11	0.59	0.59	960.13
Cement and Motar Mixer 3	152	9	0.56	0.92	2.64	5.41	0.07	0.35	0.35	568.30	1.55	4.46	9.14	0.11	0.59	0.59	960.13
Tractor/Loader/Backhoe	152	75	0.55	1.50	4.22	8.33	0.06	0.80	0.80	568.30	20.73	58.35	115.12	0.83	11.09	11.09	7,858.25
Pile Driver	59	260	0.43	0.46	1.55	5.90	0.11	0.31	0.30	529.64	6.78	22.67	86.23	1.66	4.59	4.45	7,738.52
All Terrain Forklift	59	85	0.59	0.51	3.94	4.93	0.13	0.52	0.51	594.61	3.34	25.82	32.30	0.84	3.42	3.31	3,897.12
[1]On-road Equipment	[2]Cumulative Hours of Operation	[3]Engine HP	[5]Speed (miles/hour)	VOC lb/mile	CO lb/mile	NOx lb/mile	SO2 lb/mile	PM10 lb/mile	PM2.5 lb/mile	CO2 lb/mile	VOC lb	CO lb	NOx lb	SO2 lb	PM lb	PM2.5 lb	CO_2 lb
Concrete Truck	152	230	20	0.00159	0.00831	0.03785	0.00002	0.00160	0.00156	3.42	4.83	25.29	115.09	0.05	4.87	4.73	10,385
Water Truck/Oil truck	15	230	10	0.00159	0.00831	0.03785	0.00002	0.00160	0.00156	3.42	0.24	1.26	5.75	0.00	0.24	0.24	519
										Subtotal (lbs):	**130.83**	**509.91**	**1,218.83**	**22.69**	**63.65**	**63.27**	**95,090.40**

Table 7. Vertical Launch Area - Construction of Runway Between Hangar and Launch Pad - 2014 and 2015

Concrete Surface	75,110	SF	1.7 acres
Convert	8,345	SY	1 yards thick

				[6,7]Emission Factors							Annual Emissions						
[1]Off-road Equipment	[2]Cumulative Hours of Operation	[3]Engine HP	[4]Load Factor	VOC g/hp-hr	CO g/hp-hr	NOx g/hp-hr	SO_2 g/hp-hr	PM10 g/hp-hr	PM2.5 g/hp-hr	CO_2 g/hp-hr	VOC lb	CO lb	NOx lb	SO2 lb	PM lb	PM2.5 lb	CO_2 lb
Grader (CAT 120M2 or similar)	6	145	0.61	1.06	3.52	8.24	0.06	0.47	0.47	568.30	1.31	4.36	10.19	0.07	0.58	0.58	703
Steel drum roller/soil compactor	63	401	0.56	0.70	3.18	7.20	0.05	0.28	0.28	568.30	21.88	99.94	225.94	1.57	8.85	8.85	17,843
Paving/Concrete Machine	63	164	0.53	1.14	3.71	8.87	0.49	0.49	0.49	568.30	13.79	45.03	107.83	6.00	6.00	6.00	6,907
Curbing Machine	3	130	0.59	1.14	3.71	8.87	0.49	0.49	0.49	568.30	0.61	1.99	4.76	0.26	0.26	0.26	305
Cement and Motar Mixer 1	63	9	0.56	0.92	2.64	5.41	0.07	0.35	0.35	568.30	0.65	1.86	3.81	0.05	0.24	0.24	400
Cement and Motar Mixer 2	63	9	0.56	0.92	2.64	5.41	0.07	0.35	0.35	568.30	0.65	1.86	3.81	0.05	0.24	0.24	400
Cement and Motar Mixer 3	63	9	0.56	0.92	2.64	5.41	0.07	0.35	0.35	568.30	0.65	1.86	3.81	0.05	0.24	0.24	400
Tractor/Loader/Backhoe	63	75	0.55	1.50	4.22	8.33	0.06	0.80	0.80	568.30	8.65	24.34	48.01	0.35	4.63	4.63	3,278
[1]On-road Equipment	[2]Cumulative Hours of Operation	[3]Engine HP	[5]Speed (miles/hour)	VOC lb/mile	CO lb/mile	NOx lb/mile	SO2 lb/mile	PM10 lb/mile	PM2.5 lb/mile	CO2 lb/mile	VOC lb	CO lb	NOx lb	SO2 lb	PM lb	PM2.5 lb	CO_2 lb
Concrete Truck	63	230	20	0.00159	0.00831	0.03785	0.00002	0.00160	0.00156	3.41508	2.02	10.55	48.01	0.02	2.03	1.97	4,332
Water Truck/Oil truck	6	230	10	0.00159	0.00831	0.03785	0.00002	0.00160	0.00156	3.41508	0.10	0.53	2.40	0.00	0.10	0.10	217
										Subtotal (lbs):	**50.30**	**192.30**	**458.58**	**8.42**	**23.19**	**23.13**	**34,784.50**

Footnotes for Tables 6 and 7

[1]Equipment list from National Estimator, PACES and CALEE information.

[2] Productivty of the Equipment is based on a number of sources including PACE and National Estimator. The following is more detail on Productivity Factors:

Assume runway with cement stabilzed base (8 in thick) and asphalt running course (8 in thick)

We are estimating 1.5 yards thick (36" base (PACES) plus flexible upper course of 30 inches (Boeing)

Base productivity factor from PACES/National Estimator is 0.076 hour/CY of runway/taxi way/ Apron that is 1 yard thick. The concrete for NAS Lemoore is estimated to be a total of 1.83yards, which will mean 1.83 times longer

Number of Mortar mixers based on National Estimator File (at least 3)

[3]Engine HP is based on information compiled from CALEE, Caterpillar, and National Estimator.

[4]Load Factor is Offroad Default Load Factor from Page 12, Table 3.3 of "California Emissions Estimator Model Appendix D Default Data Tables"

[5]Estimated speed based on Hendrickson, Chris. Department of Civil and Environmental Engineering, Carnegie Mellon University. Project Management for Construction. Fundamental Concepts for Owners, Engineers, Architects and Builders. Version 2.2. 2008

[6]Emission Factors from Table 3.4 of of "California Emissions Estimator Model Appendix D Default Data Tables" Assume 2005 model year equipment

[7]On-road emission factors are from EMFAC 2007 Version 2.3, Scenario Year 2015 HHDT-DSL

Table 8. Vertical Launch Area Integration and Processing Hangar Construction - 2014 and 2015

43,200 SF

Off-road Equipment	Cumulative Hours of Operation	Engine HP	Load Factor	VOC[1] g/hp-hr	CO[1] g/hp-hr	NOx[1] g/hp-hr	SO_2[1] g/hp-hr	PM10[1] g/hp-hr	PM2.5[1] g/hp-hr	CO_2[1] g/hp-hr	VOC lb	CO lb	NOx lb	SO2 lb	PM lb	PM2.5 lb	CO_2 lb
Crane	259	330	0.58	0.245701462	1.219506872	5.259786056	0.11407306	0.207722126	0.201490462	530.2987216	26.87	133.38	575.28	12.48	22.72	22.04	58,001
Diesel Generator for on-site power tools and office support (Assume 5 generators at 40 HP each)	202	40	0.43	0.428604232	1.939074134	4.940145337	0.12671328	0.460870473	0.447044359	589.0709388	3.28	14.86	37.85	0.97	3.53	3.43	4,513
Telehandler	432	99	0.59	0.509539721	3.939733939	4.928976552	0.127904404	0.521120014	0.505486414	594.613562	28.35	219.17	274.20	7.12	28.99	28.12	33,078
Scissors Lift	346	83	0.59	0.509539721	3.939733939	4.928976552	0.127904404	0.521120014	0.505486414	594.613562	19.01	147.00	183.91	4.77	19.44	18.86	22,186
Skid steer loader	216	67	0.59	1.692381246	7.967689939	6.697903379	0.148593624	1.189146888	1.153472482	690.8722008	31.86	149.99	126.08	2.90	22.38	21.71	13,005
Pile driver	213	260	0.43	0.464038203	1.551822205	5.901967532	0.113927487	0.313864738	0.304448796	529.6372363	24.40	81.60	310.34	5.99	16.50	16.01	27,849
All terrain forklift	213	84	0.59	0.509539721	3.939733939	4.928976552	0.127904404	0.521120014	0.505486414	594.613562	11.88	91.83	114.89	2.98	12.15	11.78	13,860
On-road Equipment	**Cumulative Hours of Operation**	**Engine HP**	**Speed (miles/hour)**	**VOC[2] lb/mile**	**CO[2] lb/mile**	**NOx[2] lb/mile**	**SO_2[2] lb/mile**	**PM10[2] lb/mile**	**PM2.5[2] lb/mile**	**CO_2[2] lb/mile**	**VOC lb**	**CO lb**	**NOx lb**	**SO2 lb**	**PM lb**	**PM2.5 lb**	**CO_2 lb**
Diesel Pickup Truck	293	400	30.00	1.59E-03	8.31E-03	3.78E-02	1.79E-05	1.60E-03	1.56E-03	3.42	13.96	73.02	332.38	0.16	14.05	13.66	29,992
Concrete truck	202	300	0.43	1.59E-03	8.31E-03	3.78E-02	1.79E-05	1.60E-03	1.56E-03	3.42	0.09	0.48	2.17	0.00	0.09	0.09	196.25
Delivery Truck	1,254	365	30.00	1.59E-03	8.31E-03	3.78E-02	1.79E-05	1.60E-03	1.56E-03	3.42	59.81	312.93	1424.39	0.67	60.21	58.53	128,526
										Subtotal (lbs):	**219.51**	**1224.24**	**3381.49**	**37.94**	**200.08**	**194.23**	**331,207**

Table 9. Vertical Launch Area Parts Storage Warehouse and Workshop Hangar Construction - 2014 and 2015

21,600 SF

Off-road Equipment	Cumulative Hours of Operation	Engine HP	Load Factor	VOC[1] g/hp-hr	CO[1] g/hp-hr	NOx[1] g/hp-hr	SO_2[1] g/hp-hr	PM10[1] g/hp-hr	PM2.5[1] g/hp-hr	CO_2[1] g/hp-hr	VOC lb	CO lb	NOx lb	SO2 lb	PM lb	PM2.5 lb	CO_2 lb
Crane	130	330	0.58	0.245701462	1.219506872	5.259786056	0.11407306	0.207722126	0.201490462	530.2987216	13.44	66.69	287.64	6.24	11.36	11.02	29,000
Diesel Generator for on-site power tools and office support (Assume 5 generators at 40 HP each)	101	40	0.43	0.428604232	1.939074134	4.940145337	0.12671328	0.460870473	0.447044359	589.0709388	1.64	7.43	18.93	0.49	1.77	1.71	2,257
Telehandler	216	99	0.59	0.509539721	3.939733939	4.928976552	0.127904404	0.521120014	0.505486414	594.613562	14.17	109.58	137.10	3.56	14.49	14.06	16,539
Scissors Lift	173	83	0.59	0.509539721	3.939733939	4.928976552	0.127904404	0.521120014	0.505486414	594.613562	9.51	73.50	91.95	2.39	9.72	9.43	11,093
Skid steer loader	173	67	0.59	1.692381246	7.967689939	6.697903379	0.148593624	1.189146888	1.153472482	690.8722008	25.49	119.99	100.87	2.24	17.91	17.37	10,404
Forklift	108	85	0.59	0.509539721	3.939733939	4.928976552	0.127904404	0.521120014	0.505486414	594.613562	6.08	47.04	58.86	1.53	6.22	6.04	7,100
On-road Equipment	**Cumulative Hours of Operation**	**Engine HP**	**Speed (miles/hour)**	**VOC[2] lb/mile**	**CO[2] lb/mile**	**NOx[2] lb/mile**	**SO_2[2] lb/mile**	**PM10[2] lb/mile**	**PM2.5[2] lb/mile**	**CO_2[2] lb/mile**	**VOC lb**	**CO lb**	**NOx lb**	**SO2 lb**	**PM lb**	**PM2.5 lb**	**CO_2 lb**
Diesel Pickup Truck	146	400	30.00	0.00159	0.00831	0.03785	0.00002	0.00160	0.00156	3.42	6.98	36.51	166.19	0.08	7.03	6.83	14,996
Concrete truck	101	300	0.43	0.00159	0.00831	0.03785	0.00002	0.00160	0.00156	3.42	0.05	0.24	1.09	0.00	0.05	0.04	98.12
Delivery Truck	627	365	30.00	0.00159	0.00831	0.03785	0.00002	0.00160	0.00156	3.42	29.91	156.46	712.19	0.34	30.11	29.27	64,263
										Subtotal (lbs):	**107.26**	**617.45**	**1574.81**	**16.85**	**98.65**	**95.77**	**155,750**

Tables 8 and 9 Footnotes
[1] EPA NONROAD2008a Model
[2] MOVES (Motor Vehicle Emission Simulator) 2010

Table 10. Vertical Launch Area Paving - 2014 and 2015

Pavement - Surface Area 101,322 SF 1,251 CY
Paving - HMA 33,774 CF

Off-road Equipment	Cumulative Hours of Operation	Engine HP	Load Factor	VOC[1] g/hp-hr	CO[1] g/hp-hr	NOx[1] g/hp-hr	SO_2[1] g/hp-hr	PM10[1] g/hp-hr	PM2.5[1] g/hp-hr	CO_2[1] g/hp-hr	VOC lb	CO lb	NOx lb	SO2 lb	PM lb	PM2.5 lb	CO_2 lb
Grader	310	150	0.59	0.38	1.41	4.16	0.12	0.30	0.29	535.69	22.79	85.49	251.94	6.98	17.90	17.36	32,432.09
Steel drum roller/vibratory roller	465	201	0.59	0.34	2.46	5.53	0.12	0.34	0.33	535.80	82.87	597.91	1,343.73	27.98	82.23	79.76	130,078.41
Paving Machine	621	104	0.59	0.38	1.44	4.25	0.12	0.30	0.29	535.68	50.31	190.97	562.92	15.25	39.72	38.52	70,916.70
Asphalt Curbing Machine	62	130	0.59	0.40	1.57	4.57	0.12	0.32	0.31	535.63	4.15	16.48	47.91	1.21	3.35	3.25	5,620.97
On-road Equipment	**Cumulative Hours of Operation**	**Engine HP**	**Productivity based Speed (miles/hour)**	**VOC[2] lb/mile**	**CO[2] lb/mile**	**NOx[2] lb/mile**	**SO_2[2] lb/mile**	**PM10[2] lb/mile**	**PM2.5[2] lb/mile**	**CO_2[2] lb/mile**	**VOC lb**	**CO lb**	**NOx lb**	**SO2 lb**	**PM lb**	**PM2.5 lb**	**CO_2 lb**
Dump Truck	250	230	17	0.00159	0.00831	0.03785	0.00002	0.00160	0.00156	3.41508	6.63	34.67	157.82	0.07	6.67	6.49	14,241
Water Truck	10	230	10	0.00159	0.00831	0.03785	0.00002	0.00160	0.00156	3.41508	0.16	0.83	3.76	0.00	0.16	0.15	339
Hot Mix Asphalt (HMA)	**Volume of HMA (ft^3)**	**Weight of HMA (tons)**		**VOC[3] lb/ton of asphalt**	**CO lb/ton of asphalt**	**Nox lb/ton of asphalt**	**SO_2 lb/ton of asphalt**	**PM10 lb/ton of asphalt**	**PM2.5 lb/ton of asphalt**	**CO_2 lb/ton of asphalt**	**VOC lb**	**CO lb**	**NOx lb**	**SO2 lb**	**PM lb**	**PM2.5 lb**	**CO_2 lb**
Standard Hot Mix Asphalt	33,774	2,449		0.04	-	-	-	-	-	-	97.94	-	-	-	-	-	-
										Subtotal (lbs):	**264.84**	**926.35**	**2,368.09**	**51.50**	**150.02**	**145.54**	**253,628**

[1] EPA NONROAD2008a Model
[2] MOVES (Motor Vehicle Emission Simulator) 2010
[3] California Air Resources Board (CARB) 2005. Comparison of Asphalt Paving Emission Factors

Table 11. Vertical Launch Area Fugitive Dust - 2014 and 2015

Year	PM_{10} tons/acre/mo	acres	days of disturbance	PM_{10} Total (tons)	$PM_{2.5}/PM_{10}$ Ratio	$PM_{2.5}$ Total (tons)
2014	0.42	5	240	24.3	0.1	2.4
2015	0.42	5	120	12.2	0.1	1.2

Table 12. Vertical Launch Area Annual Construction Worker POVs 2014 and 2015 [1]

24 construction workers

Vehicles	# vehicles	# days	[1]mi/day	[2]VOCs lb/mi	[2]CO lb/mi	[2]NOx lb/mi	[2]SO_2 lb/mi	[2]PM_{10} lb/mi	[2]$PM_{2.5}$ lb/mi	[3,4]CO_2 g/mi	[3,4]CH_4 g/mi	[3,4]N_2O g/mi	VOCs lb	CO lb	NOx lb	SO_2 lb	PM_{10} lb	$PM_{2.5}$ lb	CO_2 g	CH_4 g	N_2O g
passenger vehicles	47	240	46	0.00118517	0.03467400	0.00486327	0.00001305	0.00019687	0.00018145	182.00	0.02	0.02	614.96	17991.64	2523.46	6.77	102.15	94.15	94,436,160	8,302	8,302
												Tons per Year	**0.31**	**9.00**	**1.26**	**0.00**	**0.05**	**0.05**			
												Metric Tons per Year							**94**	**0.01**	**0.01**
																		CO2e in metric tons/year	**97**		

[1] while onsite only

[2] Emission factors from MOVES2010

[3] Emission Factors from *Federal Greenhouse Gas Accounting and Reporting Guidance: Technical Support Document* (CEQ. 2010), Table D-11

[4] Emission Factors from *Federal Greenhouse Gas Accounting and Reporting Guidance: Technical Support Document* (CEQ. 2010), Table D-12

Table 13. Vertical Launch Area Construction Summary

YEAR	VOC T/yr	CO T/yr	NOx T/yr	SO2 T/yr	PM10 T/yr	PM2.5 T/yr	CO_2 MT/yr
2014	0.47	5.92	4.96	0.06	12.43	1.47	427
2015	0.47	5.92	4.96	0.06	6.34	0.86	427

TAB C. CONSTRUCTION EMISSIONS - CONTROL CENTER AREA

Basic Conversions

453.59	grams per pound
43,560	Conversion from Acre to SF
0.03704	Cubic feet to Cubic Yards
0.1111	Square Feet to Square Yards
1.4	tons/CY for Gravel
80,000	lbs/Truck Load for Delivery
1.66	CY for each CY of asphalt/concrete demo
0.333333333	asphalt thickness for demolition
0.333333333	asphalt thickness for pavement
2000	pounds per ton
145	lb/ft^3 density of Hot Mix Asphalt

Table 1. Control Center Area, All Areas - Clearing - 2014 and 2015 8.6 Acres

Off-road Equipment	Cumulative Hours of Operation[1]	Engine HP	Load Factor	VOC[2] g/hp-hr	CO[2] g/hp-hr	NOx[2] g/hp-hr	SO_2[2] g/hp-hr	PM10[2] g/hp-hr	PM2.5[2] g/hp-hr	CO_2[2] g/hp-hr	VOC lb	CO lb	NOx lb	SO2 lb	PM10 lb	PM2.5 lb	CO_2 lb
Dozer	25	145	0.58	0.38	1.41	4.17	0.12	0.30	0.29	535.69	1.75	6.57	19.38	0.54	1.37	1.33	2,488
Loader w/ Integral Backhoe	25	87	0.21	1.43	7.35	6.35	0.15	1.06	1.03	691.66	1.44	7.42	6.41	0.15	1.07	1.04	698
Small backhoe	25	55	0.21	1.43	7.35	6.35	0.15	1.06	1.03	691.66	0.91	4.69	4.05	0.09	0.68	0.66	441
On-road Equipment	**Cumulative Hours of Operation[1]**	**Engine HP**	**Productivity based Speed (miles/hour)**	**VOC[3] lb/mile**	**CO[3] lb/mile**	**NOx[3] lb/mile**	**SO_2[3] lb/mile**	**PM10[3] lb/mile**	**PM2.5[3] lb/mile**	**CO_2[3] lb/mile**	**VOC lb**	**CO lb**	**NOx lb**	**SO2 lb**	**PM10 lb**	**PM2.5 lb**	**CO_2 lb**
Dump Truck	11	230	16	0.00159	0.00831	0.03785	0.00002	0.00160	0.00156	3.42	0.30	1.55	7.04	0.00	0.30	0.29	635
										Subtotal (lbs):	**4**	**20**	**37**	**1**	**3**	**3**	**4,262**

Table 2. Control Center Area Site Prep - Excavate/Fill - Trenching - Grading - 2014 and 2015

Site Prep - Excavate/Fill (CY)	16,665 CY	Assume 60% hauled in or out	9,999 CY hauled				
Trenching (LF)	12,815 LF	Assume 2 ft deep trench, 2 feet wide	1,899 CY		Assume 60% hauled in or out	1,139 CY hauled	
Grading (SY)	376,285 SF	Convert	41,805 SY		Assume compact 0.5 feet (0.166 yards)	6,968 CY compacted	

Off-road Equipment	Cumulative Hours of Operation[1]	Engine HP	Load Factor	VOC[2] g/hp-hr	CO[2] g/hp-hr	NOx[2] g/hp-hr	SO_2[2] g/hp-hr	PM10[2] g/hp-hr	PM2.5[2] g/hp-hr	CO_2[2] g/hp-hr	VOC lb	CO lb	NOx lb	SO2 lb	PM10 lb	PM2.5 lb	CO_2 lb
Backhoe Excavator	33	243	0.59	0.34	1.21	4.03	0.12	0.22	0.22	535.79	3.62	12.74	42.45	1.21	2.35	2.28	5,644.51
Skid Steer Loader	40	160	0.23	0.38	1.47	4.34	0.12	0.31	0.30	535.67	1.24	4.77	14.08	0.37	0.99	0.96	1,738.20
Dozer	36	145	0.59	0.38	1.41	4.17	0.12	0.30	0.29	535.69	2.57	9.66	28.52	0.79	2.02	1.96	3,660.33
Scraper Hauler Excavator	36	365	0.58	0.38	1.42	4.19	0.12	0.30	0.29	535.69	6.38	24.00	70.79	1.95	5.01	4.86	9,057.73
Compactor	52	103	0.58	0.40	1.57	4.57	0.12	0.32	0.31	535.63	2.69	10.67	31.04	0.78	2.17	2.10	3,640.96
Grader	15	285	0.58	0.34	1.21	4.07	0.12	0.23	0.22	535.79	1.86	6.53	22.02	0.62	1.22	1.18	2,898.69
Trenching with backhoe loader	27	87	0.59	0.35	1.25	4.23	0.12	0.24	0.23	535.77	1.07	3.83	12.99	0.35	0.73	0.71	1,644.53
On-road Equipment	**Cumulative Hours of Operation[1]**	**Engine HP**	**Productivity based Speed (miles/hour)**	**VOC[3] lb/mile**	**CO[3] lb/mile**	**NOx[3] lb/mile**	**SO_2[3] lb/mile**	**PM10[3] lb/mile**	**PM2.5[3] lb/mile**	**CO_2[3] lb/mile**	**VOC lb**	**CO lb**	**NOx lb**	**SO2 lb**	**PM10 lb**	**PM2.5 lb**	**CO_2 lb**
Dump Truck (12 CY capacity)	665	230	16	0.00159	0.00831	0.03785	0.00002	0.00160	0.00156	3.42	17.15	89.71	408.37	0.19	17.26	16.78	36,847.84
Delivery Truck	32	365	45	0.00159	0.00831	0.03785	0.00002	0.00160	0.00156	3.42	2.29	11.99	54.56	0.03	2.31	2.24	4,923.48
										Subtotal (lbs):	**39**	**174**	**685**	**6**	**34**	**33**	**70,056**

Table 3. Control Center Area Gravel Work - 2014 and 2015

9,524 CY

Off-road Equipment	Cumulative Hours of Operation[1]	Engine HP	Load Factor	VOC[2] g/hp-hr	CO[2] g/hp-hr	NOx[2] g/hp-hr	SO_2[2] g/hp-hr	PM10[2] g/hp-hr	PM2.5[2] g/hp-hr	CO_2[2] g/hp-hr	VOC lb	CO lb	NOx lb	SO2 lb	PM10 lb	PM2.5 lb	CO_2 lb
Dozer	95	185	0.59	0.34	1.21	4.08	0.12	0.23	0.22	535.79	7.88	27.67	93.51	2.64	5.18	5.03	12,278.92
Wheel Loader for Spreading	119	87	0.59	0.35	1.25	4.23	0.12	0.24	0.23	535.77	4.70	16.82	57.03	1.55	3.22	3.12	7,217.81
Compactor	71	103	0.43	0.36	1.34	4.45	0.12	0.26	0.25	535.74	2.48	9.22	30.66	0.79	1.77	1.72	3,690.37
On-road Equipment	**Cumulative Hours of Operation[1]**	**Engine HP**	**Productivity based Speed (miles/hour)**	**VOC[3] lb/mile**	**CO[3] lb/mile**	**NOx[3] lb/mile**	**SO_2[3] lb/mile**	**PM10[3] lb/mile**	**PM2.5[3] lb/mile**	**CO_2[3] lb/mile**	**VOC lb**	**CO lb**	**NOx lb**	**SO2 lb**	**PM10 lb**	**PM2.5 lb**	**CO_2 lb**
Dump Truck (gravel delivery)	1,230	230	26	0.00159	0.00831	0.03785	0.00002	0.00160	0.00156	3.42	50.45	263.96	1,201.50	0.57	50.79	49.37	108,413.95
										Subtotal (lbs):	**66**	**318**	**1,383**	**6**	**61**	**59**	**131,601**

Table 4. Control Center Area Concrete Work - Foundations and Sidewalks - 2014 and 2015

Total Concrete 1,465 CY

Off-road Equipment	Cumulative Hours of Operation[1]	Engine HP	Load Factor	VOC[2] g/hp-hr	CO[2] g/hp-hr	NOx[2] g/hp-hr	SO_2[2] g/hp-hr	PM10[2] g/hp-hr	PM2.5[2] g/hp-hr	CO_2[2] g/hp-hr	VOC lb	CO lb	NOx lb	SO2 lb	PM10 lb	PM2.5 lb	CO_2 lb
Concrete Mixer (3 mixers total to one truck)	77	3.5	0.43	0.69	3.04	6.17	0.13	0.54	0.52	588.29	0.18	0.78	1.58	0.03	0.14	0.13	150.61
Concrete Truck	70	300	0.43	0.38	1.75	6.18	0.11	0.27	0.26	529.89	7.53	34.64	122.68	2.26	5.33	5.17	10,515.20
										Subtotal (lbs):	**8**	**35**	**124**	**2**	**5**	**5**	**10,666**

Table 5. Control Center Area Building Construction - 2014 and 2015

31,647 SF

Off-road Equipment	Cumulative Hours of Operation[1]	Engine HP	Load Factor	VOC[2] g/hp-hr	CO[2] g/hp-hr	NOx[2] g/hp-hr	SO_2[2] g/hp-hr	PM10[2] g/hp-hr	PM2.5[2] g/hp-hr	CO_2[2] g/hp-hr	VOC lb	CO lb	NOx lb	SO2 lb	PM lb	PM2.5 lb	CO_2 lb
Crane	158	330	0.58	0.25	1.22	5.26	0.11	0.21	0.20	530.30	16.41	81.43	351.20	7.62	13.87	13.45	35408.46
Concrete truck	158	300	0.43	0.19	1.45	4.32	0.12	0.21	0.20	536.26	8.44	65.46	194.44	5.19	9.45	9.17	24133.03
Diesel Generator (Assume 5 generators at 40 HP each)	127	40	0.43	0.26	1.41	3.51	0.11	0.23	0.22	536.20	1.26	6.76	16.84	0.52	1.11	1.08	2573.87
On-road Equipment	**Cumulative Hours of Operation[1]**	**Engine HP**	**Productivity based Speed (miles/hour)**	**VOC[3] lb/mile**	**CO[3] lb/mile**	**NOx[3] lb/mile**	**SO_2[3] lb/mile**	**PM10[3] lb/mile**	**PM2.5[3] lb/mile**	**CO_2[3] lb/mile**	**VOC lb**	**CO lb**	**NOx lb**	**SO2 lb**	**PM lb**	**PM2.5 lb**	**CO_2 lb**
Diesel Pickup Truck	11	400	30	0.00159	0.00831	0.03785	0.00002	0.00160	0.00156	3.42	0.54	2.84	12.94	0.01	0.55	0.53	1,167
Delivery Truck	760	365	60	0.00159	0.00831	0.03785	0.00002	0.00160	0.00156	3.42	72.43	378.93	1724.80	0.82	72.91	70.88	155,633
										Subtotal (lbs):	**99**	**535**	**2300**	**14**	**98**	**95**	**218,916**

Footnotes for Tables 1 through 5

[1]Complied from 2010 National Estimator, Equipment Manufacture's websites such as Freightliner and Cat, PACES, U.S. EPA. Open Burning and Construction Activities: Improved PM Fine Emission Estimation Techniques in the Nation Emissions Inventory, Ohio Emergency Management Agency. Appendix F Debris Estimating Guides, and Henderson, Chris. Project Management for Construction. Fundamental Concepts for Owners, Engineers, Architects, and Builders. Version 2.2. 2008

[2] EPA NONROAD2008a Model

[3]MOVES (Motor Vehicle Emission Simulator) 2010

Table 6. Control Center Area Hangar Building Construction (Payload Processing Facility and Vehicle Launch Preparation Hangar) - 2014 and 2015

59,629 SF

Off-road Equipment	Cumulative Hours of Operation	Engine HP	Load Factor	VOC[1] g/hp-hr	CO[1] g/hp-hr	NOx[1] g/hp-hr	SO_2[1] g/hp-hr	PM10[1] g/hp-hr	PM2.5[1] g/hp-hr	CO_2[1] g/hp-hr	VOC lb	CO lb	NOx lb	SO2 lb	PM lb	PM2.5 lb	CO_2 lb
Crane	358	330	0.58	0.245701462	1.219506872	5.259786056	0.11407306	0.207722126	0.201490462	530.2987216	37.09	184.11	794.06	17.22	31.36	30.42	80,059
Diesel Generator for on-site power tools and office support (Assume 5 generators at 40 HP each)	279	40	0.43	0.428604232	1.939074134	4.940145337	0.12671328	0.460870473	0.447044359	589.0709388	4.53	20.51	52.25	1.34	4.87	4.73	6,230
Telehandler	596	99	0.59	0.509539721	3.939733939	4.928976552	0.127904404	0.521120014	0.505486414	594.613562	39.13	302.52	378.48	9.82	40.01	38.81	45,658
Scissors Lift	477	83	0.59	0.509539721	3.939733939	4.928976552	0.127904404	0.521120014	0.505486414	594.613562	26.24	202.90	253.85	6.59	26.84	26.03	30,623
Skid steer loader	298	67	0.59	1.692381246	7.967689939	6.697903379	0.148593624	1.189146888	1.153472482	690.8722008	43.97	207.03	174.03	3.86	30.90	29.97	17,951
Pile Driver	294	260	0.43	0.464038203	1.551822205	5.901967532	0.113927487	0.313864738	0.304448796	529.6372363	33.68	112.63	428.36	8.27	22.78	22.10	38,441
All Terrain Forklift	294	85	0.59	0.509539721	3.939733939	4.928976552	0.127904404	0.521120014	0.505486414	594.613562	16.59	128.26	160.47	4.16	16.97	16.46	19,359
On-road Equipment	**Cumulative Hours of Operation**	**Engine HP**	**Speed (miles/hour)**	**VOC[2] lb/mile**	**CO[2] lb/mile**	**NOx[2] lb/mile**	**SO_2[2] lb/mile**	**PM10[2] lb/mile**	**PM2.5[2] lb/mile**	**CO_2[2] lb/mile**	**VOC lb**	**CO lb**	**NOx lb**	**SO2 lb**	**PM lb**	**PM2.5 lb**	**CO_2 lb**
Diesel Pickup Truck	404	400	30.00	1.59E-03	8.31E-03	3.78E-02	1.79E-05	1.60E-03	1.56E-03	3.42	19.27	100.79	458.79	0.22	19.39	18.85	41,397
Concrete truck	279	300	0.43	1.59E-03	8.31E-03	3.78E-02	1.79E-05	1.60E-03	1.56E-03	3.42	0.13	0.66	3.00	0.00	0.13	0.12	270.88
Delivery Truck	1,732	365	30.00	1.59E-03	8.31E-03	3.78E-02	1.79E-05	1.60E-03	1.56E-03	3.42	82.56	431.93	1966.08	0.93	83.11	80.79	177,405
										Subtotal (lbs):	**303**	**1691**	**4669**	**52**	**276**	**268**	**457,393**

Table 7. Control Center Area Paving - 2014 and 2015

Pavement - Surface Area 211,702 SF 2,614 CY
Paving - HMA 70,567 CF

Off-road Equipment	Cumulative Hours of Operation	Engine HP	Load Factor	VOC[1] g/hp-hr	CO[1] g/hp-hr	NOx[1] g/hp-hr	SO_2[1] g/hp-hr	PM10[1] g/hp-hr	PM2.5[1] g/hp-hr	CO_2[1] g/hp-hr	VOC lb	CO lb	NOx lb	SO2 lb	PM lb	PM2.5 lb	CO_2 lb
Grader	648	145	0.59	0.38	1.41	4.16	0.12	0.30	0.29	535.69	46.02	172.68	508.85	14.09	36.16	35.07	65,504.47
Steel drum roller/vibratory roller	973	401	0.59	0.34	2.46	5.53	0.12	0.34	0.33	535.80	173.15	1,249.26	2,807.58	58.46	171.80	166.65	271,784.41
Paving Machine	1,297	164	0.59	0.38	1.44	4.25	0.12	0.30	0.29	535.68	105.11	399.01	1,176.16	31.87	82.98	80.49	148,172.58
Asphalt Curbing Machine	130	130	0.59	0.40	1.57	4.57	0.12	0.32	0.31	535.63	8.66	34.43	100.11	2.53	7.00	6.79	11,744.39
On-road Equipment	**Cumulative Hours of Operation**	**Engine HP**	**Productivity based Speed (miles/hour)**	**VOC[2] lb/mile**	**CO[2] lb/mile**	**NOx[2] lb/mile**	**SO_2[2] lb/mile**	**PM10[2] lb/mile**	**PM2.5[2] lb/mile**	**CO_2[2] lb/mile**	**VOC lb**	**CO lb**	**NOx lb**	**SO2 lb**	**PM lb**	**PM2.5 lb**	**CO_2 lb**
Dump Truck	521	230	17	0.00159	0.00831	0.03785	0.00002	0.00160	0.00156	3.41508	13.85	72.44	329.75	0.16	13.94	13.55	29,755
Water Truck	21	230	10	0.00159	0.00831	0.03785	0.00002	0.00160	0.00156	3.41508	0.33	1.73	7.85	0.00	0.33	0.32	709
Hot Mix Asphalt (HMA)	**Volume of HMA (ft^3)**	**Weight of HMA (tons)**		**VOC[3] lb/ton of asphalt**	**CO lb/ton of asphalt**	**Nox lb/ton of asphalt**	**SO_2 lb/ton of asphalt**	**PM10 lb/ton of asphalt**	**PM2.5 lb/ton of asphalt**	**CO_2 lb/ton of asphalt**	**VOC lb**	**CO lb**	**NOx lb**	**SO2 lb**	**PM lb**	**PM2.5 lb**	**CO_2 lb**
Standard Hot Mix Asphalt	70,567	5,116		0.04	-	-	-	-	-	-	204.64	-	-	-	-	-	-
										Subtotal (lbs):	**552**	**1,930**	**4,930**	**107**	**312**	**303**	**527,669**

Footnotes for Tables 6 and 7

[1] EPA NONROAD2008a Model

[2] MOVES (Motor Vehicle Emission Simulator) 2010

[3] California Air Resources Board (CARB) 2005. Comparison of Asphalt Paving Emission Factors

Table 8. Control Center Area Fugitive Dust

Year	PM_{10} tons/acre/mo	acres	days of disturbance	PM_{10} Total (tons)	$PM_{2.5}/PM_{10}$ Ratio	$PM_{2.5}$ Total (tons)
2014	0.42	4.3	120	10.9	0.1	1.1
2015	0.42	4.3	120	10.9	0.1	1.1

Table 12. Vertical Launch Area Annual Construction Worker POVs 2014 and 2015 [1]

24 construction workers

Vehicles	# vehicles	# days	[1]mi/day	[2]VOCs lb/mi	[2]CO lb/mi	[2]NOx lb/mi	[2]SO_2 lb/mi	[2]PM_{10} lb/mi	[2]$PM_{2.5}$ lb/mi	[3,4]CO_2 g/mi	[3,4]CH_4 g/mi	[3,4]N_2O g/mi	VOCs lb	CO lb	NOx lb	SO_2 lb	PM_{10} lb	$PM_{2.5}$ lb	CO_2 g	CH_4 g	N_2O g
passenger vehicles	47	240	46	0.00118517	0.03467400	0.00486327	0.00001305	0.00019687	0.00018145	182.00	0.02	0.02	614.96	17991.64	2523.46	6.77	102.15	94.15	94,436,160	8,302	8,302
												Tons per Year	**0.31**	**9.00**	**1.26**	**0.00**	**0.05**	**0.05**			
												Metric Tons per Year							**94**	**0.01**	**0.01**
																		CO2e in metric tons/year	**97**		

[1] while onsite only

[2] Emission factors from MOVES2010

[3] Emission Factors from *Federal Greenhouse Gas Accounting and Reporting Guidance: Technical Support Document* (CEQ. 2010), Table D-11

[4] Emission Factors from *Federal Greenhouse Gas Accounting and Reporting Guidance: Technical Support Document* (CEQ. 2010), Table D-12

Table 10. Control Center Area Construction Summary

YEAR	VOC T/yr	CO T/yr	NOx T/yr	SO2 T/yr	PM10 T/yr	PM2.5 T/yr	CO_2 MT/yr
2014	0.42	5.67	4.16	0.05	5.67	0.76	371
2015	0.42	5.67	4.16	0.05	5.67	0.76	371

TAB D. CONSTRUCTION SUMMARY BY PROJECT

Project Name	Building Number	Type (Renov or Const)	Year	FootPrint (AC)	Clearing (AC)	Grading (sf)	Demo Bldgs (SF)	Demo asphalt/ concrete (SF)	Site Prep - Excavate/Fill (CY)	Trenching (LF)	Building Construction - Total Size (sf)	Building Construction - foundation footprint (sf)	# Stories	Paving - Surface area (SF)	Pavement type, vehicle or aircraft	Paving - HMA (CF)	Sidewalks (sf)	Gravel Work (CY)	Concrete Work - sidewalks, etc (CY)	Concrete Work - foundation (CY)	Runway Construction (Concrete and Asphalt) (SF)	Concrete Pilings Required
CONSTRUCTION PROJECTS																						
Vertical Launch Area 2014 - 2015																						
General																						
Clearing within 20-acre facility	NA	Construction	2014	7.8	7.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Fill & Grading for 9-acre building area	NA	Construction	2014	7.8	N/A	339,986	N/A	N/A	57,924	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Trenching for Utilities	NA	Construction	2014	0.1	N/A	N/A	N/A	N/A	N/A	2,285	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Buildings/Structures																						
Security Gate Guard Buildings (2)	NA	Construction	2014	N/A	N/A	N/A	N/A	N/A	177.78	N/A	3,200	3,200	1	N/A	N/A	N/A	320	5.9	4.0	118.5	N/A	N/A
Perimeter Fence	NA	Construction	2014	1.0	1.0	44,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Integration and Processing Hangar	NA	Construction	2014	1.0	N/A	N/A	N/A	N/A	4,000	N/A	43,200	43,200	1	N/A	N/A	N/A	4,320	1,600	53	N/A	N/A	Yes
Parts Storage Warehouse (Hangar Construction)	NA	Construction	2014	0.2	N/A	N/A	N/A	N/A	600	N/A	10,800	10,800	1	N/A	N/A	N/A	1,080	20	13	N/A	N/A	N/A
Workshop (Hangar Construction)	NA	Construction	2014	0.2	N/A	N/A	N/A	N/A	600	N/A	10,800	10,800	1	N/A	N/A	N/A	1,080	20	13	N/A	N/A	N/A
Office Building	NA	Construction	2014	0.1	N/A	N/A	N/A	N/A	178	N/A	3,200	3,200	1	N/A	N/A	N/A	320	6	4	119	N/A	N/A
Launch Pad	NA	Construction	2014	0.3	N/A	N/A	N/A	N/A	2,668	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	12,004	Yes
Launch Pad Retention Basin	NA	Construction	2014	0.0	N/A	N/A	N/A	N/A	440	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	20	N/A	33	N/A	N/A
Propellant Tank Area	NA	Construction	2014	0.4	N/A	N/A	N/A	N/A	867	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	289	N/A	16,800	N/A	N/A
Roads/Parking																						
Entrance Road	NA	Construction	2014	0.3	N/A	N/A	N/A	N/A	604	N/A	N/A	N/A	N/A	12,229	asphalt	4,076	N/A	453	N/A	N/A	N/A	N/A
Hangar Parking	NA	Construction	2014	0.8	N/A	N/A	N/A	N/A	1,692	N/A	N/A	N/A	N/A	34,267	asphalt	11,422	N/A	1,269	N/A	N/A	N/A	N/A
Runway from Hangar to Launch Pad	NA	Construction	2014	3.4	N/A	N/A	N/A	N/A	8,346	N/A	N/A	N/A	N/A	N/A	50% concrete, 50% asphalt	N/A	N/A	N/A	N/A	N/A	75,110	N/A
Propellant Tank Resupply Road & Parking Pad	NA	Construction	2014	0.9	N/A	N/A	N/A	N/A	2,533	N/A	N/A	N/A	N/A	18,651	50% concrete, 50% asphalt	15,542	N/A	1,382	N/A	15,542	N/A	N/A
Perimeter Security Road	NA	Construction	2014	0.8	0.8	36,648	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Dirt	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Road From Launch Pad to Perimeter Fence Road	NA	Construction	2014	0.2	N/A	N/A	N/A	N/A	405	N/A	N/A	N/A	N/A	8,200	asphalt	2,733	N/A	304	N/A	N/A	N/A	N/A
TOTALS					9.7	420,634			81,033	2,285	71,200	71,200		73,347		33,774	7,120	5,368	88	32,612	87,114	0
Control Center Area 2014 - 2015																						
General																						
Clearing within fenceline	NA	Construction	2014	8.6	8.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Grading within fenceline	NA	Construction	2014	8.6	N/A	376,285	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Trenching for Utilities	NA	Construction	2014	0.6	N/A	N/A	N/A	N/A	N/A	12,815	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Buildings/Structures																						
Control Center Building	NA	Construction	2014	0.7	N/A	N/A	N/A	N/A	1,603	N/A	28,855	28,855	1	N/A	N/A	N/A	2,886	534	36	1,069	N/A	N/A
Payload Processing Facility	NA	Construction	2014	0.7	N/A	N/A	N/A	N/A	1,603	N/A	28,855	28,855	1	N/A	N/A	N/A	2,886	534	36	N/A	N/A	Yes
Launch Vehicle Processing Hangar	NA	Construction	2014	0.7	N/A	N/A	N/A	N/A	2,849	N/A	30,774	30,774	1	N/A	N/A	N/A	3,077	570	38	N/A	N/A	Yes
Satellite Fuels Storage	NA	Construction	2014	0.0	N/A	N/A	N/A	N/A	22	N/A	400	400	1	N/A	N/A	N/A	N/A	N/A	N/A	18	N/A	N/A
Generator Facility	NA	Construction	2014	0.0	N/A	N/A	N/A	N/A	69	N/A	1,250	1,250	1	N/A	N/A	N/A	125	23	2	46	N/A	N/A
Diesel Storage Area	NA	Construction	2014	0.0	N/A	N/A	N/A	N/A	25	N/A	452	452	1	N/A	N/A	N/A	45	8	1	17	N/A	N/A
Security Gate Guard Buildings (3)	NA	Construction	2014	0.0	N/A	N/A	N/A	N/A	38	N/A	690	690	1	N/A	N/A	N/A	69	13	1	26	N/A	N/A
Roads/Parking																						
All Roads	NA	Construction	2014	1.6	N/A	N/A	N/A	N/A	3,334	N/A	N/A	N/A	N/A	67,518	asphalt	22,506	N/A	2,501	N/A	N/A	N/A	N/A
All Parking Areas (Payload Processing, Launch Control, and Hangar Parking)	NA	Construction	2014	3.3	N/A	N/A	N/A	N/A	7,120	N/A	N/A	N/A	N/A	144,184	asphalt	48,061	14,418	5,340	178	N/A	N/A	N/A
TOTALS					8.6	376,285			16,665	12,815	91,276	91,276		211,702		70,567	23,506	9,524	290	1,175		0

TAB E. CONSTRUCTION ASSUMPTIONS

General

Concrete Pilings

Four structures within the vertical launch and control center areas would require pilings in the foundation due to heavy loads: the launch pad, Integration and Processing Hangar, Payload Processing facility, and the Launch Vehicle Processing Hangar.
The pilings would be pre-cast concrete and metal. They would be installed through use of a rotary auger drill rig and a pile driver. All pilings would be installed to a depth of 40 feet and at a spacing of 9 feet on center.

General Construction Assumptions

For all buildings and parking lots, it has been assumed that the area to be covered with sidewalks and curbing would be 10% of the building or lot square footage, and that the thickness of gravel beneath buildings would be 6 inches (0.5 feet).
Also, the thickness of the concrete slab beneath builidngs would be 1 foot, unless the building requires an additional thickness of concrete due to the heavy loads on it (e.g., Integration & Processing Hangar).
Areas for buildings and roadways would still need to be excavated, once the site had been cleared, graded, and fill added to raise the surface elevation by 4.6 feet (see Level of Fill above). Building sites would be excavated to a depth to account for the thickness of concrete and gravel projected for the site; roadways would be excavated to a depth of 1 foot for gravel plus the thickness of asphalt or concrete for the road.

Vertical Launch Area

Area to be Cleared:

According to EIS Section 2, the area inside the fence line around the launch pad and associated structures is 7.805 acres. It is this area that would be cleared, graded, and filled prior to construction.
Area to be cleared = 7.805 acres
Note that because it has been assumed that the entire area around the buildings and roadways would be cleared, clearing has not been calculated for individual projects such as specific buildings or roads, except for the area around the perimeter fence and security road.
Calculations for clearing productivity rates were based on clearing in heavily wooded areas. As the vertical launch area is not heavily wooded, the clearing productivity rates were adjusted to 25% of the standard values. (with the exception of the loader, which would level the entire site).

Area to be Graded:

Basically, this would be the same 7.805 acres that would need to be cleared.
Note that because it has been assumed that the entire area around the buildings and roadways would be graded, grading has not been calculated for individual projects such as specific buildings or roads, except for the area around the perimter fence and security road.

Level of Fill:

The entire area to be graded (7.805 acres)
SpaceX personnel esitmate the land surface would be raised 4 feet above current levels prior to construction.
http://tidesandcurrents.noaa.gov/sltrends/sltrends.shtml
provides the following information on projected sea level rises in the area around Port Isabel:
"The mean sea level trend is 3.64 mm/year with a 95% confidence interval of +/- 0.44 mm/year based on monthly mean sea level data from 1944 to 2006 which is equivalent to a change of 1.19 feet in 100 years."
Assuming that the SpaceX Texas Launch Site has a lifespan of 50 years, based on these figures, an additional 06. feet of elevation rise would be need to account for sea level rise. These figures do not account for storm surges.
Level of fill = 4.6 feet

Utility Trenches

According to EIS Section 2, there are no buildings or utilities on site, and all utilities would have to be brought in from State Highway 4. Assumed one trench for all utilities, and this trench was excavated along the road and Hangar Parking Lot, with branches off to the buildings. The main trench would then run down the Runway from the Hangar to the Launch Pad, with branches off to the Propellant tanks and the Security Gate and Guard Building.
Measurements were taken from Exhibit 2-1 of Section 2 to determine the length of the main trench and branches.
Assumed a width of 2 feet and a depth of 2 feet for the utility trench.

Security Gate Guard Buildings

According to EIS Section 2, two sets of gates would allow entry to the vertical launch area, and each gate would have a "small" guard shack. GIS measurements from SpaceX information show the two buildings to have a total square footage of 3,200.
Guard Shack Building Foundation Areas = 3200 square feet

Perimeter Fencing and Roadway

Information received from SpaceX and from EIS Section 2 indicates that the perimeter fence would enclose 20 acres and would consist of a double fence separated by 10 feet. The security road would be inside the second fence and would be a 7-foot wide dirt road. Based on Exhibit 2-1 of the EIS, the fence line is approximately 4,400 feet long. Allowing for the 10-foot distance between fences, the area to cleared/graded for the fencing is

4400 feet long by 10 feet wide = 44000 square feet

The security road is 7 feet wide and runs along the inner perimeter of the fencing, but does not extend for the entire perimeter. The length of the roadway has been measured at 3,054 feet using GIS. Adding approx. 5 feet between the inner fence and the roadway itself that would need to be cleared and graded, the width of the area is 12 feet.

Area to be cleared/graded for perimeter road = 12 ft wide X 3054 ft long = 36648 square ft

It has been assumed that no excavation is necessary for the fence or the road, and that these areas would not be filled in to raise the current land surface by 4.6 feet.

Integration and Processing Hangar

Information from the client and GIS measurements indicates this Hangar would be 43,200 square feet in area (360 x 120 ft). The thickness of concrete beneath this hangar would be 1.5 feet. The gravel thickness would be increased from 0.5 (standard for other buildings) to 1.0 feet.

Depth of excavation at this site would therefore be 2.5 feet

Amount of concrete needed for foundation and pilings has been included in the hangar construction calculations.

Warehouse, Workshop, and Office Buildings

Both the Warehouse and Workshop would be 10,800 square feet, with concrete foundation thickness of 1 foot. Gravel thickness would be the standard 0.5 feet. Depth of excavation would therefore be 1.5 feet

The Office building would have the same thickness of foundation and gravel.

Note that a description of the Warehouse is not provided in the EIS; however, client-provided data shows the Warehouse to be the same size and have the same foundation thickness as the Workshop. All construction for the Warehouse is therefore assumed to be similar to the construction details for the Workshop.

The EIS does not provide the number of stories for the Office; however, as the heights of other buildings, such as the Workshop and the Hangar, are provided, it has been assumed that the Office is a standard 1-story building.

It has been assumed that the Warehouse and Workshop would have construction similar to a Hangar; therefore the Hangar Construction module has been used for air emissions calculations for these buildings, even though they do not require concrete pilings (emissions for installation of the pilings have been removed from the calculations).

Launch Pad

Based on information from SpaceX, the Launch Pad would have a footprint of 12,004 square feet, and the thickness of the concrete would be approximately 5 feet

It has been assumed that the thickness of gravel (road bed) beneath this pad would be the same as for the Integration and Processing Hangar, which is 1 foot. Total depth of excavation in the Launch Pad area would be the thickness of the concrete and the gravel: 5 feet + 1 foot = 6 feet

The pad area is approximately 110 x 110 ft. With pilings installed every 8 ft, that means 14 pilings each way or a total of 196 pilings.

Launch Pad Retention Basin

Based on information from the EIS and other Falcon 9 EAs, the retention basin would be 30 ft by 36 ft = 1080 square feet in area. The basin depth would be 10 feet. Assume a 6 inch (0.5 ft) thickness of concrete for the basin, with a 6 inch (0.5 ft) thickness of gravel beneath the concrete.

The volume of concrete for the basin would be the volume in the basal slab plus the volume in the basin walls.

540 cubic ft	volume of basal slab (30 x 36 x 0.5)
360 cubic ft	volume of side walls (10 ft x perimeter of basin [72 ft] x 0.5 ft)
900 cubic ft	total volume of concrete

Propellant Tank Area

http://www.michigan.gov/documents/Vol2-35UIP11Tanks_121080_7.pdf

The above reference provides the volumes in gallons per foot of tanks of specified diameters.

Based on the numbers in this table, SpaceX could install 4 20-foot diameter tanks with a height of 25 feet, and each tank would contain approximately 50,000 gallons. These four tanks would hold the projected 200,000 gallons of RP-1.

The containment area for the tanks would have to contain the entire volume of the largest tank plus sufficient room for precipitation (40 CFR 112 regulations for SpillPrevention Control and Countermeasure plans).

The amount of concrete for the containment area would be

Pad	70 ft wide x	70 ft long x	1 ft deep =	4900 cubic ft
Wall of	3 ft high x	400 ft long x	1 ft thick =	1200 cubic ft
containment structure			Total	6100 cubic ft

According to SpaceX, only the RP-1 tanks would require containment.

The remaining area in the Propellant Tank Area would need concrete pads for the storage tanks for helium, nitrogen, and liquid oxygen. Based on Exhibit 2-1 in the EIS, the area outside the RP-1 tanks consists of a 180 ft by 80 ft area north of the runway between the Hangar and the Launch Pad, and a 100 ft by 70 ft area south of the runway. The tanks would occur inside an area 14,400 square feet (north) and 7,000 square feet (south). Assume that roughly half of this area would need to be covered by concrete pads used to anchor the aboveground storage tanks, and that the concrete would be 1 foot thick in all of the pads. The amount of concrete needed would be:

10700 sf of area 1 ft thick = 10700 cubic feet of concrete

Total concrete in the Propellant Tank Area would be RP-1 tanks + all other tank pads = 16800 cubic feet

The total square footage to be excavated would then be 10700 SF, half of tanks area

plus 4900 SF for RP-1 tanks & containment

Total 15600 SF for area to be excavated

Assume that all of the excavated area would have 0.5 feet of gravel beneath, with 1 foot thick concrete pads, for a total depth of excavation = 1.5 feet

Entrance Road

Based on information from SpaceX, Entrance Road would be 12, 229 square feet and would have 12 inches (1 foot) of gravel for roadbed. The assumption has been made that the asphalt would be 4 inches (0.333333 ft) thick.

Depth of excavation : 1 ft for gravel + 0.333333 ft for asphalt = 1.333333 ft

Based on the road area provided by SpaceX and Figure 2-1 of the EIS, this Entrance Road runs from the front gate into the Hangar Area Parking Lot, and from the end of the parking lot north to the property boundary.

Hangar Parking

Based on information fromSpaceX and Exhibit 2-1 of the EIS, the area of the Hangar parking lot is 34, 267 square feet. The same assumptions have been made for this parking lot as were made for the Entrance Road.

Runway from Hangar to Launch Pad (Pad Access)

Based on measurements from GIS, the estimated area for the Runway is 75,110 square feet.

All other assumptions (thickness of gravel, asphalt, and concrete, type of base material, equipment used, etc.) are industry standard numbers and are provided in the footnotes for the table calculating runway construction air emissions.

Propellant Tank Resupply Road and Parking Pads

Based on information from SpaceX, the estimated area for the tank resupply road/parking is 37,301 square feet, with half asphalt and half concrete. The aphalt and concrete would be 10 inches (0.833333 feet) thick with a 12 inch gravel road base: 1 ft thick gravel + 0.833333 ft thick asphalt or concrete = 1.833333 depth

The concrete volume would be: 18650.5 ft2 area x 0.83333 ft thick = 15542.02117 cubic feet

Road From Launch Pad to Perimeter Fence Road

From Exhibit 2-1 of the EIS,this road has a small parking area near the Launch Pad and runs from the north side of the pad to the perimeter road. The road is 30 ft wide by 220 ft long with a 20 ft by 80 ft parking area, for a total of 8,200 square feet. It is assumed this road would be constructed similarly to the Entrance Road (12 inch gravel roadbed, 4 inches of asphalt).

Control Center Area

Area to be Cleared:

According to the EIS, most of the land area inside the proposed fence line at the Control Center Area would be disturbed during construction. Calculations done through GIS for the Biological Assessment portion of the EIS show that the area inside the fence line is 8.638 acres. It is this area that would be cleared and graded prior to construction.

Area to be cleared = 8.63831 acres

Note that because it has been assumed that the entire area within the fence line would be cleared, clearing has not been calculated for individual projects such as specific buildings or roads.

Area to be Graded:

Basically, this would be the same 8.638 acres that would need to be cleared.

Note that because it has been assumed that the entire area within the fence line would be graded, grading has not been calculated for individual projects such as specific buildings or roads.

It has been assumed that fill would not be necessary for the site.

General Construction Assumptions

For all buildings and parking lots, it has been assumed that the area to be covered with sidewalks and curbing would be 10% of the building square footage, and that the thickness of gravel beneath buildings would be 6 inches (0.5 feet). Also, the thickness of the concrete slab beneath builidngs would be 1 foot, unless the building requires an additional thickness of concrete due to the heavy loads on it (e.g., Payload Processing Facility).

Areas for buildings and roadways would still need to be excavated, once the site had been cleared and graded.

Building sites would be excavated to a depth to account for the thickness of concrete and gravel projected for the site; roadways would be excavated to a depth of 1 foot for gravel plus the thickness of asphalt or concrete for the road.

Control Center Building

Based on information from GIS measurements, this building on Parcel 2 is 14,669 square feet in size and has a concrete foundation 1 foot thick. It would be a one-story building. For Parcel 1, the proposed size of the same facility is 14,186 SF. To account for the worst-case scenario, both structures were used in the calculations, for a total of 28855 SF

Payload Processing Facility

Based on information from GIS measurements, this building on Parcel 3 is 14,669 square feet in size and has a concrete foundation 1 foot thick. It would be a one-story hangar-type building that would require concrete pilings to be used. The amount of concrete needed for the foundation and pilings have been included in the hangar construcion calcs. For Parcel 1, the proposed size of the same facility is 14,186 SF. To account for the worst-case scenario, both structures were used in the calculations, for a total of 28855 SF

Launch Vehicle Processing Hangar

Based on information from GIS measurements, this building is 30,774 square feet in size. Additional information from the client indicates a concrete foundation 1.5 feet in thickness. It is assumed that the thickness of gravel under the building would increase to 1 foot due to the thickness of the concrete slab. The depth of excavation for this structure would therefore be 2.5 feet (1.5 feet concrete plus 1 foot gravel). This would be a 1-story hangar-type structure. The amount of concrete needed for the foundation and pilings have been included in the hangar construcion calcs.

Satellite Fuels Storage Building

According to the EIS, this structure is 20 ft by 20 ft with a roof, secondary containment, and floor to ceiling fencing. It is assumed that the foundation would be concrete of a thickness of 1 foot, with a 0.5-foot gravel underlayment. It is also assumed that the structure would not require sidewalks, curbing, etc. For the secondary containment, a 1-foot thick and 1 foot high concrete riser would run along the perimeter of the floor, for an additional 80 cubic feet of concrete.

Generator Facility

Based on the EIS Section 2 site maps, the size of the Generator Facility has been calculated at approximately 1,250 square ft. It is assumed that the foundation would be concrete of a thickness of 1 foot, with a 0.5-foot gravel underlayment.

Diesel Storage Area

Based on the EIS Section 2 site maps, the size of the Diesel Storage Area has been calculated at approximately 452.4 square ft. It is assumed that the foundation would be concrete of a thickness of 1 foot, with a 0.5-foot gravel underlayment.

Security Gate Guard Buildings (3)

A total of three Guard Buildings would be required for the Control Center Area. Based on GIS measurements, the total area for all three structures would be 690 SF. These buildings would have concrete foundations 1 ft thick and a standard layer of gravel beneath them (0.5 feet).

Roads and Parking Areas

The total areas for all roads at the Control Center Area and for all parking areas have been calculated for the Biological Assessment for the EIS. The BA figures have been used in these calculations. It has also been assumed that standard project thicknesses for asphalt (0.33333 feet) and gravel road bed thickness (1 foot) apply.
Concrete curbing/sidewalk areas have been calculated for the parking areas at 10% of the parking surface area.

Road surface area:	1.55	acres	=	67518	square feet	
Parking lot area:	3.31	acres	=	144184	square feet	
Depth of excavation :	1	ft for gravel +	0.333333	ft for asphalt =	1.333333	ft

Utility Trench

Using GIS measurements determined from the Biological Assessment for the EIS, the measured linear feet for utility trenches is 12815 LF
A standard width and depth of 2 feet by 2 feet has been assumed for all trenches.

TAB F. CONSTRUCTION WORKER POV ASSUMPTIONS

The number of construction workers for the Proposed Action was calculated as a percentage
of the number of workers determined for the Final EIS for the Spaceport America Commercial Launch Site (FAA 2008).
The Spaceport America facilities footprint was calculated to be 145 acres.
The total SpaceX facilities footprint has been calculated at 9.42 acres, or 6.5% of the Spaceport America facilties.
For the Spaceport project, a total number of 725 workers were projected for the 3-year life of the project.
6.5% of 725 equals 47 workers for the Proposed Action.

Launch Site Annual Operation Emissions

Table 1. Falcon 9 and Falcon Heavy Launch Emissions

Launch Vehicle	Max # launches/yr	RP-1 Use gal/launch	RP-1 MMBtu/gal	[1]CO Tons/launch	[2]CO2 kg/MMBtu	[3]CH4 kg/MMBtu	[3]N2O kg/MMBtu	CO Tons	CO2 kg	CH4 kg	N2O kg	CO2e MT/yr
Falcon 9	10	38000	0.135	857.15	75.2	0.003	0.0006	8571.5	3857760	153.9	30.78	3,871
Falcon Heavy	2	200,000	0.135	2571.45	75.2	0.003	0.0006	5142.9	4060800	162	32.4	4,074
							Total CO	13714.4			Total CO2e	7,945

1Tons CO per Falcon 9 launch from *SpaceX Falcon Program Environmental Assessment, Table 4-3,* 27 September 2007. U.S. Army Space and Missile Defense Command.
[2]Emission Factor from Table C-1 to Subpart C of 40 CFR 98, Mandatory Greenhouse Gas Reporting Rule.
[3]Emission Factor from Table C-2 to Subpart C of 40 CFR 98, Mandatory Greenhouse Gas Reporting Rule.

Table 2. Generator Operations

Assume the IC engines are typically operated 0.5 hours per week for testing and maintenance =	26	hr/yr
Assume five 24-hour periods of power outages per year for the Launch Site (weather events, etc.) =	120	hr/yr
Assume additional twelve 48-hour operational periods for launches =	576	hr/yr
	722	Total

Generator size kW	#	VOC lb/yr	CO lb/yr	NOx lb/yr	SO2 lb/yr	PM lb/yr	CO2 lb/yr
300	10	3650	9697	45002	N.D.	3194	1669423
	Tons/yr	1.82	4.85	22.50	-	1.60	835
						CO2e in metric tons/yr =	757

50% Load Factor

Pollutant	Emission Factors Diesel Fuel [a, b] < 447 kW or < 600 hp lb/hp-hr
CO	0.00668
NO_x	0.031
PM	0.0022
SO_2 [c]	N.D.
S	N.D.
VOC	0.0025141
CO2	1.15
CH4	N.D.

[a] Emission factors used to estimate emissions from the consumption of diesel fuel.
[b] Emission factors from U.S. Environmental Protection Agency. Compilation of Air Pollutant Emission Factors - Volume I (AP-42), Section 3.4, 5th Edition; . factors based upon power output
[c] The variable S in the emissions factor equals the sulfur content of the fuel expressed as percent weight.
SO_2 factor was assumed to equal 0.05 for diesel fuel.

Table 4. Staff Commuters

Vehicles	# vehicles	# days	[1]mi/day	[1]VOCs lb/mi	[1]CO lb/mi	[1]NOx lb/mi	[1]SO_2 lb/mi	[1]PM_{10} lb/mi	[1]$PM_{2.5}$ lb/mi	[1]CO_2 g/mi	[2]CH_4 g/mi	[2]N_2O g/mi	VOCs lb	CO lb	NOx lb	SO_2 lb	PM_{10} lb	$PM_{2.5}$ lb	CO_2 g	CH_4 g	N_2O g
regular staff	150	245	48	0.00119	0.03467	0.00486	0.00001	0.00020	0.00018	182.00	0.02	0.02	2090.64	61164.93	8578.82	23.01	347.28	320.07	321,048,000	28,224	28,224
launch event staff	100	144	48	0.00119	0.03467	0.00486	0.00001	0.00020	0.00018	182.00	0.02	0.02	819.19	23966.67	3361.50	9.02	136.08	125.42	125,798,400	11,059	11,059
												Tons per Year	1.45	42.57	5.97	0.02	0.24	0.22			
												Metric Tons per Year							447	0.04	0.04
																		CO2e in metric tons/year	460		

Table 5. Supply Deliveries

Assume tanker truck capacity = 9000 gal

4 trucks for minimum fuel for Falcon 9 launch
11 trucks for minimum fuel for Falcon 9 Heavy launch

40 Total annual deliveries
22 Total Annual deliveries
62 Total fuel deliveries for 10 Falcon 9 and 2 Falcon Heavy launches

Assume 1 delivery truck stop per week = 52 deliveries per year
Fuel + 1 delivery of other supplies per week = 114 total deliveries per year
Roundtrip from Brownsville TX area = 48 miles

On-road Equipment	Miles Traveled	[1]VOC lb/mile	[1]CO lb/mile	[1]NOx lb/mile	[1]SO_2 lb/mile	[1]PM10 lb/mile	[1]PM2.5 lb/mile	[1]CO_2 lb/mile	[2]CH_4 lb/mi	[2]N_2O lb/mi	VOC lb	CO lb	NOx lb	SO2 lb	PM10 lb	PM2.5 lb	CO_2 lb	CH_4 lb	N_2O lb
Tanker Truck	2933	0.00159	0.00831	0.03785	0.00002	0.00160	0.00156	3.41508	1.12436E-05	1.058E-05	4.66	24.39	111.02	0.05	4.69	4.56	10,018	0.033	0.031
Delivery Truck	2496	0.00159	0.00831	0.03785	0.00002	0.00160	0.00156	3.41508	1.12436E-05	1.058E-05	3.97	20.75	94.47	0.04	3.99	3.88	8,524	0.028	0.026
									Totals in tons per year		0.004	0.023	0.103	0.000	0.004	0.004	9.271	0.000	0.000
																Total CO2e in Metric tons/year	8		

[1]Emission factors from USEPA's MOVES 2010
[2]Emission factors from Table A-1 of EPA Climate Leaders Mobile Sources Guidance.

Total Annual Operations

VOCs T/yr	[1]CObmh T/yr	[2]COamh T/yr	Nox T/yr	SO2 T/yr	PM10 T/yr	PM2.5 T/yr	CO2e MT/yr
3.28	2,752.37	11,009.47	28.57	0.02	1.84	1.82	9,170

[1]bmh = below mixing height
[2]amh = above mixing height

Appendix F
Jurisdictional Wetland Determination

THIS PAGE INTENTIONALLY LEFT BLANK

DEPARTMENT OF THE ARMY
GALVESTON DISTRICT, CORPS OF ENGINEERS
CORPUS CHRISTI REGULATORY FIELD OFFICE
5151 FLYNN PARKWAY, SUITE 306
CORPUS CHRISTI, TEXAS 78411

September 6, 2012

REPLY TO
ATTENTION OF:

Corpus Christi Regulatory Field Office

SUBJECT: Permit Application No. SWG-2012-00381; Preliminary Jurisdictional Determination

Space Exploration Technologies Corp.
ATTN: Steve Davis, Director of Advanced Projects
1030 15th St. NW, Suite 220E
Washington, DC 20005

Dear Mr. Davis,

This is in reference to a Preliminary Jurisdictional Determination (PJD) for approximately 25.47 acres of wetlands, located within your two project sites, as shown in the attached plans in 2 sheets and the attached PJD form. The project sites are located at the proposed Vertical Launch Facility, located immediately south of the eastern terminus of Texas Farm-to-Market Road 4 where it meets the Gulf of Mexico approximately 6.3 miles southeast of Port Isabel, and the proposed Control Center location, located approximately 1.5 miles to the west of the proposed launch facility on Eichorn Boulevard in the Boca Chica community, Cameron County, Texas.

In an electronic message, dated June 8, 2012, your company requested that a PJD be provided for this project location. We have received and counter executed the PDJ form that was attached to our email, dated August 29, 2012. Accordingly, please find attached your copy of the executed PJD form. This PJD is valid for five years from the date of this letter and serves as a PJD of the boundaries for Wetland 1 through Wetland 3, and the wetland labeled as Parcel 3, as shown on the maps and table attached to the PJD.

Corps determinations are conducted to identify the limits of the Corps Clean Water Act jurisdiction for particular sites. Although PJD's are not appealable, the enclosed combined Notification of Administrative Appeal Options and Process and Request for Appeal form contains procedural information for PJD's. Please reference determination number **SWG-2012-00381** in future correspondence pertaining to this subject.

If you have any questions concerning this determination, please contact Matthew Kimmel at the letterhead address or by telephone at 361-814-5847 ext. 1002. To assist us in improving our service to you, please complete the survey found at http://per2.nwp.usace.army.mil/survey.html.

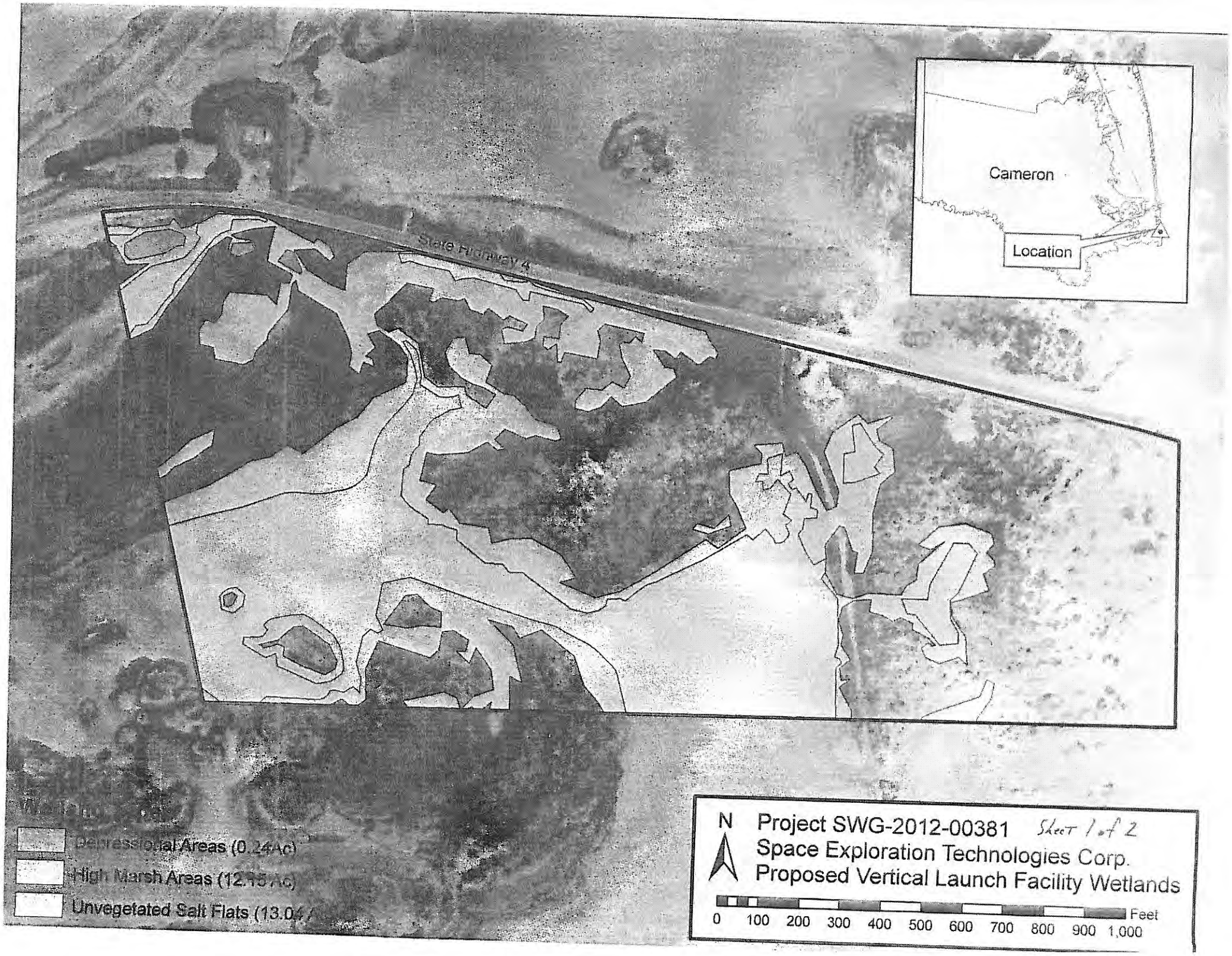
Sincerely,

for Lloyd Mullins, Supervisor
Corpus Christi Regulatory Field Office

Enclosures

Copies Furnished w/encl:

Cardno TEC, Inc., ATTN: Lucas DuPont
2496 Old Ivy Road, Suite 300, Charlottesville, VA 22903


Cameron
Location
State Highway 4
Depressional Areas (0.24 Ac)
High Marsh Areas (12.15 Ac)
Unvegetated Salt Flats (13.04 A
N
Project SWG-2012-00381
Sheet 1 of 2
Space Exploration Technologies Corp.
Proposed Vertical Launch Facility Wetlands
0 100 200 300 400 500 600 700 800 900 1,000
Feet

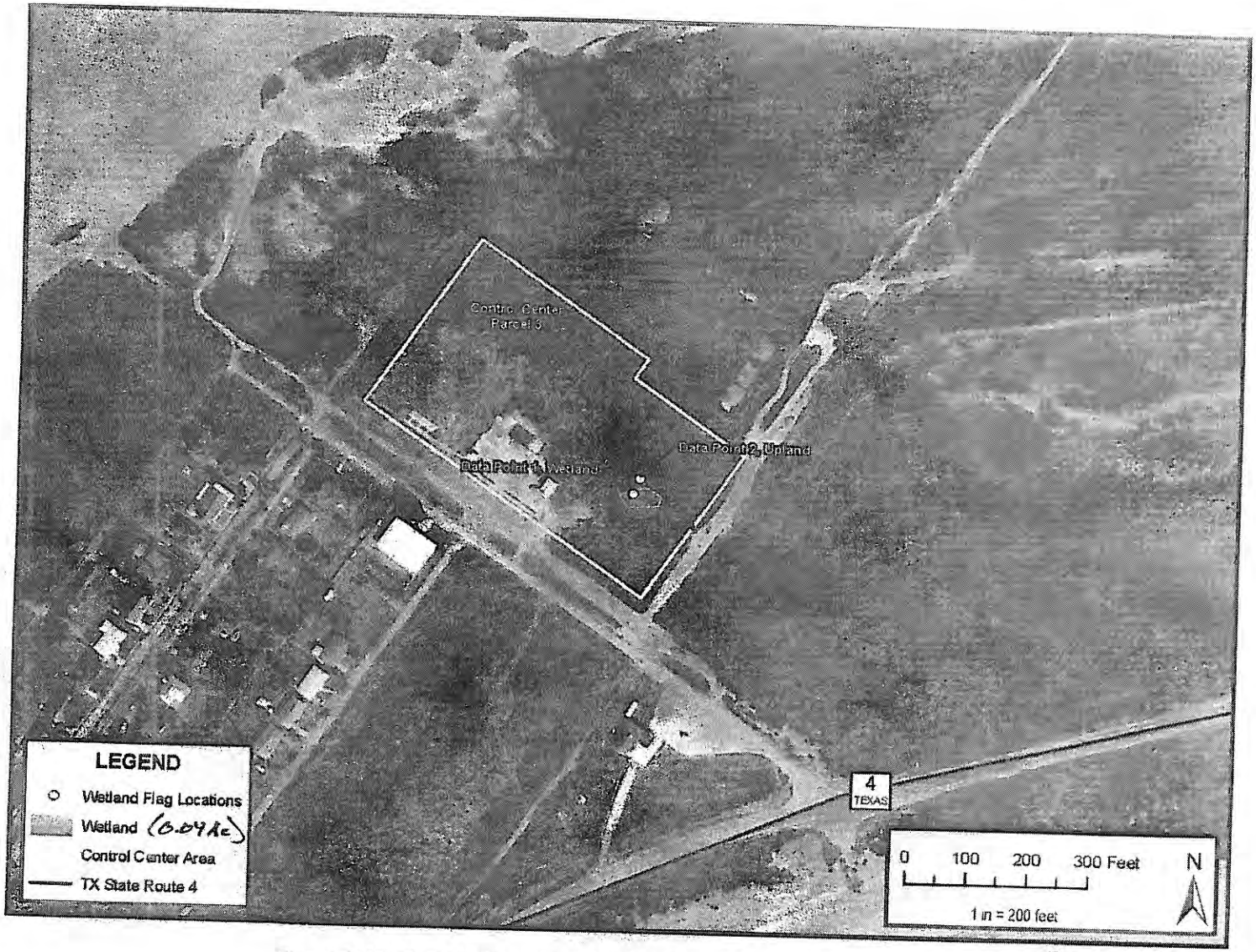


Figure 9. Wetland Delineation Map for Control Center Area (Parcel 3)

PROJECT SWG-2012-00381
SHEET 2 of 2

ATTACHMENT

PRELIMINARY JURISDICTIONAL DETERMINATION FORM

BACKGROUND INFORMATION

A. REPORT COMPLETION DATE FOR PRELIMINARY JURISDICTIONAL DETERMINATION (JD): 27 August 2012

B. NAME AND ADDRESS OF PERSON REQUESTING PRELIMINARY JD: Cardno TEC, Inc., ATTN: Lucas DuPont, 2496 Old Ivy Road, Suite 300, Charlottesville, VA 22903

C. DISTRICT OFFICE, FILE NAME, AND NUMBER:Corpus Christi Regulatory Field Office, Galveston District, Project No. SWG-2012-00381, Proposed Space Exploration Technologies Corporation Launch Site

D. PROJECT LOCATION(S) AND BACKGROUND INFORMATION: (USE THE ATTACHED TABLE TO DOCUMENT MULTIPLE WATERBODIES AT DIFFERENT SITES)

State:TX County/parish/borough: Cameron City: Boca Chica
Center coordinates of site (lat/long in degree decimal format): Lat. 25.997° **N**, Long. 97.156° **W**.
Universal Transverse Mercator: NAD 83, Zone 14 - See attached spreadsheet
Name of nearest waterbody: Gulf of Mexico

Identify (estimate) amount of waters in the review area:
Non-wetland waters: linear feet: width (ft) and/or acres.
Cowardin Class:
Stream Flow:
Wetlands: 25.47 acres.
Cowardin Class: Emergent

Name of any water bodies on the site that have been identified as Section 10 waters:
Tidal:
Non-Tidal:

E. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):

☐ Office (Desk) Determination. Date:
☒ Field Determination. Date(s): 6 July 2012

1. The Corps of Engineers believes that there may be jurisdictional waters of the United States on the subject site, and the permit applicant or other affected party

who requested this preliminary JD is hereby advised of his or her option to request and obtain an approved jurisdictional determination (JD) for that site. Nevertheless, the permit applicant or other person who requested this preliminary JD has declined to exercise the option to obtain an approved JD in this instance and at this time.

2. In any circumstance where a permit applicant obtains an individual permit, or a Nationwide General Permit (NWP) or other general permit verification requiring "pre-construction notification" (PCN), or requests verification for a non-reporting NWP or other general permit, and the permit applicant has not requested an approved JD for the activity, the permit applicant is hereby made aware of the following: (1) the permit applicant has elected to seek a permit authorization based on a preliminary JD, which does not make an official determination of jurisdictional waters; (2) that the applicant has the option to request an approved JD before accepting the terms and conditions of the permit authorization, and that basing a permit authorization on an approved JD could possibly result in less compensatory mitigation being required or different special conditions; (3) that the applicant has the right to request an individual permit rather than accepting the terms and conditions of the NWP or other general permit authorization; (4) that the applicant can accept a permit authorization and thereby agree to comply with all the terms and conditions of that permit, including whatever mitigation requirements the Corps has determined to be necessary; (5) that undertaking any activity in reliance upon the subject permit authorization without requesting an approved JD constitutes the applicant's acceptance of the use of the preliminary JD, but that either form of JD will be processed as soon as is practicable; (6) accepting a permit authorization (e.g., signing a proffered individual permit) or undertaking any activity in reliance on any form of Corps permit authorization based on a preliminary JD constitutes agreement that all wetlands and other water bodies on the site affected in any way by that activity are jurisdictional waters of the United States, and precludes any challenge to such jurisdiction in any administrative or judicial compliance or enforcement action, or in any administrative appeal or in any Federal court; and (7) whether the applicant elects to use either an approved JD or a preliminary JD, that JD will be processed as soon as is practicable. Further, an approved JD, a proffered individual permit (and all terms and conditions contained therein), or individual permit denial can be administratively appealed pursuant to 33 C.F.R. Part 331, and that in any administrative appeal, jurisdictional issues can be raised (see 33 C.F.R. 331.5(a)(2)). If, during that administrative appeal, it becomes necessary to make an official determination whether CWA jurisdiction exists over a site, or to provide an official delineation of jurisdictional waters on the site, the Corps will provide an approved JD to accomplish that result, as soon as is practicable. This preliminary JD finds that there *"may be"* waters of the United States on the subject project site, and identifies all aquatic features on the site that could be affected by the proposed activity, based on the following information:

SUPPORTING DATA. Data reviewed for preliminary JD (check all that apply - checked items should be included in case file and, where checked and requested, appropriately reference sources below):

☒ Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant: .

☒ Data sheets prepared/submitted by or on behalf of the applicant/consultant.

- ☒ Office concurs with data sheets/delineation report.
- ☐ Office does not concur with data sheets/delineation report.

☐ Data sheets prepared by the Corps: .

☐ Corps navigable waters' study: .

☒ U.S. Geological Survey Hydrologic Atlas: .

- ☒ USGS NHD data.
- ☒ USGS 8 and 12 digit HUC maps.

☒ U.S. Geological Survey map(s). Cite scale & quad name:1:24,000, MOUTH OF RIO GRANDE, Texas.

☒ USDA Natural Resources Conservation Service Soil Survey. Citation:Mustang fine sand, saline - listed as hydric.

☒ National wetlands inventory map(s). Cite name:1:24,000, MOUTH OF RIO GRANDE, Texas.

☐ State/Local wetland inventory map(s): .

☒ FEMA/FIRM maps:480101 0375 D; revised May 4, 1992. Zone A.

☐ 100-year Floodplain Elevation is: (National Geodectic Vertical Datum of 1929)

☒ Photographs: ☒ Aerial (Name & Date):National Aerial Imagery Program, 2010 and Texas Orthoimagery Program, 2009.

or ☐ Other (Name & Date): .

☐ Previous determination(s). File no. and date of response letter: .

☐ Other information (please specify): .

<u>IMPORTANT NOTE: The information recorded on this form has not necessarily been verified by the Corps and should not be relied upon for later jurisdictional determinations.</u>

Matthew L. Kimmel

8/31/12

Signature and date of Regulatory Project Manager (REQUIRED)

8/31/12

Signature and date of person requesting preliminary JD (REQUIRED, unless obtaining the signature is impracticable)

Project SWG-2012-00381, Space Exploration Company
Proposed Launch Facility

Id	UTM Easting	UTM Northing	Wetland Type	Jurisdiction	Total Wetlands (Ac)
WET 1	684406	2876751	Depressional Wetlands	404	0.24
WET 2	684598	2876632	High Marsh Wetlands, containing both emergent and shrub-scrub wetland types	404	12.15
WET 3	684406	2876751	Unvegetated salt flats	404	13.04
Parcel 3	682134	2876173	Emergent high marsh wetland	404	0.04
					25.47 **Total Acres**

The project site consists of a potential vertical launch facility approximately 56.5 acres in size, of which 25.43 acres are jurisdictional wetlands. The wetlands are determined as adjacent due to their immediate location adjacent to, and including unvegetated salt flats which are subject to inundation by regularly occurring spring and storm tides by way of a hydrologic surface connection with South and Boca Chica Bays, approximately 540 feet to the north.

The proposed launch control facility (Parcel 3) is an approximately 4.0 acre site, of which 0.04 acres is palustrine emergent high marsh wetland. This parcel is approximately 1.5 miles to the west of the proposed vertical launch site.

NOTIFICATION OF ADMINISTRATIVE APPEAL OPTIONS AND PROCESS AND REQUEST FOR APPEAL

Applicant: Space Exploration Technologies Corp.		File Number: SWG-2012-00381	Date: 6 SEP 2012
Attached is:			See Section below
	INITIAL PROFFERED PERMIT (Standard Permit or Letter of permission)		A
	PROFFERED PERMIT (Standard Permit or Letter of permission)		B
	PERMIT DENIAL		C
	APPROVED JURISDICTIONAL DETERMINATION		D
X	PRELIMINARY JURISDICTIONAL DETERMINATION		E

SECTION I - The following identifies your rights and options regarding an administrative appeal of the above decision. Additional information may be found at http://www.usace.army.mil/CECW/Pages/reg_materials.aspx or Corps regulations at 33 CFR Part 331.

A: INITIAL PROFFERED PERMIT: You may accept or object to the permit.

- ACCEPT: If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.
- OBJECT: If you object to the permit (Standard or LOP) because of certain terms and conditions therein, you may request that the permit be modified accordingly. You must complete Section II of this form and return the form to the district engineer. Your objections must be received by the district engineer within 60 days of the date of this notice, or you will forfeit your right to appeal the permit in the future. Upon receipt of your letter, the district engineer will evaluate your objections and may: (a) modify the permit to address all of your concerns, (b) modify the permit to address some of your objections, or (c) not modify the permit having determined that the permit should be issued as previously written. After evaluating your objections, the district engineer will send you a proffered permit for your reconsideration, as indicated in Section B below.

B: PROFFERED PERMIT: You may accept or appeal the permit

- ACCEPT: If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.
- APPEAL: If you choose to decline the proffered permit (Standard or LOP) because of certain terms and conditions therein, you may appeal the declined permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

C: PERMIT DENIAL: You may appeal the denial of a permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

D: APPROVED JURISDICTIONAL DETERMINATION: You may accept or appeal the approved JD or provide new information.

- ACCEPT: You do not need to notify the Corps to accept an approved JD. Failure to notify the Corps within 60 days of the date of this notice, means that you accept the approved JD in its entirety, and waive all rights to appeal the approved JD.
- APPEAL: If you disagree with the approved JD, you may appeal the approved JD under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

E: PRELIMINARY JURISDICTIONAL DETERMINATION: You do not need to respond to the Corps regarding the preliminary JD. The Preliminary JD is not appealable. If you wish, you may request an approved JD (which may be appealed), by contacting the Corps district for further instruction. Also you may provide new information for further consideration by the Corps to reevaluate the JD.

SECTION II - REQUEST FOR APPEAL or OBJECTIONS TO AN INITIAL PROFFERED PERMIT

REASONS FOR APPEAL OR OBJECTIONS: (Describe your reasons for appealing the decision or your objections to an initial proffered permit in clear concise statements. You may attach additional information to this form to clarify where your reasons or objections are addressed in the administrative record.)

ADDITIONAL INFORMATION: The appeal is limited to a review of the administrative record, the Corps memorandum for the record of the appeal conference or meeting, and any supplemental information that the review officer has determined is needed to clarify the administrative record. Neither the appellant nor the Corps may add new information or analyses to the record. However, you may provide additional information to clarify the location of information that is already in the administrative record.

POINT OF CONTACT FOR QUESTIONS OR INFORMATION:

If you have questions regarding this decision and/or the appeal process you may contact: Lloyd Mullins, Supervisor U.S. Army Corps of Engineers Corpus Christi Regulatory Field Office 5151 Flynn Parkway, Suite 306 Corpus Christi, Texas 78411-4318 361-814-5851	If you only have questions regarding the appeal process you may also contact: Mr. Elliott Carman Administrative Appeals Review Officer (CESWD-PD-O) U.S. Army Corps of Engineers 1100 Commerce Street, Suite 831 Dallas, Texas 75242-1317 469-487-7061

RIGHT OF ENTRY: Your signature below grants the right of entry to Corps of Engineers personnel, and any government consultants, to conduct investigations of the project site during the course of the appeal process. You will be provided a 15 day notice of any site investigation, and will have the opportunity to participate in all site investigations.

Signature of appellant or agent.	Date:	Telephone number:

THIS PAGE INTENTIONALLY LEFT BLANK

Jurisdictional Wetland Determination

Environmental Impact Statement

for the SpaceX Texas Launch Site

Federal Aviation Administration

August 31, 2012

This page intentionally left blank.

Table of Contents

1.0 Introduction 1

2.0 Offsite Evaluation 3

3.0 Onsite Evaluation Methodology 8

4.0 Onsite Survey Results 8

5.0 Conclusion 15

6.0 References 16

LIST OF FIGURES

FIGURE 1. LOCATION MAP 2

FIGURE 2. CONTROL CENTER AREA PARCEL 3 4

FIGURE 3. USGS QUAD MAP 5

FIGURE 4. NWI DEPICTED WETLANDS 6

FIGURE 5. NRCS WEB SOIL SURVEY 7

FIGURE 6. SPACEX CONTROL CENTER AREA (PARCEL 3) AND VERTICAL LAUNCH AREA PROJECT LIMITS 9

FIGURE 7. WETLAND DELINEATION MAP FOR VERTICAL LAUNCH AREA 10

FIGURE 8. WETLAND TYPES FOR VERTICAL LAUNCH AREA 11

FIGURE 9. WETLAND DELINEATION MAP FOR CONTROL CENTER AREA (PARCEL 3) 13

FIGURE 10. WETLAND TYPES FOR CONTROL CENTER AREA 14

This page intentionally left blank.

SpaceX Texas Launch Site Environmental Impact Statement, Jurisdictional Wetland Determination

1.0 Introduction

Cardno TEC has been retained by SpaceX to conduct a wetland delineation and jurisdictional determination (JD) of all federally-regulated wetlands (referred herein as "wetlands") within the proposed project area in Cameron County, Texas. The wetland delineation and JD will support an on-going third-party Environmental Impact Statement (EIS) being prepared by Cardno TEC for the FAA by providing quantifiable data for a detailed analysis of potential impacts to wetlands from the proposed construction and operation of a vertical launch area and control center area. These facilities would support the Falcon 9 and Falcon Heavy orbital vertical launch vehicles and a variety of reusable suborbital launch vehicles. Three parcels comprise the proposed location for the control center area and one larger site makes up the proposed vertical launch area (Figure 1). The wetland delineation has been initiated by FAA early in the planning process to determine the extent of wetlands within the project area in order to avoid and minimize potential wetland impacts. While best professional judgment has been used to determine the location and extent of any potential wetlands within the proposed project area, the official determination of wetlands only occurs when the United States Army Corps of Engineers (USACE) reviews these lines and formally makes the determination of the presence or absence of jurisdictional wetlands.

Wetlands are defined in the Code of Federal Regulations [40 CFR 230.3(t)] as those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Section 404 of the Clean Water Act specifies that the placement of dredge or fill material into "Waters of the United States," including wetlands requires a USACE, Section 404 Permit. Section 10 of the Rivers and Harbors Act prohibits the unauthorized obstruction or alteration of any navigable water of the United States.

The Texas Commission on Environmental Quality (TCEQ) relies on the USACE to provide guidance on which projects require TCEQ review. Typically, if the proposed impact is less than 3 acres and does not affect rare and ecologically sensitive wetlands the project will qualify for Tier 1 401 Certificate. If the applicant incorporates the BMPs and other requirements of the Tier 1 Checklist, the 404 permit will proceed with no further review by the TCEQ (TCEQ 2012).

Figure 1. Location Map

The proposed vertical launch area is in Cameron County Texas, (Figure 1), approximately 17 miles east northeast of the Brownsville/South Padre Island International Airport and approximately 5 miles south of South Padre Island. The proposed vertical launch area is located at the eastern terminus of Boca Chica Boulevard (Texas State Route 4). The vertical launch area is approximately 56. 5 acres, positioned south of Boca Chica Boulevard and the eastern site boundary abuts the beach adjacent to the Gulf of Mexico. The parcels that comprise the proposed control center area are located north of Boca Chica Boulevard, and range from approximately 1.5 to 1.9 miles west of the proposed vertical launch area (Figure 1). Parcel 3, is approximately 4.0 acres and is located northeast of Eichorn Boulevard (Figure 2). Parcel 1, which is located the furthest from the proposed vertical launch area, is bounded on the southeastern side by Boca Chica Boulevard and the southwestern side by Remedios Avenue, and Parcel 2 which is bounded on the southeastern side by Boca Chica Boulevard, the southern end by San Martin Boulevard, and the northwest side is bounded by Joanna Street.

Based on best professional judgment and a site investigation, which included transects through each of the parcels, Parcels 1 and 2 are comprised entirely of uplands and are therefore excluded from this report and would not be included in the preliminary Jurisdictional Determination when issued by the USACE.

2.0 Offsite Evaluation

Prior to undertaking the field effort, the following resources were reviewed: United States Geological Service (USGS) maps, National Wetland Inventory (NWI) maps, Natural Resource Conservation Service (NRCS) Soils Mapping for Cameron County Texas, and Google Earth aerial imagery.

- The USGS quad map (Figure 3) for Mouth of the Rio Grande (rev. 1970) depicts the vertical launch area and Parcel 3 of the control center area as having little topographic relief, ranging from approximately 0 feet above sea level to 5 feet above sea level. The proposed vertical launch area is depicted as comprised of shifting sand and dunes, marsh/swamp, foreshore flats, three intermittent ponds, and uplands. Parcel 3 of the control center area is depicted as uplands.
- According to the NWI map for this area (Figure 4), the proposed vertical launch area is comprised of uplands and marine and estuarine wetlands. The wetlands are depicted as primarily located in the southern portion of the site. Additional wetlands are depicted in the eastern and western portions of the site. Parcel 3 is comprised almost entirely of uplands with the exception of a small wetland area as noted in Section 4.0 below.
- According to the NRCS Web Soil Survey (Figure 5), the soils underlying the proposed vertical launch area are comprised of Galveston fine snd, hummocky and Mustang fine sand, saline. The control center area is underlain by Galveston fine sand, hummocky. Galveston fine sand and Mustang fine sand are classified as partially hydric soils. Mustang fine sand, saline is classified as a hydric soil. A hydric soil classification indicates all of the soil components are listed as hydric. A hydric soil is saturated for a sufficient duration during the growing season for the development anaerobic conditions. Anaerobic conditions are due to the lack of oxygen and result in chemical and biological changes to the soil components.

Figure 2. Control Center Area Parcel 3

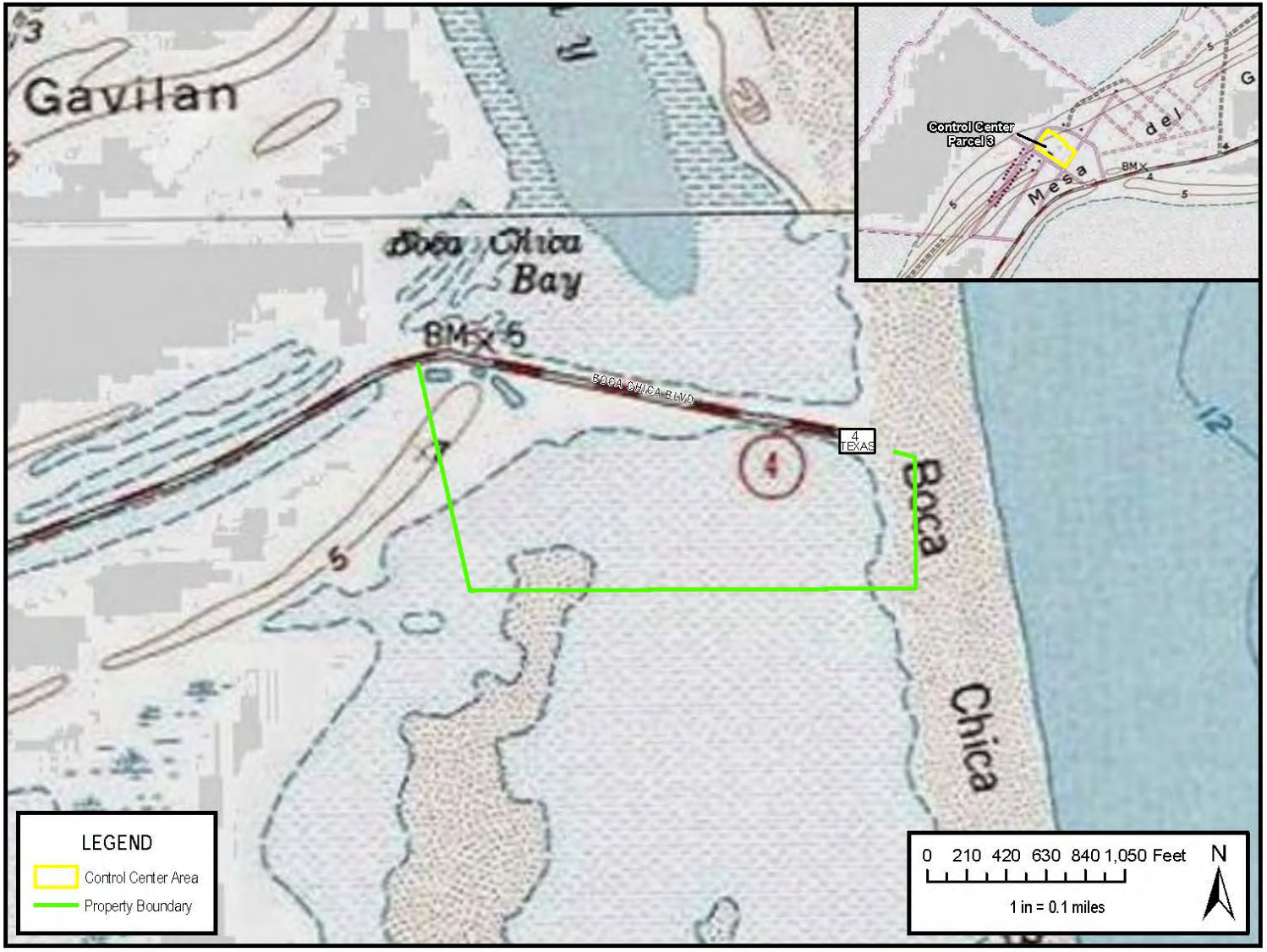


Figure 3. USGS Quad Map

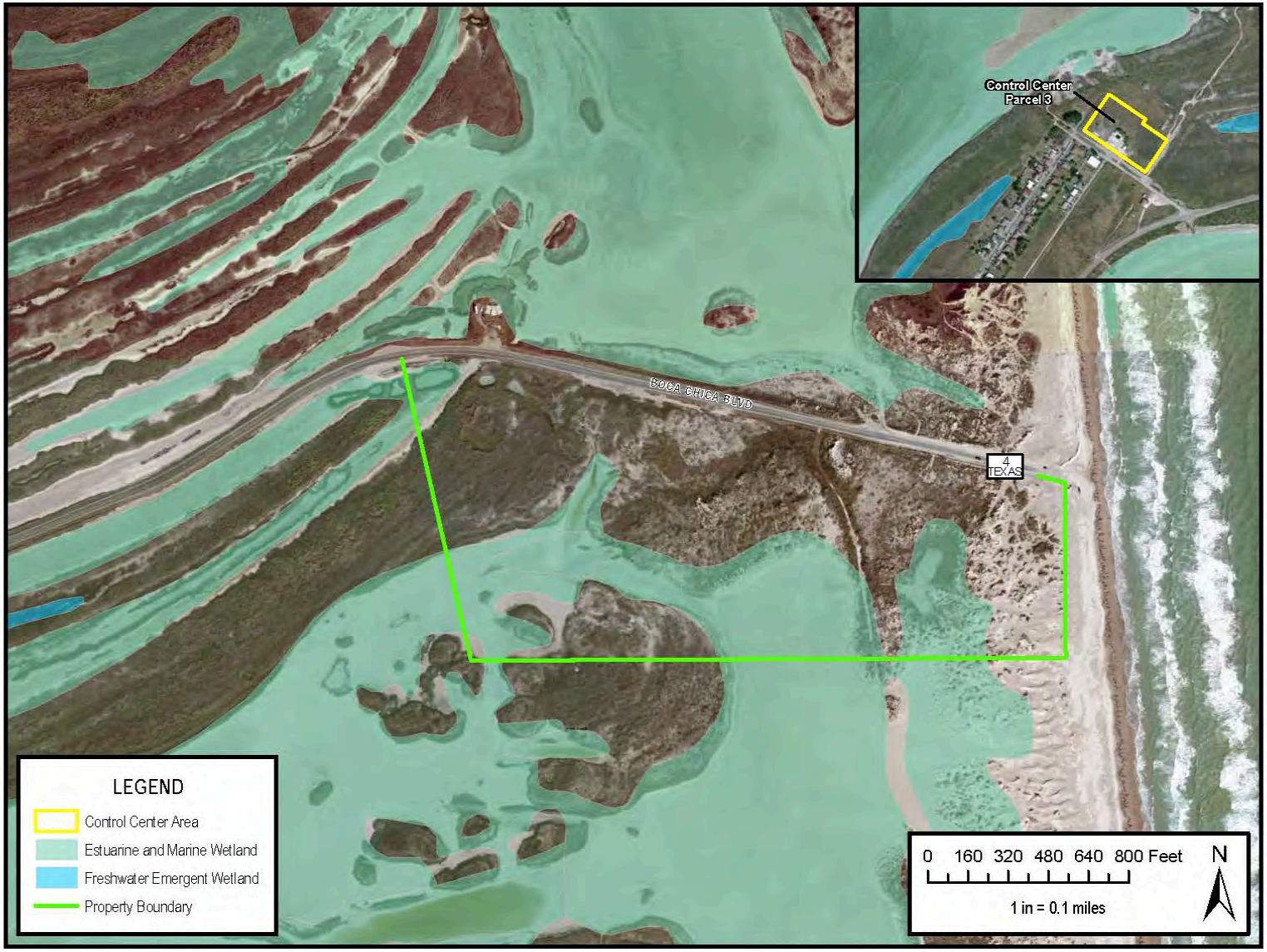


Figure 4. NWI Depicted Wetlands

Figure 5. NRCS Web Soil Survey

- Interpretation of Google Earth aerial imagery, taken 21 January 2011, indicates that Parcel 3 of the control center area is densely vegetated. The vertical launch area is depicted as less densely vegetated throughout most of the site with the exception of uplands in the western portion of the site, which are densely vegetated. The aerial also depicts large areas of unvegetated salt flats with inundation visible at multiple locations within the flats. Additional inundation is visible in three depressional features located in the northwestern portion of the site. Dunes are visible in the eastern portion of the site and the eastern boundary is comprised of beach associated with the Gulf of Mexico.

3.0 Onsite Evaluation Methodology

A wetland delineation was conducted on the entire project area from 14 May through 17 May 2012. The Mean High Water line for the Gulf of Mexico was obtained from the NOAA Tides and Current webpage (NOAA 2012) and then overlaid on the wetland delineation map to determine if the vertical launch area extended to the Gulf of Mexico. The rest of the wetland delineation was conducted using the *Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf Coastal Plain Region (2008)* and the *1987 Corps of Engineers Wetland Delineation Manual.* The wetland indicator status of flora within the sites was determined using the 1988 U.S. Fish and Wildlife Service National List (revised in 1996 and 1998). Fieldwork was conducted prior to the implementation of the 2012 National Plant List on 1 June 2012. Upland boundaries were determined and marked with pink and black striped flagging or a pin flag, where appropriate. Each WoUS line was designated with a letter value. The letter value was continued until the line intersected the project site limit or until the line created a polygon, representing an upland island or a surficial hydrologically isolated wetland. Each flag was given an alphanumerical value reflecting the wetland letter and the order of the flag placement (e.g., A-1, A-2, etc.). All flags were captured on a handheld GPS unit with sub-meter accuracy. Ten data forms (*Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf Coastal Plain Wetland Determination Data Forms*) were completed at relevant points within the vertical launch area. Two data points were completed at Parcel 3 of the control center area, in and adjacent to the only wetland onsite. All data points were paired, so that an upland data point is located adjacent to a wetland data point. Data point locations were marked in the field with red flagging and the locations were recorded with the GPS unit. Data point numbers included on the delineation map correspond with data point numbers marked on the flagging in the field. Data sheets are included as Appendix A.

4.0 Onsite Survey Results

The entire vertical launch area and Parcel 3 of the control center area were evaluated for potential wetlands. Figure 6 shows the project limits for the vertical launch area and control center area.

The uplands located within the vertical launch area project limits are largely comprised of sporadically vegetated sand dunes in the eastern portion of the site and moderately to densely vegetated uplands in the western portion of the site (Figure 7). Additional upland islands are located in the unvegetated salt flats. The wetlands onsite are comprised of scrub shrub and emergent wetlands both of which are categorized as high marsh areas, and unvegetated salt flats (Figure 8).

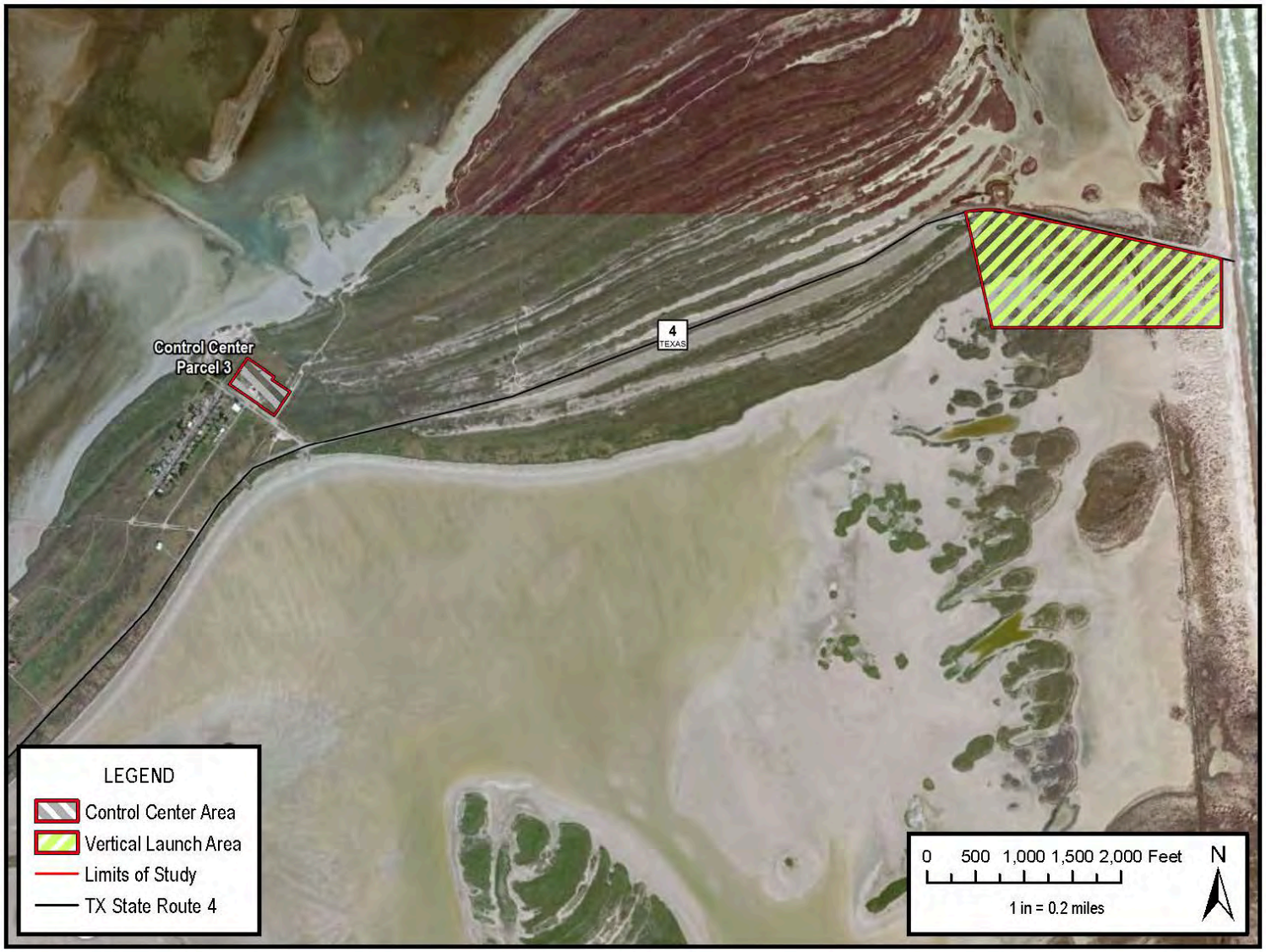


Figure 6. SpaceX Control Center Area (Parcel 3) and Vertical Launch Area Project Limits

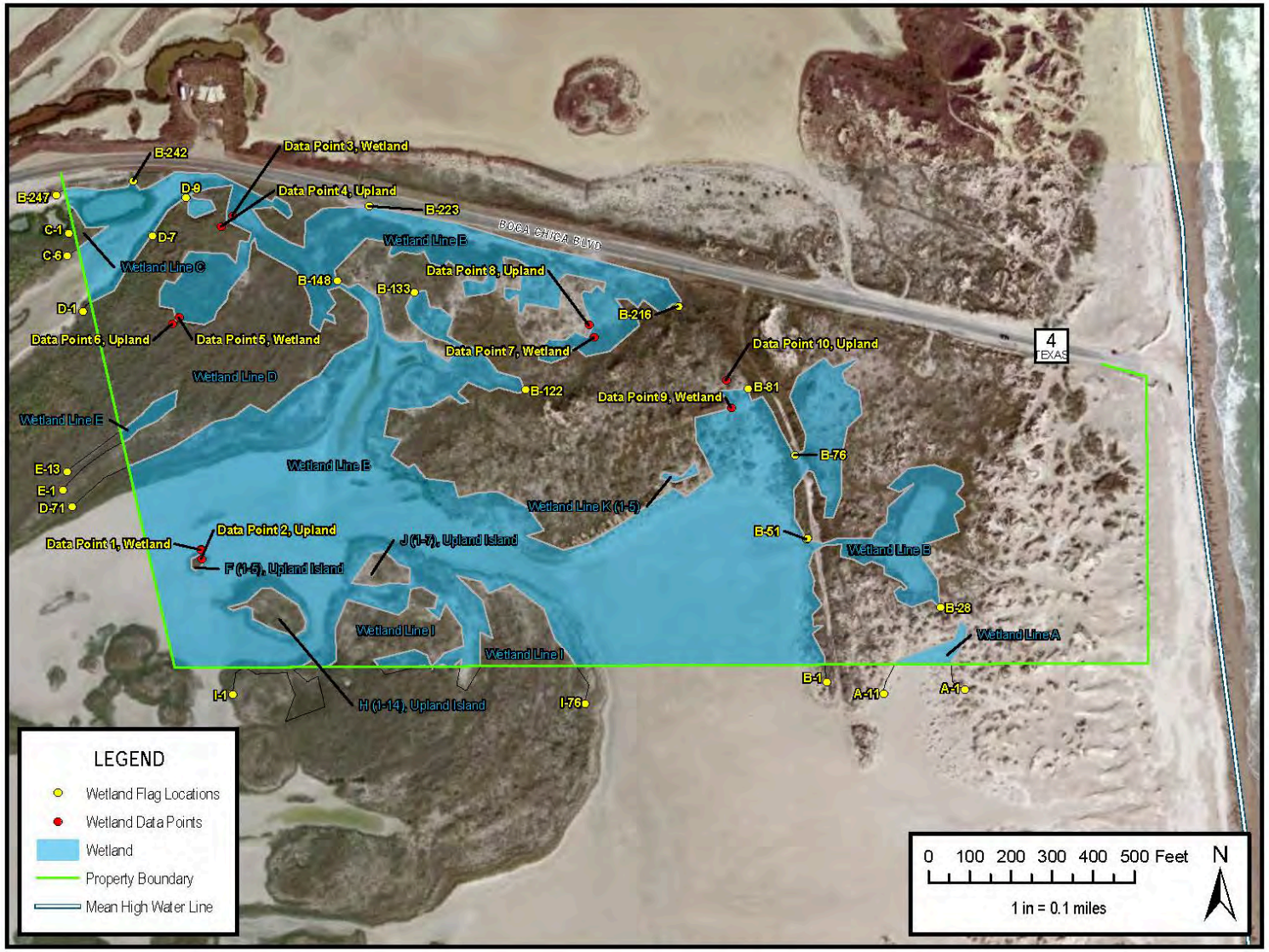


Figure 7. Wetland Delineation Map for Vertical Launch Area

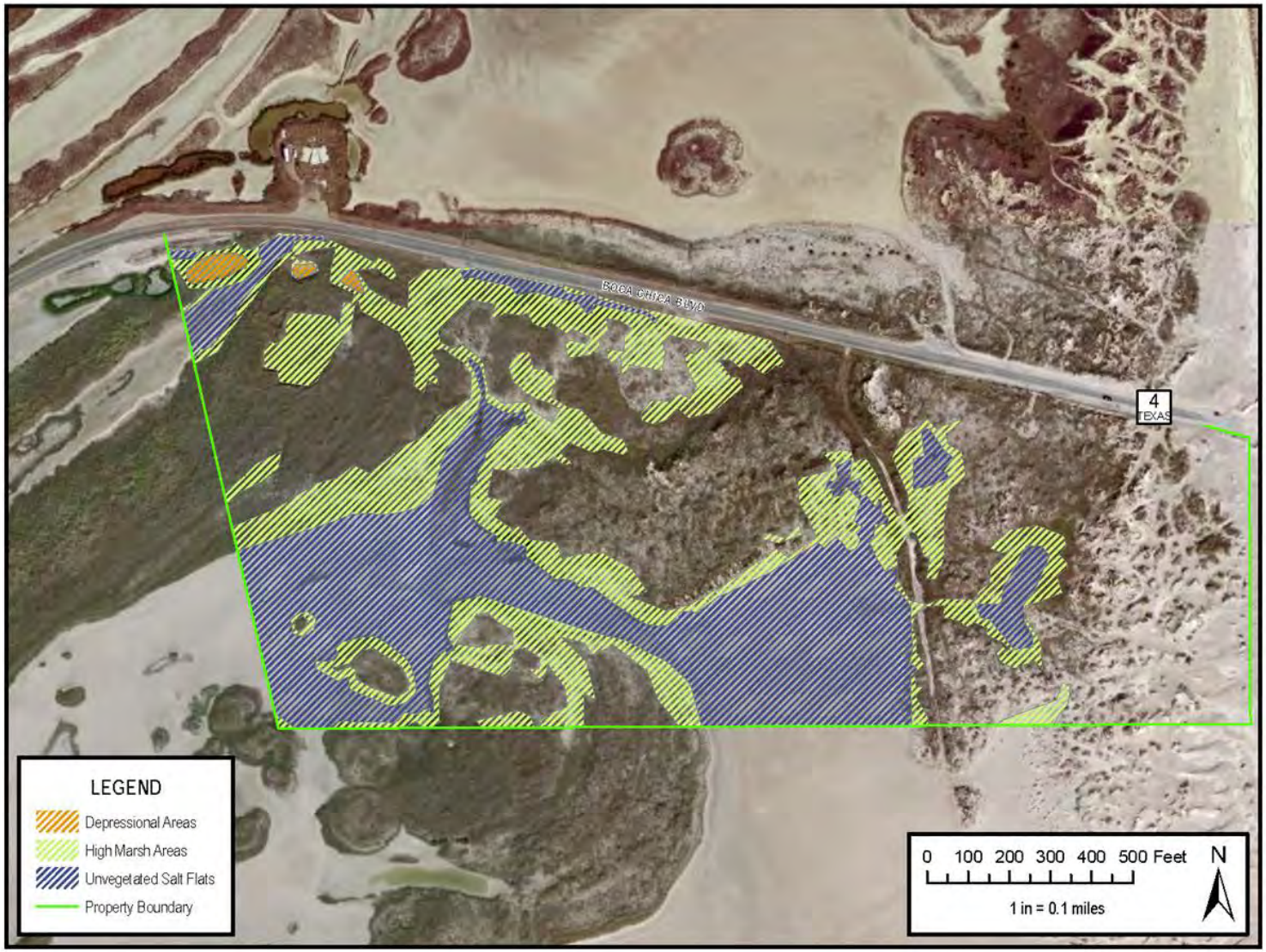


Figure 8. Wetland Types for Vertical Launch Area

Additionally, three small unvegetated depressional features were identified in the northwestern portion of the site. Inundation was visible during fieldwork in several low areas in the unvegetated salt flats and in the depressional areas (Figure 8). Wetland hydrology appears to be predominantly supplied by groundwater and is evidenced by saturation within 12 inches of the soil surface, water stained leaves, crayfish burrows, the Facultative neutral test (commonly known as the "FAC neutral test"), and geomorphic position. The hydric soils on site typically met the redox depression criteria. Upland vegetation is typified by Texas pricklypear (*Opuntia engelmannii*), honey mesquite (*Prosopis glandulosa)*, giant reed (*Arundo donax*), Cuman ragweed (*Ambrosia cumanensis*) and golden tickseed (*Coreopsis tinctoria*). Wetland vegetation is primarily comprised of saltgrass (*Distichlis spicata*), shoregrass (*Monanathocloe littoralis*), Virginia glasswort (*Salicornia virginica*), shoreline seapurslane (*Sesuvium portulacastrum*), seaside tansy (*Borrichia frutescens*), and gulf cordgrass (*Spartina spartinae*).

The control center area is primarily comprised of uplands. The only wetland identified, is located in the southwestern portion of the parcel (Figure 9). It is a hydrologically isolated wetland located in a depression. Based on conversations with the USACE, although the depression appears to be hydrologically isolated, the USACE will take jurisdiction over the feature because it is considered "adjacent" to jurisdictional waters. Vegetation within the wetland is dominated by bushy seaside tansy, shoregrass, and saltgrass (Figure 10). Vegetation in the uplands is dominated by little bluestem (Schizachyrium scoparium), honey mesquite, cuman ragweed, and a yucca species. Hydrology was evidenced by crayfish burrows. Soils were determined to be hydric based on the redox depression criteria.

Figure 9. Wetland Delineation Map for Control Center Area (Parcel 3)

Figure 10. Wetland Types for Control Center Area

5.0 Conclusion

The vertical launch area is composed of approximately 56.50 acres, of which 25.43 acres are jurisdictional wetlands and 31.07 acres are uplands. In discussion with USACE, the following categories were requested to be used to describe the wetlands: depressional areas, high marsh areas, and unvegetated salt flats. Based on the Cowardin classification system the unvegetated salt flats and depressional features are estuarine, intertidal, and unconsolidiated shore with a sand substrate (E2US2). The emergent high marsh wetlands are estuarine, intertidal, and emergent with persistent vegetation (E2EM1). The scrub shrub high marsh wetlands are estuarine, intertidal, scrub-shrub with broad-leaved evergreen vegetation (E2SS3). Of the 25.43 acres of wetlands at the vertical launch area, 0.24 acres are comprised of depressional areas, 12.15 acres are comprised of high marsh areas, and 13.04 acres are comprised of unvegetated salt flats. The high marsh area contains both emergent and scrub shrub wetlands. Parcel 3 of the control center area is approximately 4.0 acres of which 0.04 acre is jurisdictional wetland. The 0.04 acre wetland is considered an emergent high marsh area.

Based on field observations, judicial precedent, and discussions with the Corpus Christi Regulatory Office of USACE, Cardno TEC believes the delineated areas are wetlands under Section 404 jurisdiction. With this submittal of the JD Request Form and Jurisdictional Wetland Determination Report, the FAA and Cardno TEC respectfully request the USACE confirmation of this wetland delineation.

The Wetland and Upland Data Sheets are included in Appendix A for USACE review and concurrence.

Luke DuPont, Professional Wetlands Scientist

6.0 References

National Oceanic and Atmospheric Administration (NOAA) 2012. April 2012. NOAA Tides and Currents. Website accessed April 4, 2012. http://tidesandcurrents.noaa.gov/tide_predictions.shtml?gid=232

Natural Resources Conservation Service (NRCS). May 2012. NRCS Web Soil Survey. National Cooperative Soil Survey. Website accessed May 24, 2012. http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx

Texas Commission on Environmental Quality (TCEQ) 2012. April 2012. Tier 1 401 Certification. Website accessed June 5, 2012. http://www.tceq.texas.gov/permitting/401certification/401certification_tier1.html

U.S. Army Corps of Engineers (USACE) 2008. Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf Coastal Plain Region.

USACE 1987. Corps of Engineers Wetland Delineation Manual.

U.S. Fish and Wildlife Service (USFWS) 1998. 1988 U.S. Fish and Wildlife Service National List (revised in 1996 and 1998).

USFWS. May 2012. National Wetlands Inventory. Website accessed May 23, 2012. http://www.fws.gov/wetlands/Data/Mapper.html

Appendix A

This page intentionally left blank

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Launch Site City/County: Cameron County Sampling Date: 5/16/12

Applicant/Owner: SpaceX State: Texas Sampling Point: 1

Investigator(s): Luke Dupont Section, Township, Range: _____

Landform (hillslope, terrace, etc.): Edge of Salt Flat Local relief (concave, convex, none): None Slope (%): 0

Subregion (LRR or MLRA): LRR T Lat: 25.9956 Long: -97.1576 Datum: WGS 84

Soil Map Unit Name: Mustang Fine Sand NWI classification: Estuarin and Marine

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation X, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area within a Wetland?** Yes X No ____
Hydric Soil Present?	Yes X	No ____	
Wetland Hydrology Present?	Yes X	No ____	

Remarks:

Based on conversations with the USACE personnel out of the Corpus Christi office, this area is naturally problematic. For example, upland vegetation can grow immediately adjacent to obligate vegetation due to the relatively dry climate and moisture laden air. Recorded rainfall for Cameron County in 2012 is slightly higher than an average year.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- X Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- X Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches): 10

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: 1

Tree Stratum (Plot size: NA)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		

Sapling Stratum (Plot size: NA)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		

Shrub Stratum (Plot size: NA)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		

Herb Stratum (Plot size: 5')			
1. Monanthochloe littoralis	35	Y	OBL
2. Spartina spartinae	5		FACW
3. Sesuvium portulacastrum	15	Y	FACW
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	= Total Cover		

Woody Vine Stratum (Plot size: NA)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	(A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

X Dominance Test is >50%

__ Prevalence Index is ≤3.0[1]

__ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes X No ____

Remarks: (If observed, list morphological adaptations below).

This data point was taken on the edge of an unvegetated tidal flat. As a result it meets on hydrology, but half the area also meets the sparsely vegetated concave surface hydrology indicator.

SOIL

Sampling Point: 1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-2	2.5Y 5/3	100					Sa	
2-5	10YR 5/2	95	10YR 5/4	5	C	M	SaCl	
5-14	10YR 5/3	95	10YR 5/6	5	C	M	Sa	
14-20	10YR 4/3	100					Cl	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- X Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- X Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12) **(LRR T, U)**
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No ___

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Launch Site City/County: Cameron County Sampling Date: 5/16/12

Applicant/Owner: SpaceX State: Texas Sampling Point: 2

Investigator(s): Luke Dupont Section, Township, Range: _____

Landform (hillslope, terrace, etc.): Mound Local relief (concave, convex, none): Convex Slope (%): 5

Subregion (LRR or MLRA): LRR T Lat: 25.9956 Long: -97.1576 Datum: WGS 84

Soil Map Unit Name: Mustang Fine Sand NWI classification: Estuarine Marine

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation X, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area within a Wetland?** Yes ____ No X
Hydric Soil Present?	Yes ____	No X	
Wetland Hydrology Present?	Yes ____	No X	

Remarks:

Based on conversations with the USACE personnel out of the Corpus Christi office, this area is naturally problematic. For example, upland vegetation can grow immediately adjacent to obligate vegetation due to the relatively dry climate and moisture laden air. Recorded rainfall for Cameron County in 2012 is slightly higher than an average year.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? Yes ____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants. Sampling Point: 2

Tree Stratum (Plot size: NA)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		

Sapling Stratum (Plot size: NA)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		

Shrub Stratum (Plot size: NA)			
1. Borrichia frutescens	5	Y	FACW
2. Opuntia engelmannii	10	-	NI
3.			
4.			
5.			
6.			
7.			
	15 = Total Cover		

Herb Stratum (Plot size:)			
1. Distichlis spicata	65	Y	FACW
2. Eragrostis secundiflora	10		FACU
3. Coreopsis tinctoria	20	Y	FAC
4. Prosopis glandulosa	5		NI
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	100 = Total Cover		

Woody Vine Stratum (Plot size: NA)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	(A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

X Dominance Test is >50%

__ Prevalence Index is ≤3.0[1]

__ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes X No

Remarks: (If observed, list morphological adaptations below).

SOIL

Sampling Point: 2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-20	10YR 7/3	100					Sa	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12) **(LRR T, U)**
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Launch Site City/County: Cameron County Sampling Date: 5/17/12

Applicant/Owner: SpaceX State: Texas Sampling Point: 3

Investigator(s): Luke Dupont Section, Township, Range: _____

Landform (hillslope, terrace, etc.): Low Area Local relief (concave, convex, none): Concave Slope (%): 5

Subregion (LRR or MLRA): LRR T Lat: 25.9979 Long: -97.1573 Datum: WGS 84

Soil Map Unit Name: Galveston Fine Sand NWI classification: Upland

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation X, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____
Hydric Soil Present?	Yes X	No ____
Wetland Hydrology Present?	Yes X	No ____

Is the Sampled Area within a Wetland? Yes X No ____

Remarks:

Based on conversations with the USACE personnel out of the Corpus Christi office, this area is naturally problematic. For example, upland vegetation can grow immediately adjacent to obligate vegetation due to the relatively dry climate and moisture laden air. Recorded rainfall for Cameron County in 2012 is slightly higher than an average year.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- X Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- X Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- X Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- X Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches): 13

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: 3

Tree Stratum (Plot size: NA)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		

Sapling Stratum (Plot size: NA)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		

Shrub Stratum (Plot size: 15')			
1. Borrichia frutescens	35	Y	FACW
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		

Herb Stratum (Plot size: 5')			
1. Scirpus robustis	45	Y	OBL
2. Distichlis spicata	5	-	FACW
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	= Total Cover		

Woody Vine Stratum (Plot size: NA)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	(A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

X Dominance Test is >50%

__ Prevalence Index is ≤3.0[1]

__ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes X No ____

Remarks: (If observed, list morphological adaptations below).

SOIL

Sampling Point: 3

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-6	2.5Y 4/3	85	2.5Y 4/2	10	D	M	SaCl	
			2.5Y5/6	5	C	PL		
6-14	2.5Y 5/3	100					Sa	
14-20	2.5Y 5/2	95	2.5Y 5/6	5	C	PL	SaCl	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- X Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12) **(LRR T, U)**
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No ___

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Launch Site City/County: Cameron County Sampling Date: 5/17/12

Applicant/Owner: SpaceX State: Texas Sampling Point: 4

Investigator(s): Luke Dupont Section, Township, Range: _____

Landform (hillslope, terrace, etc.): Upland Local relief (concave, convex, none): None Slope (%): 0

Subregion (LRR or MLRA): LRR T Lat: 25.9978 Long: -97.1574 Datum: WGS 84

Soil Map Unit Name: Galveston Fine Sand NWI classification: Upland

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation X, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____
Hydric Soil Present?	Yes X	No ____
Wetland Hydrology Present?	Yes ____	No X

Is the Sampled Area within a Wetland? Yes ____ No X

Remarks:

Based on conversations with the USACE personnel out of the Corpus Christi office, this area is naturally problematic. For example, upland vegetation can grow immediately adjacent to obligate vegetation due to the relatively dry climate and moisture laden air. Recorded rainfall for Cameron County in 2012 is slightly higher than an average year.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? Yes ____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: 4

Tree Stratum (Plot size: NA)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		

Sapling Stratum (Plot size: NA)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		

Shrub Stratum (Plot size:)			
1. Unidentified Shrub	5	-	-
2. Borrichia frutescens	10	Y	FACW
3.			
4.			
5.			
6.			
7.			
	= Total Cover		

Herb Stratum (Plot size:)			
1. Spartina spartinae	95	Y	FACW
2. Gaillardia pulchella	2		NI
3. Conoclinium coelestinum	10		FACW
4. Andropogon glomeratus	2		FACW
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	15 = Total Cover		

Woody Vine Stratum (Plot size: NA)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	(A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

X Dominance Test is >50%

__ Prevalence Index is ≤3.0[1]

__ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes X No ____

Remarks: (If observed, list morphological adaptations below).

SOIL

Sampling Point: 4

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-4	2.5Y 6/3	95	2.5Y 5/6	5	C	M	Sa	
4-16	10YR 6/3	100					Sa	
16-20	2.5Y 6/3	90	2.5Y 6/8	10	C	M	Sa	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- X Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12) **(LRR T, U)**
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No ___

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Launch Site City/County: Cameron County Sampling Date: 5/17/12

Applicant/Owner: SpaceX State: Texas Sampling Point: 5

Investigator(s): Luke Dupont Section, Township, Range: _____

Landform (hillslope, terrace, etc.): Low Area Local relief (concave, convex, none): Concave Slope (%): 0

Subregion (LRR or MLRA): LRR T Lat: 25.9972 Long: -97.1578 Datum: WGS 84

Soil Map Unit Name: Galveston Fine Sand NWI classification: Upland

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation X, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area within a Wetland?** Yes X No ____
Hydric Soil Present?	Yes X	No ____	
Wetland Hydrology Present?	Yes X	No ____	

Remarks:

Based on conversations with the USACE personnel out of the Corpus Christi office, this area is naturally problematic. For example, upland vegetation can grow immediately adjacent to obligate vegetation due to the relatively dry climate and moisture laden air. Recorded rainfall for Cameron County in 2012 is slightly higher than an average year.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- X Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches): 12"

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants. Sampling Point: 5

Tree Stratum (Plot size: NA)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		

Sapling Stratum (Plot size: NA)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		

Shrub Stratum (Plot size: 15')			
1. Iva texensis	5	-	NI
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		

Herb Stratum (Plot size: 5')			
1. Ambrosia cumanensis	15		FAC
2. Distichlis spicata	95	Y	FACW
3. Spartina spartinae	2		FACW
4. Fimbristylis castanea	5		OBL
5. Sesuvium portulacastrum	2		FACW
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	5 = Total Cover		

Woody Vine Stratum (Plot size: NA)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	(A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

X Dominance Test is >50%

__ Prevalence Index is ≤3.0[1]

__ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes X No

Remarks: (If observed, list morphological adaptations below).

SOIL

Sampling Point: 5

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-3	2.5Y 5/3	95	10YR 4/2	5	D	M	SaCl	
3-15	2.5Y 6/3	90	10YR 5/8	10	C	M	Sa	
15-20	2.5Y 6/3	95	2.5Y 6/8	5	C	M	Sa	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- X Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12) **(LRR T, U)**
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No ___

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Launch Site City/County: Cameron County Sampling Date: 5/17/12

Applicant/Owner: SpaceX State: Texas Sampling Point: 6

Investigator(s): Luke Dupont Section, Township, Range: _____

Landform (hillslope, terrace, etc.): Vegetated Upland Local relief (concave, convex, none): None Slope (%): 0

Subregion (LRR or MLRA): LRR T Lat: 25.9971 Long: -97.1578 Datum: WGS 84

Soil Map Unit Name: Galveston Fine Sand NWI classification: Upland

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation X, Soil X, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area within a Wetland?** Yes ____ No X
Hydric Soil Present?	Yes ____	No X	
Wetland Hydrology Present?	Yes ____	No X	

Remarks:

Based on conversations with the USACE personnel out of the Corpus Christi office, this area is naturally problematic. For example upland vegetation can grow immediately adjacent to obligate vegetation due to the relatively dry climate and moisture laden air. Recorded rainfall for Cameron County in 2012 is slightly higher than an average year. .

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? Yes ____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: 6

Tree Stratum (Plot size: NA)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		

Sapling Stratum (Plot size: NA)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		

Shrub Stratum (Plot size: 15')			
1. Borrichia frutescens	5	Y	FACW
2. Opuntia engelmannii	5	-	NI
3.			
4.			
5.			
6.			
7.			
	10 = Total Cover		

Herb Stratum (Plot size: 5')			
1. Spartina spartinae	90	Y	FACW
2. Ambrosia cumanensis	10		FAC
3. Conoclinium coelestinum	10		FACW
4. Andropogon glomeratus	5		FACW
5. Croton glandulosus	10		NI
6. Ratibida columnifera	2		NI
7. Commelina communis	2		FAC
8.			
9.			
10.			
11.			
12.			
	129 = Total Cover		

Woody Vine Stratum (Plot size: NA)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	
FACW species		x 2 =	
FAC species		x 3 =	
FACU species		x 4 =	
UPL species		x 5 =	
Column Totals:	(A)		(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

X Dominance Test is >50%

__ Prevalence Index is ≤3.0[1]

__ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes X No ____

Remarks: (If observed, list morphological adaptations below).

SOIL

Sampling Point: 6

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-2	10YR 5/3	100					Sa	
2-20	10YR 6/3	100					Sa	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12) **(LRR T, U)**
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Launch Site City/County: Cameron County Sampling Date: 5/17/12

Applicant/Owner: SpaceX State: Texas Sampling Point: 7

Investigator(s): Luke Dupont Section, Township, Range: _____

Landform (hillslope, terrace, etc.): Toe of Slope Local relief (concave, convex, none): Concave Slope (%): 0

Subregion (LRR or MLRA): LRR T Lat: 25.997 Long: -97.1547 Datum: WGS 84

Soil Map Unit Name: Mustang Fine Sand NWI classification: Estuarine Marine

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation X, Soil X, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area within a Wetland?** Yes X No ____
Hydric Soil Present?	Yes X	No ____	
Wetland Hydrology Present?	Yes X	No ____	

Remarks:

Based on conversations with the USACE personnel out of the Corpus Christi office, this area is naturally problematic. For example upland vegetation can grow immediately adjacent to obligate vegetation due to the relatively dry climate and moisture laden air. Recorded rainfall for Cameron County in 2012 is slightly higher than an average year.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- X Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- X Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- X Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- X Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches): 16

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants. Sampling Point: 7

Tree Stratum (Plot size: NA)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		

Sapling Stratum (Plot size: NA)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		

Shrub Stratum (Plot size: 15')			
1. Borrichia frutescens	5	Y	FACW
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		

Herb Stratum (Plot size: 5')			
1. Typha domingensis	35	Y	OBL
2. Iva texensis	25	-	NI
3. Fimbristylis castanea	15		OBL
4. Distichlis spicata	20	Y	FACW
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	5 = Total Cover		

Woody Vine Stratum (Plot size: NA)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	(A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

X Dominance Test is >50%

__ Prevalence Index is ≤3.0[1]

__ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes X No ____

Remarks: (If observed, list morphological adaptations below).

SOIL

Sampling Point: 7

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-5	2.5Y 6/3	90	2.5Y 5/2	10	D	M	SaCl	
5-10	2.5Y 5/3	90	2.5Y 6/8	10	C	M	Sa	
10-17	2.5Y 5/3	80	2.5Y 5/6	20	C	PL	SaCl	
17-20	5Y 5/2	80	2.5Y 5/6	20	C	PL	SaCl	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- X Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12) **(LRR T, U)**
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No ___

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Launch Site City/County: Cameron County Sampling Date: 5/17/12

Applicant/Owner: SpaceX State: Texas Sampling Point: 8

Investigator(s): Luke Dupont Section, Township, Range: _____

Landform (hillslope, terrace, etc.): Upland Local relief (concave, convex, none): Convex Slope (%): 5

Subregion (LRR or MLRA): LRR T Lat: 25.9971 Long: -97.1547 Datum: WGS 84

Soil Map Unit Name: Mustang Fine Sand NWI classification: Estuarine Marine

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation X, Soil X, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area within a Wetland?** Yes X No ____
Hydric Soil Present?	Yes ____	No X	
Wetland Hydrology Present?	Yes ____	No X	

Remarks:

Based on conversations with the USACE personnel out of the Corpus Christi office, this area is naturally problematic. For example upland vegetation can grow immediately adjacent to obligate vegetation due to the relatively dry climate and moisture laden air. Recorded rainfall for Cameron County in 2012 is slightly higher than an average year.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? Yes ____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants. Sampling Point: 8

Tree Stratum (Plot size: NA)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Sapling Stratum (Plot size: NA)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Shrub Stratum (Plot size: 15')			
1. Borrichia frustescens	5	Y	FACW
2.			
3.			
4.			
5.			
6.			
7.			
	5 = Total Cover		
Herb Stratum (Plot size: 5')			
1. Rayjacksonia phyllocephala	15	Y	FACW
2. Polygala alba	5		NI
3. Eragrostis secundiflora	20	Y	FACU
4. Iva texensis	15	-	NI
5. Sesuvium portulacastrum	5		FACW
6. Uniola paniculata	5		FACU
7. Distichlis spicata	10		FACW
8. Samolus ebracteatus	5		FACW
9.			
10.			
11.			
12.			
	80 = Total Cover		
Woody Vine Stratum (Plot size: NA)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 67 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	(A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

X Dominance Test is >50%

__ Prevalence Index is ≤3.0[1]

__ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes X No ____

Remarks: (If observed, list morphological adaptations below).

SOIL

Sampling Point: 8

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-12	2.5Y 6/3	100					Sa	
12-20	10YR 6/3	100					Sa	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12) **(LRR T, U)**
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Launch Site City/County: Cameron County Sampling Date: 5/17/12

Applicant/Owner: SpaceX State: Texas Sampling Point: 9

Investigator(s): Luke Dupont Section, Township, Range: _____

Landform (hillslope, terrace, etc.): Toe of Slope Local relief (concave, convex, none): Concave Slope (%): 5

Subregion (LRR or MLRA): LRR T Lat: 25.9966 Long: -97.1537 Datum: WGS 84

Soil Map Unit Name: Mustang Fine Sand NWI classification: Estuarine Marine

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ___ No X (If no, explain in Remarks.)

Are Vegetation ___, Soil ___, or Hydrology ___ significantly disturbed? Are "Normal Circumstances" present? Yes X No ___

Are Vegetation X, Soil X, or Hydrology ___ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ___	**Is the Sampled Area within a Wetland?** Yes X No ___
Hydric Soil Present?	Yes X	No ___	
Wetland Hydrology Present?	Yes X	No ___	

Remarks:

Based on conversations with the USACE personnel out of the Corpus Christi office, this area is naturally problematic. For example upland vegetation can grow immediately adjacent to obligate vegetation due to the relatively dry climate and moisture laden air. Recorded rainfall for Cameron County in 2012 is slightly higher than an average year.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- X Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- X Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- X Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ___	No X	Depth (inches): ___
Water Table Present?	Yes ___	No X	Depth (inches): ___
Saturation Present? (includes capillary fringe)	Yes X	No ___	Depth (inches): 10

Wetland Hydrology Present? Yes X No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants. Sampling Point: 9

Tree Stratum (Plot size: NA)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Sapling Stratum (Plot size: NA)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Shrub Stratum (Plot size: 15')			
1. Borrichia frutescens	15	Y	FACW
2. Iva texensis	20	-	NI
3.			
4.			
5.			
6.			
7.			
	35 = Total Cover		
Herb Stratum (Plot size: 5')			
1. Sesuvium portulacastrum	15	Y	FACW
2. Batis maritima	5		OBL
3. Distichlis spicata	25	Y	FACW
4. Rayjacksonia phyllocephala	5		FACW
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	50 = Total Cover		
Woody Vine Stratum (Plot size: NA)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	(A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

X Dominance Test is >50%

__ Prevalence Index is ≤3.0[1]

__ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes X No ____

Remarks: (If observed, list morphological adaptations below).

SOIL

Sampling Point: 9

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-4	2.5Y 5/3	100					Sa	
4-20	2.5Y 5/3	80	10YR 4/6	20	C	M	SaCl	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- X Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12) **(LRR T, U)**
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No ___

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Launch Site City/County: Cameron County Sampling Date: 5/17/12

Applicant/Owner: SpaceX State: Texas Sampling Point: 10

Investigator(s): Luke Dupont Section, Township, Range: _____

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Concave Slope (%): 10

Subregion (LRR or MLRA): LRR T Lat: 25.9967 Long: -97.1537 Datum: WGS 84

Soil Map Unit Name: Mustang Fine Sand NWI classification: Upland

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation X, Soil X, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area within a Wetland?** **Yes X** **No ____**
Hydric Soil Present?	Yes X	No ____	
Wetland Hydrology Present?	Yes X	No ____	

Remarks:

Based on conversations with the USACE personnel out of the Corpus Christi office, this area is naturally problematic. For example, upland vegetation can grow immediately adjacent to obligate vegetation due to the relatively dry climate and moisture laden air. Recorded rainfall for Cameron County in 2012 is slightly higher than an average year.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes ____** **No X**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: 10

Tree Stratum (Plot size: NA)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		

Sapling Stratum (Plot size: NA)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		

Shrub Stratum (Plot size: 15')			
1. Iva angustifolia	5	Y	NI
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		

Herb Stratum (Plot size: 5')			
1. Fimbristylis castanea	10	Y	OBL
2. Distichlis spicata	15	Y	FACW
3. Eragrostis secundiflora	10	Y	FACU
4. Andropogon glomeratus	5		FACW
5. Polygala alba	5		NI
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	45 = Total Cover		

Woody Vine Stratum (Plot size: NA)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	(A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

X Dominance Test is >50%

__ Prevalence Index is ≤3.0[1]

__ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes X No ____

Remarks: (If observed, list morphological adaptations below).

SOIL

Sampling Point: 10

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-14	2.5Y 6/3						Sa	
14-20	2.5Y 6/4	90	10YR 5/6	10	C	M	Sa	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12) **(LRR T, U)**
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Control Center, Option 3 City/County: Cameron County Sampling Date: 5/17/12

Applicant/Owner: SpaceX State: Texas Sampling Point: 1

Investigator(s): Luke Dupont Section, Township, Range: _____

Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0

Subregion (LRR or MLRA): LRR T Lat: 25.9931 Long: -97.1804 Datum: WGS 84

Soil Map Unit Name: Galveston Fine Sand NWI classification: Upland

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation X, Soil X, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area within a Wetland?** **Yes X** **No ____**
Hydric Soil Present?	Yes X	No ____	
Wetland Hydrology Present?	Yes X	No ____	

Remarks:

Based on conversations with the USACE personnel out of the Corpus Christi office, this area is naturally problematic. For example upland vegetation can grow immediately adjacent to obligate vegetation due to the relatively dry climate and moisture laden air. Recorded rainfall for Cameron County in 2012 is slightly higher than an average year.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- X Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- X Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes X** **No ____**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants. Sampling Point: 1

Tree Stratum (Plot size: NA)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		

Sapling Stratum (Plot size: NA)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		

Shrub Stratum (Plot size: 15')			
1. Borrichia frutescens	35	Y	FACW
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		

Herb Stratum (Plot size: 5')			
1. Monanthocloe littoralis	40	Y	FACW
2. Sesuvium portulacastrum	15		OBL
3. Prosopis glandulos	20	Y	FACW
4. Opuntia engelmannii	2		NI
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	= Total Cover		

Woody Vine Stratum (Plot size: NA)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	(A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

X Dominance Test is >50%

__ Prevalence Index is ≤3.0[1]

__ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes X No ____

Remarks: (If observed, list morphological adaptations below).

SOIL

Sampling Point: 1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR 5/3	100					ClLo	
4-16	10YR 6/3	95	7.5YR 4/6	5	C	M	Cl	Very Dense Clay
16-20	2.5Y 4/2	85	2.5Y 5/4	15	C	M	Cl	Very Dense Clay

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- X Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12) **(LRR T, U)**
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No ___

Remarks:

SOIL

Sampling Point: 1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-20	10YR 5/3	100					SaCl	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12) **(LRR T, U)**
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Control Center, Option 3 City/County: Cameron County Sampling Date: 5/17/12

Applicant/Owner: SpaceX State: Texas Sampling Point: 2

Investigator(s): Luke Dupont Section, Township, Range: _____

Landform (hillslope, terrace, etc.): Vegetated Upland Local relief (concave, convex, none): None Slope (%): 0

Subregion (LRR or MLRA): LRR T Lat: 25.9932 Long: -97.1804 Datum: WGS 84

Soil Map Unit Name: Galveston Fine Sand NWI classification: Upland

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation X, Soil X, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area within a Wetland?** Yes ____ No X
Hydric Soil Present?	Yes ____	No X	
Wetland Hydrology Present?	Yes ____	No X	

Remarks:

Based on conversations with the USACE personnel out of the Corpus Christi office, this area is naturally problematic. For example upland vegetation can grow immediately adjacent to obligate vegetation due to the relatively dry climate and moisture laden air. Recorded rainfall for Cameron County in 2012 is slightly higher than an average year.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? Yes ____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: 2

Tree Stratum (Plot size: NA)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		

Sapling Stratum (Plot size: NA)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		

Shrub Stratum (Plot size: 15')			
1. Borrichia frutescens	20	Y	FACW
2. Opuntia engelmannii	15	-	NI
3.			
4.			
5.			
6.			
7.			
	= Total Cover		

Herb Stratum (Plot size: 5')			
1. Ambrosia cumanensis	15	Y	FAC
2. Distichlis spicata	25	Y	FACW
3. Prosopis glandulos	20	Y	FACW
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	= Total Cover		

Woody Vine Stratum (Plot size: NA)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	(A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

X Dominance Test is >50%

__ Prevalence Index is ≤3.0[1]

__ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes X No ____

Remarks: (If observed, list morphological adaptations below).

Appendix G
USFWS and NMFS Correspondence

TABLE OF CONTENTS

APPENDIX G – USFWS AND NMFS CORRESPONDENCE

USFWS
USFWS Comment Preliminary Draft Environmental Impact Statement—February 4, 2013 ..... G-3
USFWS Section 7 Consultation—March 1, 2013 ..... G-21

NMFS
NMFS Section 7 Consultation—March 5, 2013 ..... G-29

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Ecological Services
c/o TAMU-CC, Campus Box 338
6300 Ocean Drive
Corpus Christi, Texas 78412

February 4, 2013

Stacey M. Zee
Commercial Space Transportation, AST-100
Federal Aviation Administration
800 Independence Ave, SW
Suite 325
Washington, DC 20591

Consultation Number 02ETCC00-2012-I-0186

Dear Ms. Zee:

The U.S. Fish and Wildlife Service (Service) has reviewed Preliminary Draft Environmental Impact Statement (PDEIS), Version 4, SpaceX Texas Launch Site, Volume I, Executive Summary and Chapters 1-14, January 2013, Prepared by Federal Aviation Administration (FAA), Office of Commercial Space Transportation, Washington, DC. Service comments on the PDEIS follow.

Additionally, the Service has received your letter, dated January 4, 2013, requesting initiation of Formal Section 7 Consultation for the Proposed Issuance of Launch Licenses and/or Experimental Permits for the Proposed SpaceX Texas Launch Site, Cameron County, Texas. The Service is in the process of reviewing the Final Biological Assessment (BA), Potential Effects on USFWS-Listed Species for the Issuance of Launch Licenses and/or Experimental permits for the Proposed SpaceX Texas Launch Site, Cameron County, Texas which was included in the PDEIS Volume II, Appendix G. The Service's comments on the BA will be provided in a separate letter to FAA. General comments, however, regarding the impact of the proposed project on federally listed threatened and endangered species, as addressed in the PDEIS are included in this letter.

GENERAL COMMENTS:

The primary adjacent land manager, the National Wildlife Refuge System (NWR), and the effects that the proposed project will have on refuge property are scarcely addressed throughout the PDEIS. Impacts of the project on resources managed by the NWR, both habitat and wildlife, need to be more fully and directly addressed. For example, references in the PDEIS regarding the management of launch-watching visitors make note of coordination only with Texas Department of Transportation (TXDOT) and area law enforcement entities although, NWR-managed lands would be most impacted. Exhibit 2-1 clearly depicts the presence of the NWR-managed lands which are located almost continually on both sides of State Highway 4 (SH 4)

from the proposed facility west for approximately 14 miles. Furthermore, the PDEIS does not demonstrate that the writers understand the nature of the landscape of the area proposed for SpaceX Texas and the long-lasting impacts that a single impact can cause. In the semi-arid environment of the area, damage to the land from a single all-terrain vehicle track scouring vegetation or rutting unvegetated tidal flats can persist for many years and set up a chain reaction of changes to the landscape.

Although the PDEIS dedicates several pages in the first chapter documenting public involvement and support for the project, any attempt to assess the numbers of and impacts from launch-watching visitors is absent from the PDEIS. Throughout the document, reference is repeatedly made to "educate the public on safe and appropriate launch viewing locations". However, SH 4, a two-lane roadway with approximately 15-foot-wide adjoining right-of-ways (ROWs) can not provide parking areas for the public without incurring unsafe traffic conditions. Furthermore, the damage that would accrue to the ROW areas if used in this manner would be significant and long-lasting. A specific viewing area will need to be identified and the location coordinated with area land-owners and managers, such as the NWR, Texas General Land Office (TGLO), Texas Parks and Wildlife (TPWD), TXDOT and private property owners. Specifying a safe viewing area will not be enough, however, as access off-road to state and federally-managed lands could occur along with the associated damage to the landscape in this scenario. Project developers should be fully engaged in the identification of an appropriate viewing area as well in the protection of surrounding areas from the damaging effects of off-road-vehicle (ORV) traffic.

The Service is concerned that the PDEIS also does not address the impacts of project operations, particularly during launch events, on security needs of U.S. Customs and Border Patrol (CBP). The international border at the Rio Grande is less than 3 miles away from the launch site and within the launch day closure area as depicted in Exhibit 2-1. The CBP may need to develop additional measures to offset hindrance of CBP to patrol the lower portions of the Rio Grande when normal beach and other access options are not available because of launch activities. These security needs could result in impacts to NWR-managed lands that would require consultation with the Service. The Service recommends that FAA engage with CBP and the NWR in direct discussions regarding changes in security needs for the proposed closure area.

Throughout the PDEIS the term region of influence (ROI) is employed to describe the effects of various components of the proposed project. The geographic assignment of the ROI for these components varies with the type of action, and the PDEIS does not include a map for each of the referenced ROIs and its associated action. The Service recommends that the PDEIS be revised to identify the boundaries of the largest ROI for the project. It is the Service's assessment this would be, at a minimum, along a north-south line from the Brownsville Channel to the Rio Grande that begins at the location of the selected visitor viewing area, and extends east into the Gulf of Mexico at least the distance of the proposed water closure area although, the anticipated splash-down zone for the launch vehicle components would be better. Within the broadest ROI, the effects of other actions that are smaller ROIs, caused by the project should then be geographically identified, so that the Service can better provide our comment and assessment on FAA's determination of the impacts of the project actions.

Given the location of the proposed SpaceX Texas Launch Site, the development of a hurricane planning and response plan is vital. The PDEIS notes various actions with regards to handling hazardous materials related to construction transportation, operations, and accidental spills but these same response actions may differ dramatically in the event of a tropical storm or hurricane event threatening the lower Texas Coast. Additionally, as NWR-managed, and State-owned lands are immediately adjacent to the proposed facilities, at a minimum, representatives from these entities will need to be fully aware of SpaceX Texas' hurricane planning and response plan.

The Service is aware that technological advances related to space launch activities are continually advancing. In the PDEIS, it is noted - that SpaceX has utilized and subsequently decommissioned the Omelek Island used for launch of the Falcon 1 vehicle. Because of the remoteness and wildlife value of the proposed site, the Service recommends that the project proponent address the expected life of the project, that is, how many years that SpaceX would anticipate utilizing the proposed site. Additionally, the Service recommends that subsequent drafts of the EIS include at least preliminary plans for the removal and restoration of the site following decommissioning and closure of the site.

The Service is very concerned with regard to some of the actions already taken by SpaceX relative to the Texas Launch Site project. According to the **NEPA (40CFR 1500-1508) and Part 58**, the responsible entity is required to ensure that environmental information is available before decisions are made and before actions are taken. In order to achieve this objective, Part 58 prohibits the commitments or expenditures of funds until the environmental review process has been completed.

> Grantees may not spend either public or private funds, or execute a legally binding agreement for property acquisition, rehabilitation, conversion, repair or construction pertaining to a specific site until environmental clearance has been achieved.
>
> Grantees any and all actions that would preclude the selection of alternative choices before a final decision is made –that decision been based upon an understanding of the environmental consequences and actions that can protect, restore, and enhance the human environment (i.e., the natural, physical, social, and economic environment).
>
> Activities that have physical impacts or which limit the choice of alternatives cannot be undertaken, even with the grantee or other project participant's own funds, prior to obtaining environmental clearance.

For the purpose of environmental review process, "commitment of funds" includes:

> Execution of a legally binding agreement (such as a property purchase or construction contract as an example.

Not only is there a lack of viable alternatives, but the project proponents (Space X) have already violated **NEPA's Section 1506.1** (Limitations on Actions during the NEPA process). In a newspaper article in the Brownsville Herald on November 24, 2012 it stated: SpaceX continues to invest in Cameron County, buying more property as well as options it holds on other lands, as

the time nears to unveil the results of the environmental impact study. See the attached news article.

Section 1506.1 (in part) states the following:

1506.1 (a) Until an agency issues a record of decision as provided in Sec. **1505.2** (except as provided in paragraph (c) of this section), no action concerning the proposal shall be taken which would:

1. Have an adverse environmental impact; or
2. Limit the choice of reasonable alternatives.

(b) If any agency (e.g., the FAA) is considering an application from a non-Federal entity, and is aware that the applicant is about to take an action within the agency's jurisdiction that would meet either of the criteria in paragraph (a) of this section, then the agency shall promptly notify the applicant that the agency will take appropriate action to insure that the objectives and procedures of NEPA are achieved....

Space X has been buying up land in anticipation of the building the project at the Boca Chica location without adequately analyzing other viable alternatives, and have been committing resources to that site. The Service believes this action clearly limits the availability of alternatives and appears to violate the spirit and intent of NEPA.

FEDERALLY LISTED THREATENED AND ENDANGERED SPECIES

Although the Service is currently engaged in our review of the BA for the proposed project, within the PDEIS document, a number of references and comments are made regarding Federally listed threatened and endangered species and the associated effects and impacts of the project to which the Service would like to address some general comments.

With regard to federally listed, nesting sea turtles, the PDEIS focuses primarily on the impacts of light from the facility. In some portions of the document, note is made that efforts will be made to keep lighting below the level of the dunes between the proposed facility and the gulf beaches. Elsewhere in the PDEIS, note is made that come construction work, such as pouring of concrete for the site's facilities, may need to occur at night. Additionally, lighting for security and safety needs will also be present. The Service expects that lighting needs and requirements for construction and operation are discussed in detail in the BA and include a proposal by SpaceX on how lighting associated with both construction and operation activities can be accomplished in an acceptable manner. Furthermore, other issues related to nesting sea turtles, such as allowing beach patrols to survey for nesting activities that occurred during a closure time, prior to re-opening the beach to the public, will need to be addressed as will training of SpaceX security personnel regarding nesting sea turtles.

With regard to federally listed ocelots and jaguarondis, as noted above, the Service is very concerned about the increase in traffic on SH 4 during construction, from operations personnel, and related to the launch-viewing public. The posting of signs to "Watch out for ocelots and

jaguarondis" will not be enough to avoid vehicle-wildlife strikes, including possible listed cats, given the estimated increase in traffic from the facility alone along the narrow roadway that is SH 4. Unfortunately, despite the acknowledgement of public support and enthusiasm for the project, the PDEIS does not attempt to estimate the increase in traffic that could occur from the launch-viewing public, draft a plan to direct and manage that traffic, or include suggestions on how to contain that traffic to authorized locations to avoid secondary impacts to the landscape.

With regards to piping plovers and piping plover critical habitat (CH), the PDEIS primarily addresses the direct effects to piping plover CH from construction of the proposed facility. It was not evident in the PDEIS that tidal flats within the fence boundary were included. Although in Chapter 4 note is made of the startle effects of noise on wildlife such as birds, the acoustic effects of a launch event on avian species that might be utilizing tidal flats and other habitats within the fence boundary is not mentioned. Additionally, the project proponent's Stormwater Pollution and Prevention Plan (SWPPP) will need to include not only the effects of erosion and sediment control but also how the SWPPP would prevent the introduction of vegetation into unvegetated tidal flats including piping plover CH.

With regard to the federally listed aplomado falcon, the PDEIS notes that within the footprint of the proposed facility, there are no existing perches for the aplomado falcon. The PDEIS does acknowledge that the facility could create perching opportunities; however, the document only discusses perches and perch-discouraging devices relative to the facility's tall structures, such as the water tower and the lightning towers but not other components such as the buildings and fences. An analysis of all components of the facility with regards to raptor use should be analyzed. Additionally, an assessment should be made of the potential of the facility, if constructed, to attract species such as swallows, which could in turn attract foraging raptors.

SPECIFIC COMMENTS:

The Service's specific comments on the PDEIS can be found in the attached excel spread sheet format that was provided by FAA. The structure of the PDEIS is such that many phrases and references are repeated throughout the document; therefore, the Service requests that where we have submitted a comment or suggested change, it be applied to the relevant sections throughout the document.

The Service appreciates the opportunity for continued coordination on the proposed SpaceX Texas project. If you have any comments or questions, please contact Pat Clements (pat_clements@fws.gov) or Ernesto Reyes (ernesto_reyes@fws.gov).

Sincerely,

Patricia Brady Clements

for Allan M. Strand
Field Supervisor

Encl: News article - Valley Morning Star, "SpaceX acquires more properties", Nov. 24, 2012
SpaceX EIS PDEIS v4 Comment Matrix CCESFO

SpaceX Texas Launch Site Preliminary Draft EIS
Cooperating Agency Review

Comment No.	Page	Line No.	Comments	Reviewer/ Organization
1	Abstract & ES-3	17 in Abstract & 19 on ES-3	Statement that project will be occurring on undeveloped property is misleading. Although the proposed launch site is undeveloped, the proposed control center is immediately adjacent to (and would impact) a small residential community. Also, what about recreational development - albeit minimal, there is all-weather road access, trash pick up, beach maintenance, security patrols by county sheriff and DHS.	CCESFO
2	ES-3	20 to 21	Additional ROW may need to be acquired if TXDOT has restrictions or agreements with utilities currently located in the SH 4 ROW. In this case, impacts to areas adjacent to the ROW in the event that new easements will be needed. NWR manages the property on both sides of SH 4 almost continually for 14 miles west of the proposed project site.	CCESFO
3	ES-3	16-21	The Service recommends that note is made of the distance of proposed site from international border with Mexico, that is, approximately 2.92 miles.	CCESFO
4	ES-3	26 to 27	Note is made of the potential for impacts to hunting and fishing; however, wildlife watching and nature tourism, including bird watching, are important recreational activities for the Rio Grande valley, including the proposed project area. The Service recommends that the PDEIS include an assessment of the impacts of the proposed project on this sector of the local economy. As well as a more intentional review of area avian species, particularly those drawing birders to the area, that will be affected by the project. Regional bird lists would provide a good basis for investigating the range of birds that will be impacted by the presence and operation of SpaceX Texas should it be constructed.	CCESFO

SpaceX Texas Launch Site Preliminary Draft EIS
Cooperating Agency Review

Comment No.	Page	Line No.	Comments	Reviewer/ Organization
5	ES-3	28-29	The Service recommends deletion of sentence "The rest of the property would remain open space". This sentence implies that area outside of the 20-acre launch site proper would be undamaged when, in fact, the paragraph goes on to state that all of the area within the fences of the 56.5 acre site would be impacted in some way.	CCESFO
6	ES-3 -ES-4	35-39 & 1-3	This list should be revised to include lightning towers as these structures could impact avian species, including federally listed aplomado falcon and piping plover.	CCESFO
7	ES-4	27	Note made here that construction of control facility would involve leveling to of the land; however, on page 3-55, line 2, the statement is made that both launch facility and control facility are located in the 100 year flood plan. Note is made under activities for the launch site (page ES-3, line 30) that fill would be required to avoid frequent flooding of the site. The description of the control facility should be revised to note how flooding would be moderated. Elevating the control facility with fill would adversely affect the existing adjacent residential structures.	CCESFO
8	ES-5	4 to 6	Although the PDEIS states that "Space X would also coordinate with U.S. Border Patrol and Cameron County and state of Texas law enforcement to limit public access at two pre-defined checkpoints on State Highway 4 for up to 15 hours on launch day". The Service has a concern and questions how are access to side roads by spectators would be controlled. Furthermore, spectators going through Refuge and private land, would have off-road impacts to sensitive areas and nesting Aplomado falcons as an example.	CCESFO
9	ES-5	22-23	The PDEIS is not clear in defining the effects of the referenced increase in the numbers of workers to 150 by 2022. With the increase of workers will there need to be an expansion of the facilities, or will the initial construction be at a level to accommodate the maximum number of workers? What additional infrastructure will be needed and what are the expected impacts?	CCESFO

SpaceX Texas Launch Site Preliminary Draft EIS
Cooperating Agency Review

Comment No.	Page	Line No.	Comments	Reviewer/ Organization
10	ES-6 & ES-7	36-38 & 1-15	This section should also include consultation under Sec 7 of the Endangered Species Act.	CCESFO
11	ES-8	Table ES.6-1	**Compatible Land Use:** Under Construction impacts & Operations & Coastal Resources the determination is made that there will be "no significant impacts". The PDEIS does not include a definition for "coastal resources" nor an explanatory bases for this determination on what? Therefore, absent a completed consultation a permit from the USACE and other leases and/or concurrences from other coastal resource managers, including the NWR, the assessment of no significant impacts is premature at best.	CCESFO
12	ES-8	Table 6-1	**Compatible Land Use:** For Operations: The Service does not agree with the assessment of "no significant impacts" There will be significant impacts to the management of surrounding NWR and State Park lands due to the closures and activities associated with the launch, to the disruption, and possibly take of migratory birds, nests, eggs, and fledglings, as well as other coastal species, impacts to wetlands and development within the floodplain.	CCESFO
13	ES-8	Table 6-1	**Section 4(f) properties states:** The Service recommends that a determination is completed prior to finalizing the DEIS in order to determine if mitigation will be needed and to select appropriate mitigation.	CCESFO

SpaceX Texas Launch Site Preliminary Draft EIS
Cooperating Agency Review

Comment No.	Page	Line No.	Comments	Reviewer/ Organization
14	ES-8	Table ES.6-1	**Noise:** Impacts to wildlife - particularly nesting birds and sea turtles that are nesting or are in the nearshore waters should also be referenced in this section.	CCESFO
15	ES-9	Table 6-1	**Visual Resources and Light Emissions, under Operations.** There will also be visual impacts from lighting at night surrounding the facilities and security fence that could alter activities of wildlife or attract wildlife such as nighthawks to the vicinity.	CCESFO
16	ES-9	Table ES.6-1	The PDEIS does not define how, or if, impacts to Palmito Ranch Battlefield NHL would be mitigated. The Service requests additional information regarding mitigation to the this NHL.	CCESFO
17	ES-11	Table 6-1	**Biological Resources (Including Fish, Wildlife, and Plants, under Operations.** The Service does not agree with the no significant impacts assessment for this category, particularly with regards to operations of the proposed facility. The location that is selected for launch-watching public will be one of the critical factors in the final determination of the significance of the operations to Biological Resources. Utilizing the shoulders of SH 4 for parking, because they are narrow, will present a human and traffic safety issue, as well as danger to wildlife, particularly if large numbers of spectators want to be present. As noted elsewhere, for approximately 14 miles west of the launch facility, the property on both sides of the road is almost entirely under the management of the NWR. The determination needs to be made as soon as possible regarding where spectators will be during the launch viewing. How many vehicles can be accommodated and how will the areas around the viewing site and areas off-road up to the checkpoint will be protected during the closure periods.	

SpaceX Texas Launch Site Preliminary Draft EIS
Cooperating Agency Review

Comment No.	Page	Line No.	Comments	Reviewer/ Organization
18	ES-18	Table ES.8.1	**Compatible Land Use:** An additional measure that the Service recommends with regard to beach measures is participation in - or coordination of turtle patrols during sea turtle nesting season including the period following the closure events and before the public is allowed to return to the Gulf beaches.	CCESFO
19	ES-18	Table 8.1	**Noise:** Monitoring should include a plan or study that assesses the impacts of a launch even on wildlife, particularly nesting avian species and sea turtles	CCESFO
20	ES-18	Table 8.1	**Visual Resources and Light Resources.** The PDEIS is not clear in explaining how the project proponents plan to minimize the use of security and safety lighting. How will sufficient lighting for safe working conditions and security be accomplished by directing, shielding, or positioning the lighting of the facilities to the extent possible accomplish this without having impacts to sea turtles? The Service requests a draft plan, including drawings of proposed lighting fixtures and positioning to start assessing affects to wildlife resources. Elsewhere in the PDEIS note was made that lights would be below height of dunes - Is this is a mitigation measure that should be included in this section?	CCESFO

SpaceX Texas Launch Site Preliminary Draft EIS
Cooperating Agency Review

Comment No.	Page	Line No.	Comments	Reviewer/ Organization
21	ES-19	Table 8.1	**Water Resources:** The Service is concerned that no mention is made of monitoring vegetation encroachment as a result of operations - on unvegetated tidal flats, including piping plover critical habitat.	CCESFO
22	ES-20	Table 8.1	**Biological Resources, Wildlife states:** "Space X employees and construction personnel would be educated on the potential for vehicle collisions with wildlife and encouraged to reduce their speeds along State Highway (SH) 4 between the vertical launch and the control center". **Comment:** The Service does not agree that educating construction personnel on the potential for vehicle collisions with wildlife will be sufficient. Ocelot/jaguarundi habitat is located along both sides of SH 4 travelling between FM 511 and the launch facilities and much of the area is NWR-managed lands. The issues related to increase in traffic, during construction, related to operations, and resulting from spectator presence will need more deliberate assessment than posting signs can accomplish. Specifically, what needs to be done related to increase traffic, traffic speed, and the enforcement of selected actions.	CCESFO
23	ES-20	Table 8.1	**Biological Resources, Wildlife:** The statement is made here and elsewhere in the document that "Space X would coordinate with TxDOT to maintain clear shoulders on the road edges to allow drivers to easily see foxes along the road edge and reduce incidents of road kill". The Service is does not understand why the authors of the PDEIS selected foxes to reference in this section. More realistically, the concern is for ocelots, jaguarundi, white-tailed deer and nilgai along the narrow shoulders of SH 4 and crossing the roadway. An assessment should be made, in light of the anticipated significant increase in traffic that would occur as a result of the project, of the need for appropriately sited wildlife crossings and fencing to afford some protection to wildlife in the areas along SH 4.	CCESFO

SpaceX Texas Launch Site Preliminary Draft EIS
Cooperating Agency Review

Comment No.	Page	Line No.	Comments	Reviewer/ Organization
24	ES-20	Table 8.1	**Biological Resources, Wildlife, Item 1):** With regard to the reference SWPPP, as noted in comments above, the Service is concerned about stormwater and other runoff flowing into currently unvegetated tidal flats and causing vegetation expansion/encroachment into Piping Plover Critical Habitat.	CCESFO
25	ES-20	Table 8.1	**Biological Resources, Wildlife, Item 4):** Education of public regarding safe places to watch launch is not sufficient. The Service expects SpaceX to do more than educate the public, the Service expects SpaceX to participate in securing areas for public access and to secure other areas from public access and the resulting damage that would accrue to the landscape.	CCESFO
26	ES-21	Table 8.1	**Biological Resources, Wildlife, Item 5):** The Service recommends that explanation be provided with regard to the management goal of monitoring for piping plover and aplomado falcons. Simply identifying the presence/absence of these listed species, with out a related response/management action would not avoid harassment and/or take. Additional actions should be identified and implemented as a result of consultation with the Service.	CCESFO
27	CH.1-1	3 to 4	As the PDEIS repeatedly highlights that the options available for analysis are the preferred Cameron County site and the no-build alternative, the project proponent should be more forthright in seeking project aspects which would support their selected alternative rather than minimizing impacts of the project on fish and wildlife resources, including endangered species and impacts to National Wildlife Refuge property.	CCESFO
28	CH.1-4	13	The Omelek Island, an existing facility, is not discussed under the alternatives options although it appears that infrastructure is already in place that could be upgraded to accomplish the proposed additional work.	CCESFO
29	CH.1-5	6 to 23	This section should be revised to include consultation under section 7 of the Endangered Species Act.	CCESFO

SpaceX Texas Launch Site Preliminary Draft EIS
Cooperating Agency Review

Comment No.	Page	Line No.	Comments	Reviewer/ Organization
30	CH.2-7	11 to 20 & 30 to 35	CBP will need to be included in coordination for closure of area during launch activities. The Service remains concerned that the project proponent is focusing only on access via SH 4 and Boca Chica Beach although there is considerable vulnerable area south of SH 4 that could be accessed from points before the established checkpoints.	CCESFO
31	CH.2-9	7 to 9	During sea turtle nesting season, (March 15-October 1) sea turtle nesting monitoring needs to be conducted while ATV's are patrolling the beach areas. Additionally, night patrols should be avoided due to light and noise disturbance while turtles are coming in to nest. This could impact sea turtles nest recovery when nests surveys could not be conducted due to beach closure.	CCESFO
32	CH.2-13	14 to 26	The Service requests additional information regarding the amount of water that would be vaporized and expelled, and the fate of that water vapor. The Service is concerned about the re-deposition of water from the Deluge Water System onto unvegetated tidal flats.	CCESFO
33	Ch. 2-14	20-23	The Service would like to be briefed regarding at what point the decision would be made to truck potable water to the facility (and the associated traffic needs) or that a well would be used to provide deluge water.	CCESFO
34	CH.2-14	31 to 36	Given the remoteness of the proposed project site and the open landscape, the Service is concerned about the minimal security that is being proposed as the site could be accessed via ATV's from off-road areas and the habitat and landscape could suffer significant damage in such an event.`	CCESFO
35	Ch. 2-14-15	`37-38 & 15`	The PDEIS needs to include a description of the habitat that would be located between the two fence lines. As generally depicted in Exhibit 2-2, the security fence would cross some wetland areas. Are these areas proposed to be filled? If not, what impacts could accrue to wildlife, including shorebirds, that might forage between the fencelines, particularly during a launch event?	CCESFO

SpaceX Texas Launch Site Preliminary Draft EIS
Cooperating Agency Review

Comment No.	Page	Line No.	Comments	Reviewer/ Organization
36	Ch. 2-16	10 to 12	Will the RF antenna dishes provide raptor perches or will they be design to discourage bird perching. The Service would like to receive additional information regarding the proposed design.	CCESFO
37	Ch. 3-3	16-22	The Service would like to be briefed on the discussions with TGLO regarding beach closures during launch events.	CCESFO
38	Ch. 3-7	Exhibit 3.1.1	The Service recommends that this exhibit identify State-owned submerged lands.	CCESFO
39	Ch. 3-10	3 to 11	The Service recommends that the PDEIS include a discussion of how accommodation of launch-viewing spectators will not impact NWR-managed lands.	CCESFO
40	Ch. 3-13	3 to 6	In this section and throughout the PDEIS, the impacts of noise on wildlife, including avian species and sea turtles is poorly addressed.	CCESFO
41	Ch. 3-43	Exhibit 3.7-1	Although the title of the exhibit is "Surface Waters in the ROI" the depiction is of federal and state-owned lands, not surface waters. The Service recommends that this map be revised to depict the intended resource.	CCESFO
42	Ch. 3-49	17 to 18	Will the presence of brine in the groundwater affect the usefulness of well water for the deluge system? Will SpaceX Texas need to determine the salinity level to assess if it could adversely affect the launch vehicles and components?	CCESFO
43	Ch. 3-59	1 to 5	The Service recommends that the ROI for biological resources include, at a minimum, areas that would be utilized by launch-viewing spectators. Additionally, the ROI should encompass habitat that could be affected or altered by runoff from the facilities. As noted elsewhere, the actual impacts associated with the operation of SpaceX Texas, if constructed, would extend far beyond the footprint of the proposed sites.	CCESFO

SpaceX Texas Launch Site Preliminary Draft EIS
Cooperating Agency Review

Comment No.	Page	Line No.	Comments	Reviewer/ Organization
44	Ch. 3-62 to 63	Table 3.8-1	A notation is made of 'O', 'P', or 'U' in the column identifying the likely occurrence of the species in this table. The Service requests information regarding how these designations were assigned. With regard to the avian species listed, Service staff have observed in the immediate project vicinity northern aplomado falcons, red knots, peregrine falcons, and reddish egrets. Additionally, some individuals of red knots are known to stay year round on the lower coast, not just during the winter.	CCESFO
45	Ch. 3-64	10 to 12	Does the 0.7 acres of piping plover critical habitat that is referenced include all of the unvegetated tidal flats within the security fencelines? The Service is concerned that piping plovers, and other shorebirds, that could be foraging on tidal flats within the fenceline could be affected by noise, startle response, and flying into the fence. Several species of shorebirds tend to flush low and along the ground.	CCESFO
46	Ch. 3-66	21 to 26	The PDEIS should identify and assess the effect of the perching structures for aplomado falcons that would be added to the landscape as a result of the construction of SpaceX Texas.	CCESFO
47	Ch. 3-70	5 to 6	As noted above, the PDEIS needs to be revised to note that although most red knots are found during the winter months, individuals of this species are know to remain on the lower Texas coast year-round	CCESFO
48	Ch. 4-2	19 to 22	This section should be revised to include and address the expected growth induced impacts resulting from launch-viewing spectators.	CCESFO
49	Ch. 4-3	27 to 29	If hydraulic studies indicated the need to elevate the proposed facilities, then additional impacts would occur to surrounding areas from runoff and water diversion around the elevated areas	CCESFO
50	Ch. 4-4	26 to 28	This section should be revised to note that an amendment of the Texas Open Beaches Act will be needed during launch events.	CCESFO
51	Ch. 4-5	6 to 15	The Service requests additional information regarding the amount of and fate of water that would be converted to water vapor from the deluge activities associated with a launch event.	CCESFO

SpaceX Texas Launch Site Preliminary Draft EIS
Cooperating Agency Review

Comment No.	Page	Line No.	Comments	Reviewer/ Organization
52	Ch. 4-5	28 to 37	This section should be revised to include an estimate of spectators at a launch event and the associated impacts of the spectators on the area resources.	CCESFO
56	Ch. 4-8	22 to 28	The Service requests the locations envisioned for the referenced food services and lodging facilities noted in this section. As noted elsewhere, most of the land on both sides of SH 4 for approximately 14 miles west of the proposed facility is NWR-managed land.	CCESFO
54	Ch. 4-9	27 to 32	The semi-arid nature of the landscape around the proposed facility is such that even short term impacts will leave long-term scars and damage.	CCESFO
55	Ch. 4-9	33 to 34	The Service asks, what about the impacts to nesting sea turtles if nests go undetected because turtle patrols are excluded?	CCESFO
56	Ch. 4-9	35 to 36	As noted elsewhere, the Service requests that an analysis of runoff from the site be conducted to determine the extent of induced vegetation encroachment into unvegetated tidal flats, including piping plover critical habitat.	CCESFO
57	Ch. 4-11	31 to 32	The PDEIS has not provided sufficient information for the Service to agree that the impacts from construction would be temporary.	CCESFO
58	Ch. 4-12	33 to 34	The Service does not agree that closures every month would be an unsubstantial lessening of use or enjoyment. These monthly closures will have impacts for the public in accessing these public lands for the enjoyment of hunting, fishing, ecotourism, and recreational access to the beach, monitoring and management of sea turtle nesting detection, bird surveys, and other management operations.	CCESFO
59	Ch. 4-13	7 to 9	The PDEIS has not provided sufficient information for the Service to agree that impact of noise during launches would be short-term on birds nesting in the project vicinity.	CCESFO

Comment No.	Page	Line No.	Comments	Reviewer/ Organization
60	Ch. 4-15	8 to 10	Since the PDEIS notes elsewhere that reduced traffic speeds could be required for SpaceX construction and operations vehicles, the assessment of noise impacts should be conducted for slower-moving vehicles. The number of vehicles referenced for construction and operation if traveling at 50 mph would be involved in wildlife-vehicle collisions.	CCESFO
61	Ch. 4-28	9 to 10	As described here, lighting of the launch area and interior facilities will likely transmit light over the sand dunes and potential affect sea turtle orientation when they hatch.	CCESFO
62	Ch. 4-38	30 to 34	The Service is interested in receiving a copy of the SWPPP that addresses not only erosion and sedimentation effects, but alteration of the vegetation (on non-vegetation) land cover on adjacent areas.	CCESFO
63	Ch. 4-56	17	The Service recommends this be revised to read "The proposed vertical launch and control center areas do not have suitable denning habitat for the jaguarundi and ocelot".	CCESFO
64	Ch. 4-59	3 to 11	The PDEIS should incorporate the presence of the facility structures, and use as perches, into its analysis of effects.	CCESFO
65	Ch. 4-62	4 to 7	Jaguarundis are active both in daytime and at night, the Service does not agree with the statement that this species is "primarily diurnal". Also, since some work and associated traffic and activities would be conducted at night, the PDEIS should develop best management practices specifically for night travel.	CCESFO
66	Ch. 4-73	27 to 30	The Service recommends that the NWR be included in the notification loop in the event of a failure on the launch pad as refuge-managed resources are likely to be impacted in the event	CCESFO
67	Ch. 4-79	28 to 33	This statement is contrary to notations elsewhere in the PDEIS that work would be focused during daylight hours to minimize light pollution and associated adverse effects to nesting sea turtles.	CCESFO
68	Ch. 4-81	4 to 6	What about the employees of the NWR system and Customs and Border Patrol that would be excluded from assigned work or patrol areas?	CCESFO
69	Ch. 4-85	34 to 36	The NWR staff should be included as well in this coordination of road closure.	CCESFO

Comment No.	Page	Line No.	Comments	Reviewer/ Organization
70	Ch. 4-90	24 to 27	The Service could not tell from the way that traffic numbers were presented in the PDEIS if this additional traffic load was included in the numbers being used for calculation of the increase in traffic on SH 4. The Service requests additional information regarding what kind actions/work is associated with the traffic load referenced in the PDEIS.	CCESFO
71	Ch. 4-93	3 to 7	Throughout the PDEIS, the impact that would result from the crowds of people showing up to view the launch is not addressed. A specified parking location needs to be identified as well as plans to address the problem of spectators driving off of SH 4 onto, and damaging, the Refuge, state-owned lands, and private lands such as those owned by the Port of Brownsville. Impacts to areas such as mudflats would be severe and long lasting, as would the damaging effects of associated impacts from littering. A plan for enforcement of the use of assigned spectator viewing area should also be included in the PDEIS.	CCESFO

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Ecological Services
c/o TAMU-CC, Campus Box 338
6300 Ocean Drive
Corpus Christi, Texas 78412

March 1, 2013

Stacey M. Zee
Commercial Space Transportation, AST-100
Federal Aviation Administration
800 Independence Ave, SW
Suite 325
Washington, DC 20591

Consultation No. 02ETCC00-2012-I-0186

Dear Ms. Zee:

This letter acknowledges the U.S. Fish and Wildlife Service's (Service) receipt of your January 4, 2013, letter requesting initiation of formal section 7 consultation under the Endangered Species Act. The Service has reviewed the accompanying "*Final Biological Assessment Potential Effects on USFWS-Listed Species from the Issuance of Launch Licenses and/or Experimental Permits for the Proposed SpaceX Texas Launch Site, Cameron County, Texas*" (BA) that was prepared to analyze the potential impacts of Federal Aviation Administration (FAA) Office of Commercial Space Transportation's (AST) actions on listed species and critical habitat and is providing the following comments and require the following information to complete the initiation package.

General Comments:
If a project could impact a listed species, the regulatory determination is "may affect, is likely to adversely affect. The reasons outlined are all impacts that reach a level of a "may affect". We understand SpaceX is making that determination for various species, but please reword.

To properly assess impacts to species, the Service needs a proposed Closure Plan for Launch dates including checkpoints, potential parking and viewing locations and, a Spill Plan that also addresses issues outlined in our November 13, 2012. We also request refined maps and figures depicting construction plans, lighting, vegetative cover, and piping plover critical habitat within the action area as well as inside the facility and locations of informative signs along State Highway 4. Monitoring plans for tracking potential induced vegetative changes as a result from construction activities, fencing, security, stormwater discharge and launch activities including a pre-, during, and post construction presence/absence surveys to be conducted needs to be developed and provided for review. Final plans should be available for review and final comment prior to construction.

We recommend further coordination with the City of Brownsville, South Padre Island, the Refuge, Customs and Border Patrol (CBP), Texas Parks and Wildlife (TXPW), Texas General Land Office (TGLO), Texas Department of Transportation (TxDOT), U.S. Coast Guard (USCG), Padre Island National Seashore (PINS), U.S. Army Corps of Engineers (USACE), Environmental Protection Agency (EPA), and local and State law enforcement to identify launch day procedures, closures, spectator viewing locations, sea turtle patrols, lighting, wetland impacts, and contaminant and runoff issues.

Specific Comments

Page 1-3 to 1-5 FAA has made a "no effect" determination for the South Texas ambrosia (*Ambrosia cheiranthifolia*), Texas ayenia (*Ayenia limitaris*), red-crowned parrot (*Amazona viridigenalis*) and the Sprague's pipit (*Anthus spragueii*), based on lack of suitable habitat within the action area. The Service does not provide concurrences on "no effect" determinations.

The Service also recommends FAA reconsider conservation needs for the candidate Sprague's pipit. Migration and wintering ecology are poorly known, but wintering Sprague's pipits can be found in both densely and sparsely vegetated grasslands. This species tends to avoid areas with too much shrub encroachment and they may also be found near or on trails and roads or near water. With the possibility of it becoming listed and the proposed facility site in suitable habitat, further consideration is recommended.

Pg 1-5 1.32 Critical habitat. We recommend a summarized description of the critical habitat unit and its constituent elements.

Pg 2-4 2.1.1.2 First and Second Stages "Thrust on lift-off is approximately 3.9 million lbs. of force." What is the range of impact and is the cone of effect straight down?

Pg. 2-5 Table 2-1 What is the purpose of this chart?
Are these being compared to the Falcon because in the future some of these may fly out of the Space X facility?

Pg. 2-5 "A reusable suborbital launch vehicle could consist of a Falcon 9 Stage 1 tank with a maximum propellant..."
Is this a variety of the Falcon 9?

Pg. 2-6 The Dragon is equipped with an electronic locator beacon that allows a prepositioned salvage vessel to recovery it. Is the Falcon 9 and other rockets equipped with such a device that would allow a more timely recovery?

Pg. 2-6 "The support would consist of a truck to deliver a crane and four delivery trucks for delivery of the first state, second stage, interstage, and payload. In addition, fuel and helium trucks would make weekly deliveries."
If there is only going to be one launch monthly what is the purpose of delivering fuel and helium weekly, thus increasing traffic coming in and out of the facility?

Pg. 2-8 2.1.1.5 Pre-Launch Activities, "...Two dress rehearsals (usually within 32 days of launch) are typical. Wet dress rehearsals would require restricted access in the immediate vicinity of the vertical launch area and control center area during rehearsal. Closure of the nearby beaches would not be necessary for these rehearsals."
What would the closure area be?

"...Approximately 2 weeks in advance of the launch, the County Commissioner's Court would be notified...also coordinate with Secretariat of Communications and transportation-Mexico...U.S. Coast Guard..."
Because the Lower Rio Grande Valley National Wildlife Refuge (NWR) owns property on both sides of Hwy 4, it is important they be included in that coordination.

Pg. 2.8, Launch Day Activities, "...surveillance of areas within the vicinity of the vertical launch area to ensure public safety..."

Is this surveillance only within the sites perimeter between the two fences or does it extend further outside the fence line? How will this be accomplished?

Pg. 2-9 "...checkpoints include a hard checkpoint, which is a "no pass"...The second checkpoint would be a soft checkpoint, on State Highway 4 just east of Massey Way, ..."
Checkpoints should be well coordinated with the City, County and federal and state agencies and preferably located at or near the spectator viewing areas.

Pg. 2-9 "...The USCG could conduct boat patrols to sweep the offshore area...A final sweep of the closure areas by helicopter could also be implemented...After launch, SpaceX and FAA would notify law enforcement when the area is safe...The checkpoints would be raised and the public areas would be re-opened."
Nesting sea turtle season is March 15th to October 1st. Beaches are patrolled by certified sea turtle patrollers for tracks and nests. Once located the nest are removed and transported to a facility for incubation. The Service recommends prior to launches, sea turtle patrollers be allowed to sweep the beach for signs of nesting sea turtles and allowed time to remove the eggs. Prior to reopening the beach, sea turtle patrollers should do a sweep of the beach and no one should be allowed to enter the area until the sea turtle patrollers have completed the search and have notified authorities it is clear for entrance. Sea turtle patrols are to be coordinated with Donna Shaver, Sea Turtle Coordinator, at Padre Island National Seashore. Offshore, National Marine Fisheries Service should also be coordinated with during this time due to potential sea turtles staging in the gulf waters.

Pg. 2-11 Deluge Water System "...During a launch event, the water tower would discharge approximately 50,000-200,000 gal of water..."
Is this water standing water? We recommend no standing pools of water be left for an undetermined amount of time as not to attract birds to use the area.

Pg. 2-11 2.1.1.7 Nominal trajectories "...The majority of the launches would be conducted between the hours of 7:00 a.m. and 7:00 p.m. However, there could be one nighttime launch per year..."
The ocelot and jaguarundi are most active at dusk and at dawn, and launches scheduled later in the morning and earlier in the evening would be less harassing to the cats. The Service also recommends the nighttime launches occur outside the sea turtle nesting season (March 15 to Oct 1).

Pg. 2-11 Nominal trajectories "...In addition to an Expected Casualty Analysis (EC), Space X would also perform a Debris Analysis..."
The Service would like to review the EC and Debris Analysis.

Pg. 2-11 2.1.1.8 Launch Failure "...the most likely being a fire on the launch pad. An explosion on the launch pad would likely spread debris. As discussed above, the FAA evaluates SpaceX's Debris Analysis to ensure that the hazard area is of sufficient size to ensure public safety..."
Does the Debris analysis describe a plan of action in the event of an explosion, debris or an out of control wildfire impacting refuge lands?

Pg. 2-12 2.1.2 Construction Activities " ...The proposed schedule for all construction activities is a 24-month period from start to finish."
Will all construction occur during the day? The area and surroundings should to be maintained free of litter with a minimal amount of disturbed area needed for waste storage.

Pg. 2-12 2.1.2.1 Vertical Launch Area "Proposed facility and infrastructure construction at the vertical launch area would include..."

A list is provided, however, the project does not include light poles, lightning towers, RF transmitters or tanks. Utilities are listed but type is not discussed. Will these utilities be above ground or buried? A complete descriptive list of specific utility components is needed.

"...construction at this location would generally involve fill material to raise land levels high enough to avoid frequent flooding..."
Where will the fill come from? How much fill is anticipated? How will fill affect current runoff patterns? Is there a plan that will discuss potential flooding events, or hurricane storm surge? How will contaminants be secured? A spill protection plan should be developed and implemented at the construction site to ensure that any toxic substances are properly handled and that escape of these materials into the environment is prevented.

"...In addition, most of the larger facilities and those that must support heavy loads would be required to have pilings sunk to support the facilities..."
Pile driving would make more noise than just regular construction noise. In reviewing typical noise levels of familiar noise sources and public responses it is estimated that around 50 feet from certain construction activities the noise level would be approximately 85 dBA, at around 300 feet the noise level would be approximately 70 dBA, and at around 5,280 feet (1 mile) the noise level would be approximately 45 dBA (which would be less than expected ambient noise levels). When pile driving occurs, noise levels would be 101 dBA at 50 feet and will attenuate to 70 dBA at around 1,800 feet. Pile driving should not occur at night and noise levels for day and night construction should be minimized. To assist in minimizing noise occurring from generators being used during construction, the Service recommends all generators be in baffle boxes (a sound-resistant box that is placed over and around a generator), have an attached muffler, or use other noise-abatement methods in accordance with industry standards.

Pg. 2-14 Launch Pad "...The flame duct would extend southeast from the launch pad to direct the heat and combustion products and the initial sound blast toward the Gulf of Mexico..."
Manatees and sea turtles can be sensitive to sound waves that travel from the launch site to the Gulf. The closer a species is to that sound wave, the greater the impact and the greater the startle effect for birds. An analysis of this should be presented in the BA. A biological monitoring plan should be developed for both pre-and post-launch, as well as monitoring during launch if it can be conducted safely to better understand the effects of rocket launches on piping plover and red knot behavior.

Pg. 2-14 "...All pad lighting would consist of high-pressure sodium (HPS) light fixtures. The number of pole lights would be finalized during the site design process..."
Artificial lights from launch facilities could disorient sea turtles and hatchlings at night, causing them to move in the wrong direction, away from the ocean water or nesting beach. Although, the Kemp's ridley sea turtle is mostly a day nester, it occasionally does nest at night like the other four sea turtle species. If a nest is missed by the sea turtle patrols, hatchlings could also emerge from their nest and be disoriented. If any glowing portion of the light is directly visible from the beach then this source is likely to be a problem. Light can be direct and it can be indirect. Indirect light can reach the beach by reflecting off buildings or trees that are visible from the beach. SpaceX has constructed other facilities and should be able to estimate the number of lights necessary to light the facilities. A Light Management Plan should be developed to address lighting configurations. The intent of light management is to confine light landward of areas where sea turtle nests are deposited. The landward extent of nesting habitat is usually the line of permanent dune vegetation. In the absence of a well-defined dune system, nesting may occur anywhere where sufficient areas of open sand are present. The Light Management Plan should include the use of low-pressure sodium light fixtures, shielding of lights and special management steps where lights are visible from the beach, including lighting inspections prior to an dduring sea turtle nesting season to correct any lighting issues that may have occurred. The Light Management Plan can also include actions

taken to minimize impacts for the ocelot and jaguarundi. All lights should be shielded to direct light only onto the work site and the area necessary to ensure the safety of the workers. The source of all lighting is to be located within the perimeter fence. Lighting intensity along the perimeter fence should average 1.5 foot-candles; and through the use of downshielding, direct illumination shall be no more than 5 feet outside of the perimeter fence.

Pg 2-14 Deluge Water System "...during launch approximately 50,000 -200,000 gal would be discharged...all water not vaporized will be contained in a retention basin underneath pad...deluge water withdrawn from underlying aquifer"
How much water is usually vaporized? Is there any potential problem obtaining water due to potential drought water conservation restrictions?

Page 2-15 Access Roads and Infrastructure "...required road access would be determined by final selected site layout and design..."
The perimeter of all areas to be disturbed during construction or maintenance activities should be clearly demarcated using flagging or temporary construction fence, and no disturbance outside that perimeter shall be authorized and in particular tidal flats and dunes. All access routes into and out of the potential action disturbance area shall be flagged, and no construction travel outside those boundaries should be authorized. When available, areas already disturbed by past activities or those that will be used later in the construction period shall be used for staging, parking, and equipment storage. Construction speed limits should not exceed 35 mph on major unpaved roads and 25 mph on all other unpaved roads. Night time travel speeds should not exceed 25 mph. Properly design and locate roads where roadbed erosion into federally listed species habitat is avoided or minimized and the potential for entrapment of surface flows within the roadbed due to grading should also be avoided or minimized. The depth of any pits created should be minimized so animals do not become trapped. Materials such as gravel or topsoil should be obtained from existing developed or previously used sources, not from undisturbed areas adjacent to the property. Drip pans underneath equipment, containment zones used when refueling vehicles or equipment, and other measures shall be implemented. Non-hazardous waste materials and other discarded materials, such as construction waste, shall be contained until removed from the construction site.

"...Utilities would include power, potable water, fire protection water and a septic system...Power and data lines would be buried within the ROW along State Highway 4...or a well and water distribution lines would be installed to provide potable water in the area..." Locations and origination of power lines and water lines need to be identified.

2.2 Proposed Conservation Measures
Pg. 2-20 Construction "...In conjunction with final design, a Stormwater Pollution Prevention Plan (SWPP) would be prepared..."
Runoff from the facilities may cause listed species habitat changes. The Service is unable to assess impacts without information on where the runoff will be discharged to.

Pg. 2-21 "...The construction contractor would be given directions and requirements regarding equipment washdown... to ensure construction-related equipment arrives on site free of mud or seed-bearing material..."
Pumps, hoses, tanks, and other water storage devices should be cleaned and disinfected with 10 percent bleach solution at an appropriate facility before use at another site and water is not to enter any surface water area. If a new water source is used that is not from a treated or groundwater source, the equipment will require additional cleaning. This is important to kill any residual disease organisms or early life stages of invasive species that may affect local populations of federally listed species. Transmission of disease vectors and invasive non-native aquatic species can occur if vehicles cross infected or infested

streams or other waters, and water or mud remains on the vehicle. If these vehicles subsequently cross or enter uninfected or noninfested waters, the disease or invasive species may be introduced to the new area. To prevent this, crossing of streams or marsh areas with flowing or standing water should be avoided, and if not avoidable, the vehicle is to be sprayed with 10 percent bleach solution. Materials used for on-site erosion control in uninfested native habitats should be free of non-native plant seeds and other plant parts to limit potential for infestation. Since natural materials cannot be certified as completely weed-free, if such materials are used, there should be follow-up monitoring to document establishment of non-native plants, and appropriate control measures implemented for a period of time to be determined in the site restoration plan. During follow-up monitoring and during maintenance activities, invasive plants found on the site should be removed. Removal will be done in ways that eliminate the entire plant and remove all plant parts to a disposal area. Any chemical applications on refuge land must be used in coordination with the refuge manager to ensure accurate reporting. Herbicides can be used according to label directions. The monitoring period will be defined in the site restoration plan.

Pg. 2-21 "...discharge water associated with these activities would not reach surrounding water bodies or pools unless specifically authorized in a CWA discharge permit..."
Will SpaceX be applying for a 401 permit?

Pg. 2-21 "...A qualified biologist would be present during the beginning of the construction period to provide all construction personnel with an environmental worker-education briefing that would include..."
It is recommended that an on-site biological monitor or appropriately certified employee be present during construction and post construction. It is also recommended that an endangered species education component be included. This is to familiarize the workers with species in the area, impacts that may occur, and conservation measures being implemented and their responsibilities under the ESA and should be provided to all new incoming employees.

Pg. 2-21 "...to comply with the MBTA, project design and any above-ground utility upgrades within the control center area would incorporate raptor protection measures...equipped with devices to discourage nest building and perching (e.g., monopole technology and visual fright devices)..."
What is meant by "above-ground utility upgrades? Are those different than the utility lines that are to be buried and why only at the control center? Will bird deterrents be installed at the launch facility?

Pg. 2-21 "...SpaceX would coordinate with the Texas Department of Transportation (TxDOT) regarding funding the installation of ....signs along State Highway 4..."
This effort should not only be coordinated with TxDOT, but also with the refuge. We recommend possibly another sign stating that there should be no parking in the right-of-way.

Pg. 2-22 "...A qualified biologist would conduct pre-construction monitoring for piping plovers and aplomado falcons...would include presence/absence surveys and would record the number and location of piping plovers and aplomado falcons..."
Surveys should include red knots and be done pre-construction, during construction and post construction. Piping plover habitat should also be delineated preconstruction to establish a baseline and post construction to document potential vegetative changes in designated critical habitat due to the project.

Pg. 2-22 "...Where applicable, new lighting should be installed with multiple levels of control so that lighting levels can be matched with specific activities..."
What would those specific activities be that would require having multiple levels of control and does that mean that the light could potentially be dimmed if necessary during sea turtle season?

Piping Plover

Pg. 4-5 "...During the migratory survey, 2 piping plovers were on Boca Chica Beach and 5 were observed on Boca Chica flats. During the winter survyes, no piping plovers were observed on Boca Chica Beach, while 11 were observed on Boca Chica Flats.
SpaceX only provides 2009 survey data. The Service recommends updating the information. In 2009, surveys in the Boca Chica Beach and South Bay area, which are within the SpaceX action area documented approximately 305 sightings. In 2012, Service staff sighted approximately 150 piping plovers in the area. We also recommend field surveys extending over a 90-day period during which the site should be inspected for absence or presence of piping plovers pre-construction following Ted L. Eubanks, Jr, Winter Survey Guidelines for Piping Plovers in Texas. There should also be a preconstruction habitat baseline survey and a post construction monitoring be developed to document changes in behavior and habitat changes from construction, operations and launches. A map of your proposed facility overlaid on piping plover habitat and delineating habitat types would be very useful in determining impacts to piping plovers.

Northern Aplomado Falcon
Pg. 4-8 Northern Aplomado falcons need approximately 2,000 acres of foraging habitat. Foraging habitat does occur within the action area. A map delineating that habitat would be helpful to assess impacts. As stated there are several known nesting locations within or closely adjacent to the action area. One of the closest known sites is approximately 4.3 miles to the northwest. In 2011, one of the closests nest was surveyed and did have nestlings. Nesting occurs between April and July. There is a potential that noise and lighting from construction and launches could cause the falcon to seek other foraging grounds and potentially abandon the active nest. The Peregrine Fund surveys the area annually and has information on the nests sights. We recommend SpaceX coordinate with The Peregrine Fund to obtain more information on these sights, the potential for impacts, and develop a monitoring plan.

Gulf Coast Jaguarundi/Ocelot
Pg. 4-9 to 4-12 Jaguarundi are more diurnal than the nocturnal ocelot. However, both cats are most active at dawn and dusk. Launches are scheduled for 7 a.m. or 7 p.m. We recommend a review of launch times and assess whether it would be possible to adjust launch times. The action area does not contain the cats quality habitat, however, as stated, the area is used as a travel corridor. There is documentation provided in the BA that cats have occurred in this area. The use of such travel habitat is important so removal or changes to such habitat should be avoided or minimized. Mapping of habitat and potential travel areas should be overlaid with your facility to assess the extent of impact. The Service has previously consulted with TxDOT on State Highway 48 and as part of that consultation a road crossing was constructed to allow passage for the cats. Road mortality from increased traffic on State Highway 4, lighting from the facilities and noise impacts from operations and launches may impact the cats. Recommendations on lighting, speed limits, education have been provided in the specific comments. We recommend close coordination with the NWR to protect lands that provide habitat for the cats and reduce potential road mortality.

Sea Turtles
Pg. 4-12 to 4-13 The Kemp's ridley sea turtle is primarily a day nester, however, may occasionally nest at night like the other four sea turtle species. Although, sea turtle patrols attempt to locate nests and relocate the eggs, some nests may be missed. Those missed nests are subject to predation, crushing from beach traffic and/or vibration impacts. Emerging hatchlings are also subject to mortality from predation or crushing or disorientation by being trapped in car ruts and lighting on the beach. Therefore, it is important that SpaceX coordinate with the Padre Island National Seashore, Sea Turtle Coordinator, to implement a sea turtle monitoring plan to patrol beaches during construction and launch activities and a Light Management Plan to manage lighting effects on beaches. Regular light surveys prior to and during sea turtle season are necessary to ensure lighting is adjusted if necessary especially after storm events. A protocol should be established to notify the Sea Turtle Coordinator and the Service for procedures prior to

and after launches and in the event a turtle should be found on the beach during potential security patrols. We also recommend coordination with NMFS to address potential impacts to staging nesting sea turtles in the water during launch activities.

West Indian Manatee
Pg. 4.2.10 Sonic booms from the launches cause sound waves that travel to the Gulf of Mexico waters. Manatees could potentially be affected by these sound waves. Further discussion is recommended on those potential impacts in the BA.

Red Knot
Pg. 4-21 Approximately 30+ red knots sighted in May of 2012 in the action area. Several hundred migrate through the area, and some have been known to stay throughout most of the year. Conservation measures implemented for the piping plover should be considered for the red knot, a candidate for listing.

The formal consultation process for the project will begin when we receive all the information, or a statement explaining why that information cannot be made available. We will notify you when we receive this additional information; our notification will also outline the dates within which formal consultation should be complete and the biological opinion delivered on the proposed action.

Comments on the Preliminary Draft Environmental Impacts Statement were prepared in a separate letter. If you have any questions or concerns about this consultation or the consultation process in general, please call Mary Orms at (361) 994-9005, ext. 246.

Sincerely yours,

Allan M. Strand,
Field Supervisor

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Southeast Regional Office
263 13th Avenue South
St. Petersburg, Florida 33701-5505
http://sero.nmfs.noaa.gov

F/SER31:AB

Mr. Michael McElligott
Manager, Space Transportation Development Division
United States Department of Transportation
Federal Aviation Administration
800 Independence Avenue, Southwest
Washington, DC 20591

MAR 05 2013

Re: Proposed SpaceX Texas Launch Site, Cameron County, Texas

Dear Mr. McElligott:

This responds to your January 4, 2013, letter requesting National Marine Fisheries Service (NMFS) concurrence with your determinations pursuant to Section 7 of the Endangered Species Act (ESA). The Federal Aviation Administration Office of Commercial Space Transportation (FAA/AST) intends to issue launch licenses and/or experimental permits to Space Exploration Technologies Corporation (SpaceX) for the operation of a vehicle launch program from a private site in Cameron County, Texas. You determined that the proposed activity may affect but is not likely to adversely affect five species of sea turtles. NMFS' determinations regarding the effects of the proposed action are based on the description of the action in this informal consultation. Any changes to the proposed action may negate the findings of the present consultation and may require reinitiation of consultation with NMFS.

The proposed project is located in southeast Texas, just north of the Mexican border. SpaceX intends to construct a vertical launch area and a control center. The launch area will be located adjacent to the eastern terminus of Texas State Highway 4, at the geographic coordinates 25.99684°N, 97.15523°W (World Geodetic System 1984). The control center will be built approximately 2 miles east of the launch area, just outside Boca Chica Village. No construction will occur in marine waters or on adjacent beaches. These facilities will be used by SpaceX to launch up to 12 commercial space missions per year. All launch trajectories will be to the east and the first stage of launch vehicles will be released into the Gulf of Mexico approximately 550 miles downrange of the launch site. SpaceX will locate (via telemetry) and recover all first stages within 24 hours unless they become damaged and sink. Retrieval of first stages will require the use of a salvage ship.

Five species of sea turtles (loggerhead, green, hawksbill, Kemp's ridley, and leatherback) and sperm whales, protected by the ESA, can be found in or near the action area and may be affected by the project. The project is not located within the boundaries of any critical habitat for these species.

Sea turtles and sperm whales may be affected by operational activities if they were to be struck by released first stages or falling debris associated with a launch failure. However, all of these effects are discountable as it is highly unlikely a launch failure will occur (e.g., 1 launch failure in 135 National Aeronautics and Space Administration (NASA) launches) or that a first stage will strike a protected species. A maximum of 12 launches will occur per year, resulting in the release of only 12 first stages. Given the infrequency of these events and the fact turtles and whales spend the majority of their time submerged as opposed to on the surface it is extremely unlikely that a protected species will be struck by released first stages or falling debris.

Protected species could also be affected by the discharge of fuels and propellants should a launch failure occur or from spillage of unspent fuel in released first stages. In the case of first stages that fall into the Gulf of Mexico, any unspent fuels will be minimal and quickly diluted by the vast quantity of seawater. Due to the small volume associated with this type of release, the infrequency of these events (12 per year), and the short duration most of these first stages are expected to be in the water (most recovered within 24 hours), any effects to protected species are extremely unlikely and discountable. In the unlikely event of a launch failure (only 1 launch failure in 135 NASA launches), larger volumes of fuels and propellants could potentially be released into the Gulf of Mexico (provided the launch vehicle and fuels don't fully explode). In this scenario, SpaceX would follow the emergency response and cleanup procedures outlined in the Hazardous Material Emergency Response Plan. These procedures may include containing the spill using disposable containment materials and cleaning the area with absorbents or other materials to reduce the magnitude and duration of any impacts. In most launch failure scenarios at least a portion of the fuels will be consumed by the launch, and any remaining fuels will be diluted by seawater and biodegrade over time (timeframes are variable based on environmental conditions). NMFS believes a launch failure is extremely unlikely and thus effects from a failure are discountable. However, in the event of a launch failure, NMFS believes effects from the discharge of fuel and propellants will be insignificant because impacts will be temporary and localized.

Nesting sea turtles and hatchlings may be affected by lights associated with the two facilities and any night time operations. However, the applicant is working with the US Fish and Wildlife Service to develop and implement a light management plan aimed at minimizing any impacts to marine turtles. Further, only one night mission per year will be permitted resulting in only one night of nesting that could potentially be interrupted. Sea turtle eggs from nests on Boca Chica Beach are retrieved and transported to an incubation facility by Sea Turtle, Inc., so it is extremely unlikely that hatchlings will be affected by lights associated with the project. Therefore, NMFS believes any lighting effects to sea turtles will be insignificant (in the case of nesting females) or discountable (in the case of hatchlings).

This concludes your consultation responsibilities under the ESA for species under NMFS' purview. Consultation must be reinitiated if (1) a take occurs, (2) new information reveals effects of the action not previously considered, (3) the identified action is subsequently modified in a manner that causes an effect to the listed species or critical habitat in a manner or to an extent not previously considered, or (4) if a new species is listed or critical habitat designated that may be affected by the identified action.

We have enclosed other relevant information for your review. If you have any questions, please contact Adam Brame, consultation biologist, at (727) 209-5958 or by e-mail at Adam.Brame@noaa.gov. Thank you for your continued cooperation in the conservation of listed species.

Sincerely,

for Roy E. Crabtree, Ph.D.
Regional Administrator

Enc.: 1. PCTS Access and Additional Considerations for ESA Section 7 Consultations (Revised July 15, 2009)

File: 1514-22.V
Ref.: SER-2013-10162

Appendix H
EDR Reports

THIS PAGE INTENTIONALLY LEFT BLANK

Coastal
Boca Chica Blvd
Port Isabel, TX 78578

Inquiry Number: 3410419.1s
September 14, 2012

The EDR Radius Map™ Report with GeoCheck®

EDR® Environmental Data Resources Inc

440 Wheelers Farms Road
Milford, CT 06461
Toll Free: 800.352.0050
www.edrnet.com

TABLE OF CONTENTS

SECTION	PAGE
Executive Summary	ES1
Overview Map	2
Detail Map	3
Map Findings Summary	4
Map Findings	7
Orphan Summary	8
Government Records Searched/Data Currency Tracking	GR-1

GEOCHECK ADDENDUM

Physical Setting Source Addendum	A-1
Physical Setting Source Summary	A-2
Physical Setting SSURGO Soil Map	A-5
Physical Setting Source Map	A-10
Physical Setting Source Map Findings	A-12
Physical Setting Source Records Searched	A-13

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

Disclaimer - Copyright and Trademark Notice

This Report contains certain information obtained from a variety of public and other sources reasonably available to Environmental Data Resources, Inc. It cannot be concluded from this Report that coverage information for the target and surrounding properties does not exist from other sources. **NO WARRANTY EXPRESSED OR IMPLIED, IS MADE WHATSOEVER IN CONNECTION WITH THIS REPORT. ENVIRONMENTAL DATA RESOURCES, INC. SPECIFICALLY DISCLAIMS THE MAKING OF ANY SUCH WARRANTIES, INCLUDING WITHOUT LIMITATION, MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE OR PURPOSE. ALL RISK IS ASSUMED BY THE USER. IN NO EVENT SHALL ENVIRONMENTAL DATA RESOURCES, INC. BE LIABLE TO ANYONE, WHETHER ARISING OUT OF ERRORS OR OMISSIONS, NEGLIGENCE, ACCIDENT OR ANY OTHER CAUSE, FOR ANY LOSS OF DAMAGE, INCLUDING, WITHOUT LIMITATION, SPECIAL, INCIDENTAL, CONSEQUENTIAL, OR EXEMPLARY DAMAGES. ANY LIABILITY ON THE PART OF ENVIRONMENTAL DATA RESOURCES, INC. IS STRICTLY LIMITED TO A REFUND OF THE AMOUNT PAID FOR THIS REPORT.** Purchaser accepts this Report "AS IS". Any analyses, estimates, ratings, environmental risk levels or risk codes provided in this Report are provided for illustrative purposes only, and are not intended to provide, nor should they be interpreted as providing any facts regarding, or prediction or forecast of, any environmental risk for any property. Only a Phase I Environmental Site Assessment performed by an environmental professional can provide information regarding the environmental risk for any property. Additionally, the information provided in this Report is not to be construed as legal advice.

Copyright 2012 by Environmental Data Resources, Inc. All rights reserved. Reproduction in any media or format, in whole or in part, of any report or map of Environmental Data Resources, Inc., or its affiliates, is prohibited without prior written permission.

EDR and its logos (including Sanborn and Sanborn Map) are trademarks of Environmental Data Resources, Inc. or its affiliates. All other trademarks used herein are the property of their respective owners.

EXECUTIVE SUMMARY

A search of available environmental records was conducted by Environmental Data Resources, Inc (EDR). The report was designed to assist parties seeking to meet the search requirements of EPA's Standards and Practices for All Appropriate Inquiries (40 CFR Part 312), the ASTM Standard Practice for Environmental Site Assessments (E 1527-05) or custom requirements developed for the evaluation of environmental risk associated with a parcel of real estate.

TARGET PROPERTY INFORMATION

ADDRESS

BOCA CHICA BLVD
PORT ISABEL, TX 78578

COORDINATES

Latitude (North):	25.9964000 - 25˚ 59' 47.04''
Longitude (West):	97.1525000 - 97˚ 9' 9.00''
Universal Tranverse Mercator:	Zone 14
UTM X (Meters):	684922.3
UTM Y (Meters):	2876429.8
Elevation:	1 ft. above sea level

USGS TOPOGRAPHIC MAP ASSOCIATED WITH TARGET PROPERTY

Target Property Map:	25097-H2 MOUTH OF RIO GRANDE, TX MX28
Most Recent Revision:	1970
North Map:	26097-A2 PORT ISABEL, TX
Most Recent Revision:	1983

AERIAL PHOTOGRAPHY IN THIS REPORT

Photo Year:	2010
Source:	USDA

TARGET PROPERTY SEARCH RESULTS

The target property was not listed in any of the databases searched by EDR.

DATABASES WITH NO MAPPED SITES

No mapped sites were found in EDR's search of available ("reasonably ascertainable ") government records either on the target property or within the search radius around the target property for the following databases:

STANDARD ENVIRONMENTAL RECORDS

Federal NPL site list

NPL---------- National Priority List

EXECUTIVE SUMMARY

Proposed NPL ..... Proposed National Priority List Sites
NPL LIENS ..... Federal Superfund Liens

Federal Delisted NPL site list

Delisted NPL ..... National Priority List Deletions

Federal CERCLIS list

CERCLIS ..... Comprehensive Environmental Response, Compensation, and Liability Information System
FEDERAL FACILITY ..... Federal Facility Site Information listing

Federal CERCLIS NFRAP site List

CERC-NFRAP ..... CERCLIS No Further Remedial Action Planned

Federal RCRA CORRACTS facilities list

CORRACTS ..... Corrective Action Report

Federal RCRA non-CORRACTS TSD facilities list

RCRA-TSDF ..... RCRA - Treatment, Storage and Disposal

Federal RCRA generators list

RCRA-LQG ..... RCRA - Large Quantity Generators
RCRA-SQG ..... RCRA - Small Quantity Generators
RCRA-CESQG ..... RCRA - Conditionally Exempt Small Quantity Generator

Federal institutional controls / engineering controls registries

US ENG CONTROLS ..... Engineering Controls Sites List
US INST CONTROL ..... Sites with Institutional Controls

Federal ERNS list

ERNS ..... Emergency Response Notification System

State- and tribal - equivalent NPL

SHWS ..... State Superfund Registry

State and tribal landfill and/or solid waste disposal site lists

SWF/LF ..... Permitted Solid Waste Facilities
CLI ..... Closed Landfill Inventory
WasteMgt ..... Commercial Hazardous & Solid Waste Management Facilities

State and tribal leaking storage tank lists

LPST ..... Leaking Petroleum Storage Tank Listing
INDIAN LUST ..... Leaking Underground Storage Tanks on Indian Land

State and tribal registered storage tank lists

UST ..... Petroleum Storage Tank Database

EXECUTIVE SUMMARY

AST ..... Petroleum Storage Tank Database
INDIAN UST ..... Underground Storage Tanks on Indian Land
FEMA UST ..... Underground Storage Tank Listing

State and tribal institutional control / engineering control registries

AUL ..... Sites with Controls

State and tribal voluntary cleanup sites

VCP ..... Voluntary Cleanup Program Database
INDIAN VCP ..... Voluntary Cleanup Priority Listing

State and tribal Brownfields sites

BROWNFIELDS ..... Brownfields Site Assessments

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS ..... A Listing of Brownfields Sites

Local Lists of Landfill / Solid Waste Disposal Sites

ODI ..... Open Dump Inventory
DEBRIS REGION 9 ..... Torres Martinez Reservation Illegal Dump Site Locations
INDIAN ODI ..... Report on the Status of Open Dumps on Indian Lands

Local Lists of Hazardous waste / Contaminated Sites

US CDL ..... Clandestine Drug Labs
DEL SHWS ..... Deleted Superfund Registry Sites
PRIORITYCLEANERS ..... Dry Cleaner Remediation Program Prioritization List
US HIST CDL ..... National Clandestine Laboratory Register

Local Land Records

LIENS 2 ..... CERCLA Lien Information
LUCIS ..... Land Use Control Information System
LIENS ..... Environmental Liens Listing
HIST LIENS ..... Environmental Liens Listing

Records of Emergency Release Reports

HMIRS ..... Hazardous Materials Information Reporting System
SPILLS ..... Spills Database

Other Ascertainable Records

RCRA-NonGen ..... RCRA - Non Generators
DOT OPS ..... Incident and Accident Data
DOD ..... Department of Defense Sites
FUDS ..... Formerly Used Defense Sites

EXECUTIVE SUMMARY

CONSENT	Superfund (CERCLA) Consent Decrees
ROD	Records Of Decision
UMTRA	Uranium Mill Tailings Sites
MINES	Mines Master Index File
TRIS	Toxic Chemical Release Inventory System
TSCA	Toxic Substances Control Act
FTTS	FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
HIST FTTS	FIFRA/TSCA Tracking System Administrative Case Listing
SSTS	Section 7 Tracking Systems
ICIS	Integrated Compliance Information System
PADS	PCB Activity Database System
MLTS	Material Licensing Tracking System
RADINFO	Radiation Information Database
FINDS	Facility Index System/Facility Registry System
RAATS	RCRA Administrative Action Tracking System
IOP	Innocent Owner/Operator Program
NPDES	NPDES Facility List
UIC	Underground Injection Wells Database Listing
DRYCLEANERS	Drycleaner Registration Database Listing
ENF	Notice of Violations Listing
Ind. Haz Waste	Industrial & Hazardous Waste Database
ED AQUIF	Edwards Aquifer Permits
AIRS	Current Emission Inventory Data
MSD	Municipal Settings Designations Database
TIER 2	Tier 2 Chemical Inventory Reports
RWS	Radioactive Waste Sites
INDIAN RESERV	Indian Reservations
SCRD DRYCLEANERS	State Coalition for Remediation of Drycleaners Listing
2020 COR ACTION	2020 Corrective Action Program List
GCC	Groundwater Contamination Cases
EPA WATCH LIST	EPA WATCH LIST
FINANCIAL ASSURANCE	Financial Assurance Information Listing
PCB TRANSFORMER	PCB Transformer Registration Database
PRP	Potentially Responsible Parties
COAL ASH DOE	Steam-Electric Plant Operation Data
COAL ASH EPA	Coal Combustion Residues Surface Impoundments List
US FIN ASSUR	Financial Assurance Information

EDR PROPRIETARY RECORDS

EDR Proprietary Records

Manufactured Gas Plants	EDR Proprietary Manufactured Gas Plants

SURROUNDING SITES: SEARCH RESULTS

Surrounding sites were not identified.

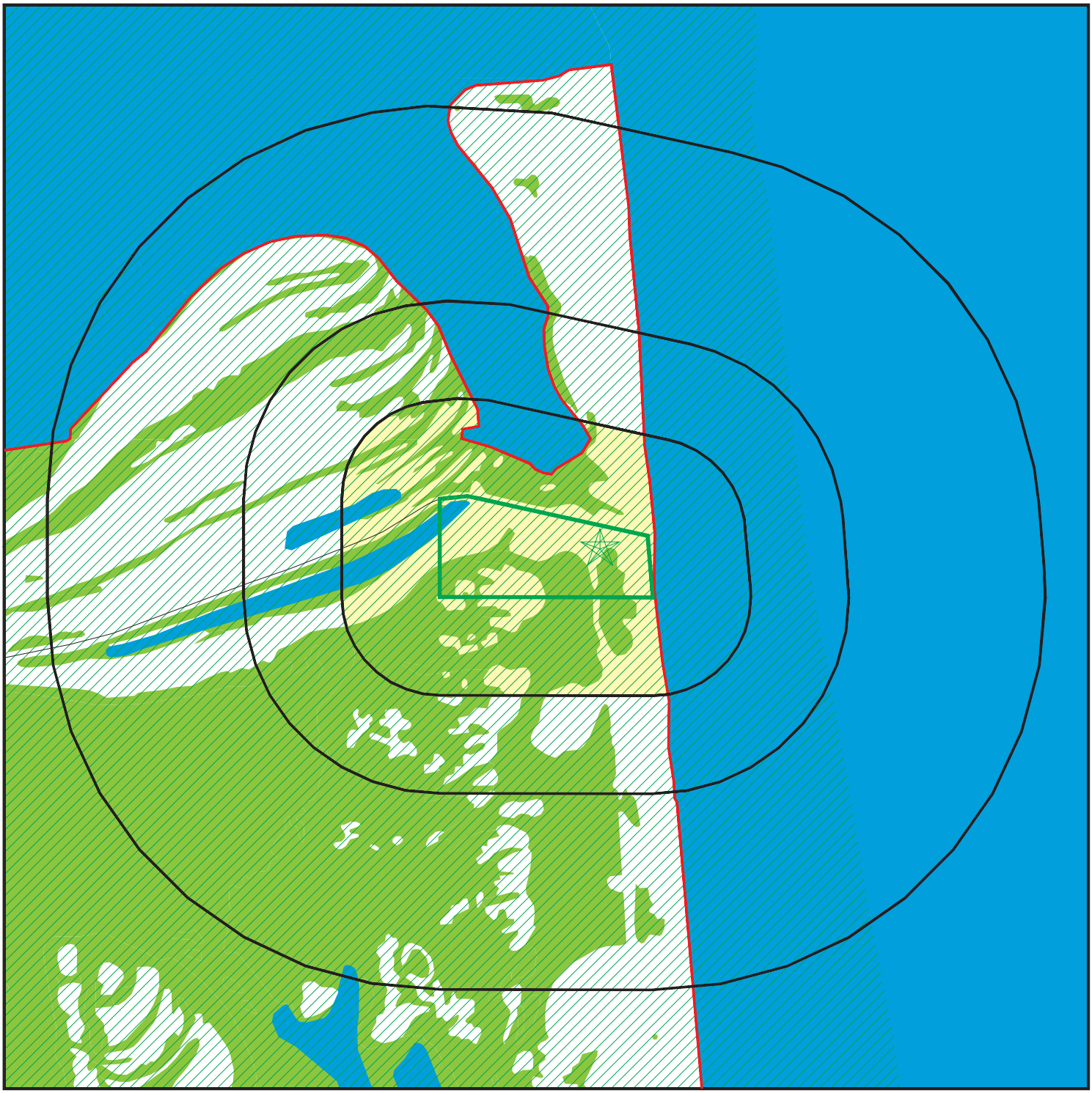
Unmappable (orphan) sites are not considered in the foregoing analysis.

EXECUTIVE SUMMARY

Due to poor or inadequate address information, the following sites were not mapped. Count: 6 records.

Site Name	Database(s)
BAYSIDE NET & TWINE CO	CERC-NFRAP
CITY OF PORT ISABEL LANDFILL	SWF/LF
CAMERON COUNTY FWSD NO 1 TRANSFER	SWF/LF
CAMERON COUNTY FWSD NO 1 TRANSFER	SWF/LF
CITY OF PORT ISABEL LANDFILL	SWF/LF
VALLEY FISHERIES	AST

OVERVIEW MAP - 3410419.1s



Target Property

Sites at elevations higher than or equal to the target property

Sites at elevations lower than the target property

Manufactured Gas Plants

National Priority List Sites

Dept. Defense Sites

0 1/4 1/2 1 Miles

Indian Reservations BIA

County Boundary

Oil & Gas pipelines from USGS

100-year flood zone

500-year flood zone

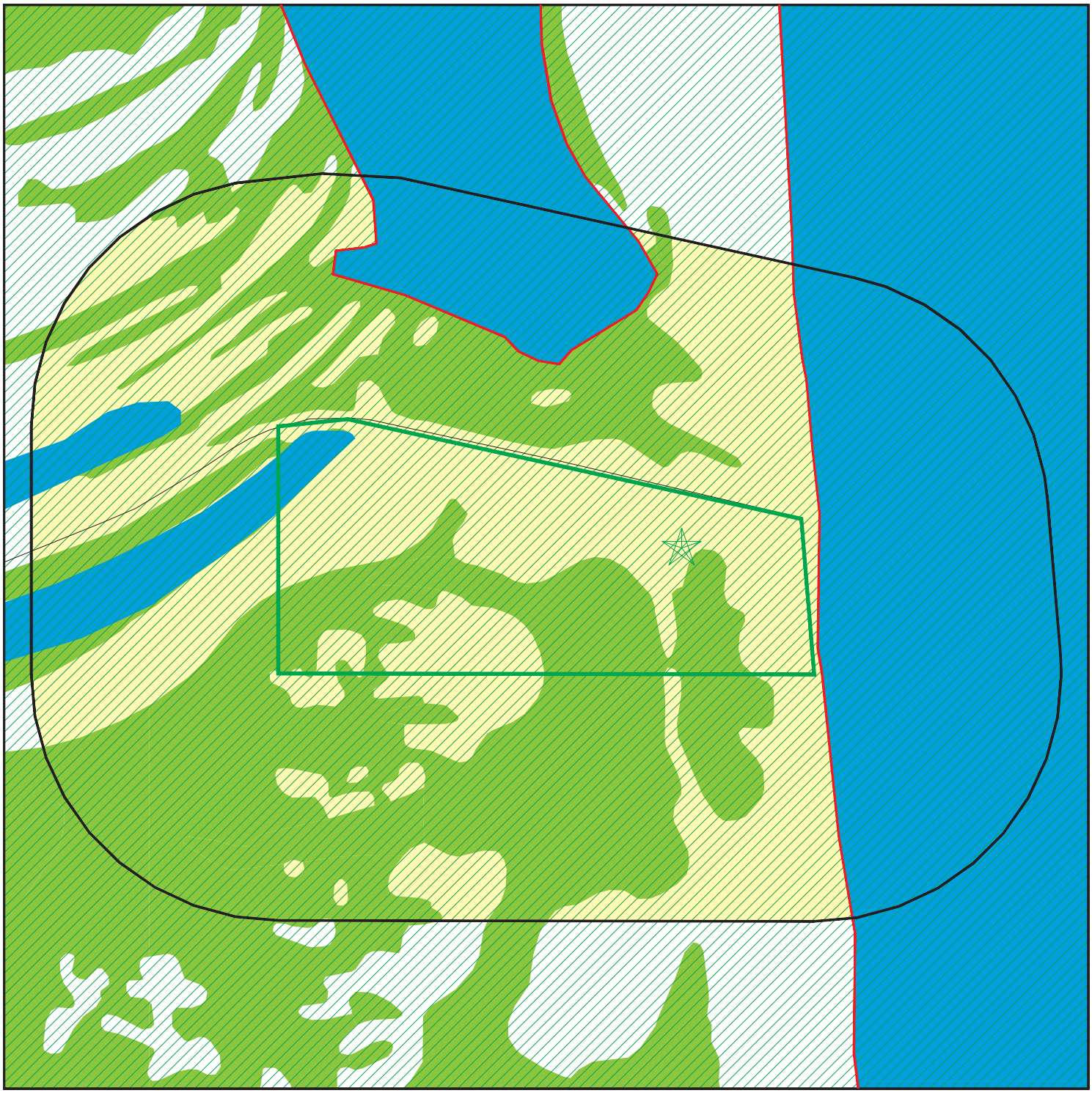
National Wetland Inventory

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME: Coastal	CLIENT: SpaceX
ADDRESS: Boca Chica Blvd Port Isabel TX 78578	CONTACT: Steve Davis INQUIRY #: 3410419.1s
LAT/LONG: 25.9964 / 97.1525	DATE: September 14, 2012 9:21 am

Copyright © 2012 EDR, Inc. © 2010 Tele Atlas Rel. 07/2009.

DETAIL MAP - 3410419.1s



Target Property

Sites at elevations higher than or equal to the target property

Sites at elevations lower than the target property

Manufactured Gas Plants

Sensitive Receptors

National Priority List Sites

Dept. Defense Sites

0 1/8 1/4 1/2 Miles

Indian Reservations BIA

County Boundary

Oil & Gas pipelines from USGS

100-year flood zone

500-year flood zone

National Wetland Inventory

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME: Coastal	CLIENT: SpaceX
ADDRESS: Boca Chica Blvd Port Isabel TX 78578	CONTACT: Steve Davis INQUIRY #: 3410419.1s
LAT/LONG: 25.9964 / 97.1525	DATE: September 14, 2012 9:23 am

Copyright © 2012 EDR, Inc. © 2010 Tele Atlas Rel. 07/2009.

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
STANDARD ENVIRONMENTAL RECORDS								
Federal NPL site list								
NPL	1.000		0	0	0	0	NR	0
Proposed NPL	1.000		0	0	0	0	NR	0
NPL LIENS	TP		NR	NR	NR	NR	NR	0
Federal Delisted NPL site list								
Delisted NPL	1.000		0	0	0	0	NR	0
Federal CERCLIS list								
CERCLIS	0.500		0	0	0	NR	NR	0
FEDERAL FACILITY	1.000		0	0	0	0	NR	0
Federal CERCLIS NFRAP site List								
CERC-NFRAP	0.500		0	0	0	NR	NR	0
Federal RCRA CORRACTS facilities list								
CORRACTS	1.000		0	0	0	0	NR	0
Federal RCRA non-CORRACTS TSD facilities list								
RCRA-TSDF	0.500		0	0	0	NR	NR	0
Federal RCRA generators list								
RCRA-LQG	0.250		0	0	NR	NR	NR	0
RCRA-SQG	0.250		0	0	NR	NR	NR	0
RCRA-CESQG	0.250		0	0	NR	NR	NR	0
Federal institutional controls / engineering controls registries								
US ENG CONTROLS	0.500		0	0	0	NR	NR	0
US INST CONTROL	0.500		0	0	0	NR	NR	0
Federal ERNS list								
ERNS	TP		NR	NR	NR	NR	NR	0
State- and tribal - equivalent NPL								
SHWS	1.000		0	0	0	0	NR	0
State and tribal landfill and/or solid waste disposal site lists								
SWF/LF	0.500		0	0	0	NR	NR	0
CLI	0.500		0	0	0	NR	NR	0
WasteMgt	TP		NR	NR	NR	NR	NR	0
State and tribal leaking storage tank lists								
LPST	0.500		0	0	0	NR	NR	0
INDIAN LUST	0.500		0	0	0	NR	NR	0
State and tribal registered storage tank lists								
UST	0.250		0	0	NR	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
AST	0.250		0	0	NR	NR	NR	0
INDIAN UST	0.250		0	0	NR	NR	NR	0
FEMA UST	0.250		0	0	NR	NR	NR	0
State and tribal institutional control / engineering control registries								
AUL	0.500		0	0	0	NR	NR	0
State and tribal voluntary cleanup sites								
VCP	0.500		0	0	0	NR	NR	0
INDIAN VCP	0.500		0	0	0	NR	NR	0
State and tribal Brownfields sites								
BROWNFIELDS	0.500		0	0	0	NR	NR	0
ADDITIONAL ENVIRONMENTAL RECORDS								
Local Brownfield lists								
US BROWNFIELDS	0.500		0	0	0	NR	NR	0
Local Lists of Landfill / Solid Waste Disposal Sites								
ODI	0.500		0	0	0	NR	NR	0
DEBRIS REGION 9	0.500		0	0	0	NR	NR	0
INDIAN ODI	0.500		0	0	0	NR	NR	0
Local Lists of Hazardous waste / Contaminated Sites								
US CDL	TP		NR	NR	NR	NR	NR	0
DEL SHWS	1.000		0	0	0	0	NR	0
PRIORITYCLEANERS	0.500		0	0	0	NR	NR	0
US HIST CDL	TP		NR	NR	NR	NR	NR	0
Local Land Records								
LIENS 2	TP		NR	NR	NR	NR	NR	0
LUCIS	0.500		0	0	0	NR	NR	0
LIENS	TP		NR	NR	NR	NR	NR	0
HIST LIENS	TP		NR	NR	NR	NR	NR	0
Records of Emergency Release Reports								
HMIRS	TP		NR	NR	NR	NR	NR	0
SPILLS	TP		NR	NR	NR	NR	NR	0
Other Ascertainable Records								
RCRA-NonGen	0.250		0	0	NR	NR	NR	0
DOT OPS	TP		NR	NR	NR	NR	NR	0
DOD	1.000		0	0	0	0	NR	0
FUDS	1.000		0	0	0	0	NR	0
CONSENT	1.000		0	0	0	0	NR	0
ROD	1.000		0	0	0	0	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
UMTRA	0.500		0	0	0	NR	NR	0
MINES	0.250		0	0	NR	NR	NR	0
TRIS	TP		NR	NR	NR	NR	NR	0
TSCA	TP		NR	NR	NR	NR	NR	0
FTTS	TP		NR	NR	NR	NR	NR	0
HIST FTTS	TP		NR	NR	NR	NR	NR	0
SSTS	TP		NR	NR	NR	NR	NR	0
ICIS	TP		NR	NR	NR	NR	NR	0
PADS	TP		NR	NR	NR	NR	NR	0
MLTS	TP		NR	NR	NR	NR	NR	0
RADINFO	TP		NR	NR	NR	NR	NR	0
FINDS	TP		NR	NR	NR	NR	NR	0
RAATS	TP		NR	NR	NR	NR	NR	0
IOP	TP		NR	NR	NR	NR	NR	0
NPDES	TP		NR	NR	NR	NR	NR	0
UIC	TP		NR	NR	NR	NR	NR	0
DRYCLEANERS	0.250		0	0	NR	NR	NR	0
ENF	TP		NR	NR	NR	NR	NR	0
Ind. Haz Waste	TP		NR	NR	NR	NR	NR	0
ED AQUIF	TP		NR	NR	NR	NR	NR	0
AIRS	TP		NR	NR	NR	NR	NR	0
MSD	0.500		0	0	0	NR	NR	0
TIER 2	TP		NR	NR	NR	NR	NR	0
RWS	TP		NR	NR	NR	NR	NR	0
INDIAN RESERV	1.000		0	0	0	0	NR	0
SCRD DRYCLEANERS	0.500		0	0	0	NR	NR	0
2020 COR ACTION	0.250		0	0	NR	NR	NR	0
GCC	TP		NR	NR	NR	NR	NR	0
EPA WATCH LIST	TP		NR	NR	NR	NR	NR	0
FINANCIAL ASSURANCE	TP		NR	NR	NR	NR	NR	0
PCB TRANSFORMER	TP		NR	NR	NR	NR	NR	0
PRP	TP		NR	NR	NR	NR	NR	0
COAL ASH DOE	TP		NR	NR	NR	NR	NR	0
COAL ASH EPA	0.500		0	0	0	NR	NR	0
US FIN ASSUR	TP		NR	NR	NR	NR	NR	0

EDR PROPRIETARY RECORDS

EDR Proprietary Records

Manufactured Gas Plants	1.000		0	0	0	0	NR	0

NOTES:

TP = Target Property

NR = Not Requested at this Search Distance

Sites may be listed in more than one database

MAP FINDINGS

Map ID Direction Distance Elevation	Site	Database(s)	EDR ID Number EPA ID Number

NO SITES FOUND

Count: 6 records.

ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
PORT ISABEL	1003875881	BAYSIDE NET & TWINE CO	HWY 100 N (P.O. BOX 959)	78578	CERC-NFRAP
PORT ISABEL	S108425080	CITY OF PORT ISABEL LANDFILL	15TH MILES SW OF INTERSECTION		SWF/LF
PORT ISABEL	S109515052	CAMERON COUNTY FWSD NO 1 TRANSFER	ADJACENT TO W BOUNDARY OF PRT		SWF/LF
PORT ISABEL	S109515053	CAMERON COUNTY FWSD NO 1 TRANSFER	ADJACENT TO W BOUNDRY OF PRT		SWF/LF
PORT ISABEL	A100190419	VALLEY FISHERIES	S JUNCTION HWY 48TH &	78578	AST
PORT ISABEL	S109978523	CITY OF PORT ISABEL LANDFILL	PORT RD		SWF/LF

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

To maintain currency of the following federal and state databases, EDR contacts the appropriate governmental agency on a monthly or quarterly basis, as required.

Number of Days to Update: Provides confirmation that EDR is reporting records that have been updated within 90 days from the date the government agency made the information available to the public.

STANDARD ENVIRONMENTAL RECORDS

Federal NPL site list

NPL: National Priority List

National Priorities List (Superfund). The NPL is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund Program. NPL sites may encompass relatively large areas. As such, EDR provides polygon coverage for over 1,000 NPL site boundaries produced by EPA's Environmental Photographic Interpretation Center (EPIC) and regional EPA offices.

Date of Government Version: 05/08/2012
Date Data Arrived at EDR: 05/10/2012
Date Made Active in Reports: 05/15/2012
Number of Days to Update: 5

Source: EPA
Telephone: N/A
Last EDR Contact: 07/05/2012
Next Scheduled EDR Contact: 10/22/2012
Data Release Frequency: Quarterly

NPL Site Boundaries

Sources:

EPA's Environmental Photographic Interpretation Center (EPIC)
Telephone: 202-564-7333

EPA Region 1
Telephone 617-918-1143

EPA Region 6
Telephone: 214-655-6659

EPA Region 3
Telephone 215-814-5418

EPA Region 7
Telephone: 913-551-7247

EPA Region 4
Telephone 404-562-8033

EPA Region 8
Telephone: 303-312-6774

EPA Region 5
Telephone 312-886-6686

EPA Region 9
Telephone: 415-947-4246

EPA Region 10
Telephone 206-553-8665

Proposed NPL: Proposed National Priority List Sites

A site that has been proposed for listing on the National Priorities List through the issuance of a proposed rule in the Federal Register. EPA then accepts public comments on the site, responds to the comments, and places on the NPL those sites that continue to meet the requirements for listing.

Date of Government Version: 03/30/2012
Date Data Arrived at EDR: 04/05/2012
Date Made Active in Reports: 05/15/2012
Number of Days to Update: 40

Source: EPA
Telephone: N/A
Last EDR Contact: 07/05/2012
Next Scheduled EDR Contact: 10/22/2012
Data Release Frequency: Quarterly

NPL LIENS: Federal Superfund Liens

Federal Superfund Liens. Under the authority granted the USEPA by CERCLA of 1980, the USEPA has the authority to file liens against real property in order to recover remedial action expenditures or when the property owner received notification of potential liability. USEPA compiles a listing of filed notices of Superfund Liens.

Date of Government Version: 10/15/1991
Date Data Arrived at EDR: 02/02/1994
Date Made Active in Reports: 03/30/1994
Number of Days to Update: 56

Source: EPA
Telephone: 202-564-4267
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

Federal Delisted NPL site list

DELISTED NPL: National Priority List Deletions

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.

Date of Government Version: 03/30/2012	Source: EPA
Date Data Arrived at EDR: 04/05/2012	Telephone: N/A
Date Made Active in Reports: 05/15/2012	Last EDR Contact: 07/05/2012
Number of Days to Update: 40	Next Scheduled EDR Contact: 10/22/2012
	Data Release Frequency: Quarterly

Federal CERCLIS list

CERCLIS: Comprehensive Environmental Response, Compensation, and Liability Information System

CERCLIS contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). CERCLIS contains sites which are either proposed to or on the National Priorities List (NPL) and sites which are in the screening and assessment phase for possible inclusion on the NPL.

Date of Government Version: 12/27/2011	Source: EPA
Date Data Arrived at EDR: 02/27/2012	Telephone: 703-412-9810
Date Made Active in Reports: 03/12/2012	Last EDR Contact: 08/28/2012
Number of Days to Update: 14	Next Scheduled EDR Contact: 12/10/2012
	Data Release Frequency: Quarterly

FEDERAL FACILITY: Federal Facility Site Information listing

A listing of National Priority List (NPL) and Base Realignment and Closure (BRAC) sites found in the Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) Database where EPA Federal Facilities Restoration and Reuse Office is involved in cleanup activities.

Date of Government Version: 12/10/2010	Source: Environmental Protection Agency
Date Data Arrived at EDR: 01/11/2011	Telephone: 703-603-8704
Date Made Active in Reports: 02/16/2011	Last EDR Contact: 07/13/2012
Number of Days to Update: 36	Next Scheduled EDR Contact: 10/22/2012
	Data Release Frequency: Varies

Federal CERCLIS NFRAP site List

CERCLIS-NFRAP: CERCLIS No Further Remedial Action Planned

Archived sites are sites that have been removed and archived from the inventory of CERCLIS sites. Archived status indicates that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list this site on the National Priorities List (NPL), unless information indicates this decision was not appropriate or other considerations require a recommendation for listing at a later time. This decision does not necessarily mean that there is no hazard associated with a given site; it only means that, based upon available information, the location is not judged to be a potential NPL site.

Date of Government Version: 12/28/2011	Source: EPA
Date Data Arrived at EDR: 02/27/2012	Telephone: 703-412-9810
Date Made Active in Reports: 03/12/2012	Last EDR Contact: 08/28/2012
Number of Days to Update: 14	Next Scheduled EDR Contact: 12/10/2012
	Data Release Frequency: Quarterly

Federal RCRA CORRACTS facilities list

CORRACTS: Corrective Action Report

CORRACTS identifies hazardous waste handlers with RCRA corrective action activity.

Date of Government Version: 08/19/2011
Date Data Arrived at EDR: 08/31/2011
Date Made Active in Reports: 01/10/2012
Number of Days to Update: 132

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 08/07/2012
Next Scheduled EDR Contact: 11/26/2012
Data Release Frequency: Quarterly

Federal RCRA non-CORRACTS TSD facilities list

RCRA-TSDF: RCRA - Treatment, Storage and Disposal

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Transporters are individuals or entities that move hazardous waste from the generator offsite to a facility that can recycle, treat, store, or dispose of the waste. TSDFs treat, store, or dispose of the waste.

Date of Government Version: 03/15/2012
Date Data Arrived at EDR: 04/04/2012
Date Made Active in Reports: 05/15/2012
Number of Days to Update: 41

Source: Environmental Protection Agency
Telephone: 214-665-6444
Last EDR Contact: 08/16/2012
Next Scheduled EDR Contact: 10/15/2012
Data Release Frequency: Quarterly

Federal RCRA generators list

RCRA-LQG: RCRA - Large Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Large quantity generators (LQGs) generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month.

Date of Government Version: 03/15/2012
Date Data Arrived at EDR: 04/04/2012
Date Made Active in Reports: 05/15/2012
Number of Days to Update: 41

Source: Environmental Protection Agency
Telephone: 214-665-6444
Last EDR Contact: 08/16/2012
Next Scheduled EDR Contact: 10/15/2012
Data Release Frequency: Quarterly

RCRA-SQG: RCRA - Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month.

Date of Government Version: 03/15/2012
Date Data Arrived at EDR: 04/04/2012
Date Made Active in Reports: 05/15/2012
Number of Days to Update: 41

Source: Environmental Protection Agency
Telephone: 214-665-6444
Last EDR Contact: 08/16/2012
Next Scheduled EDR Contact: 10/15/2012
Data Release Frequency: Quarterly

RCRA-CESQG: RCRA - Conditionally Exempt Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Conditionally exempt small quantity generators (CESQGs) generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month.

Date of Government Version: 03/15/2012
Date Data Arrived at EDR: 04/04/2012
Date Made Active in Reports: 05/15/2012
Number of Days to Update: 41

Source: Environmental Protection Agency
Telephone: 214-665-6444
Last EDR Contact: 08/16/2012
Next Scheduled EDR Contact: 10/15/2012
Data Release Frequency: Varies

Federal institutional controls / engineering controls registries

US ENG CONTROLS: Engineering Controls Sites List

A listing of sites with engineering controls in place. Engineering controls include various forms of caps, building foundations, liners, and treatment methods to create pathway elimination for regulated substances to enter environmental media or effect human health.

Date of Government Version: 12/30/2011
Date Data Arrived at EDR: 12/30/2011
Date Made Active in Reports: 01/10/2012
Number of Days to Update: 11

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 09/05/2012
Next Scheduled EDR Contact: 12/24/2012
Data Release Frequency: Varies

US INST CONTROL: Sites with Institutional Controls

A listing of sites with institutional controls in place. Institutional controls include administrative measures, such as groundwater use restrictions, construction restrictions, property use restrictions, and post remediation care requirements intended to prevent exposure to contaminants remaining on site. Deed restrictions are generally required as part of the institutional controls.

Date of Government Version: 12/30/2011
Date Data Arrived at EDR: 12/30/2011
Date Made Active in Reports: 01/10/2012
Number of Days to Update: 11

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 09/05/2012
Next Scheduled EDR Contact: 12/24/2012
Data Release Frequency: Varies

Federal ERNS list

ERNS: Emergency Response Notification System

Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous substances.

Date of Government Version: 04/02/2012
Date Data Arrived at EDR: 04/03/2012
Date Made Active in Reports: 06/14/2012
Number of Days to Update: 72

Source: National Response Center, United States Coast Guard
Telephone: 202-267-2180
Last EDR Contact: 07/02/2012
Next Scheduled EDR Contact: 10/15/2012
Data Release Frequency: Annually

State- and tribal - equivalent NPL

SHWS: State Superfund Registry

State Hazardous Waste Sites. State hazardous waste site records are the states' equivalent to CERCLIS. These sites may or may not already be listed on the federal CERCLIS list. Priority sites planned for cleanup using state funds (state equivalent of Superfund) are identified along with sites where cleanup will be paid for by potentially responsible parties. Available information varies by state.

Date of Government Version: 05/01/2012
Date Data Arrived at EDR: 06/21/2012
Date Made Active in Reports: 08/21/2012
Number of Days to Update: 61

Source: Texas Commission on Environmental Quality
Telephone: 512-239-5680
Last EDR Contact: 06/14/2012
Next Scheduled EDR Contact: 10/01/2012
Data Release Frequency: Semi-Annually

State and tribal landfill and/or solid waste disposal site lists

SWF/LF: Permitted Solid Waste Facilities

Solid Waste Facilities/Landfill Sites. SWF/LF type records typically contain an inventory of solid waste disposal facilities or landfills in a particular state. Depending on the state, these may be active or inactive facilities or open dumps that failed to meet RCRA Subtitle D Section 4004 criteria for solid waste landfills or disposal sites.

Date of Government Version: 08/02/2012
Date Data Arrived at EDR: 08/03/2012
Date Made Active in Reports: 08/23/2012
Number of Days to Update: 20

Source: Texas Commission on Environmental Quality
Telephone: 512-239-6706
Last EDR Contact: 07/27/2012
Next Scheduled EDR Contact: 11/12/2012
Data Release Frequency: Quarterly

CLI: Closed Landfill Inventory
Closed and abandoned landfills (permitted as well as unauthorized) across the state of Texas.

Date of Government Version: 08/30/1999
Date Data Arrived at EDR: 09/28/2000
Date Made Active in Reports: 10/30/2000
Number of Days to Update: 32

Source: Texas Commission on Environmental Quality
Telephone: 512-239-6016
Last EDR Contact: 07/05/2012
Next Scheduled EDR Contact: 10/22/2012
Data Release Frequency: Varies

H-GAC CLI: Houston-Galveston Closed Landfill Inventory
Closed Landfill Inventory for the Houston-Galveston Area Council Region. In 1993, the Texas Legislature passed House Bill (HB) 2537, which required Councils of Governments (COGs) to develop an inventory of closed municipal solid waste landfills for their regional solid waste management plans.

Date of Government Version: 03/23/2011
Date Data Arrived at EDR: 03/25/2011
Date Made Active in Reports: 04/22/2011
Number of Days to Update: 28

Source: Houston-Galveston Area Council
Telephone: 832-681-2518
Last EDR Contact: 07/05/2012
Next Scheduled EDR Contact: 10/22/2012
Data Release Frequency: Varies

WASTEMGT: Commercial Hazardous & Solid Waste Management Facilities
This list contains commercial recycling facilities and facilities permitted or authorized (interim status) by the Texas Natural Resource Conservation Commission.

Date of Government Version: 07/01/2011
Date Data Arrived at EDR: 10/13/2011
Date Made Active in Reports: 11/15/2011
Number of Days to Update: 33

Source: Texas Commission on Environmental Quality
Telephone: 512-239-2920
Last EDR Contact: 07/13/2012
Next Scheduled EDR Contact: 10/22/2012
Data Release Frequency: Varies

State and tribal leaking storage tank lists

LPST: Leaking Petroleum Storage Tank Database
An inventory of reported leaking petroleum storage tank incidents. Not all states maintain these records, and the information stored varies by state.

Date of Government Version: 06/08/2012
Date Data Arrived at EDR: 07/03/2012
Date Made Active in Reports: 08/23/2012
Number of Days to Update: 51

Source: Texas Commission on Environmental Quality
Telephone: 512-239-2200
Last EDR Contact: 07/03/2012
Next Scheduled EDR Contact: 10/15/2012
Data Release Frequency: Quarterly

INDIAN LUST R10: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Alaska, Idaho, Oregon and Washington.

Date of Government Version: 05/07/2012
Date Data Arrived at EDR: 05/08/2012
Date Made Active in Reports: 07/10/2012
Number of Days to Update: 63

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 07/26/2012
Next Scheduled EDR Contact: 11/12/2012
Data Release Frequency: Quarterly

INDIAN LUST R9: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Arizona, California, New Mexico and Nevada

Date of Government Version: 05/25/2012
Date Data Arrived at EDR: 05/25/2012
Date Made Active in Reports: 07/16/2012
Number of Days to Update: 52

Source: Environmental Protection Agency
Telephone: 415-972-3372
Last EDR Contact: 07/26/2012
Next Scheduled EDR Contact: 11/12/2012
Data Release Frequency: Quarterly

INDIAN LUST R6: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in New Mexico and Oklahoma.

Date of Government Version: 09/12/2011
Date Data Arrived at EDR: 09/13/2011
Date Made Active in Reports: 11/11/2011
Number of Days to Update: 59

Source: EPA Region 6
Telephone: 214-665-6597
Last EDR Contact: 07/26/2012
Next Scheduled EDR Contact: 11/12/2012
Data Release Frequency: Varies

INDIAN LUST R8: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Colorado, Montana, North Dakota, South Dakota, Utah and Wyoming.

Date of Government Version: 08/18/2011
Date Data Arrived at EDR: 08/19/2011
Date Made Active in Reports: 09/13/2011
Number of Days to Update: 25

Source: EPA Region 8
Telephone: 303-312-6271
Last EDR Contact: 07/26/2012
Next Scheduled EDR Contact: 11/26/2012
Data Release Frequency: Quarterly

INDIAN LUST R7: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Iowa, Kansas, and Nebraska

Date of Government Version: 02/07/2012
Date Data Arrived at EDR: 02/17/2012
Date Made Active in Reports: 05/15/2012
Number of Days to Update: 88

Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 07/26/2012
Next Scheduled EDR Contact: 11/12/2012
Data Release Frequency: Varies

INDIAN LUST R4: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Florida, Mississippi and North Carolina.

Date of Government Version: 12/14/2011
Date Data Arrived at EDR: 12/15/2011
Date Made Active in Reports: 01/10/2012
Number of Days to Update: 26

Source: EPA Region 4
Telephone: 404-562-8677
Last EDR Contact: 07/26/2012
Next Scheduled EDR Contact: 11/12/2012
Data Release Frequency: Semi-Annually

INDIAN LUST R1: Leaking Underground Storage Tanks on Indian Land
A listing of leaking underground storage tank locations on Indian Land.

Date of Government Version: 04/12/2012
Date Data Arrived at EDR: 05/09/2012
Date Made Active in Reports: 07/10/2012
Number of Days to Update: 62

Source: EPA Region 1
Telephone: 617-918-1313
Last EDR Contact: 08/03/2012
Next Scheduled EDR Contact: 11/12/2012
Data Release Frequency: Varies

State and tribal registered storage tank lists

UST: Petroleum Storage Tank Database
Registered Underground Storage Tanks. UST's are regulated under Subtitle I of the Resource Conservation and Recovery Act (RCRA) and must be registered with the state department responsible for administering the UST program. Available information varies by state program.

Date of Government Version: 06/08/2012
Date Data Arrived at EDR: 07/03/2012
Date Made Active in Reports: 08/21/2012
Number of Days to Update: 49

Source: Texas Commission on Environmental Quality
Telephone: 512-239-2160
Last EDR Contact: 07/03/2012
Next Scheduled EDR Contact: 10/15/2012
Data Release Frequency: Quarterly

AST: Petroleum Storage Tank Database
Registered Aboveground Storage Tanks.

Date of Government Version: 06/08/2012
Date Data Arrived at EDR: 07/03/2012
Date Made Active in Reports: 08/21/2012
Number of Days to Update: 49

Source: Texas Commission on Environmental Quality
Telephone: 512-239-2160
Last EDR Contact: 07/03/2012
Next Scheduled EDR Contact: 10/15/2012
Data Release Frequency: Quarterly

INDIAN UST R10: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 10 (Alaska, Idaho, Oregon, Washington, and Tribal Nations).

Date of Government Version: 05/07/2012
Date Data Arrived at EDR: 05/08/2012
Date Made Active in Reports: 07/16/2012
Number of Days to Update: 69

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 07/26/2012
Next Scheduled EDR Contact: 11/12/2012
Data Release Frequency: Quarterly

INDIAN UST R9: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 9 (Arizona, California, Hawaii, Nevada, the Pacific Islands, and Tribal Nations).

Date of Government Version: 11/28/2011
Date Data Arrived at EDR: 11/29/2011
Date Made Active in Reports: 01/10/2012
Number of Days to Update: 42

Source: EPA Region 9
Telephone: 415-972-3368
Last EDR Contact: 07/26/2012
Next Scheduled EDR Contact: 11/12/2012
Data Release Frequency: Quarterly

INDIAN UST R8: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 8 (Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming and 27 Tribal Nations).

Date of Government Version: 08/18/2011
Date Data Arrived at EDR: 08/19/2011
Date Made Active in Reports: 09/13/2011
Number of Days to Update: 25

Source: EPA Region 8
Telephone: 303-312-6137
Last EDR Contact: 07/26/2012
Next Scheduled EDR Contact: 11/12/2012
Data Release Frequency: Quarterly

INDIAN UST R7: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 7 (Iowa, Kansas, Missouri, Nebraska, and 9 Tribal Nations).

Date of Government Version: 02/07/2012
Date Data Arrived at EDR: 02/17/2012
Date Made Active in Reports: 05/15/2012
Number of Days to Update: 88

Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 07/26/2012
Next Scheduled EDR Contact: 11/12/2012
Data Release Frequency: Varies

INDIAN UST R6: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 6 (Louisiana, Arkansas, Oklahoma, New Mexico, Texas and 65 Tribes).

Date of Government Version: 05/10/2011
Date Data Arrived at EDR: 05/11/2011
Date Made Active in Reports: 06/14/2011
Number of Days to Update: 34

Source: EPA Region 6
Telephone: 214-665-7591
Last EDR Contact: 07/26/2012
Next Scheduled EDR Contact: 11/12/2012
Data Release Frequency: Semi-Annually

INDIAN UST R5: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 5 (Michigan, Minnesota and Wisconsin and Tribal Nations).

Date of Government Version: 02/28/2012
Date Data Arrived at EDR: 02/29/2012
Date Made Active in Reports: 05/15/2012
Number of Days to Update: 76

Source: EPA Region 5
Telephone: 312-886-6136
Last EDR Contact: 07/26/2012
Next Scheduled EDR Contact: 11/12/2012
Data Release Frequency: Varies

INDIAN UST R4: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 4 (Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee and Tribal Nations)

Date of Government Version: 12/14/2011
Date Data Arrived at EDR: 12/15/2011
Date Made Active in Reports: 01/10/2012
Number of Days to Update: 26

Source: EPA Region 4
Telephone: 404-562-9424
Last EDR Contact: 07/26/2012
Next Scheduled EDR Contact: 11/12/2012
Data Release Frequency: Semi-Annually

INDIAN UST R1: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 1 (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont and ten Tribal Nations).

Date of Government Version: 04/12/2012
Date Data Arrived at EDR: 05/02/2012
Date Made Active in Reports: 07/16/2012
Number of Days to Update: 75

Source: EPA, Region 1
Telephone: 617-918-1313
Last EDR Contact: 08/03/2012
Next Scheduled EDR Contact: 11/12/2012
Data Release Frequency: Varies

FEMA UST: Underground Storage Tank Listing
A listing of all FEMA owned underground storage tanks.

Date of Government Version: 01/01/2010
Date Data Arrived at EDR: 02/16/2010
Date Made Active in Reports: 04/12/2010
Number of Days to Update: 55

Source: FEMA
Telephone: 202-646-5797
Last EDR Contact: 07/12/2012
Next Scheduled EDR Contact: 10/29/2012
Data Release Frequency: Varies

State and tribal institutional control / engineering control registries

AUL: Sites with Controls
Activity and use limitations include both engineering controls and institutional controls.

Date of Government Version: 06/27/2012
Date Data Arrived at EDR: 07/13/2012
Date Made Active in Reports: 08/23/2012
Number of Days to Update: 41

Source: Texas Commission on Environmental Quality
Telephone: 512-239-5891
Last EDR Contact: 07/13/2012
Next Scheduled EDR Contact: 10/22/2012
Data Release Frequency: Varies

State and tribal voluntary cleanup sites

INDIAN VCP R1: Voluntary Cleanup Priority Listing
A listing of voluntary cleanup priority sites located on Indian Land located in Region 1.

Date of Government Version: 02/17/2012
Date Data Arrived at EDR: 04/03/2012
Date Made Active in Reports: 05/15/2012
Number of Days to Update: 42

Source: EPA, Region 1
Telephone: 617-918-1102
Last EDR Contact: 07/02/2012
Next Scheduled EDR Contact: 10/15/2012
Data Release Frequency: Varies

VCP RRC: Voluntary Cleanup Program Sites
The Voluntary Cleanup Program (RRC-VCP) provides an incentive to remediate Oil & Gas related pollution by participants as long as they did not cause or contribute to the contamination. Applicants to the program receive a release of liability to the state in exchange for a successful cleanup.

Date of Government Version: 04/26/2012
Date Data Arrived at EDR: 07/13/2012
Date Made Active in Reports: 08/23/2012
Number of Days to Update: 41

Source: Railroad Commission of Texas
Telephone: 512-463-6969
Last EDR Contact: 07/13/2012
Next Scheduled EDR Contact: 10/22/2012
Data Release Frequency: Varies

INDIAN VCP R7: Voluntary Cleanup Priority Lisitng
A listing of voluntary cleanup priority sites located on Indian Land located in Region 7.

Date of Government Version: 03/20/2008
Date Data Arrived at EDR: 04/22/2008
Date Made Active in Reports: 05/19/2008
Number of Days to Update: 27

Source: EPA, Region 7
Telephone: 913-551-7365
Last EDR Contact: 04/20/2009
Next Scheduled EDR Contact: 07/20/2009
Data Release Frequency: Varies

VCP TCEQ: Voluntary Cleanup Program Database
The Texas Voluntary Cleanup Program was established to provide administrative, technical, and legal incentives to encourage the cleanup of contaminated sites in Texas.

Date of Government Version: 06/27/2012
Date Data Arrived at EDR: 07/13/2012
Date Made Active in Reports: 08/23/2012
Number of Days to Update: 41

Source: Texas Commission on Environmental Quality
Telephone: 512-239-5891
Last EDR Contact: 07/13/2012
Next Scheduled EDR Contact: 10/22/2012
Data Release Frequency: Quarterly

State and tribal Brownfields sites

BROWNFIELDS: Brownfields Site Assessments
Brownfield site assessments that are being cleaned under EPA grant monies.

Date of Government Version: 06/27/2012
Date Data Arrived at EDR: 07/13/2012
Date Made Active in Reports: 08/21/2012
Number of Days to Update: 39

Source: TCEQ
Telephone: 512-239-5872
Last EDR Contact: 07/13/2012
Next Scheduled EDR Contact: 10/22/2012
Data Release Frequency: Semi-Annually

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS: A Listing of Brownfields Sites
Brownfields are real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. Cleaning up and reinvesting in these properties takes development pressures off of undeveloped, open land, and both improves and protects the environment. Assessment, Cleanup and Redevelopment Exchange System (ACRES) stores information reported by EPA Brownfields grant recipients on brownfields properties assessed or cleaned up with grant funding as well as information on Targeted Brownfields Assessments performed by EPA Regions. A listing of ACRES Brownfield sites is obtained from Cleanups in My Community. Cleanups in My Community provides information on Brownfields properties for which information is reported back to EPA, as well as areas served by Brownfields grant programs.

Date of Government Version: 06/27/2011
Date Data Arrived at EDR: 06/27/2011
Date Made Active in Reports: 09/13/2011
Number of Days to Update: 78

Source: Environmental Protection Agency
Telephone: 202-566-2777
Last EDR Contact: 06/25/2012
Next Scheduled EDR Contact: 10/08/2012
Data Release Frequency: Semi-Annually

Local Lists of Landfill / Solid Waste Disposal Sites

DEBRIS REGION 9: Torres Martinez Reservation Illegal Dump Site Locations
A listing of illegal dump sites location on the Torres Martinez Indian Reservation located in eastern Riverside County and northern Imperial County, California.

Date of Government Version: 01/12/2009
Date Data Arrived at EDR: 05/07/2009
Date Made Active in Reports: 09/21/2009
Number of Days to Update: 137

Source: EPA, Region 9
Telephone: 415-947-4219
Last EDR Contact: 07/03/2012
Next Scheduled EDR Contact: 10/08/2012
Data Release Frequency: No Update Planned

ODI: Open Dump Inventory
An open dump is defined as a disposal facility that does not comply with one or more of the Part 257 or Part 258 Subtitle D Criteria.

Date of Government Version: 06/30/1985
Date Data Arrived at EDR: 08/09/2004
Date Made Active in Reports: 09/17/2004
Number of Days to Update: 39

Source: Environmental Protection Agency
Telephone: 800-424-9346
Last EDR Contact: 06/09/2004
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

INDIAN ODI: Report on the Status of Open Dumps on Indian Lands
Location of open dumps on Indian land.

Date of Government Version: 12/31/1998
Date Data Arrived at EDR: 12/03/2007
Date Made Active in Reports: 01/24/2008
Number of Days to Update: 52

Source: Environmental Protection Agency
Telephone: 703-308-8245
Last EDR Contact: 08/03/2012
Next Scheduled EDR Contact: 11/19/2012
Data Release Frequency: Varies

Local Lists of Hazardous waste / Contaminated Sites

US CDL: Clandestine Drug Labs
A listing of clandestine drug lab locations. The U.S. Department of Justice ("the Department") provides this web site as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments.

Date of Government Version: 03/16/2012
Date Data Arrived at EDR: 06/12/2012
Date Made Active in Reports: 07/16/2012
Number of Days to Update: 34

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 09/05/2012
Next Scheduled EDR Contact: 12/17/2012
Data Release Frequency: Quarterly

DEL SHWS: Deleted Superfund Registry Sites
Sites have been deleted from the state Superfund registry in accordance with the Act, ?361.189

Date of Government Version: 05/01/2012
Date Data Arrived at EDR: 06/21/2012
Date Made Active in Reports: 08/21/2012
Number of Days to Update: 61

Source: Texas Commission on Environmental Quality
Telephone: 512-239-0666
Last EDR Contact: 06/14/2012
Next Scheduled EDR Contact: 10/01/2012
Data Release Frequency: Quarterly

PRIORITY CLEANERS: Dry Cleaner Remediation Program Prioritization List
A listing of dry cleaner related contaminated sites.

Date of Government Version: 04/12/2012
Date Data Arrived at EDR: 06/13/2012
Date Made Active in Reports: 08/21/2012
Number of Days to Update: 69

Source: Texas Commisision on Environmenatl Quality
Telephone: 512-239-5658
Last EDR Contact: 09/12/2012
Next Scheduled EDR Contact: 12/24/2012
Data Release Frequency: Varies

US HIST CDL: National Clandestine Laboratory Register

A listing of clandestine drug lab locations. The U.S. Department of Justice ("the Department") provides this web site as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments.

Date of Government Version: 09/01/2007
Date Data Arrived at EDR: 11/19/2008
Date Made Active in Reports: 03/30/2009
Number of Days to Update: 131

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 03/23/2009
Next Scheduled EDR Contact: 06/22/2009
Data Release Frequency: No Update Planned

Local Land Records

LIENS 2: CERCLA Lien Information

A Federal CERCLA ('Superfund') lien can exist by operation of law at any site or property at which EPA has spent Superfund monies. These monies are spent to investigate and address releases and threatened releases of contamination. CERCLIS provides information as to the identity of these sites and properties.

Date of Government Version: 02/16/2012
Date Data Arrived at EDR: 03/26/2012
Date Made Active in Reports: 06/14/2012
Number of Days to Update: 80

Source: Environmental Protection Agency
Telephone: 202-564-6023
Last EDR Contact: 07/27/2012
Next Scheduled EDR Contact: 11/12/2012
Data Release Frequency: Varies

LUCIS: Land Use Control Information System

LUCIS contains records of land use control information pertaining to the former Navy Base Realignment and Closure properties.

Date of Government Version: 12/09/2005
Date Data Arrived at EDR: 12/11/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 31

Source: Department of the Navy
Telephone: 843-820-7326
Last EDR Contact: 05/21/2012
Next Scheduled EDR Contact: 09/03/2012
Data Release Frequency: Varies

LIENS: Environmental Liens Listing

The listing covers TCEQ liens placed against either State Superfund sites or Federal Superfund sites to recover cost incurred by TCEQ.

Date of Government Version: 08/24/2012
Date Data Arrived at EDR: 08/29/2012
Date Made Active in Reports: 09/12/2012
Number of Days to Update: 14

Source: Texas Commission on Environmental Quality
Telephone: 512-239-2209
Last EDR Contact: 08/23/2012
Next Scheduled EDR Contact: 12/10/2012
Data Release Frequency: Varies

HIST LIENS: Environmental Liens Listing

This listing contains information fields that are no longer tracked in the LIENS database.

Date of Government Version: 03/23/2007
Date Data Arrived at EDR: 03/23/2007
Date Made Active in Reports: 05/02/2007
Number of Days to Update: 40

Source: Texas Commission on Environmental Qualilty
Telephone: 512-239-2209
Last EDR Contact: 12/17/2007
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

Records of Emergency Release Reports

HMIRS: Hazardous Materials Information Reporting System

Hazardous Materials Incident Report System. HMIRS contains hazardous material spill incidents reported to DOT.

Date of Government Version: 04/01/2012
Date Data Arrived at EDR: 04/03/2012
Date Made Active in Reports: 06/14/2012
Number of Days to Update: 72

Source: U.S. Department of Transportation
Telephone: 202-366-4555
Last EDR Contact: 07/02/2012
Next Scheduled EDR Contact: 10/15/2012
Data Release Frequency: Annually

SPILLS: Spills Database
Spills reported to the Emergency Response Division.

Date of Government Version: 06/06/2012
Date Data Arrived at EDR: 07/03/2012
Date Made Active in Reports: 08/29/2012
Number of Days to Update: 57

Source: Texas Commission on Environmental Quality
Telephone: 512-239-2507
Last EDR Contact: 08/23/2012
Next Scheduled EDR Contact: 12/10/2012
Data Release Frequency: Quarterly

Other Ascertainable Records

RCRA-NonGen: RCRA - Non Generators
RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Non-Generators do not presently generate hazardous waste.

Date of Government Version: 03/15/2012
Date Data Arrived at EDR: 04/04/2012
Date Made Active in Reports: 05/15/2012
Number of Days to Update: 41

Source: Environmental Protection Agency
Telephone: 214-665-6444
Last EDR Contact: 08/16/2012
Next Scheduled EDR Contact: 10/15/2012
Data Release Frequency: Varies

DOT OPS: Incident and Accident Data
Department of Transporation, Office of Pipeline Safety Incident and Accident data.

Date of Government Version: 07/29/2011
Date Data Arrived at EDR: 08/09/2011
Date Made Active in Reports: 11/11/2011
Number of Days to Update: 94

Source: Department of Transporation, Office of Pipeline Safety
Telephone: 202-366-4595
Last EDR Contact: 08/07/2012
Next Scheduled EDR Contact: 11/19/2012
Data Release Frequency: Varies

DOD: Department of Defense Sites
This data set consists of federally owned or administered lands, administered by the Department of Defense, that have any area equal to or greater than 640 acres of the United States, Puerto Rico, and the U.S. Virgin Islands.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 11/10/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 62

Source: USGS
Telephone: 888-275-8747
Last EDR Contact: 07/19/2012
Next Scheduled EDR Contact: 10/29/2012
Data Release Frequency: Semi-Annually

FUDS: Formerly Used Defense Sites
The listing includes locations of Formerly Used Defense Sites properties where the US Army Corps of Engineers is actively working or will take necessary cleanup actions.

Date of Government Version: 12/31/2009
Date Data Arrived at EDR: 08/12/2010
Date Made Active in Reports: 12/02/2010
Number of Days to Update: 112

Source: U.S. Army Corps of Engineers
Telephone: 202-528-4285
Last EDR Contact: 09/10/2012
Next Scheduled EDR Contact: 12/24/2012
Data Release Frequency: Varies

CONSENT: Superfund (CERCLA) Consent Decrees

Major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites. Released periodically by United States District Courts after settlement by parties to litigation matters.

Date of Government Version: 12/01/2011
Date Data Arrived at EDR: 01/25/2012
Date Made Active in Reports: 03/01/2012
Number of Days to Update: 36

Source: Department of Justice, Consent Decree Library
Telephone: Varies
Last EDR Contact: 06/27/2012
Next Scheduled EDR Contact: 10/15/2012
Data Release Frequency: Varies

ROD: Records Of Decision

Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid in the cleanup.

Date of Government Version: 02/27/2012
Date Data Arrived at EDR: 03/14/2012
Date Made Active in Reports: 06/14/2012
Number of Days to Update: 92

Source: EPA
Telephone: 703-416-0223
Last EDR Contact: 09/12/2012
Next Scheduled EDR Contact: 12/24/2012
Data Release Frequency: Annually

UMTRA: Uranium Mill Tailings Sites

Uranium ore was mined by private companies for federal government use in national defense programs. When the mills shut down, large piles of the sand-like material (mill tailings) remain after uranium has been extracted from the ore. Levels of human exposure to radioactive materials from the piles are low; however, in some cases tailings were used as construction materials before the potential health hazards of the tailings were recognized.

Date of Government Version: 09/14/2010
Date Data Arrived at EDR: 10/07/2011
Date Made Active in Reports: 03/01/2012
Number of Days to Update: 146

Source: Department of Energy
Telephone: 505-845-0011
Last EDR Contact: 08/28/2012
Next Scheduled EDR Contact: 12/10/2012
Data Release Frequency: Varies

MINES: Mines Master Index File

Contains all mine identification numbers issued for mines active or opened since 1971. The data also includes violation information.

Date of Government Version: 08/18/2011
Date Data Arrived at EDR: 09/08/2011
Date Made Active in Reports: 09/29/2011
Number of Days to Update: 21

Source: Department of Labor, Mine Safety and Health Administration
Telephone: 303-231-5959
Last EDR Contact: 09/04/2012
Next Scheduled EDR Contact: 12/17/2012
Data Release Frequency: Semi-Annually

TRIS: Toxic Chemical Release Inventory System

Toxic Release Inventory System. TRIS identifies facilities which release toxic chemicals to the air, water and land in reportable quantities under SARA Title III Section 313.

Date of Government Version: 12/31/2009
Date Data Arrived at EDR: 09/01/2011
Date Made Active in Reports: 01/10/2012
Number of Days to Update: 131

Source: EPA
Telephone: 202-566-0250
Last EDR Contact: 08/31/2012
Next Scheduled EDR Contact: 12/10/2012
Data Release Frequency: Annually

TSCA: Toxic Substances Control Act

Toxic Substances Control Act. TSCA identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory list. It includes data on the production volume of these substances by plant site.

Date of Government Version: 12/31/2006
Date Data Arrived at EDR: 09/29/2010
Date Made Active in Reports: 12/02/2010
Number of Days to Update: 64

Source: EPA
Telephone: 202-260-5521
Last EDR Contact: 06/29/2012
Next Scheduled EDR Contact: 10/08/2012
Data Release Frequency: Every 4 Years

FTTS: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
FTTS tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCA and EPCRA (Emergency Planning and Community Right-to-Know Act). To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25

Source: EPA/Office of Prevention, Pesticides and Toxic Substances
Telephone: 202-566-1667
Last EDR Contact: 08/22/2012
Next Scheduled EDR Contact: 12/10/2012
Data Release Frequency: Quarterly

FTTS INSP: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
A listing of FIFRA/TSCA Tracking System (FTTS) inspections and enforcements.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25

Source: EPA
Telephone: 202-566-1667
Last EDR Contact: 08/22/2012
Next Scheduled EDR Contact: 12/10/2012
Data Release Frequency: Quarterly

HIST FTTS: FIFRA/TSCA Tracking System Administrative Case Listing
A complete administrative case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2007
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

HIST FTTS INSP: FIFRA/TSCA Tracking System Inspection & Enforcement Case Listing
A complete inspection and enforcement case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2008
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

SSTS: Section 7 Tracking Systems
Section 7 of the Federal Insecticide, Fungicide and Rodenticide Act, as amended (92 Stat. 829) requires all registered pesticide-producing establishments to submit a report to the Environmental Protection Agency by March 1st each year. Each establishment must report the types and amounts of pesticides, active ingredients and devices being produced, and those having been produced and sold or distributed in the past year.

Date of Government Version: 12/31/2009
Date Data Arrived at EDR: 12/10/2010
Date Made Active in Reports: 02/25/2011
Number of Days to Update: 77

Source: EPA
Telephone: 202-564-4203
Last EDR Contact: 07/27/2012
Next Scheduled EDR Contact: 11/12/2012
Data Release Frequency: Annually

ICIS: Integrated Compliance Information System

The Integrated Compliance Information System (ICIS) supports the information needs of the national enforcement and compliance program as well as the unique needs of the National Pollutant Discharge Elimination System (NPDES) program.

Date of Government Version: 07/20/2011
Date Data Arrived at EDR: 11/10/2011
Date Made Active in Reports: 01/10/2012
Number of Days to Update: 61

Source: Environmental Protection Agency
Telephone: 202-564-5088
Last EDR Contact: 06/21/2012
Next Scheduled EDR Contact: 10/08/2012
Data Release Frequency: Quarterly

PADS: PCB Activity Database System

PCB Activity Database. PADS Identifies generators, transporters, commercial storers and/or brokers and disposers of PCB's who are required to notify the EPA of such activities.

Date of Government Version: 11/01/2010
Date Data Arrived at EDR: 11/10/2010
Date Made Active in Reports: 02/16/2011
Number of Days to Update: 98

Source: EPA
Telephone: 202-566-0500
Last EDR Contact: 07/19/2012
Next Scheduled EDR Contact: 10/29/2012
Data Release Frequency: Annually

MLTS: Material Licensing Tracking System

MLTS is maintained by the Nuclear Regulatory Commission and contains a list of approximately 8,100 sites which possess or use radioactive materials and which are subject to NRC licensing requirements. To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 06/21/2011
Date Data Arrived at EDR: 07/15/2011
Date Made Active in Reports: 09/13/2011
Number of Days to Update: 60

Source: Nuclear Regulatory Commission
Telephone: 301-415-7169
Last EDR Contact: 09/05/2012
Next Scheduled EDR Contact: 12/24/2012
Data Release Frequency: Quarterly

RADINFO: Radiation Information Database

The Radiation Information Database (RADINFO) contains information about facilities that are regulated by U.S. Environmental Protection Agency (EPA) regulations for radiation and radioactivity.

Date of Government Version: 01/10/2012
Date Data Arrived at EDR: 01/12/2012
Date Made Active in Reports: 03/01/2012
Number of Days to Update: 49

Source: Environmental Protection Agency
Telephone: 202-343-9775
Last EDR Contact: 07/11/2012
Next Scheduled EDR Contact: 10/22/2012
Data Release Frequency: Quarterly

FINDS: Facility Index System/Facility Registry System

Facility Index System. FINDS contains both facility information and 'pointers' to other sources that contain more detail. EDR includes the following FINDS databases in this report: PCS (Permit Compliance System), AIRS (Aerometric Information Retrieval System), DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes), FURS (Federal Underground Injection Control), C-DOCKET (Criminal Docket System used to track criminal enforcement actions for all environmental statutes), FFIS (Federal Facilities Information System), STATE (State Environmental Laws and Statutes), and PADS (PCB Activity Data System).

Date of Government Version: 10/23/2011
Date Data Arrived at EDR: 12/13/2011
Date Made Active in Reports: 03/01/2012
Number of Days to Update: 79

Source: EPA
Telephone: (214) 665-2200
Last EDR Contact: 09/11/2012
Next Scheduled EDR Contact: 12/24/2012
Data Release Frequency: Quarterly

RAATS: RCRA Administrative Action Tracking System

RCRA Administration Action Tracking System. RAATS contains records based on enforcement actions issued under RCRA pertaining to major violators and includes administrative and civil actions brought by the EPA. For administration actions after September 30, 1995, data entry in the RAATS database was discontinued. EPA will retain a copy of the database for historical records. It was necessary to terminate RAATS because a decrease in agency resources made it impossible to continue to update the information contained in the database.

Date of Government Version: 04/17/1995
Date Data Arrived at EDR: 07/03/1995
Date Made Active in Reports: 08/07/1995
Number of Days to Update: 35

Source: EPA
Telephone: 202-564-4104
Last EDR Contact: 06/02/2008
Next Scheduled EDR Contact: 09/01/2008
Data Release Frequency: No Update Planned

BRS: Biennial Reporting System

The Biennial Reporting System is a national system administered by the EPA that collects data on the generation and management of hazardous waste. BRS captures detailed data from two groups: Large Quantity Generators (LQG) and Treatment, Storage, and Disposal Facilities.

Date of Government Version: 12/31/2009
Date Data Arrived at EDR: 03/01/2011
Date Made Active in Reports: 05/02/2011
Number of Days to Update: 62

Source: EPA/NTIS
Telephone: 800-424-9346
Last EDR Contact: 08/31/2012
Next Scheduled EDR Contact: 12/10/2012
Data Release Frequency: Biennially

IOP: Innocent Owner/Operator Program

Contains information on all sites that are in the IOP. An IOP is an innocent owner or operator whose property is contaminated as a result of a release or migration of contaminants from a source or sources not located on the property, and they did not cause or contribute to the source or sources of contamination.

Date of Government Version: 06/27/2012
Date Data Arrived at EDR: 07/13/2012
Date Made Active in Reports: 08/23/2012
Number of Days to Update: 41

Source: Texas Commission on Environmental Quality
Telephone: 512-239-5894
Last EDR Contact: 07/13/2012
Next Scheduled EDR Contact: 10/22/2012
Data Release Frequency: Quarterly

NPDES: NPDES Facility List

Permitted wastewater outfalls.

Date of Government Version: 03/02/2012
Date Data Arrived at EDR: 05/24/2012
Date Made Active in Reports: 06/11/2012
Number of Days to Update: 18

Source: Texas Commission on Environmental Quality
Telephone: 512-239-4591
Last EDR Contact: 08/24/2012
Next Scheduled EDR Contact: 12/03/2012
Data Release Frequency: Varies

UIC: Underground Injection Wells Database Listing

Class V injection wells regulated by the TCEQ. Class V wells are used to inject non-hazardous fluids underground. Most Class V wells are used to dispose of wastes into or above underground sources of drinking water and can pose a threat to ground water quality, if not managed properly.

Date of Government Version: 07/23/2012
Date Data Arrived at EDR: 07/26/2012
Date Made Active in Reports: 08/29/2012
Number of Days to Update: 34

Source: Texas Commission on Environmental Quality
Telephone: 512-239-6627
Last EDR Contact: 07/19/2012
Next Scheduled EDR Contact: 11/05/2012
Data Release Frequency: Varies

DRYCLEANERS: Drycleaner Registration Database Listing

A listing of drycleaning facilities.

Date of Government Version: 03/31/2012
Date Data Arrived at EDR: 06/13/2012
Date Made Active in Reports: 08/17/2012
Number of Days to Update: 65

Source: Texas Commission on Environmental Quality
Telephone: 512-239-2160
Last EDR Contact: 09/12/2012
Next Scheduled EDR Contact: 12/24/2012
Data Release Frequency: Varies

ENFORCEMENT: Notice of Violations Listing

A listing of permit violations.

Date of Government Version: 03/16/2012
Date Data Arrived at EDR: 03/22/2012
Date Made Active in Reports: 04/06/2012
Number of Days to Update: 15

Source: Texas Commission on Environmental Quality
Telephone: 512-239-6012
Last EDR Contact: 09/06/2012
Next Scheduled EDR Contact: 12/24/2012
Data Release Frequency: Semi-Annually

Ind. Haz Waste: Industrial & Hazardous Waste Database
Summary reports reported by waste handlers, generators and shippers in Texas.

Date of Government Version: 05/31/2012
Date Data Arrived at EDR: 07/13/2012
Date Made Active in Reports: 08/23/2012
Number of Days to Update: 41

Source: Texas Commission on Environmental Quality
Telephone: 512-239-0985
Last EDR Contact: 07/13/2012
Next Scheduled EDR Contact: 10/22/2012
Data Release Frequency: Annually

ED AQUIF: Edwards Aquifer Permits
A listing of permits in the Edwards Aquifer Protection Program database. The information provided is for the counties located in the Austin Region (Hays, Travis, and Williamson counties).

Date of Government Version: 07/19/2012
Date Data Arrived at EDR: 07/26/2012
Date Made Active in Reports: 08/23/2012
Number of Days to Update: 28

Source: Texas Commission on Environmental Quality, Austin Region
Telephone: 512-339-2929
Last EDR Contact: 07/13/2012
Next Scheduled EDR Contact: 10/15/2012
Data Release Frequency: Varies

AIRS: Current Emission Inventory Data
The database lists by company, along with their actual emissions, the TNRCC air accounts that emit EPA criteria pollutants.

Date of Government Version: 12/31/2010
Date Data Arrived at EDR: 01/12/2012
Date Made Active in Reports: 02/06/2012
Number of Days to Update: 25

Source: Texas Commission on Environmental Quality
Telephone: N/A
Last EDR Contact: 06/22/2012
Next Scheduled EDR Contact: 10/01/2012
Data Release Frequency: Semi-Annually

MSD: Municipal Settings Designations Database
An MSD is an official state designation given to property within a municipality or its extraterritorial jurisdiction that certifies that designated groundwater at the property is not use as potable water, and is prohibited from future use as potatable water because that groundwater is contaminated in excess of the applicable potable-water protective concentration level.

Date of Government Version: 06/25/2012
Date Data Arrived at EDR: 06/29/2012
Date Made Active in Reports: 08/21/2012
Number of Days to Update: 53

Source: Texas Commission on Environmental Quality
Telephone: 512-239-4982
Last EDR Contact: 06/22/2012
Next Scheduled EDR Contact: 10/08/2012
Data Release Frequency: Varies

TIER 2: Tier 2 Chemical Inventory Reports
A listing of facilities which store or manufacture hazardous materials and submit a chemical inventory report.

Date of Government Version: 12/31/2011
Date Data Arrived at EDR: 06/13/2012
Date Made Active in Reports: 08/21/2012
Number of Days to Update: 69

Source: Department of State Health Services
Telephone: 512-834-6603
Last EDR Contact: 08/23/2012
Next Scheduled EDR Contact: 12/10/2012
Data Release Frequency: Annually

RWS: Radioactive Waste Sites
Sites in the State of Texas that have been designated as Radioactive Waste sites.

Date of Government Version: 07/24/2006
Date Data Arrived at EDR: 12/14/2006
Date Made Active in Reports: 01/23/2007
Number of Days to Update: 40

Source: Texas Commission on Environmental Quality
Telephone: 512-239-0859
Last EDR Contact: 08/24/2012
Next Scheduled EDR Contact: 12/03/2012
Data Release Frequency: Semi-Annually

INDIAN RESERV: Indian Reservations

This map layer portrays Indian administered lands of the United States that have any area equal to or greater than 640 acres.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 12/08/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 34

Source: USGS
Telephone: 202-208-3710
Last EDR Contact: 07/19/2012
Next Scheduled EDR Contact: 10/29/2012
Data Release Frequency: Semi-Annually

SCRD DRYCLEANERS: State Coalition for Remediation of Drycleaners Listing

The State Coalition for Remediation of Drycleaners was established in 1998, with support from the U.S. EPA Office of Superfund Remediation and Technology Innovation. It is comprised of representatives of states with established drycleaner remediation programs. Currently the member states are Alabama, Connecticut, Florida, Illinois, Kansas, Minnesota, Missouri, North Carolina, Oregon, South Carolina, Tennessee, Texas, and Wisconsin.

Date of Government Version: 03/07/2011
Date Data Arrived at EDR: 03/09/2011
Date Made Active in Reports: 05/02/2011
Number of Days to Update: 54

Source: Environmental Protection Agency
Telephone: 615-532-8599
Last EDR Contact: 07/19/2012
Next Scheduled EDR Contact: 11/05/2012
Data Release Frequency: Varies

US FIN ASSUR: Financial Assurance Information

All owners and operators of facilities that treat, store, or dispose of hazardous waste are required to provide proof that they will have sufficient funds to pay for the clean up, closure, and post-closure care of their facilities.

Date of Government Version: 05/24/2012
Date Data Arrived at EDR: 06/05/2012
Date Made Active in Reports: 06/14/2012
Number of Days to Update: 9

Source: Environmental Protection Agency
Telephone: 202-566-1917
Last EDR Contact: 08/14/2012
Next Scheduled EDR Contact: 12/03/2012
Data Release Frequency: Quarterly

EPA WATCH LIST: EPA WATCH LIST

EPA maintains a "Watch List" to facilitate dialogue between EPA, state and local environmental agencies on enforcement matters relating to facilities with alleged violations identified as either significant or high priority. Being on the Watch List does not mean that the facility has actually violated the law only that an investigation by EPA or a state or local environmental agency has led those organizations to allege that an unproven violation has in fact occurred. Being on the Watch List does not represent a higher level of concern regarding the alleged violations that were detected, but instead indicates cases requiring additional dialogue between EPA, state and local agencies - primarily because of the length of time the alleged violation has gone unaddressed or unresolved.

Date of Government Version: 03/31/2012
Date Data Arrived at EDR: 05/17/2012
Date Made Active in Reports: 06/14/2012
Number of Days to Update: 28

Source: Environmental Protection Agency
Telephone: 617-520-3000
Last EDR Contact: 08/07/2012
Next Scheduled EDR Contact: 11/26/2012
Data Release Frequency: Quarterly

GCC: Groundwater Contamination Cases

Texas Water Code, Section 26.406 requires the annual report to describe the current status of groundwater monitoring activities conducted or required by each agency at regulated facilities or associated with regulated activities. The report is required to contain a description of each case of groundwater contamination documented during the previous calendar year. Also to be included, is a description of each case of contamination documented during previous periods for which voluntary clean up action was incomplete at the time the preceding report was issued. The report is also required to indicate the status of enforcement action for each listed case.

Date of Government Version: 12/31/2010
Date Data Arrived at EDR: 12/20/2011
Date Made Active in Reports: 02/01/2012
Number of Days to Update: 43

Source: Texas Commission on Environmental Quality
Telephone: 512-239-5690
Last EDR Contact: 09/07/2012
Next Scheduled EDR Contact: 12/17/2012
Data Release Frequency: Annually

PRP: Potentially Responsible Parties

A listing of verified Potentially Responsible Parties

Date of Government Version: 02/27/2012
Date Data Arrived at EDR: 04/04/2012
Date Made Active in Reports: 05/15/2012
Number of Days to Update: 41

Source: EPA
Telephone: 202-564-6023
Last EDR Contact: 07/02/2012
Next Scheduled EDR Contact: 10/15/2012
Data Release Frequency: Quarterly

FEDLAND: Federal and Indian Lands

Federally and Indian administrated lands of the United States. Lands included are administrated by: Army Corps of Engineers, Bureau of Reclamation, National Wild and Scenic River, National Wildlife Refuge, Public Domain Land, Wilderness, Wilderness Study Area, Wildlife Management Area, Bureau of Indian Affairs, Bureau of Land Management, Department of Justice, Forest Service, Fish and Wildlife Service, National Park Service.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 02/06/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 339

Source: U.S. Geological Survey
Telephone: 888-275-8747
Last EDR Contact: 07/19/2012
Next Scheduled EDR Contact: 10/29/2012
Data Release Frequency: N/A

2020 COR ACTION: 2020 Corrective Action Program List

The EPA has set ambitious goals for the RCRA Corrective Action program by creating the 2020 Corrective Action Universe. This RCRA cleanup baseline includes facilities expected to need corrective action. The 2020 universe contains a wide variety of sites. Some properties are heavily contaminated while others were contaminated but have since been cleaned up. Still others have not been fully investigated yet, and may require little or no remediation. Inclusion in the 2020 Universe does not necessarily imply failure on the part of a facility to meet its RCRA obligations.

Date of Government Version: 11/11/2011
Date Data Arrived at EDR: 05/18/2012
Date Made Active in Reports: 05/25/2012
Number of Days to Update: 7

Source: Environmental Protection Agency
Telephone: 703-308-4044
Last EDR Contact: 08/16/2012
Next Scheduled EDR Contact: 11/26/2012
Data Release Frequency: Varies

FINANCIAL ASSURANCE 2: Financial Assurance Information Listing

Financial Assurance information for underground storage tank facilities. Financial assurance is intended to ensure that resources are available to pay for the cost of closure, post-closure care, and corrective measures if the owner or operator of a regulated facility is unable or unwilling to pay

Date of Government Version: 06/08/2012
Date Data Arrived at EDR: 07/03/2012
Date Made Active in Reports: 08/21/2012
Number of Days to Update: 49

Source: Texas Commission on Environmental Quality
Telephone: 512-239-0986
Last EDR Contact: 07/03/2012
Next Scheduled EDR Contact: 10/15/2012
Data Release Frequency: Quarterly

PCB TRANSFORMER: PCB Transformer Registration Database

The database of PCB transformer registrations that includes all PCB registration submittals.

Date of Government Version: 02/01/2011
Date Data Arrived at EDR: 10/19/2011
Date Made Active in Reports: 01/10/2012
Number of Days to Update: 83

Source: Environmental Protection Agency
Telephone: 202-566-0517
Last EDR Contact: 08/03/2012
Next Scheduled EDR Contact: 11/12/2012
Data Release Frequency: Varies

COAL ASH DOE: Sleam-Electric Plan Operation Data
A listing of power plants that store ash in surface ponds.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 08/07/2009
Date Made Active in Reports: 10/22/2009
Number of Days to Update: 76

Source: Department of Energy
Telephone: 202-586-8719
Last EDR Contact: 07/16/2012
Next Scheduled EDR Contact: 10/29/2012
Data Release Frequency: Varies

COAL ASH EPA: Coal Combustion Residues Surface Impoundments List
A listing of coal combustion residues surface impoundments with high hazard potential ratings.

Date of Government Version: 08/17/2010
Date Data Arrived at EDR: 01/03/2011
Date Made Active in Reports: 03/21/2011
Number of Days to Update: 77

Source: Environmental Protection Agency
Telephone: N/A
Last EDR Contact: 06/12/2012
Next Scheduled EDR Contact: 09/24/2012
Data Release Frequency: Varies

FINANCIAL ASSURANCE 1: Financial Assurance Information Listing
Financial assurance information.

Date of Government Version: 07/02/2012
Date Data Arrived at EDR: 07/03/2012
Date Made Active in Reports: 08/21/2012
Number of Days to Update: 49

Source: Texas Commission on Environmental Quality
Telephone: 512-239-6239
Last EDR Contact: 06/29/2012
Next Scheduled EDR Contact: 10/15/2012
Data Release Frequency: Varies

EDR PROPRIETARY RECORDS

EDR Proprietary Records

Manufactured Gas Plants: EDR Proprietary Manufactured Gas Plants
The EDR Proprietary Manufactured Gas Plant Database includes records of coal gas plants (manufactured gas plants) compiled by EDR's researchers. Manufactured gas sites were used in the United States from the 1800's to 1950's to produce a gas that could be distributed and used as fuel. These plants used whale oil, rosin, coal, or a mixture of coal, oil, and water that also produced a significant amount of waste. Many of the byproducts of the gas production, such as coal tar (oily waste containing volatile and non-volatile chemicals), sludges, oils and other compounds are potentially hazardous to human health and the environment. The byproduct from this process was frequently disposed of directly at the plant site and can remain or spread slowly, serving as a continuous source of soil and groundwater contamination.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

COUNTY RECORDS

TRAVIS COUNTY:

Historic Tank Records
A listing of historic records from the City of Austin.

Date of Government Version: 06/25/2012
Date Data Arrived at EDR: 06/29/2012
Date Made Active in Reports: 08/23/2012
Number of Days to Update: 55

Source: Department of Planning & Development Review
Telephone: 512-974-2715
Last EDR Contact: 09/06/2012
Next Scheduled EDR Contact: 12/24/2012
Data Release Frequency: Varies

OTHER DATABASE(S)

Depending on the geographic area covered by this report, the data provided in these specialty databases may or may not be complete. For example, the existence of wetlands information data in a specific report does not mean that all wetlands in the area covered by the report are included. Moreover, the absence of any reported wetlands information does not necessarily mean that wetlands do not exist in the area covered by the report.

CT MANIFEST: Hazardous Waste Manifest Data
Facility and manifest data. Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a tsd facility.

Date of Government Version: 05/21/2012
Date Data Arrived at EDR: 05/22/2012
Date Made Active in Reports: 05/31/2012
Number of Days to Update: 9

Source: Department of Energy & Environmental Protection
Telephone: 860-424-3375
Last EDR Contact: 08/20/2012
Next Scheduled EDR Contact: 12/03/2012
Data Release Frequency: Annually

NJ MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 12/31/2011
Date Data Arrived at EDR: 07/19/2012
Date Made Active in Reports: 08/28/2012
Number of Days to Update: 40

Source: Department of Environmental Protection
Telephone: N/A
Last EDR Contact: 07/19/2012
Next Scheduled EDR Contact: 10/29/2012
Data Release Frequency: Annually

NY MANIFEST: Facility and Manifest Data
Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a TSD facility.

Date of Government Version: 05/01/2012
Date Data Arrived at EDR: 05/09/2012
Date Made Active in Reports: 06/14/2012
Number of Days to Update: 36

Source: Department of Environmental Conservation
Telephone: 518-402-8651
Last EDR Contact: 08/09/2012
Next Scheduled EDR Contact: 11/19/2012
Data Release Frequency: Annually

PA MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 12/31/2010
Date Data Arrived at EDR: 04/27/2012
Date Made Active in Reports: 06/05/2012
Number of Days to Update: 39

Source: Department of Environmental Protection
Telephone: 717-783-8990
Last EDR Contact: 07/19/2012
Next Scheduled EDR Contact: 11/05/2012
Data Release Frequency: Annually

RI MANIFEST: Manifest information
Hazardous waste manifest information

Date of Government Version: 12/31/2011
Date Data Arrived at EDR: 06/22/2012
Date Made Active in Reports: 07/31/2012
Number of Days to Update: 39

Source: Department of Environmental Management
Telephone: 401-222-2797
Last EDR Contact: 08/23/2012
Next Scheduled EDR Contact: 12/10/2012
Data Release Frequency: Annually

VT MANIFEST: Hazardous Waste Manifest Data
Hazardous waste manifest information.

Date of Government Version: 08/09/2012
Date Data Arrived at EDR: 08/15/2012
Date Made Active in Reports: 09/13/2012
Number of Days to Update: 29

Source: Department of Environmental Conservation
Telephone: 802-241-3443
Last EDR Contact: 07/23/2012
Next Scheduled EDR Contact: 11/05/2012
Data Release Frequency: Annually

WI MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 12/31/2010
Date Data Arrived at EDR: 08/19/2011
Date Made Active in Reports: 09/15/2011
Number of Days to Update: 27

Source: Department of Natural Resources
Telephone: N/A
Last EDR Contact: 07/16/2012
Next Scheduled EDR Contact: 10/01/2012
Data Release Frequency: Annually

Oil/Gas Pipelines: This data was obtained by EDR from the USGS in 1994. It is referred to by USGS as GeoData Digital Line Graphs from 1:100,000-Scale Maps. It was extracted from the transportation category including some oil, but primarily gas pipelines.

Electric Power Transmission Line Data
Source: Rextag Strategies Corp.
Telephone: (281) 769-2247
U.S. Electric Transmission and Power Plants Systems Digital GIS Data

Sensitive Receptors: There are individuals deemed sensitive receptors due to their fragile immune systems and special sensitivity to environmental discharges. These sensitive receptors typically include the elderly, the sick, and children. While the location of all sensitive receptors cannot be determined, EDR indicates those buildings and facilities - schools, daycares, hospitals, medical centers, and nursing homes - where individuals who are sensitive receptors are likely to be located.

AHA Hospitals:
Source: American Hospital Association, Inc.
Telephone: 312-280-5991
The database includes a listing of hospitals based on the American Hospital Association's annual survey of hospitals.

Medical Centers: Provider of Services Listing
Source: Centers for Medicare & Medicaid Services
Telephone: 410-786-3000
A listing of hospitals with Medicare provider number, produced by Centers of Medicare & Medicaid Services, a federal agency within the U.S. Department of Health and Human Services.

Nursing Homes
Source: National Institutes of Health
Telephone: 301-594-6248
Information on Medicare and Medicaid certified nursing homes in the United States.

Public Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on elementary and secondary public education in the United States. It is a comprehensive, annual, national statistical database of all public elementary and secondary schools and school districts, which contains data that are comparable across all states.

Private Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on private school locations in the United States.

Daycare Centers: Child Care Facility List
Source: Department of Protective & Regulatory Services
Telephone: 512-438-3269

Flood Zone Data: This data, available in select counties across the country, was obtained by EDR in 2003 & 2011 from the Federal Emergency Management Agency (FEMA). Data depicts 100-year and 500-year flood zones as defined by FEMA.

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002 and 2005 from the U.S. Fish and Wildlife Service.

Scanned Digital USGS 7.5' Topographic Map (DRG)
Source: United States Geologic Survey
A digital raster graphic (DRG) is a scanned image of a U.S. Geological Survey topographic map. The map images are made by scanning published paper maps on high-resolution scanners. The raster image is georeferenced and fit to the Universal Transverse Mercator (UTM) projection.

STREET AND ADDRESS INFORMATION

© 2010 Tele Atlas North America, Inc. All rights reserved. This material is proprietary and the subject of copyright protection and other intellectual property rights owned by or licensed to Tele Atlas North America, Inc. The use of this material is subject to the terms of a license agreement. You will be held liable for any unauthorized copying or disclosure of this material.

GEOCHECK ®- PHYSICAL SETTING SOURCE ADDENDUM

TARGET PROPERTY ADDRESS

COASTAL
BOCA CHICA BLVD
PORT ISABEL, TX 78578

TARGET PROPERTY COORDINATES

Latitude (North):	25.9964 - 25˚ 59’ 47.04’’
Longitude (West):	97.1525 - 97˚ 9’ 9.00’’
Universal Tranverse Mercator:	Zone 14
UTM X (Meters):	684922.3
UTM Y (Meters):	2876429.8
Elevation:	1 ft. above sea level

USGS TOPOGRAPHIC MAP

Target Property Map:	25097-H2 MOUTH OF RIO GRANDE, TX MX28
Most Recent Revision:	1970
North Map:	26097-A2 PORT ISABEL, TX
Most Recent Revision:	1983

EDR’s GeoCheck Physical Setting Source Addendum is provided to assist the environmental professional in forming an opinion about the impact of potential contaminant migration.

Assessment of the impact of contaminant migration generally has two principal investigative components:

1. Groundwater flow direction, and
2. Groundwater flow velocity.

Groundwater flow direction may be impacted by surface topography, hydrology, hydrogeology, characteristics of the soil, and nearby wells. Groundwater flow velocity is generally impacted by the nature of the geologic strata.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW DIRECTION INFORMATION

Groundwater flow direction for a particular site is best determined by a qualified environmental professional using site-specific well data. If such data is not reasonably ascertainable, it may be necessary to rely on other sources of information, such as surface topographic information, hydrologic information, hydrogeologic data collected on nearby properties, and regional groundwater flow information (from deep aquifers).

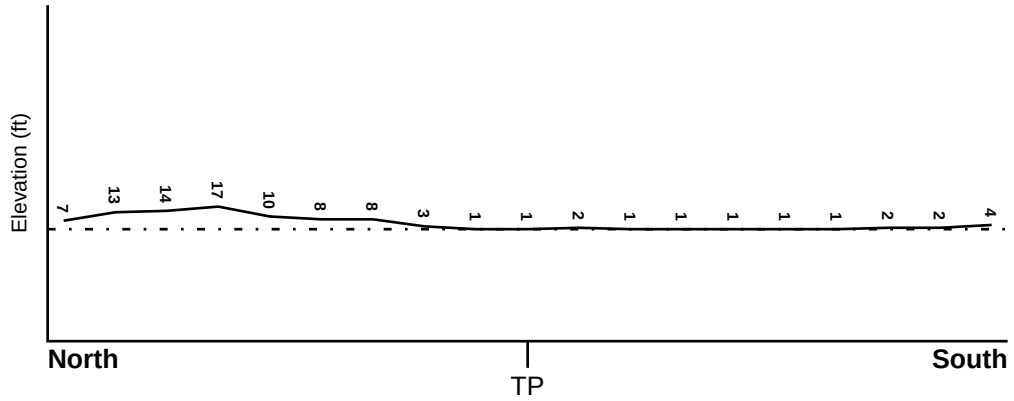
TOPOGRAPHIC INFORMATION

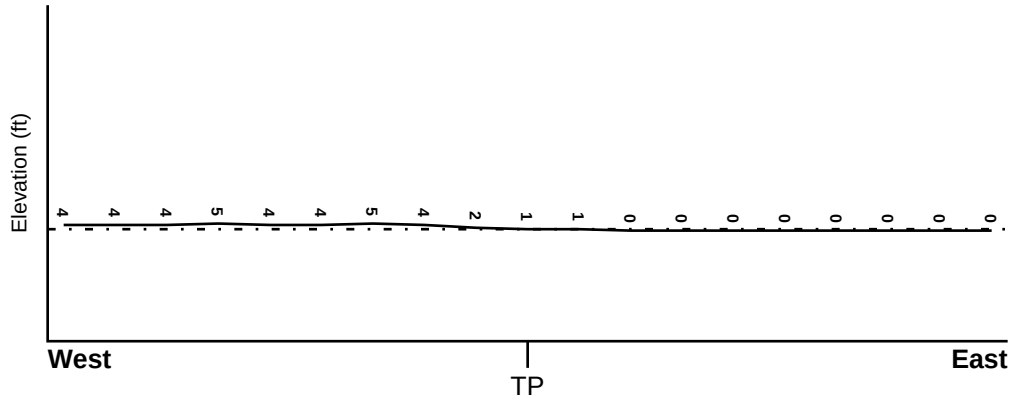
Surface topography may be indicative of the direction of surficial groundwater flow. This information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

TARGET PROPERTY TOPOGRAPHY

General Topographic Gradient: General ESE

SURROUNDING TOPOGRAPHY: ELEVATION PROFILES





Target Property Elevation: 1 ft.

0 1/2 1 Miles

Source: Topography has been determined from the USGS 7.5' Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

HYDROLOGIC INFORMATION

Surface water can act as a hydrologic barrier to groundwater flow. Such hydrologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Refer to the Physical Setting Source Map following this summary for hydrologic information (major waterways and bodies of water).

FEMA FLOOD ZONE

Target Property County	FEMA Flood Electronic Data
CAMERON, TX	YES - refer to the Overview Map and Detail Map

Flood Plain Panel at Target Property: 4801010375D - FEMA Q3 Flood data

Additional Panels in search area: Not Reported

NATIONAL WETLAND INVENTORY

NWI Quad at Target Property	NWI Electronic Data Coverage
MOUTH OF RIO GRANDE	YES - refer to the Overview Map and Detail Map

HYDROGEOLOGIC INFORMATION

Hydrogeologic information obtained by installation of wells on a specific site can often be an indicator of groundwater flow direction in the immediate area. Such hydrogeologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Site-Specific Hydrogeological Data*:

Search Radius: 1.25 miles
Status: Not found

AQUIFLOW®

Search Radius: 1.000 Mile.

EDR has developed the AQUIFLOW Information System to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted by environmental professionals to regulatory authorities at select sites and has extracted the date of the report, groundwater flow direction as determined hydrogeologically, and the depth to water table.

MAP ID	LOCATION FROM TP	GENERAL DIRECTION GROUNDWATER FLOW
Not Reported		

* ©1996 Site−specific hydrogeological data gathered by CERCLIS Alerts, Inc., Bainbridge Island, WA. All rights reserved. All of the information and opinions presented are those of the cited EPA report(s), which were completed under a Comprehensive Environmental Response Compensation and Liability Information System (CERCLIS) investigation.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW VELOCITY INFORMATION

Groundwater flow velocity information for a particular site is best determined by a qualified environmental professional using site specific geologic and soil strata data. If such data are not reasonably ascertainable, it may be necessary to rely on other sources of information, including geologic age identification, rock stratigraphic unit and soil characteristics data collected on nearby properties and regional soil information. In general, contaminant plumes move more quickly through sandy-gravelly types of soils than silty-clayey types of soils.

GEOLOGIC INFORMATION IN GENERAL AREA OF TARGET PROPERTY

Geologic information can be used by the environmental professional in forming an opinion about the relative speed at which contaminant migration may be occurring.

ROCK STRATIGRAPHIC UNIT

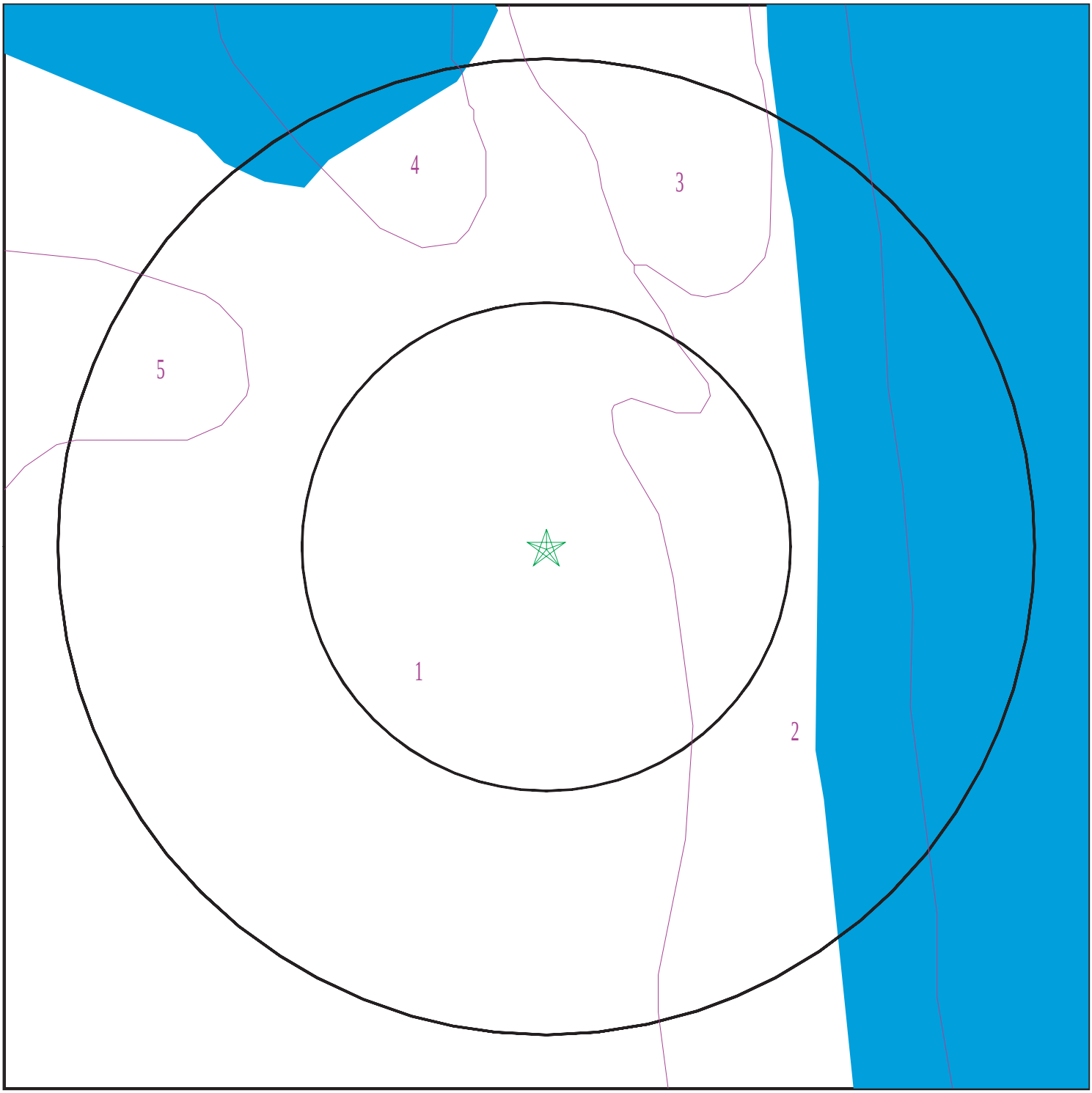
Era:	Cenozoic
System:	Quaternary
Series:	Holocene
Code:	Qh *(decoded above as Era, System & Series)*

GEOLOGIC AGE IDENTIFICATION

Category: Stratifed Sequence

Geologic Age and Rock Stratigraphic Unit Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - a digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

SSURGO SOIL MAP - 3410419.1s



Target Property
SSURGO Soil
Water

0 1/16 1/8 1/4 Miles

N

SITE NAME:	Coastal	CLIENT:	SpaceX
ADDRESS:	Boca Chica Blvd Port Isabel TX 78578	CONTACT:	Steve Davis
		INQUIRY #:	3410419.1s
LAT/LONG:	25.9964 / 97.1525	DATE:	September 14, 2012 9:24 am

Copyright © 2012 EDR, Inc. © 2010 Tele Atlas Rel. 07/2009.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

DOMINANT SOIL COMPOSITION IN GENERAL AREA OF TARGET PROPERTY

The U.S. Department of Agriculture's (USDA) Soil Conservation Service (SCS) leads the National Cooperative Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. The following information is based on Soil Conservation Service SSURGO data.

Soil Map ID: 1

Soil Component Name: Mustang

Soil Surface Texture: fine sand

Hydrologic Group: Class A/D - Drained/undrained hydrology class of soils that can be drained and are classified.

Soil Drainage Class: Poorly drained

Hydric Status: Partially hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 8 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	5 inches	fine sand	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Clean Sands, Poorly graded sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 141 Min: 42	Max: 8.4 Min: 6.6
2	5 inches	72 inches	fine sand	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Clean Sands, Poorly graded sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 141 Min: 42	Max: 8.4 Min: 6.6

Soil Map ID: 2

Soil Component Name: Coastal beach

Soil Surface Texture: fine sand

Hydrologic Group: Class A/D - Drained/undrained hydrology class of soils that can be drained and are classified.

Soil Drainage Class: Very poorly drained

Hydric Status: Unknown

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 8 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	79 inches	fine sand	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Clean Sands, Poorly graded sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 141 Min: 141	Max: 9 Min: 7.4

Soil Map ID: 3

Soil Component Name: Coastal dunes

Soil Surface Texture: fine sand

Hydrologic Group: Class A - High infiltration rates. Soils are deep, well drained to excessively drained sands and gravels.

Soil Drainage Class: Somewhat excessively drained

Hydric Status: Unknown

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	79 inches	fine sand	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Clean Sands, Poorly graded sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 141 Min: 141	Max: 9 Min: 7.4

Soil Map ID: 4

Soil Component Name: Water

Soil Surface Texture: fine sand

Hydrologic Group: Class A - High infiltration rates. Soils are deep, well drained to excessively drained sands and gravels.

Soil Drainage Class:
Hydric Status: Unknown

Corrosion Potential - Uncoated Steel: Not Reported

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

No Layer Information available.

Soil Map ID: 5

Soil Component Name: Galveston

Soil Surface Texture: fine sand

Hydrologic Group: Class A - High infiltration rates. Soils are deep, well drained to excessively drained sands and gravels.

Soil Drainage Class: Somewhat excessively drained

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Hydric Status: Partially hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 137 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	5 inches	fine sand	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Clean Sands, Poorly graded sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 141 Min: 42	Max: 8.4 Min: 5.6
2	5 inches	62 inches	fine sand	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Clean Sands, Poorly graded sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 141 Min: 42	Max: 8.4 Min: 5.6

LOCAL / REGIONAL WATER AGENCY RECORDS

EDR Local/Regional Water Agency records provide water well information to assist the environmental professional in assessing sources that may impact ground water flow direction, and in forming an opinion about the impact of contaminant migration on nearby drinking water wells.

WELL SEARCH DISTANCE INFORMATION

DATABASE	SEARCH DISTANCE (miles)
Federal USGS	1.000
Federal FRDS PWS	Nearest PWS within 1 mile
State Database	1.000

FEDERAL USGS WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
No Wells Found		

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

FEDERAL FRDS PUBLIC WATER SUPPLY SYSTEM INFORMATION

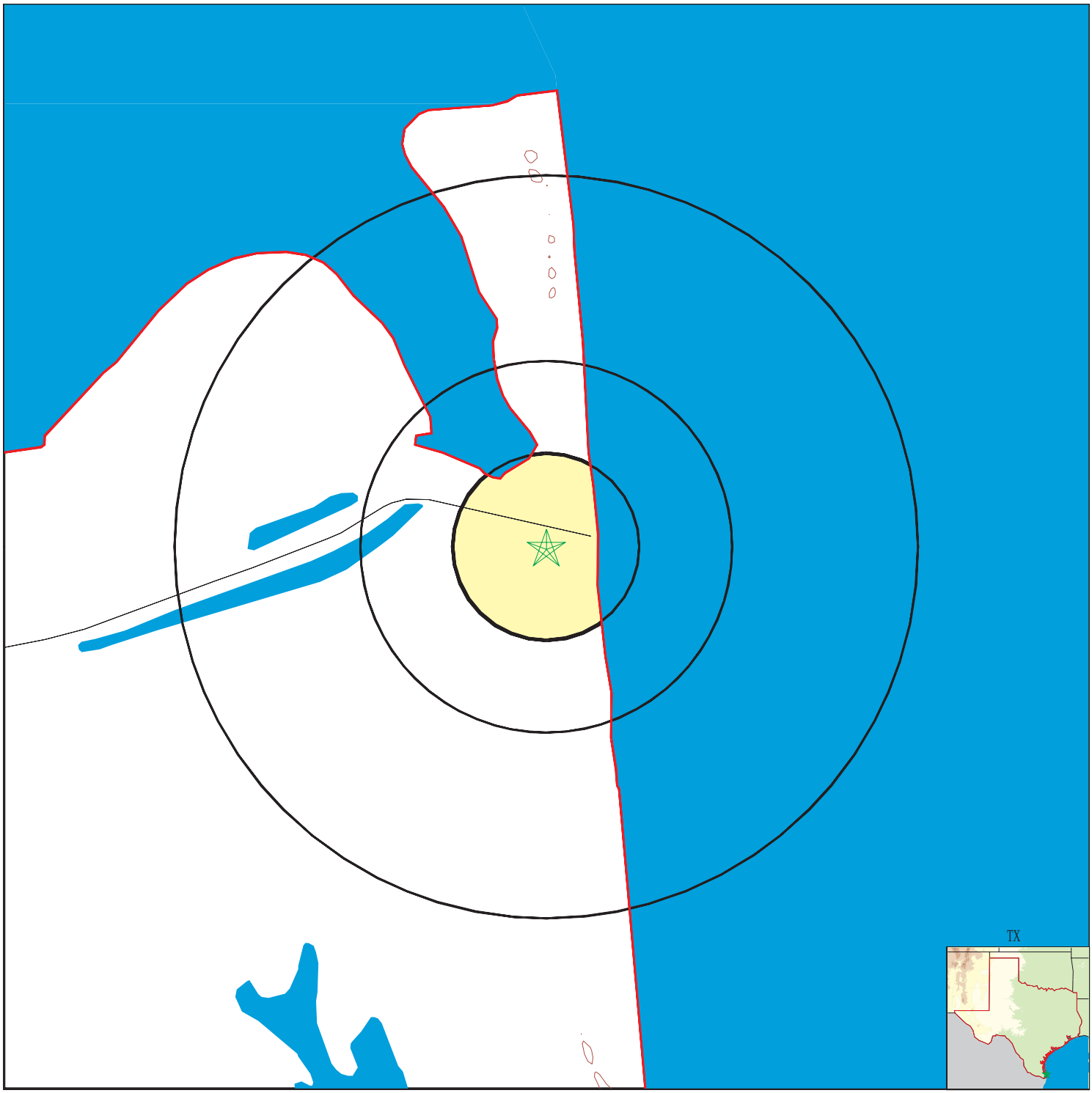
MAP ID	WELL ID	LOCATION FROM TP
No PWS System Found		

Note: PWS System location is not always the same as well location.

STATE DATABASE WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
No Wells Found		

PHYSICAL SETTING SOURCE MAP - 3410419.1s



County Boundary
Major Roads
Contour Lines
Earthquake epicenter, Richter 5 or greater
Water Wells
Public Water Supply Wells
Cluster of Multiple Icons

0 1/4 1/2 1 Miles

Groundwater Flow Direction
GI Indeterminate Groundwater Flow at Location
GV Groundwater Flow Varies at Location
HD Closest Hydrogeological Data
Oil or gas wells

N

SITE NAME:	Coastal	CLIENT:	SpaceX
ADDRESS:	Boca Chica Blvd Port Isabel TX 78578	CONTACT:	Steve Davis
		INQUIRY #:	3410419.1s
LAT/LONG:	25.9964 / 97.1525	DATE:	September 14, 2012 9:23 am

Copyright © 2012 EDR, Inc. © 2010 Tele Atlas Rel. 07/2009.

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS
RADON

AREA RADON INFORMATION

State Database: TX Radon

Radon Test Results

County	Mean	Total Sites	%>4 pCi/L	%>20 pCi/L	Min pCi/L	Max pCi/L
CAMERON	<.5	11	.0	.0	<.5	1.4

Federal EPA Radon Zone for CAMERON County: 3

Note: Zone 1 indoor average level > 4 pCi/L.
: Zone 2 indoor average level >= 2 pCi/L and <= 4 pCi/L.
: Zone 3 indoor average level < 2 pCi/L.

Federal Area Radon Information for CAMERON COUNTY, TX

Number of sites tested: 7

Area	Average Activity	% <4 pCi/L	% 4-20 pCi/L	% >20 pCi/L
Living Area - 1st Floor	0.386 pCi/L	100%	0%	0%
Living Area - 2nd Floor	0.100 pCi/L	100%	0%	0%
Basement	Not Reported	Not Reported	Not Reported	Not Reported

PHYSICAL SETTING SOURCE RECORDS SEARCHED

TOPOGRAPHIC INFORMATION

USGS 7.5' Digital Elevation Model (DEM)
Source: United States Geologic Survey
EDR acquired the USGS 7.5' Digital Elevation Model in 2002 and updated it in 2006. The 7.5 minute DEM corresponds to the USGS 1:24,000- and 1:25,000-scale topographic quadrangle maps. The DEM provides elevation data with consistent elevation units and projection.

Scanned Digital USGS 7.5' Topographic Map (DRG)
Source: United States Geologic Survey
A digital raster graphic (DRG) is a scanned image of a U.S. Geological Survey topographic map. The map images are made by scanning published paper maps on high-resolution scanners. The raster image is georeferenced and fit to the Universal Transverse Mercator (UTM) projection.

HYDROLOGIC INFORMATION

Flood Zone Data: This data, available in select counties across the country, was obtained by EDR in 2003 & 2011 from the Federal Emergency Management Agency (FEMA). Data depicts 100-year and 500-year flood zones as defined by FEMA.

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002 and 2005 from the U.S. Fish and Wildlife Service.

HYDROGEOLOGIC INFORMATION

AQUIFLOW^{R} Information System
Source: EDR proprietary database of groundwater flow information
EDR has developed the AQUIFLOW Information System (AIS) to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted to regulatory authorities at select sites and has extracted the date of the report, hydrogeologically determined groundwater flow direction and depth to water table information.

GEOLOGIC INFORMATION

Geologic Age and Rock Stratigraphic Unit
Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - A digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

STATSGO: State Soil Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Services
The U.S. Department of Agriculture's (USDA) Natural Resources Conservation Service (NRCS) leads the national Conservation Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps.

SSURGO: Soil Survey Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Services (NRCS)
Telephone: 800-672-5559
SSURGO is the most detailed level of mapping done by the Natural Resources Conservation Services, mapping scales generally range from 1:12,000 to 1:63,360. Field mapping methods using national standards are used to construct the soil maps in the Soil Survey Geographic (SSURGO) database. SSURGO digitizing duplicates the original soil survey maps. This level of mapping is designed for use by landowners, townships and county natural resource planning and management.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

LOCAL / REGIONAL WATER AGENCY RECORDS

FEDERAL WATER WELLS

PWS: Public Water Systems
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Public Water System data from the Federal Reporting Data System. A PWS is any water system which provides water to at least 25 people for at least 60 days annually. PWSs provide water from wells, rivers and other sources.

PWS ENF: Public Water Systems Violation and Enforcement Data
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Violation and Enforcement data for Public Water Systems from the Safe Drinking Water Information System (SDWIS) after August 1995. Prior to August 1995, the data came from the Federal Reporting Data System (FRDS).

USGS Water Wells: USGS National Water Inventory System (NWIS)
This database contains descriptive information on sites where the USGS collects or has collected data on surface water and/or groundwater. The groundwater data includes information on wells, springs, and other sources of groundwater.

STATE RECORDS

Public Water Supply Sources Databases
Source: Texas Commission on Environmental Quality
Telephone: 512-239-6199
Locations of public drinking water sources maintained by the TCEQ

Groundwater Database
Source: Texas Water Development Board
Telephone: 512-936-0837

Well Report Database
Source: Department of Licensing and Regulation
Telephone: 512-936-0833

Water Well Database
Source: Harris-Galveston Coastal Subsidence District
Telephone: 281-486-1105

Submitted Driller's Reports Database
Source: Texas Water Development Board
Telephone: 512-936-0833
The Submitted Driller's Reports Database is populated from the online Texas Well Report Submission and Retrieval System which is a cooperative Texas Department of Licensing and Regulation (TDLR) and Texas Water Development Board (TWDB) application that registered water-well drillers use to submit their required reports.

OTHER STATE DATABASE INFORMATION

Texas Oil and Gas Wells:
Source: Texas Railroad Commission
Telephone: 512-463-6882
Oil and gas well locations

RADON

State Database: TX Radon
Source: Department of Health
Telephone: 512-834-6688
Rinal Report of the Texas Indoor Radon Survey

PHYSICAL SETTING SOURCE RECORDS SEARCHED

Area Radon Information
Source: USGS
Telephone: 703-356-4020
The National Radon Database has been developed by the U.S. Environmental Protection Agency (USEPA) and is a compilation of the EPA/State Residential Radon Survey and the National Residential Radon Survey. The study covers the years 1986 - 1992. Where necessary data has been supplemented by information collected at private sources such as universities and research institutions.

EPA Radon Zones
Source: EPA
Telephone: 703-356-4020
Sections 307 & 309 of IRAA directed EPA to list and identify areas of U.S. with the potential for elevated indoor radon levels.

OTHER

Airport Landing Facilities: Private and public use landing facilities
Source: Federal Aviation Administration, 800-457-6656

Epicenters: World earthquake epicenters, Richter 5 or greater
Source: Department of Commerce, National Oceanic and Atmospheric Administration

STREET AND ADDRESS INFORMATION

© 2010 Tele Atlas North America, Inc. All rights reserved. This material is proprietary and the subject of copyright protection and other intellectual property rights owned by or licensed to Tele Atlas North America, Inc. The use of this material is subject to the terms of a license agreement. You will be held liable for any unauthorized copying or disclosure of this material.

P1
Boca Chica Boulevard
Port Isabel, TX 78578

Inquiry Number: 3410419.3s
September 14, 2012

The EDR Radius Map™ Report with GeoCheck®

EDR® Environmental Data Resources Inc

440 Wheelers Farms Road
Milford, CT 06461
Toll Free: 800.352.0050
www.edrnet.com

TABLE OF CONTENTS

SECTION	PAGE
Executive Summary	ES1
Overview Map	2
Detail Map	3
Map Findings Summary	4
Map Findings	7
Orphan Summary	8
Government Records Searched/Data Currency Tracking	GR-1

GEOCHECK ADDENDUM

Physical Setting Source Addendum	A-1
Physical Setting Source Summary	A-2
Physical Setting SSURGO Soil Map	A-5
Physical Setting Source Map	A-9
Physical Setting Source Map Findings	A-11
Physical Setting Source Records Searched	A-14

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

Disclaimer - Copyright and Trademark Notice

This Report contains certain information obtained from a variety of public and other sources reasonably available to Environmental Data Resources, Inc. It cannot be concluded from this Report that coverage information for the target and surrounding properties does not exist from other sources. **NO WARRANTY EXPRESSED OR IMPLIED, IS MADE WHATSOEVER IN CONNECTION WITH THIS REPORT. ENVIRONMENTAL DATA RESOURCES, INC. SPECIFICALLY DISCLAIMS THE MAKING OF ANY SUCH WARRANTIES, INCLUDING WITHOUT LIMITATION, MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE OR PURPOSE. ALL RISK IS ASSUMED BY THE USER. IN NO EVENT SHALL ENVIRONMENTAL DATA RESOURCES, INC. BE LIABLE TO ANYONE, WHETHER ARISING OUT OF ERRORS OR OMISSIONS, NEGLIGENCE, ACCIDENT OR ANY OTHER CAUSE, FOR ANY LOSS OF DAMAGE, INCLUDING, WITHOUT LIMITATION, SPECIAL, INCIDENTAL, CONSEQUENTIAL, OR EXEMPLARY DAMAGES. ANY LIABILITY ON THE PART OF ENVIRONMENTAL DATA RESOURCES, INC. IS STRICTLY LIMITED TO A REFUND OF THE AMOUNT PAID FOR THIS REPORT.** Purchaser accepts this Report "AS IS". Any analyses, estimates, ratings, environmental risk levels or risk codes provided in this Report are provided for illustrative purposes only, and are not intended to provide, nor should they be interpreted as providing any facts regarding, or prediction or forecast of, any environmental risk for any property. Only a Phase I Environmental Site Assessment performed by an environmental professional can provide information regarding the environmental risk for any property. Additionally, the information provided in this Report is not to be construed as legal advice.

Copyright 2012 by Environmental Data Resources, Inc. All rights reserved. Reproduction in any media or format, in whole or in part, of any report or map of Environmental Data Resources, Inc., or its affiliates, is prohibited without prior written permission.

EDR and its logos (including Sanborn and Sanborn Map) are trademarks of Environmental Data Resources, Inc. or its affiliates. All other trademarks used herein are the property of their respective owners.

EXECUTIVE SUMMARY

A search of available environmental records was conducted by Environmental Data Resources, Inc (EDR). The report was designed to assist parties seeking to meet the search requirements of EPA's Standards and Practices for All Appropriate Inquiries (40 CFR Part 312), the ASTM Standard Practice for Environmental Site Assessments (E 1527-05) or custom requirements developed for the evaluation of environmental risk associated with a parcel of real estate.

TARGET PROPERTY INFORMATION

ADDRESS

BOCA CHICA BOULEVARD
PORT ISABEL, TX 78578

COORDINATES

Latitude (North):	25.9856000 - 25˚ 59' 8.16''
Longitude (West):	97.1867000 - 97˚ 11' 12.12''
Universal Tranverse Mercator:	Zone 14
UTM X (Meters):	681515.0
UTM Y (Meters):	2875185.2
Elevation:	7 ft. above sea level

USGS TOPOGRAPHIC MAP ASSOCIATED WITH TARGET PROPERTY

Target Property Map:	25097-H2 MOUTH OF RIO GRANDE, TX MX28
Most Recent Revision:	1970
North Map:	26097-A2 PORT ISABEL, TX
Most Recent Revision:	1983

AERIAL PHOTOGRAPHY IN THIS REPORT

Photo Year:	2010
Source:	USDA

TARGET PROPERTY SEARCH RESULTS

The target property was not listed in any of the databases searched by EDR.

DATABASES WITH NO MAPPED SITES

No mapped sites were found in EDR's search of available ("reasonably ascertainable ") government records either on the target property or within the search radius around the target property for the following databases:

STANDARD ENVIRONMENTAL RECORDS

Federal NPL site list

NPL---------- National Priority List

EXECUTIVE SUMMARY

Proposed NPL ..... Proposed National Priority List Sites
NPL LIENS ..... Federal Superfund Liens

Federal Delisted NPL site list

Delisted NPL ..... National Priority List Deletions

Federal CERCLIS list

CERCLIS ..... Comprehensive Environmental Response, Compensation, and Liability Information System
FEDERAL FACILITY ..... Federal Facility Site Information listing

Federal CERCLIS NFRAP site List

CERC-NFRAP ..... CERCLIS No Further Remedial Action Planned

Federal RCRA CORRACTS facilities list

CORRACTS ..... Corrective Action Report

Federal RCRA non-CORRACTS TSD facilities list

RCRA-TSDF ..... RCRA - Treatment, Storage and Disposal

Federal RCRA generators list

RCRA-LQG ..... RCRA - Large Quantity Generators
RCRA-SQG ..... RCRA - Small Quantity Generators
RCRA-CESQG ..... RCRA - Conditionally Exempt Small Quantity Generator

Federal institutional controls / engineering controls registries

US ENG CONTROLS ..... Engineering Controls Sites List
US INST CONTROL ..... Sites with Institutional Controls

Federal ERNS list

ERNS ..... Emergency Response Notification System

State- and tribal - equivalent NPL

SHWS ..... State Superfund Registry

State and tribal landfill and/or solid waste disposal site lists

SWF/LF ..... Permitted Solid Waste Facilities
CLI ..... Closed Landfill Inventory
WasteMgt ..... Commercial Hazardous & Solid Waste Management Facilities

State and tribal leaking storage tank lists

LPST ..... Leaking Petroleum Storage Tank Listing
INDIAN LUST ..... Leaking Underground Storage Tanks on Indian Land

State and tribal registered storage tank lists

UST ..... Petroleum Storage Tank Database

EXECUTIVE SUMMARY

AST ..... Petroleum Storage Tank Database
INDIAN UST ..... Underground Storage Tanks on Indian Land
FEMA UST ..... Underground Storage Tank Listing

State and tribal institutional control / engineering control registries

AUL ..... Sites with Controls

State and tribal voluntary cleanup sites

VCP ..... Voluntary Cleanup Program Database
INDIAN VCP ..... Voluntary Cleanup Priority Listing

State and tribal Brownfields sites

BROWNFIELDS ..... Brownfields Site Assessments

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS ..... A Listing of Brownfields Sites

Local Lists of Landfill / Solid Waste Disposal Sites

ODI ..... Open Dump Inventory
DEBRIS REGION 9 ..... Torres Martinez Reservation Illegal Dump Site Locations
INDIAN ODI ..... Report on the Status of Open Dumps on Indian Lands

Local Lists of Hazardous waste / Contaminated Sites

US CDL ..... Clandestine Drug Labs
DEL SHWS ..... Deleted Superfund Registry Sites
PRIORITYCLEANERS ..... Dry Cleaner Remediation Program Prioritization List
US HIST CDL ..... National Clandestine Laboratory Register

Local Land Records

LIENS 2 ..... CERCLA Lien Information
LUCIS ..... Land Use Control Information System
LIENS ..... Environmental Liens Listing
HIST LIENS ..... Environmental Liens Listing

Records of Emergency Release Reports

HMIRS ..... Hazardous Materials Information Reporting System
SPILLS ..... Spills Database

Other Ascertainable Records

RCRA-NonGen ..... RCRA - Non Generators
DOT OPS ..... Incident and Accident Data
DOD ..... Department of Defense Sites
FUDS ..... Formerly Used Defense Sites

EXECUTIVE SUMMARY

CONSENT	Superfund (CERCLA) Consent Decrees
ROD	Records Of Decision
UMTRA	Uranium Mill Tailings Sites
MINES	Mines Master Index File
TRIS	Toxic Chemical Release Inventory System
TSCA	Toxic Substances Control Act
FTTS	FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
HIST FTTS	FIFRA/TSCA Tracking System Administrative Case Listing
SSTS	Section 7 Tracking Systems
ICIS	Integrated Compliance Information System
PADS	PCB Activity Database System
MLTS	Material Licensing Tracking System
RADINFO	Radiation Information Database
FINDS	Facility Index System/Facility Registry System
RAATS	RCRA Administrative Action Tracking System
IOP	Innocent Owner/Operator Program
NPDES	NPDES Facility List
UIC	Underground Injection Wells Database Listing
DRYCLEANERS	Drycleaner Registration Database Listing
ENF	Notice of Violations Listing
Ind. Haz Waste	Industrial & Hazardous Waste Database
ED AQUIF	Edwards Aquifer Permits
AIRS	Current Emission Inventory Data
MSD	Municipal Settings Designations Database
TIER 2	Tier 2 Chemical Inventory Reports
RWS	Radioactive Waste Sites
INDIAN RESERV	Indian Reservations
SCRD DRYCLEANERS	State Coalition for Remediation of Drycleaners Listing
2020 COR ACTION	2020 Corrective Action Program List
GCC	Groundwater Contamination Cases
EPA WATCH LIST	EPA WATCH LIST
FINANCIAL ASSURANCE	Financial Assurance Information Listing
PCB TRANSFORMER	PCB Transformer Registration Database
PRP	Potentially Responsible Parties
COAL ASH DOE	Steam-Electric Plant Operation Data
COAL ASH EPA	Coal Combustion Residues Surface Impoundments List
US FIN ASSUR	Financial Assurance Information

EDR PROPRIETARY RECORDS

EDR Proprietary Records

Manufactured Gas Plants	EDR Proprietary Manufactured Gas Plants

SURROUNDING SITES: SEARCH RESULTS

Surrounding sites were not identified.

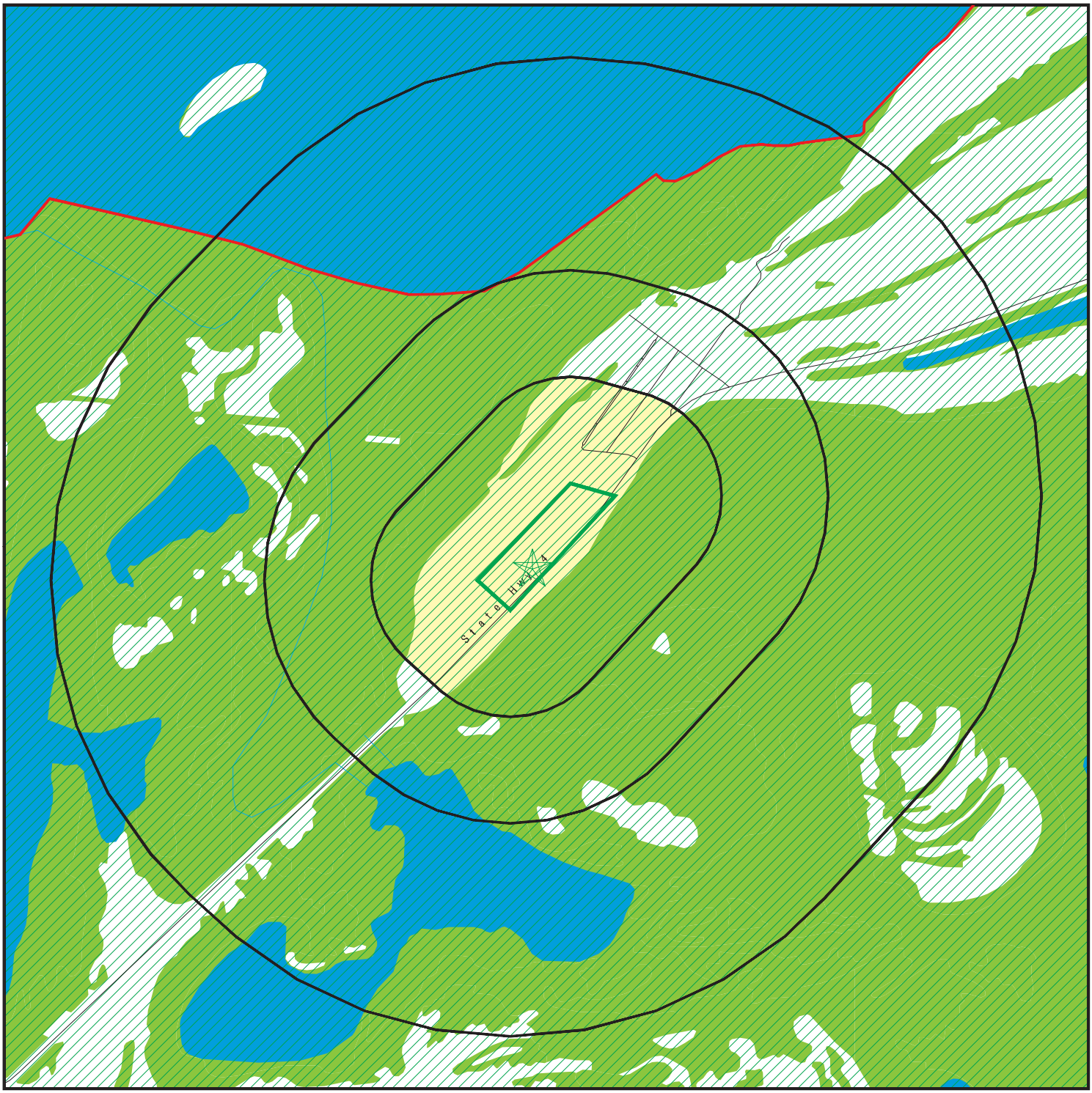
Unmappable (orphan) sites are not considered in the foregoing analysis.

EXECUTIVE SUMMARY

Due to poor or inadequate address information, the following sites were not mapped. Count: 6 records.

Site Name	Database(s)
BAYSIDE NET & TWINE CO	CERC-NFRAP
CITY OF PORT ISABEL LANDFILL	SWF/LF
CAMERON COUNTY FWSD NO 1 TRANSFER	SWF/LF
CAMERON COUNTY FWSD NO 1 TRANSFER	SWF/LF
CITY OF PORT ISABEL LANDFILL	SWF/LF
VALLEY FISHERIES	AST

OVERVIEW MAP - 3410419.3s



Target Property

Sites at elevations higher than or equal to the target property

Sites at elevations lower than the target property

Manufactured Gas Plants

National Priority List Sites

Dept. Defense Sites

0 1/4 1/2 1 Miles

Indian Reservations BIA

County Boundary

Oil & Gas pipelines from USGS

100-year flood zone

500-year flood zone

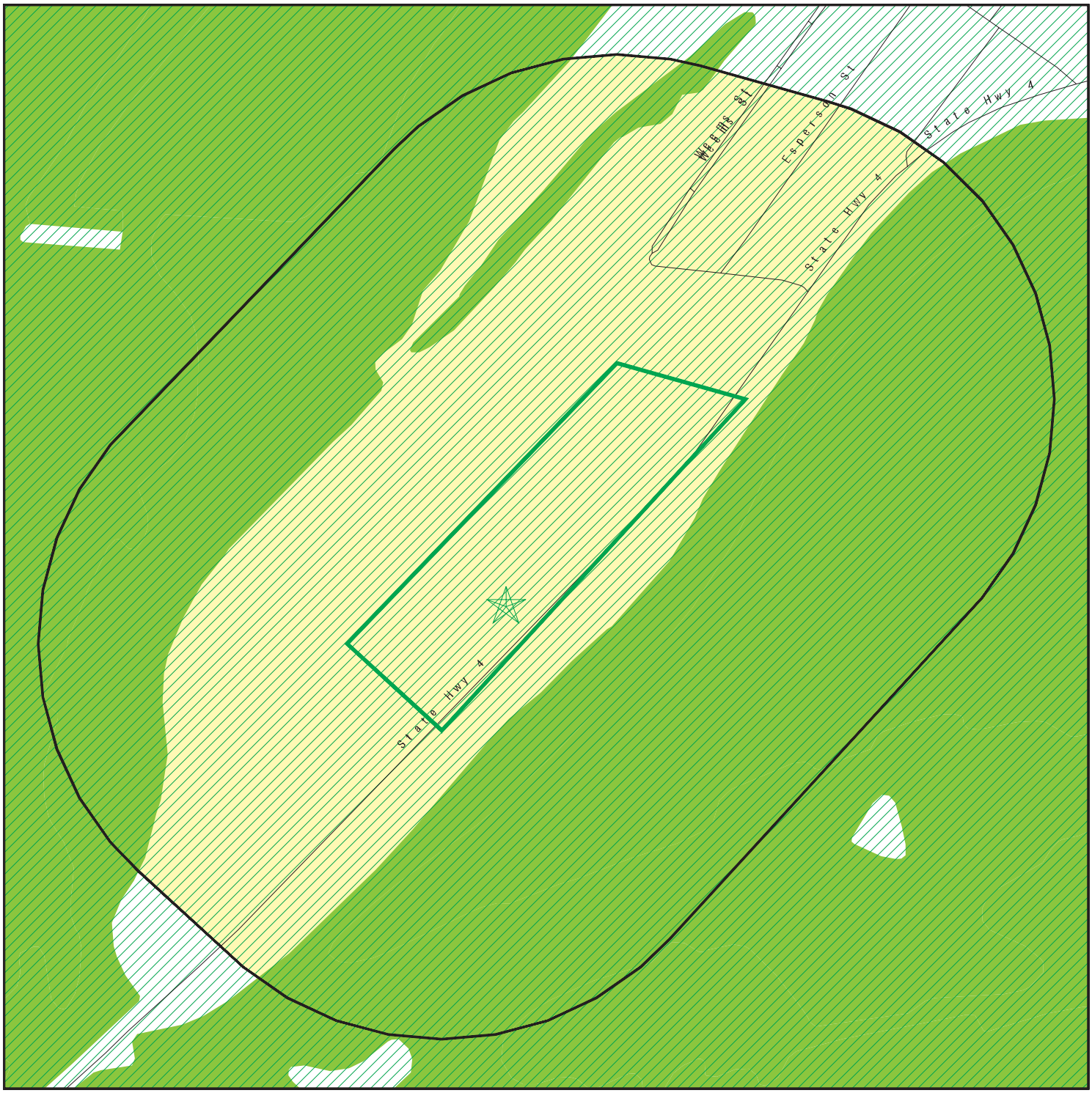
National Wetland Inventory

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME: P1	CLIENT: SpaceX
ADDRESS: Boca Chica Boulevard Port Isabel TX 78578	CONTACT: Steve Davis INQUIRY #: 3410419.3s
LAT/LONG: 25.9856 / 97.1867	DATE: September 14, 2012 9:21 am

Copyright © 2012 EDR, Inc. © 2010 Tele Atlas Rel. 07/2009.

DETAIL MAP - 3410419.3s



- Target Property
- Sites at elevations higher than or equal to the target property
- Sites at elevations lower than the target property
- Manufactured Gas Plants
- Sensitive Receptors
- National Priority List Sites
- Dept. Defense Sites

0 1/16 1/8 1/4 Miles

- Indian Reservations BIA
- Oil & Gas pipelines from USGS
- 100-year flood zone
- 500-year flood zone
- National Wetland Inventory

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME: P1	CLIENT: SpaceX
ADDRESS: Boca Chica Boulevard Port Isabel TX 78578	CONTACT: Steve Davis INQUIRY #: 3410419.3s
LAT/LONG: 25.9856 / 97.1867	DATE: September 14, 2012 9:23 am

Copyright © 2012 EDR, Inc. © 2010 Tele Atlas Rel. 07/2009.

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
STANDARD ENVIRONMENTAL RECORDS								
Federal NPL site list								
NPL	1.000		0	0	0	0	NR	0
Proposed NPL	1.000		0	0	0	0	NR	0
NPL LIENS	TP		NR	NR	NR	NR	NR	0
Federal Delisted NPL site list								
Delisted NPL	1.000		0	0	0	0	NR	0
Federal CERCLIS list								
CERCLIS	0.500		0	0	0	NR	NR	0
FEDERAL FACILITY	1.000		0	0	0	0	NR	0
Federal CERCLIS NFRAP site List								
CERC-NFRAP	0.500		0	0	0	NR	NR	0
Federal RCRA CORRACTS facilities list								
CORRACTS	1.000		0	0	0	0	NR	0
Federal RCRA non-CORRACTS TSD facilities list								
RCRA-TSDF	0.500		0	0	0	NR	NR	0
Federal RCRA generators list								
RCRA-LQG	0.250		0	0	NR	NR	NR	0
RCRA-SQG	0.250		0	0	NR	NR	NR	0
RCRA-CESQG	0.250		0	0	NR	NR	NR	0
Federal institutional controls / engineering controls registries								
US ENG CONTROLS	0.500		0	0	0	NR	NR	0
US INST CONTROL	0.500		0	0	0	NR	NR	0
Federal ERNS list								
ERNS	TP		NR	NR	NR	NR	NR	0
State- and tribal - equivalent NPL								
SHWS	1.000		0	0	0	0	NR	0
State and tribal landfill and/or solid waste disposal site lists								
SWF/LF	0.500		0	0	0	NR	NR	0
CLI	0.500		0	0	0	NR	NR	0
WasteMgt	TP		NR	NR	NR	NR	NR	0
State and tribal leaking storage tank lists								
LPST	0.500		0	0	0	NR	NR	0
INDIAN LUST	0.500		0	0	0	NR	NR	0
State and tribal registered storage tank lists								
UST	0.250		0	0	NR	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
AST	0.250		0	0	NR	NR	NR	0
INDIAN UST	0.250		0	0	NR	NR	NR	0
FEMA UST	0.250		0	0	NR	NR	NR	0
State and tribal institutional control / engineering control registries								
AUL	0.500		0	0	0	NR	NR	0
State and tribal voluntary cleanup sites								
VCP	0.500		0	0	0	NR	NR	0
INDIAN VCP	0.500		0	0	0	NR	NR	0
State and tribal Brownfields sites								
BROWNFIELDS	0.500		0	0	0	NR	NR	0
ADDITIONAL ENVIRONMENTAL RECORDS								
Local Brownfield lists								
US BROWNFIELDS	0.500		0	0	0	NR	NR	0
Local Lists of Landfill / Solid Waste Disposal Sites								
ODI	0.500		0	0	0	NR	NR	0
DEBRIS REGION 9	0.500		0	0	0	NR	NR	0
INDIAN ODI	0.500		0	0	0	NR	NR	0
Local Lists of Hazardous waste / Contaminated Sites								
US CDL	TP		NR	NR	NR	NR	NR	0
DEL SHWS	1.000		0	0	0	0	NR	0
PRIORITYCLEANERS	0.500		0	0	0	NR	NR	0
US HIST CDL	TP		NR	NR	NR	NR	NR	0
Local Land Records								
LIENS 2	TP		NR	NR	NR	NR	NR	0
LUCIS	0.500		0	0	0	NR	NR	0
LIENS	TP		NR	NR	NR	NR	NR	0
HIST LIENS	TP		NR	NR	NR	NR	NR	0
Records of Emergency Release Reports								
HMIRS	TP		NR	NR	NR	NR	NR	0
SPILLS	TP		NR	NR	NR	NR	NR	0
Other Ascertainable Records								
RCRA-NonGen	0.250		0	0	NR	NR	NR	0
DOT OPS	TP		NR	NR	NR	NR	NR	0
DOD	1.000		0	0	0	0	NR	0
FUDS	1.000		0	0	0	0	NR	0
CONSENT	1.000		0	0	0	0	NR	0
ROD	1.000		0	0	0	0	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
UMTRA	0.500		0	0	0	NR	NR	0
MINES	0.250		0	0	NR	NR	NR	0
TRIS	TP		NR	NR	NR	NR	NR	0
TSCA	TP		NR	NR	NR	NR	NR	0
FTTS	TP		NR	NR	NR	NR	NR	0
HIST FTTS	TP		NR	NR	NR	NR	NR	0
SSTS	TP		NR	NR	NR	NR	NR	0
ICIS	TP		NR	NR	NR	NR	NR	0
PADS	TP		NR	NR	NR	NR	NR	0
MLTS	TP		NR	NR	NR	NR	NR	0
RADINFO	TP		NR	NR	NR	NR	NR	0
FINDS	TP		NR	NR	NR	NR	NR	0
RAATS	TP		NR	NR	NR	NR	NR	0
IOP	TP		NR	NR	NR	NR	NR	0
NPDES	TP		NR	NR	NR	NR	NR	0
UIC	TP		NR	NR	NR	NR	NR	0
DRYCLEANERS	0.250		0	0	NR	NR	NR	0
ENF	TP		NR	NR	NR	NR	NR	0
Ind. Haz Waste	TP		NR	NR	NR	NR	NR	0
ED AQUIF	TP		NR	NR	NR	NR	NR	0
AIRS	TP		NR	NR	NR	NR	NR	0
MSD	0.500		0	0	0	NR	NR	0
TIER 2	TP		NR	NR	NR	NR	NR	0
RWS	TP		NR	NR	NR	NR	NR	0
INDIAN RESERV	1.000		0	0	0	0	NR	0
SCRD DRYCLEANERS	0.500		0	0	0	NR	NR	0
2020 COR ACTION	0.250		0	0	NR	NR	NR	0
GCC	TP		NR	NR	NR	NR	NR	0
EPA WATCH LIST	TP		NR	NR	NR	NR	NR	0
FINANCIAL ASSURANCE	TP		NR	NR	NR	NR	NR	0
PCB TRANSFORMER	TP		NR	NR	NR	NR	NR	0
PRP	TP		NR	NR	NR	NR	NR	0
COAL ASH DOE	TP		NR	NR	NR	NR	NR	0
COAL ASH EPA	0.500		0	0	0	NR	NR	0
US FIN ASSUR	TP		NR	NR	NR	NR	NR	0

EDR PROPRIETARY RECORDS

EDR Proprietary Records

Manufactured Gas Plants	1.000		0	0	0	0	NR	0

NOTES:

TP = Target Property

NR = Not Requested at this Search Distance

Sites may be listed in more than one database

MAP FINDINGS

Map ID Direction Distance Elevation	Site	Database(s)	EDR ID Number EPA ID Number

NO SITES FOUND

Count: 6 records.

ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
PORT ISABEL	1003875881	BAYSIDE NET & TWINE CO	HWY 100 N (P.O. BOX 959)	78578	CERC-NFRAP
PORT ISABEL	S108425080	CITY OF PORT ISABEL LANDFILL	15TH MILES SW OF INTERSECTION		SWF/LF
PORT ISABEL	S109515052	CAMERON COUNTY FWSD NO 1 TRANSFER	ADJACENT TO W BOUNDARY OF PRT		SWF/LF
PORT ISABEL	S109515053	CAMERON COUNTY FWSD NO 1 TRANSFER	ADJACENT TO W BOUNDRY OF PRT		SWF/LF
PORT ISABEL	A100190419	VALLEY FISHERIES	S JUNCTION HWY 48TH &	78578	AST
PORT ISABEL	S109978523	CITY OF PORT ISABEL LANDFILL	PORT RD		SWF/LF

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

To maintain currency of the following federal and state databases, EDR contacts the appropriate governmental agency on a monthly or quarterly basis, as required.

Number of Days to Update: Provides confirmation that EDR is reporting records that have been updated within 90 days from the date the government agency made the information available to the public.

STANDARD ENVIRONMENTAL RECORDS

Federal NPL site list

NPL: National Priority List

National Priorities List (Superfund). The NPL is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund Program. NPL sites may encompass relatively large areas. As such, EDR provides polygon coverage for over 1,000 NPL site boundaries produced by EPA's Environmental Photographic Interpretation Center (EPIC) and regional EPA offices.

Date of Government Version: 05/08/2012
Date Data Arrived at EDR: 05/10/2012
Date Made Active in Reports: 05/15/2012
Number of Days to Update: 5

Source: EPA
Telephone: N/A
Last EDR Contact: 07/05/2012
Next Scheduled EDR Contact: 10/22/2012
Data Release Frequency: Quarterly

NPL Site Boundaries

Sources:

EPA's Environmental Photographic Interpretation Center (EPIC)
Telephone: 202-564-7333

EPA Region 1
Telephone 617-918-1143

EPA Region 6
Telephone: 214-655-6659

EPA Region 3
Telephone 215-814-5418

EPA Region 7
Telephone: 913-551-7247

EPA Region 4
Telephone 404-562-8033

EPA Region 8
Telephone: 303-312-6774

EPA Region 5
Telephone 312-886-6686

EPA Region 9
Telephone: 415-947-4246

EPA Region 10
Telephone 206-553-8665

Proposed NPL: Proposed National Priority List Sites

A site that has been proposed for listing on the National Priorities List through the issuance of a proposed rule in the Federal Register. EPA then accepts public comments on the site, responds to the comments, and places on the NPL those sites that continue to meet the requirements for listing.

Date of Government Version: 03/30/2012
Date Data Arrived at EDR: 04/05/2012
Date Made Active in Reports: 05/15/2012
Number of Days to Update: 40

Source: EPA
Telephone: N/A
Last EDR Contact: 07/05/2012
Next Scheduled EDR Contact: 10/22/2012
Data Release Frequency: Quarterly

NPL LIENS: Federal Superfund Liens

Federal Superfund Liens. Under the authority granted the USEPA by CERCLA of 1980, the USEPA has the authority to file liens against real property in order to recover remedial action expenditures or when the property owner received notification of potential liability. USEPA compiles a listing of filed notices of Superfund Liens.

Date of Government Version: 10/15/1991
Date Data Arrived at EDR: 02/02/1994
Date Made Active in Reports: 03/30/1994
Number of Days to Update: 56

Source: EPA
Telephone: 202-564-4267
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

Federal Delisted NPL site list

DELISTED NPL: National Priority List Deletions

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.

Date of Government Version: 03/30/2012	Source: EPA
Date Data Arrived at EDR: 04/05/2012	Telephone: N/A
Date Made Active in Reports: 05/15/2012	Last EDR Contact: 07/05/2012
Number of Days to Update: 40	Next Scheduled EDR Contact: 10/22/2012
	Data Release Frequency: Quarterly

Federal CERCLIS list

CERCLIS: Comprehensive Environmental Response, Compensation, and Liability Information System

CERCLIS contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). CERCLIS contains sites which are either proposed to or on the National Priorities List (NPL) and sites which are in the screening and assessment phase for possible inclusion on the NPL.

Date of Government Version: 12/27/2011	Source: EPA
Date Data Arrived at EDR: 02/27/2012	Telephone: 703-412-9810
Date Made Active in Reports: 03/12/2012	Last EDR Contact: 08/28/2012
Number of Days to Update: 14	Next Scheduled EDR Contact: 12/10/2012
	Data Release Frequency: Quarterly

FEDERAL FACILITY: Federal Facility Site Information listing

A listing of National Priority List (NPL) and Base Realignment and Closure (BRAC) sites found in the Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) Database where EPA Federal Facilities Restoration and Reuse Office is involved in cleanup activities.

Date of Government Version: 12/10/2010	Source: Environmental Protection Agency
Date Data Arrived at EDR: 01/11/2011	Telephone: 703-603-8704
Date Made Active in Reports: 02/16/2011	Last EDR Contact: 07/13/2012
Number of Days to Update: 36	Next Scheduled EDR Contact: 10/22/2012
	Data Release Frequency: Varies

Federal CERCLIS NFRAP site List

CERCLIS-NFRAP: CERCLIS No Further Remedial Action Planned

Archived sites are sites that have been removed and archived from the inventory of CERCLIS sites. Archived status indicates that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list this site on the National Priorities List (NPL), unless information indicates this decision was not appropriate or other considerations require a recommendation for listing at a later time. This decision does not necessarily mean that there is no hazard associated with a given site; it only means that, based upon available information, the location is not judged to be a potential NPL site.

Date of Government Version: 12/28/2011	Source: EPA
Date Data Arrived at EDR: 02/27/2012	Telephone: 703-412-9810
Date Made Active in Reports: 03/12/2012	Last EDR Contact: 08/28/2012
Number of Days to Update: 14	Next Scheduled EDR Contact: 12/10/2012
	Data Release Frequency: Quarterly

Federal RCRA CORRACTS facilities list

CORRACTS: Corrective Action Report

CORRACTS identifies hazardous waste handlers with RCRA corrective action activity.

Date of Government Version: 08/19/2011
Date Data Arrived at EDR: 08/31/2011
Date Made Active in Reports: 01/10/2012
Number of Days to Update: 132

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 08/07/2012
Next Scheduled EDR Contact: 11/26/2012
Data Release Frequency: Quarterly

Federal RCRA non-CORRACTS TSD facilities list

RCRA-TSDF: RCRA - Treatment, Storage and Disposal

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Transporters are individuals or entities that move hazardous waste from the generator offsite to a facility that can recycle, treat, store, or dispose of the waste. TSDFs treat, store, or dispose of the waste.

Date of Government Version: 03/15/2012
Date Data Arrived at EDR: 04/04/2012
Date Made Active in Reports: 05/15/2012
Number of Days to Update: 41

Source: Environmental Protection Agency
Telephone: 214-665-6444
Last EDR Contact: 08/16/2012
Next Scheduled EDR Contact: 10/15/2012
Data Release Frequency: Quarterly

Federal RCRA generators list

RCRA-LQG: RCRA - Large Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Large quantity generators (LQGs) generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month.

Date of Government Version: 03/15/2012
Date Data Arrived at EDR: 04/04/2012
Date Made Active in Reports: 05/15/2012
Number of Days to Update: 41

Source: Environmental Protection Agency
Telephone: 214-665-6444
Last EDR Contact: 08/16/2012
Next Scheduled EDR Contact: 10/15/2012
Data Release Frequency: Quarterly

RCRA-SQG: RCRA - Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month.

Date of Government Version: 03/15/2012
Date Data Arrived at EDR: 04/04/2012
Date Made Active in Reports: 05/15/2012
Number of Days to Update: 41

Source: Environmental Protection Agency
Telephone: 214-665-6444
Last EDR Contact: 08/16/2012
Next Scheduled EDR Contact: 10/15/2012
Data Release Frequency: Quarterly

RCRA-CESQG: RCRA - Conditionally Exempt Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Conditionally exempt small quantity generators (CESQGs) generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month.

Date of Government Version: 03/15/2012
Date Data Arrived at EDR: 04/04/2012
Date Made Active in Reports: 05/15/2012
Number of Days to Update: 41

Source: Environmental Protection Agency
Telephone: 214-665-6444
Last EDR Contact: 08/16/2012
Next Scheduled EDR Contact: 10/15/2012
Data Release Frequency: Varies

Federal institutional controls / engineering controls registries

US ENG CONTROLS: Engineering Controls Sites List

A listing of sites with engineering controls in place. Engineering controls include various forms of caps, building foundations, liners, and treatment methods to create pathway elimination for regulated substances to enter environmental media or effect human health.

Date of Government Version: 12/30/2011
Date Data Arrived at EDR: 12/30/2011
Date Made Active in Reports: 01/10/2012
Number of Days to Update: 11

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 09/05/2012
Next Scheduled EDR Contact: 12/24/2012
Data Release Frequency: Varies

US INST CONTROL: Sites with Institutional Controls

A listing of sites with institutional controls in place. Institutional controls include administrative measures, such as groundwater use restrictions, construction restrictions, property use restrictions, and post remediation care requirements intended to prevent exposure to contaminants remaining on site. Deed restrictions are generally required as part of the institutional controls.

Date of Government Version: 12/30/2011
Date Data Arrived at EDR: 12/30/2011
Date Made Active in Reports: 01/10/2012
Number of Days to Update: 11

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 09/05/2012
Next Scheduled EDR Contact: 12/24/2012
Data Release Frequency: Varies

Federal ERNS list

ERNS: Emergency Response Notification System

Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous substances.

Date of Government Version: 04/02/2012
Date Data Arrived at EDR: 04/03/2012
Date Made Active in Reports: 06/14/2012
Number of Days to Update: 72

Source: National Response Center, United States Coast Guard
Telephone: 202-267-2180
Last EDR Contact: 07/02/2012
Next Scheduled EDR Contact: 10/15/2012
Data Release Frequency: Annually

State- and tribal - equivalent NPL

SHWS: State Superfund Registry

State Hazardous Waste Sites. State hazardous waste site records are the states' equivalent to CERCLIS. These sites may or may not already be listed on the federal CERCLIS list. Priority sites planned for cleanup using state funds (state equivalent of Superfund) are identified along with sites where cleanup will be paid for by potentially responsible parties. Available information varies by state.

Date of Government Version: 05/01/2012
Date Data Arrived at EDR: 06/21/2012
Date Made Active in Reports: 08/21/2012
Number of Days to Update: 61

Source: Texas Commission on Environmental Quality
Telephone: 512-239-5680
Last EDR Contact: 06/14/2012
Next Scheduled EDR Contact: 10/01/2012
Data Release Frequency: Semi-Annually

State and tribal landfill and/or solid waste disposal site lists

SWF/LF: Permitted Solid Waste Facilities

Solid Waste Facilities/Landfill Sites. SWF/LF type records typically contain an inventory of solid waste disposal facilities or landfills in a particular state. Depending on the state, these may be active or inactive facilities or open dumps that failed to meet RCRA Subtitle D Section 4004 criteria for solid waste landfills or disposal sites.

Date of Government Version: 08/02/2012
Date Data Arrived at EDR: 08/03/2012
Date Made Active in Reports: 08/23/2012
Number of Days to Update: 20

Source: Texas Commission on Environmental Quality
Telephone: 512-239-6706
Last EDR Contact: 07/27/2012
Next Scheduled EDR Contact: 11/12/2012
Data Release Frequency: Quarterly

CLI: Closed Landfill Inventory
Closed and abandoned landfills (permitted as well as unauthorized) across the state of Texas.

Date of Government Version: 08/30/1999
Date Data Arrived at EDR: 09/28/2000
Date Made Active in Reports: 10/30/2000
Number of Days to Update: 32

Source: Texas Commission on Environmental Quality
Telephone: 512-239-6016
Last EDR Contact: 07/05/2012
Next Scheduled EDR Contact: 10/22/2012
Data Release Frequency: Varies

H-GAC CLI: Houston-Galveston Closed Landfill Inventory
Closed Landfill Inventory for the Houston-Galveston Area Council Region. In 1993, the Texas Legislature passed House Bill (HB) 2537, which required Councils of Governments (COGs) to develop an inventory of closed municipal solid waste landfills for their regional solid waste management plans.

Date of Government Version: 03/23/2011
Date Data Arrived at EDR: 03/25/2011
Date Made Active in Reports: 04/22/2011
Number of Days to Update: 28

Source: Houston-Galveston Area Council
Telephone: 832-681-2518
Last EDR Contact: 07/05/2012
Next Scheduled EDR Contact: 10/22/2012
Data Release Frequency: Varies

WASTEMGT: Commercial Hazardous & Solid Waste Management Facilities
This list contains commercial recycling facilities and facilities permitted or authorized (interim status) by the Texas Natural Resource Conservation Commission.

Date of Government Version: 07/01/2011
Date Data Arrived at EDR: 10/13/2011
Date Made Active in Reports: 11/15/2011
Number of Days to Update: 33

Source: Texas Commission on Environmental Quality
Telephone: 512-239-2920
Last EDR Contact: 07/13/2012
Next Scheduled EDR Contact: 10/22/2012
Data Release Frequency: Varies

State and tribal leaking storage tank lists

LPST: Leaking Petroleum Storage Tank Database
An inventory of reported leaking petroleum storage tank incidents. Not all states maintain these records, and the information stored varies by state.

Date of Government Version: 06/08/2012
Date Data Arrived at EDR: 07/03/2012
Date Made Active in Reports: 08/23/2012
Number of Days to Update: 51

Source: Texas Commission on Environmental Quality
Telephone: 512-239-2200
Last EDR Contact: 07/03/2012
Next Scheduled EDR Contact: 10/15/2012
Data Release Frequency: Quarterly

INDIAN LUST R10: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Alaska, Idaho, Oregon and Washington.

Date of Government Version: 05/07/2012
Date Data Arrived at EDR: 05/08/2012
Date Made Active in Reports: 07/10/2012
Number of Days to Update: 63

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 07/26/2012
Next Scheduled EDR Contact: 11/12/2012
Data Release Frequency: Quarterly

INDIAN LUST R9: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Arizona, California, New Mexico and Nevada

Date of Government Version: 05/25/2012
Date Data Arrived at EDR: 05/25/2012
Date Made Active in Reports: 07/16/2012
Number of Days to Update: 52

Source: Environmental Protection Agency
Telephone: 415-972-3372
Last EDR Contact: 07/26/2012
Next Scheduled EDR Contact: 11/12/2012
Data Release Frequency: Quarterly

INDIAN LUST R6: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in New Mexico and Oklahoma.

Date of Government Version: 09/12/2011
Date Data Arrived at EDR: 09/13/2011
Date Made Active in Reports: 11/11/2011
Number of Days to Update: 59

Source: EPA Region 6
Telephone: 214-665-6597
Last EDR Contact: 07/26/2012
Next Scheduled EDR Contact: 11/12/2012
Data Release Frequency: Varies

INDIAN LUST R8: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Colorado, Montana, North Dakota, South Dakota, Utah and Wyoming.

Date of Government Version: 08/18/2011
Date Data Arrived at EDR: 08/19/2011
Date Made Active in Reports: 09/13/2011
Number of Days to Update: 25

Source: EPA Region 8
Telephone: 303-312-6271
Last EDR Contact: 07/26/2012
Next Scheduled EDR Contact: 11/26/2012
Data Release Frequency: Quarterly

INDIAN LUST R7: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Iowa, Kansas, and Nebraska

Date of Government Version: 02/07/2012
Date Data Arrived at EDR: 02/17/2012
Date Made Active in Reports: 05/15/2012
Number of Days to Update: 88

Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 07/26/2012
Next Scheduled EDR Contact: 11/12/2012
Data Release Frequency: Varies

INDIAN LUST R4: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Florida, Mississippi and North Carolina.

Date of Government Version: 12/14/2011
Date Data Arrived at EDR: 12/15/2011
Date Made Active in Reports: 01/10/2012
Number of Days to Update: 26

Source: EPA Region 4
Telephone: 404-562-8677
Last EDR Contact: 07/26/2012
Next Scheduled EDR Contact: 11/12/2012
Data Release Frequency: Semi-Annually

INDIAN LUST R1: Leaking Underground Storage Tanks on Indian Land
A listing of leaking underground storage tank locations on Indian Land.

Date of Government Version: 04/12/2012
Date Data Arrived at EDR: 05/09/2012
Date Made Active in Reports: 07/10/2012
Number of Days to Update: 62

Source: EPA Region 1
Telephone: 617-918-1313
Last EDR Contact: 08/03/2012
Next Scheduled EDR Contact: 11/12/2012
Data Release Frequency: Varies

State and tribal registered storage tank lists

UST: Petroleum Storage Tank Database
Registered Underground Storage Tanks. UST's are regulated under Subtitle I of the Resource Conservation and Recovery Act (RCRA) and must be registered with the state department responsible for administering the UST program. Available information varies by state program.

Date of Government Version: 06/08/2012
Date Data Arrived at EDR: 07/03/2012
Date Made Active in Reports: 08/21/2012
Number of Days to Update: 49

Source: Texas Commission on Environmental Quality
Telephone: 512-239-2160
Last EDR Contact: 07/03/2012
Next Scheduled EDR Contact: 10/15/2012
Data Release Frequency: Quarterly

AST: Petroleum Storage Tank Database
Registered Aboveground Storage Tanks.

Date of Government Version: 06/08/2012
Date Data Arrived at EDR: 07/03/2012
Date Made Active in Reports: 08/21/2012
Number of Days to Update: 49

Source: Texas Commission on Environmental Quality
Telephone: 512-239-2160
Last EDR Contact: 07/03/2012
Next Scheduled EDR Contact: 10/15/2012
Data Release Frequency: Quarterly

INDIAN UST R10: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 10 (Alaska, Idaho, Oregon, Washington, and Tribal Nations).

Date of Government Version: 05/07/2012
Date Data Arrived at EDR: 05/08/2012
Date Made Active in Reports: 07/16/2012
Number of Days to Update: 69

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 07/26/2012
Next Scheduled EDR Contact: 11/12/2012
Data Release Frequency: Quarterly

INDIAN UST R9: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 9 (Arizona, California, Hawaii, Nevada, the Pacific Islands, and Tribal Nations).

Date of Government Version: 11/28/2011
Date Data Arrived at EDR: 11/29/2011
Date Made Active in Reports: 01/10/2012
Number of Days to Update: 42

Source: EPA Region 9
Telephone: 415-972-3368
Last EDR Contact: 07/26/2012
Next Scheduled EDR Contact: 11/12/2012
Data Release Frequency: Quarterly

INDIAN UST R8: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 8 (Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming and 27 Tribal Nations).

Date of Government Version: 08/18/2011
Date Data Arrived at EDR: 08/19/2011
Date Made Active in Reports: 09/13/2011
Number of Days to Update: 25

Source: EPA Region 8
Telephone: 303-312-6137
Last EDR Contact: 07/26/2012
Next Scheduled EDR Contact: 11/12/2012
Data Release Frequency: Quarterly

INDIAN UST R7: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 7 (Iowa, Kansas, Missouri, Nebraska, and 9 Tribal Nations).

Date of Government Version: 02/07/2012
Date Data Arrived at EDR: 02/17/2012
Date Made Active in Reports: 05/15/2012
Number of Days to Update: 88

Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 07/26/2012
Next Scheduled EDR Contact: 11/12/2012
Data Release Frequency: Varies

INDIAN UST R6: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 6 (Louisiana, Arkansas, Oklahoma, New Mexico, Texas and 65 Tribes).

Date of Government Version: 05/10/2011
Date Data Arrived at EDR: 05/11/2011
Date Made Active in Reports: 06/14/2011
Number of Days to Update: 34

Source: EPA Region 6
Telephone: 214-665-7591
Last EDR Contact: 07/26/2012
Next Scheduled EDR Contact: 11/12/2012
Data Release Frequency: Semi-Annually

INDIAN UST R5: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 5 (Michigan, Minnesota and Wisconsin and Tribal Nations).

Date of Government Version: 02/28/2012
Date Data Arrived at EDR: 02/29/2012
Date Made Active in Reports: 05/15/2012
Number of Days to Update: 76

Source: EPA Region 5
Telephone: 312-886-6136
Last EDR Contact: 07/26/2012
Next Scheduled EDR Contact: 11/12/2012
Data Release Frequency: Varies

INDIAN UST R4: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 4 (Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee and Tribal Nations)

Date of Government Version: 12/14/2011
Date Data Arrived at EDR: 12/15/2011
Date Made Active in Reports: 01/10/2012
Number of Days to Update: 26

Source: EPA Region 4
Telephone: 404-562-9424
Last EDR Contact: 07/26/2012
Next Scheduled EDR Contact: 11/12/2012
Data Release Frequency: Semi-Annually

INDIAN UST R1: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 1 (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont and ten Tribal Nations).

Date of Government Version: 04/12/2012
Date Data Arrived at EDR: 05/02/2012
Date Made Active in Reports: 07/16/2012
Number of Days to Update: 75

Source: EPA, Region 1
Telephone: 617-918-1313
Last EDR Contact: 08/03/2012
Next Scheduled EDR Contact: 11/12/2012
Data Release Frequency: Varies

FEMA UST: Underground Storage Tank Listing
A listing of all FEMA owned underground storage tanks.

Date of Government Version: 01/01/2010
Date Data Arrived at EDR: 02/16/2010
Date Made Active in Reports: 04/12/2010
Number of Days to Update: 55

Source: FEMA
Telephone: 202-646-5797
Last EDR Contact: 07/12/2012
Next Scheduled EDR Contact: 10/29/2012
Data Release Frequency: Varies

State and tribal institutional control / engineering control registries

AUL: Sites with Controls
Activity and use limitations include both engineering controls and institutional controls.

Date of Government Version: 06/27/2012
Date Data Arrived at EDR: 07/13/2012
Date Made Active in Reports: 08/23/2012
Number of Days to Update: 41

Source: Texas Commission on Environmental Quality
Telephone: 512-239-5891
Last EDR Contact: 07/13/2012
Next Scheduled EDR Contact: 10/22/2012
Data Release Frequency: Varies

State and tribal voluntary cleanup sites

INDIAN VCP R1: Voluntary Cleanup Priority Listing
A listing of voluntary cleanup priority sites located on Indian Land located in Region 1.

Date of Government Version: 02/17/2012
Date Data Arrived at EDR: 04/03/2012
Date Made Active in Reports: 05/15/2012
Number of Days to Update: 42

Source: EPA, Region 1
Telephone: 617-918-1102
Last EDR Contact: 07/02/2012
Next Scheduled EDR Contact: 10/15/2012
Data Release Frequency: Varies

VCP RRC: Voluntary Cleanup Program Sites
The Voluntary Cleanup Program (RRC-VCP) provides an incentive to remediate Oil & Gas related pollution by participants as long as they did not cause or contribute to the contamination. Applicants to the program receive a release of liability to the state in exchange for a successful cleanup.

Date of Government Version: 04/26/2012
Date Data Arrived at EDR: 07/13/2012
Date Made Active in Reports: 08/23/2012
Number of Days to Update: 41

Source: Railroad Commission of Texas
Telephone: 512-463-6969
Last EDR Contact: 07/13/2012
Next Scheduled EDR Contact: 10/22/2012
Data Release Frequency: Varies

INDIAN VCP R7: Voluntary Cleanup Priority Lisitng
A listing of voluntary cleanup priority sites located on Indian Land located in Region 7.

Date of Government Version: 03/20/2008
Date Data Arrived at EDR: 04/22/2008
Date Made Active in Reports: 05/19/2008
Number of Days to Update: 27

Source: EPA, Region 7
Telephone: 913-551-7365
Last EDR Contact: 04/20/2009
Next Scheduled EDR Contact: 07/20/2009
Data Release Frequency: Varies

VCP TCEQ: Voluntary Cleanup Program Database
The Texas Voluntary Cleanup Program was established to provide administrative, technical, and legal incentives to encourage the cleanup of contaminated sites in Texas.

Date of Government Version: 06/27/2012
Date Data Arrived at EDR: 07/13/2012
Date Made Active in Reports: 08/23/2012
Number of Days to Update: 41

Source: Texas Commission on Environmental Quality
Telephone: 512-239-5891
Last EDR Contact: 07/13/2012
Next Scheduled EDR Contact: 10/22/2012
Data Release Frequency: Quarterly

State and tribal Brownfields sites

BROWNFIELDS: Brownfields Site Assessments
Brownfield site assessments that are being cleaned under EPA grant monies.

Date of Government Version: 06/27/2012
Date Data Arrived at EDR: 07/13/2012
Date Made Active in Reports: 08/21/2012
Number of Days to Update: 39

Source: TCEQ
Telephone: 512-239-5872
Last EDR Contact: 07/13/2012
Next Scheduled EDR Contact: 10/22/2012
Data Release Frequency: Semi-Annually

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS: A Listing of Brownfields Sites
Brownfields are real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. Cleaning up and reinvesting in these properties takes development pressures off of undeveloped, open land, and both improves and protects the environment. Assessment, Cleanup and Redevelopment Exchange System (ACRES) stores information reported by EPA Brownfields grant recipients on brownfields properties assessed or cleaned up with grant funding as well as information on Targeted Brownfields Assessments performed by EPA Regions. A listing of ACRES Brownfield sites is obtained from Cleanups in My Community. Cleanups in My Community provides information on Brownfields properties for which information is reported back to EPA, as well as areas served by Brownfields grant programs.

Date of Government Version: 06/27/2011
Date Data Arrived at EDR: 06/27/2011
Date Made Active in Reports: 09/13/2011
Number of Days to Update: 78

Source: Environmental Protection Agency
Telephone: 202-566-2777
Last EDR Contact: 06/25/2012
Next Scheduled EDR Contact: 10/08/2012
Data Release Frequency: Semi-Annually

Local Lists of Landfill / Solid Waste Disposal Sites

DEBRIS REGION 9: Torres Martinez Reservation Illegal Dump Site Locations
A listing of illegal dump sites location on the Torres Martinez Indian Reservation located in eastern Riverside County and northern Imperial County, California.

Date of Government Version: 01/12/2009
Date Data Arrived at EDR: 05/07/2009
Date Made Active in Reports: 09/21/2009
Number of Days to Update: 137

Source: EPA, Region 9
Telephone: 415-947-4219
Last EDR Contact: 07/03/2012
Next Scheduled EDR Contact: 10/08/2012
Data Release Frequency: No Update Planned

ODI: Open Dump Inventory
An open dump is defined as a disposal facility that does not comply with one or more of the Part 257 or Part 258 Subtitle D Criteria.

Date of Government Version: 06/30/1985
Date Data Arrived at EDR: 08/09/2004
Date Made Active in Reports: 09/17/2004
Number of Days to Update: 39

Source: Environmental Protection Agency
Telephone: 800-424-9346
Last EDR Contact: 06/09/2004
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

INDIAN ODI: Report on the Status of Open Dumps on Indian Lands
Location of open dumps on Indian land.

Date of Government Version: 12/31/1998
Date Data Arrived at EDR: 12/03/2007
Date Made Active in Reports: 01/24/2008
Number of Days to Update: 52

Source: Environmental Protection Agency
Telephone: 703-308-8245
Last EDR Contact: 08/03/2012
Next Scheduled EDR Contact: 11/19/2012
Data Release Frequency: Varies

Local Lists of Hazardous waste / Contaminated Sites

US CDL: Clandestine Drug Labs
A listing of clandestine drug lab locations. The U.S. Department of Justice ("the Department") provides this web site as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments.

Date of Government Version: 03/16/2012
Date Data Arrived at EDR: 06/12/2012
Date Made Active in Reports: 07/16/2012
Number of Days to Update: 34

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 09/05/2012
Next Scheduled EDR Contact: 12/17/2012
Data Release Frequency: Quarterly

DEL SHWS: Deleted Superfund Registry Sites
Sites have been deleted from the state Superfund registry in accordance with the Act, ?361.189

Date of Government Version: 05/01/2012
Date Data Arrived at EDR: 06/21/2012
Date Made Active in Reports: 08/21/2012
Number of Days to Update: 61

Source: Texas Commission on Environmental Quality
Telephone: 512-239-0666
Last EDR Contact: 06/14/2012
Next Scheduled EDR Contact: 10/01/2012
Data Release Frequency: Quarterly

PRIORITY CLEANERS: Dry Cleaner Remediation Program Prioritization List
A listing of dry cleaner related contaminated sites.

Date of Government Version: 04/12/2012
Date Data Arrived at EDR: 06/13/2012
Date Made Active in Reports: 08/21/2012
Number of Days to Update: 69

Source: Texas Commisision on Environmenatl Quality
Telephone: 512-239-5658
Last EDR Contact: 09/12/2012
Next Scheduled EDR Contact: 12/24/2012
Data Release Frequency: Varies

US HIST CDL: National Clandestine Laboratory Register

A listing of clandestine drug lab locations. The U.S. Department of Justice ("the Department") provides this web site as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments.

Date of Government Version: 09/01/2007
Date Data Arrived at EDR: 11/19/2008
Date Made Active in Reports: 03/30/2009
Number of Days to Update: 131

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 03/23/2009
Next Scheduled EDR Contact: 06/22/2009
Data Release Frequency: No Update Planned

Local Land Records

LIENS 2: CERCLA Lien Information

A Federal CERCLA ('Superfund') lien can exist by operation of law at any site or property at which EPA has spent Superfund monies. These monies are spent to investigate and address releases and threatened releases of contamination. CERCLIS provides information as to the identity of these sites and properties.

Date of Government Version: 02/16/2012
Date Data Arrived at EDR: 03/26/2012
Date Made Active in Reports: 06/14/2012
Number of Days to Update: 80

Source: Environmental Protection Agency
Telephone: 202-564-6023
Last EDR Contact: 07/27/2012
Next Scheduled EDR Contact: 11/12/2012
Data Release Frequency: Varies

LUCIS: Land Use Control Information System

LUCIS contains records of land use control information pertaining to the former Navy Base Realignment and Closure properties.

Date of Government Version: 12/09/2005
Date Data Arrived at EDR: 12/11/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 31

Source: Department of the Navy
Telephone: 843-820-7326
Last EDR Contact: 05/21/2012
Next Scheduled EDR Contact: 09/03/2012
Data Release Frequency: Varies

LIENS: Environmental Liens Listing

The listing covers TCEQ liens placed against either State Superfund sites or Federal Superfund sites to recover cost incurred by TCEQ.

Date of Government Version: 08/24/2012
Date Data Arrived at EDR: 08/29/2012
Date Made Active in Reports: 09/12/2012
Number of Days to Update: 14

Source: Texas Commission on Environmental Quality
Telephone: 512-239-2209
Last EDR Contact: 08/23/2012
Next Scheduled EDR Contact: 12/10/2012
Data Release Frequency: Varies

HIST LIENS: Environmental Liens Listing

This listing contains information fields that are no longer tracked in the LIENS database.

Date of Government Version: 03/23/2007
Date Data Arrived at EDR: 03/23/2007
Date Made Active in Reports: 05/02/2007
Number of Days to Update: 40

Source: Texas Commission on Environmental Qualilty
Telephone: 512-239-2209
Last EDR Contact: 12/17/2007
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

Records of Emergency Release Reports

HMIRS: Hazardous Materials Information Reporting System

Hazardous Materials Incident Report System. HMIRS contains hazardous material spill incidents reported to DOT.

Date of Government Version: 04/01/2012
Date Data Arrived at EDR: 04/03/2012
Date Made Active in Reports: 06/14/2012
Number of Days to Update: 72

Source: U.S. Department of Transportation
Telephone: 202-366-4555
Last EDR Contact: 07/02/2012
Next Scheduled EDR Contact: 10/15/2012
Data Release Frequency: Annually

SPILLS: Spills Database
Spills reported to the Emergency Response Division.

Date of Government Version: 06/06/2012
Date Data Arrived at EDR: 07/03/2012
Date Made Active in Reports: 08/29/2012
Number of Days to Update: 57

Source: Texas Commission on Environmental Quality
Telephone: 512-239-2507
Last EDR Contact: 08/23/2012
Next Scheduled EDR Contact: 12/10/2012
Data Release Frequency: Quarterly

Other Ascertainable Records

RCRA-NonGen: RCRA - Non Generators
RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Non-Generators do not presently generate hazardous waste.

Date of Government Version: 03/15/2012
Date Data Arrived at EDR: 04/04/2012
Date Made Active in Reports: 05/15/2012
Number of Days to Update: 41

Source: Environmental Protection Agency
Telephone: 214-665-6444
Last EDR Contact: 08/16/2012
Next Scheduled EDR Contact: 10/15/2012
Data Release Frequency: Varies

DOT OPS: Incident and Accident Data
Department of Transporation, Office of Pipeline Safety Incident and Accident data.

Date of Government Version: 07/29/2011
Date Data Arrived at EDR: 08/09/2011
Date Made Active in Reports: 11/11/2011
Number of Days to Update: 94

Source: Department of Transporation, Office of Pipeline Safety
Telephone: 202-366-4595
Last EDR Contact: 08/07/2012
Next Scheduled EDR Contact: 11/19/2012
Data Release Frequency: Varies

DOD: Department of Defense Sites
This data set consists of federally owned or administered lands, administered by the Department of Defense, that have any area equal to or greater than 640 acres of the United States, Puerto Rico, and the U.S. Virgin Islands.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 11/10/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 62

Source: USGS
Telephone: 888-275-8747
Last EDR Contact: 07/19/2012
Next Scheduled EDR Contact: 10/29/2012
Data Release Frequency: Semi-Annually

FUDS: Formerly Used Defense Sites
The listing includes locations of Formerly Used Defense Sites properties where the US Army Corps of Engineers is actively working or will take necessary cleanup actions.

Date of Government Version: 12/31/2009
Date Data Arrived at EDR: 08/12/2010
Date Made Active in Reports: 12/02/2010
Number of Days to Update: 112

Source: U.S. Army Corps of Engineers
Telephone: 202-528-4285
Last EDR Contact: 09/10/2012
Next Scheduled EDR Contact: 12/24/2012
Data Release Frequency: Varies

CONSENT: Superfund (CERCLA) Consent Decrees

Major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites. Released periodically by United States District Courts after settlement by parties to litigation matters.

Date of Government Version: 12/01/2011
Date Data Arrived at EDR: 01/25/2012
Date Made Active in Reports: 03/01/2012
Number of Days to Update: 36

Source: Department of Justice, Consent Decree Library
Telephone: Varies
Last EDR Contact: 06/27/2012
Next Scheduled EDR Contact: 10/15/2012
Data Release Frequency: Varies

ROD: Records Of Decision

Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid in the cleanup.

Date of Government Version: 02/27/2012
Date Data Arrived at EDR: 03/14/2012
Date Made Active in Reports: 06/14/2012
Number of Days to Update: 92

Source: EPA
Telephone: 703-416-0223
Last EDR Contact: 09/12/2012
Next Scheduled EDR Contact: 12/24/2012
Data Release Frequency: Annually

UMTRA: Uranium Mill Tailings Sites

Uranium ore was mined by private companies for federal government use in national defense programs. When the mills shut down, large piles of the sand-like material (mill tailings) remain after uranium has been extracted from the ore. Levels of human exposure to radioactive materials from the piles are low; however, in some cases tailings were used as construction materials before the potential health hazards of the tailings were recognized.

Date of Government Version: 09/14/2010
Date Data Arrived at EDR: 10/07/2011
Date Made Active in Reports: 03/01/2012
Number of Days to Update: 146

Source: Department of Energy
Telephone: 505-845-0011
Last EDR Contact: 08/28/2012
Next Scheduled EDR Contact: 12/10/2012
Data Release Frequency: Varies

MINES: Mines Master Index File

Contains all mine identification numbers issued for mines active or opened since 1971. The data also includes violation information.

Date of Government Version: 08/18/2011
Date Data Arrived at EDR: 09/08/2011
Date Made Active in Reports: 09/29/2011
Number of Days to Update: 21

Source: Department of Labor, Mine Safety and Health Administration
Telephone: 303-231-5959
Last EDR Contact: 09/04/2012
Next Scheduled EDR Contact: 12/17/2012
Data Release Frequency: Semi-Annually

TRIS: Toxic Chemical Release Inventory System

Toxic Release Inventory System. TRIS identifies facilities which release toxic chemicals to the air, water and land in reportable quantities under SARA Title III Section 313.

Date of Government Version: 12/31/2009
Date Data Arrived at EDR: 09/01/2011
Date Made Active in Reports: 01/10/2012
Number of Days to Update: 131

Source: EPA
Telephone: 202-566-0250
Last EDR Contact: 08/31/2012
Next Scheduled EDR Contact: 12/10/2012
Data Release Frequency: Annually

TSCA: Toxic Substances Control Act

Toxic Substances Control Act. TSCA identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory list. It includes data on the production volume of these substances by plant site.

Date of Government Version: 12/31/2006
Date Data Arrived at EDR: 09/29/2010
Date Made Active in Reports: 12/02/2010
Number of Days to Update: 64

Source: EPA
Telephone: 202-260-5521
Last EDR Contact: 06/29/2012
Next Scheduled EDR Contact: 10/08/2012
Data Release Frequency: Every 4 Years

FTTS: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
FTTS tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCA and EPCRA (Emergency Planning and Community Right-to-Know Act). To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25

Source: EPA/Office of Prevention, Pesticides and Toxic Substances
Telephone: 202-566-1667
Last EDR Contact: 08/22/2012
Next Scheduled EDR Contact: 12/10/2012
Data Release Frequency: Quarterly

FTTS INSP: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
A listing of FIFRA/TSCA Tracking System (FTTS) inspections and enforcements.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25

Source: EPA
Telephone: 202-566-1667
Last EDR Contact: 08/22/2012
Next Scheduled EDR Contact: 12/10/2012
Data Release Frequency: Quarterly

HIST FTTS: FIFRA/TSCA Tracking System Administrative Case Listing
A complete administrative case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2007
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

HIST FTTS INSP: FIFRA/TSCA Tracking System Inspection & Enforcement Case Listing
A complete inspection and enforcement case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2008
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

SSTS: Section 7 Tracking Systems
Section 7 of the Federal Insecticide, Fungicide and Rodenticide Act, as amended (92 Stat. 829) requires all registered pesticide-producing establishments to submit a report to the Environmental Protection Agency by March 1st each year. Each establishment must report the types and amounts of pesticides, active ingredients and devices being produced, and those having been produced and sold or distributed in the past year.

Date of Government Version: 12/31/2009
Date Data Arrived at EDR: 12/10/2010
Date Made Active in Reports: 02/25/2011
Number of Days to Update: 77

Source: EPA
Telephone: 202-564-4203
Last EDR Contact: 07/27/2012
Next Scheduled EDR Contact: 11/12/2012
Data Release Frequency: Annually

ICIS: Integrated Compliance Information System

The Integrated Compliance Information System (ICIS) supports the information needs of the national enforcement and compliance program as well as the unique needs of the National Pollutant Discharge Elimination System (NPDES) program.

Date of Government Version: 07/20/2011
Date Data Arrived at EDR: 11/10/2011
Date Made Active in Reports: 01/10/2012
Number of Days to Update: 61

Source: Environmental Protection Agency
Telephone: 202-564-5088
Last EDR Contact: 06/21/2012
Next Scheduled EDR Contact: 10/08/2012
Data Release Frequency: Quarterly

PADS: PCB Activity Database System

PCB Activity Database. PADS Identifies generators, transporters, commercial storers and/or brokers and disposers of PCB's who are required to notify the EPA of such activities.

Date of Government Version: 11/01/2010
Date Data Arrived at EDR: 11/10/2010
Date Made Active in Reports: 02/16/2011
Number of Days to Update: 98

Source: EPA
Telephone: 202-566-0500
Last EDR Contact: 07/19/2012
Next Scheduled EDR Contact: 10/29/2012
Data Release Frequency: Annually

MLTS: Material Licensing Tracking System

MLTS is maintained by the Nuclear Regulatory Commission and contains a list of approximately 8,100 sites which possess or use radioactive materials and which are subject to NRC licensing requirements. To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 06/21/2011
Date Data Arrived at EDR: 07/15/2011
Date Made Active in Reports: 09/13/2011
Number of Days to Update: 60

Source: Nuclear Regulatory Commission
Telephone: 301-415-7169
Last EDR Contact: 09/05/2012
Next Scheduled EDR Contact: 12/24/2012
Data Release Frequency: Quarterly

RADINFO: Radiation Information Database

The Radiation Information Database (RADINFO) contains information about facilities that are regulated by U.S. Environmental Protection Agency (EPA) regulations for radiation and radioactivity.

Date of Government Version: 01/10/2012
Date Data Arrived at EDR: 01/12/2012
Date Made Active in Reports: 03/01/2012
Number of Days to Update: 49

Source: Environmental Protection Agency
Telephone: 202-343-9775
Last EDR Contact: 07/11/2012
Next Scheduled EDR Contact: 10/22/2012
Data Release Frequency: Quarterly

FINDS: Facility Index System/Facility Registry System

Facility Index System. FINDS contains both facility information and 'pointers' to other sources that contain more detail. EDR includes the following FINDS databases in this report: PCS (Permit Compliance System), AIRS (Aerometric Information Retrieval System), DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes), FURS (Federal Underground Injection Control), C-DOCKET (Criminal Docket System used to track criminal enforcement actions for all environmental statutes), FFIS (Federal Facilities Information System), STATE (State Environmental Laws and Statutes), and PADS (PCB Activity Data System).

Date of Government Version: 10/23/2011
Date Data Arrived at EDR: 12/13/2011
Date Made Active in Reports: 03/01/2012
Number of Days to Update: 79

Source: EPA
Telephone: (214) 665-2200
Last EDR Contact: 09/11/2012
Next Scheduled EDR Contact: 12/24/2012
Data Release Frequency: Quarterly

RAATS: RCRA Administrative Action Tracking System

RCRA Administration Action Tracking System. RAATS contains records based on enforcement actions issued under RCRA pertaining to major violators and includes administrative and civil actions brought by the EPA. For administration actions after September 30, 1995, data entry in the RAATS database was discontinued. EPA will retain a copy of the database for historical records. It was necessary to terminate RAATS because a decrease in agency resources made it impossible to continue to update the information contained in the database.

Date of Government Version: 04/17/1995
Date Data Arrived at EDR: 07/03/1995
Date Made Active in Reports: 08/07/1995
Number of Days to Update: 35

Source: EPA
Telephone: 202-564-4104
Last EDR Contact: 06/02/2008
Next Scheduled EDR Contact: 09/01/2008
Data Release Frequency: No Update Planned

BRS: Biennial Reporting System

The Biennial Reporting System is a national system administered by the EPA that collects data on the generation and management of hazardous waste. BRS captures detailed data from two groups: Large Quantity Generators (LQG) and Treatment, Storage, and Disposal Facilities.

Date of Government Version: 12/31/2009
Date Data Arrived at EDR: 03/01/2011
Date Made Active in Reports: 05/02/2011
Number of Days to Update: 62

Source: EPA/NTIS
Telephone: 800-424-9346
Last EDR Contact: 08/31/2012
Next Scheduled EDR Contact: 12/10/2012
Data Release Frequency: Biennially

IOP: Innocent Owner/Operator Program

Contains information on all sites that are in the IOP. An IOP is an innocent owner or operator whose property is contaminated as a result of a release or migration of contaminants from a source or sources not located on the property, and they did not cause or contribute to the source or sources of contamination.

Date of Government Version: 06/27/2012
Date Data Arrived at EDR: 07/13/2012
Date Made Active in Reports: 08/23/2012
Number of Days to Update: 41

Source: Texas Commission on Environmental Quality
Telephone: 512-239-5894
Last EDR Contact: 07/13/2012
Next Scheduled EDR Contact: 10/22/2012
Data Release Frequency: Quarterly

NPDES: NPDES Facility List

Permitted wastewater outfalls.

Date of Government Version: 03/02/2012
Date Data Arrived at EDR: 05/24/2012
Date Made Active in Reports: 06/11/2012
Number of Days to Update: 18

Source: Texas Commission on Environmental Quality
Telephone: 512-239-4591
Last EDR Contact: 08/24/2012
Next Scheduled EDR Contact: 12/03/2012
Data Release Frequency: Varies

UIC: Underground Injection Wells Database Listing

Class V injection wells regulated by the TCEQ. Class V wells are used to inject non-hazardous fluids underground. Most Class V wells are used to dispose of wastes into or above underground sources of drinking water and can pose a threat to ground water quality, if not managed properly.

Date of Government Version: 07/23/2012
Date Data Arrived at EDR: 07/26/2012
Date Made Active in Reports: 08/29/2012
Number of Days to Update: 34

Source: Texas Commission on Environmental Quality
Telephone: 512-239-6627
Last EDR Contact: 07/19/2012
Next Scheduled EDR Contact: 11/05/2012
Data Release Frequency: Varies

DRYCLEANERS: Drycleaner Registration Database Listing

A listing of drycleaning facilities.

Date of Government Version: 03/31/2012
Date Data Arrived at EDR: 06/13/2012
Date Made Active in Reports: 08/17/2012
Number of Days to Update: 65

Source: Texas Commission on Environmental Quality
Telephone: 512-239-2160
Last EDR Contact: 09/12/2012
Next Scheduled EDR Contact: 12/24/2012
Data Release Frequency: Varies

ENFORCEMENT: Notice of Violations Listing

A listing of permit violations.

Date of Government Version: 03/16/2012
Date Data Arrived at EDR: 03/22/2012
Date Made Active in Reports: 04/06/2012
Number of Days to Update: 15

Source: Texas Commission on Environmental Quality
Telephone: 512-239-6012
Last EDR Contact: 09/06/2012
Next Scheduled EDR Contact: 12/24/2012
Data Release Frequency: Semi-Annually

Ind. Haz Waste: Industrial & Hazardous Waste Database
Summary reports reported by waste handlers, generators and shippers in Texas.

Date of Government Version: 05/31/2012
Date Data Arrived at EDR: 07/13/2012
Date Made Active in Reports: 08/23/2012
Number of Days to Update: 41

Source: Texas Commission on Environmental Quality
Telephone: 512-239-0985
Last EDR Contact: 07/13/2012
Next Scheduled EDR Contact: 10/22/2012
Data Release Frequency: Annually

ED AQUIF: Edwards Aquifer Permits
A listing of permits in the Edwards Aquifer Protection Program database. The information provided is for the counties located in the Austin Region (Hays, Travis, and Williamson counties).

Date of Government Version: 07/19/2012
Date Data Arrived at EDR: 07/26/2012
Date Made Active in Reports: 08/23/2012
Number of Days to Update: 28

Source: Texas Commission on Environmental Quality, Austin Region
Telephone: 512-339-2929
Last EDR Contact: 07/13/2012
Next Scheduled EDR Contact: 10/15/2012
Data Release Frequency: Varies

AIRS: Current Emission Inventory Data
The database lists by company, along with their actual emissions, the TNRCC air accounts that emit EPA criteria pollutants.

Date of Government Version: 12/31/2010
Date Data Arrived at EDR: 01/12/2012
Date Made Active in Reports: 02/06/2012
Number of Days to Update: 25

Source: Texas Commission on Environmental Quality
Telephone: N/A
Last EDR Contact: 06/22/2012
Next Scheduled EDR Contact: 10/01/2012
Data Release Frequency: Semi-Annually

MSD: Municipal Settings Designations Database
An MSD is an official state designation given to property within a municipality or its extraterritorial jurisdiction that certifies that designated groundwater at the property is not use as potable water, and is prohibited from future use as potatable water because that groundwater is contaminated in excess of the applicable potable-water protective concentration level.

Date of Government Version: 06/25/2012
Date Data Arrived at EDR: 06/29/2012
Date Made Active in Reports: 08/21/2012
Number of Days to Update: 53

Source: Texas Commission on Environmental Quality
Telephone: 512-239-4982
Last EDR Contact: 06/22/2012
Next Scheduled EDR Contact: 10/08/2012
Data Release Frequency: Varies

TIER 2: Tier 2 Chemical Inventory Reports
A listing of facilities which store or manufacture hazardous materials and submit a chemical inventory report.

Date of Government Version: 12/31/2011
Date Data Arrived at EDR: 06/13/2012
Date Made Active in Reports: 08/21/2012
Number of Days to Update: 69

Source: Department of State Health Services
Telephone: 512-834-6603
Last EDR Contact: 08/23/2012
Next Scheduled EDR Contact: 12/10/2012
Data Release Frequency: Annually

RWS: Radioactive Waste Sites
Sites in the State of Texas that have been designated as Radioactive Waste sites.

Date of Government Version: 07/24/2006
Date Data Arrived at EDR: 12/14/2006
Date Made Active in Reports: 01/23/2007
Number of Days to Update: 40

Source: Texas Commission on Environmental Quality
Telephone: 512-239-0859
Last EDR Contact: 08/24/2012
Next Scheduled EDR Contact: 12/03/2012
Data Release Frequency: Semi-Annually

INDIAN RESERV: Indian Reservations

This map layer portrays Indian administered lands of the United States that have any area equal to or greater than 640 acres.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 12/08/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 34

Source: USGS
Telephone: 202-208-3710
Last EDR Contact: 07/19/2012
Next Scheduled EDR Contact: 10/29/2012
Data Release Frequency: Semi-Annually

SCRD DRYCLEANERS: State Coalition for Remediation of Drycleaners Listing

The State Coalition for Remediation of Drycleaners was established in 1998, with support from the U.S. EPA Office of Superfund Remediation and Technology Innovation. It is comprised of representatives of states with established drycleaner remediation programs. Currently the member states are Alabama, Connecticut, Florida, Illinois, Kansas, Minnesota, Missouri, North Carolina, Oregon, South Carolina, Tennessee, Texas, and Wisconsin.

Date of Government Version: 03/07/2011
Date Data Arrived at EDR: 03/09/2011
Date Made Active in Reports: 05/02/2011
Number of Days to Update: 54

Source: Environmental Protection Agency
Telephone: 615-532-8599
Last EDR Contact: 07/19/2012
Next Scheduled EDR Contact: 11/05/2012
Data Release Frequency: Varies

US FIN ASSUR: Financial Assurance Information

All owners and operators of facilities that treat, store, or dispose of hazardous waste are required to provide proof that they will have sufficient funds to pay for the clean up, closure, and post-closure care of their facilities.

Date of Government Version: 05/24/2012
Date Data Arrived at EDR: 06/05/2012
Date Made Active in Reports: 06/14/2012
Number of Days to Update: 9

Source: Environmental Protection Agency
Telephone: 202-566-1917
Last EDR Contact: 08/14/2012
Next Scheduled EDR Contact: 12/03/2012
Data Release Frequency: Quarterly

EPA WATCH LIST: EPA WATCH LIST

EPA maintains a "Watch List" to facilitate dialogue between EPA, state and local environmental agencies on enforcement matters relating to facilities with alleged violations identified as either significant or high priority. Being on the Watch List does not mean that the facility has actually violated the law only that an investigation by EPA or a state or local environmental agency has led those organizations to allege that an unproven violation has in fact occurred. Being on the Watch List does not represent a higher level of concern regarding the alleged violations that were detected, but instead indicates cases requiring additional dialogue between EPA, state and local agencies - primarily because of the length of time the alleged violation has gone unaddressed or unresolved.

Date of Government Version: 03/31/2012
Date Data Arrived at EDR: 05/17/2012
Date Made Active in Reports: 06/14/2012
Number of Days to Update: 28

Source: Environmental Protection Agency
Telephone: 617-520-3000
Last EDR Contact: 08/07/2012
Next Scheduled EDR Contact: 11/26/2012
Data Release Frequency: Quarterly

GCC: Groundwater Contamination Cases

Texas Water Code, Section 26.406 requires the annual report to describe the current status of groundwater monitoring activities conducted or required by each agency at regulated facilities or associated with regulated activities. The report is required to contain a description of each case of groundwater contamination documented during the previous calendar year. Also to be included, is a description of each case of contamination documented during previous periods for which voluntary clean up action was incomplete at the time the preceding report was issued. The report is also required to indicate the status of enforcement action for each listed case.

Date of Government Version: 12/31/2010
Date Data Arrived at EDR: 12/20/2011
Date Made Active in Reports: 02/01/2012
Number of Days to Update: 43

Source: Texas Commission on Environmental Quality
Telephone: 512-239-5690
Last EDR Contact: 09/07/2012
Next Scheduled EDR Contact: 12/17/2012
Data Release Frequency: Annually

PRP: Potentially Responsible Parties

A listing of verified Potentially Responsible Parties

Date of Government Version: 02/27/2012
Date Data Arrived at EDR: 04/04/2012
Date Made Active in Reports: 05/15/2012
Number of Days to Update: 41

Source: EPA
Telephone: 202-564-6023
Last EDR Contact: 07/02/2012
Next Scheduled EDR Contact: 10/15/2012
Data Release Frequency: Quarterly

FEDLAND: Federal and Indian Lands

Federally and Indian administrated lands of the United States. Lands included are administrated by: Army Corps of Engineers, Bureau of Reclamation, National Wild and Scenic River, National Wildlife Refuge, Public Domain Land, Wilderness, Wilderness Study Area, Wildlife Management Area, Bureau of Indian Affairs, Bureau of Land Management, Department of Justice, Forest Service, Fish and Wildlife Service, National Park Service.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 02/06/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 339

Source: U.S. Geological Survey
Telephone: 888-275-8747
Last EDR Contact: 07/19/2012
Next Scheduled EDR Contact: 10/29/2012
Data Release Frequency: N/A

2020 COR ACTION: 2020 Corrective Action Program List

The EPA has set ambitious goals for the RCRA Corrective Action program by creating the 2020 Corrective Action Universe. This RCRA cleanup baseline includes facilities expected to need corrective action. The 2020 universe contains a wide variety of sites. Some properties are heavily contaminated while others were contaminated but have since been cleaned up. Still others have not been fully investigated yet, and may require little or no remediation. Inclusion in the 2020 Universe does not necessarily imply failure on the part of a facility to meet its RCRA obligations.

Date of Government Version: 11/11/2011
Date Data Arrived at EDR: 05/18/2012
Date Made Active in Reports: 05/25/2012
Number of Days to Update: 7

Source: Environmental Protection Agency
Telephone: 703-308-4044
Last EDR Contact: 08/16/2012
Next Scheduled EDR Contact: 11/26/2012
Data Release Frequency: Varies

FINANCIAL ASSURANCE 2: Financial Assurance Information Listing

Financial Assurance information for underground storage tank facilities. Financial assurance is intended to ensure that resources are available to pay for the cost of closure, post-closure care, and corrective measures if the owner or operator of a regulated facility is unable or unwilling to pay

Date of Government Version: 06/08/2012
Date Data Arrived at EDR: 07/03/2012
Date Made Active in Reports: 08/21/2012
Number of Days to Update: 49

Source: Texas Commission on Environmental Quality
Telephone: 512-239-0986
Last EDR Contact: 07/03/2012
Next Scheduled EDR Contact: 10/15/2012
Data Release Frequency: Quarterly

PCB TRANSFORMER: PCB Transformer Registration Database

The database of PCB transformer registrations that includes all PCB registration submittals.

Date of Government Version: 02/01/2011
Date Data Arrived at EDR: 10/19/2011
Date Made Active in Reports: 01/10/2012
Number of Days to Update: 83

Source: Environmental Protection Agency
Telephone: 202-566-0517
Last EDR Contact: 08/03/2012
Next Scheduled EDR Contact: 11/12/2012
Data Release Frequency: Varies

COAL ASH DOE: Sleam-Electric Plan Operation Data
A listing of power plants that store ash in surface ponds.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 08/07/2009
Date Made Active in Reports: 10/22/2009
Number of Days to Update: 76

Source: Department of Energy
Telephone: 202-586-8719
Last EDR Contact: 07/16/2012
Next Scheduled EDR Contact: 10/29/2012
Data Release Frequency: Varies

COAL ASH EPA: Coal Combustion Residues Surface Impoundments List
A listing of coal combustion residues surface impoundments with high hazard potential ratings.

Date of Government Version: 08/17/2010
Date Data Arrived at EDR: 01/03/2011
Date Made Active in Reports: 03/21/2011
Number of Days to Update: 77

Source: Environmental Protection Agency
Telephone: N/A
Last EDR Contact: 06/12/2012
Next Scheduled EDR Contact: 09/24/2012
Data Release Frequency: Varies

FINANCIAL ASSURANCE 1: Financial Assurance Information Listing
Financial assurance information.

Date of Government Version: 07/02/2012
Date Data Arrived at EDR: 07/03/2012
Date Made Active in Reports: 08/21/2012
Number of Days to Update: 49

Source: Texas Commission on Environmental Quality
Telephone: 512-239-6239
Last EDR Contact: 06/29/2012
Next Scheduled EDR Contact: 10/15/2012
Data Release Frequency: Varies

EDR PROPRIETARY RECORDS

EDR Proprietary Records

Manufactured Gas Plants: EDR Proprietary Manufactured Gas Plants
The EDR Proprietary Manufactured Gas Plant Database includes records of coal gas plants (manufactured gas plants) compiled by EDR's researchers. Manufactured gas sites were used in the United States from the 1800's to 1950's to produce a gas that could be distributed and used as fuel. These plants used whale oil, rosin, coal, or a mixture of coal, oil, and water that also produced a significant amount of waste. Many of the byproducts of the gas production, such as coal tar (oily waste containing volatile and non-volatile chemicals), sludges, oils and other compounds are potentially hazardous to human health and the environment. The byproduct from this process was frequently disposed of directly at the plant site and can remain or spread slowly, serving as a continuous source of soil and groundwater contamination.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

COUNTY RECORDS

TRAVIS COUNTY:

Historic Tank Records
A listing of historic records from the City of Austin.

Date of Government Version: 06/25/2012
Date Data Arrived at EDR: 06/29/2012
Date Made Active in Reports: 08/23/2012
Number of Days to Update: 55

Source: Department of Planning & Development Review
Telephone: 512-974-2715
Last EDR Contact: 09/06/2012
Next Scheduled EDR Contact: 12/24/2012
Data Release Frequency: Varies

OTHER DATABASE(S)

Depending on the geographic area covered by this report, the data provided in these specialty databases may or may not be complete. For example, the existence of wetlands information data in a specific report does not mean that all wetlands in the area covered by the report are included. Moreover, the absence of any reported wetlands information does not necessarily mean that wetlands do not exist in the area covered by the report.

CT MANIFEST: Hazardous Waste Manifest Data
Facility and manifest data. Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a tsd facility.

Date of Government Version: 05/21/2012
Date Data Arrived at EDR: 05/22/2012
Date Made Active in Reports: 05/31/2012
Number of Days to Update: 9

Source: Department of Energy & Environmental Protection
Telephone: 860-424-3375
Last EDR Contact: 08/20/2012
Next Scheduled EDR Contact: 12/03/2012
Data Release Frequency: Annually

NJ MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 12/31/2011
Date Data Arrived at EDR: 07/19/2012
Date Made Active in Reports: 08/28/2012
Number of Days to Update: 40

Source: Department of Environmental Protection
Telephone: N/A
Last EDR Contact: 07/19/2012
Next Scheduled EDR Contact: 10/29/2012
Data Release Frequency: Annually

NY MANIFEST: Facility and Manifest Data
Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a TSD facility.

Date of Government Version: 05/01/2012
Date Data Arrived at EDR: 05/09/2012
Date Made Active in Reports: 06/14/2012
Number of Days to Update: 36

Source: Department of Environmental Conservation
Telephone: 518-402-8651
Last EDR Contact: 08/09/2012
Next Scheduled EDR Contact: 11/19/2012
Data Release Frequency: Annually

PA MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 12/31/2010
Date Data Arrived at EDR: 04/27/2012
Date Made Active in Reports: 06/05/2012
Number of Days to Update: 39

Source: Department of Environmental Protection
Telephone: 717-783-8990
Last EDR Contact: 07/19/2012
Next Scheduled EDR Contact: 11/05/2012
Data Release Frequency: Annually

RI MANIFEST: Manifest information
Hazardous waste manifest information

Date of Government Version: 12/31/2011
Date Data Arrived at EDR: 06/22/2012
Date Made Active in Reports: 07/31/2012
Number of Days to Update: 39

Source: Department of Environmental Management
Telephone: 401-222-2797
Last EDR Contact: 08/23/2012
Next Scheduled EDR Contact: 12/10/2012
Data Release Frequency: Annually

VT MANIFEST: Hazardous Waste Manifest Data
Hazardous waste manifest information.

Date of Government Version: 08/09/2012
Date Data Arrived at EDR: 08/15/2012
Date Made Active in Reports: 09/13/2012
Number of Days to Update: 29

Source: Department of Environmental Conservation
Telephone: 802-241-3443
Last EDR Contact: 07/23/2012
Next Scheduled EDR Contact: 11/05/2012
Data Release Frequency: Annually

WI MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 12/31/2010
Date Data Arrived at EDR: 08/19/2011
Date Made Active in Reports: 09/15/2011
Number of Days to Update: 27

Source: Department of Natural Resources
Telephone: N/A
Last EDR Contact: 07/16/2012
Next Scheduled EDR Contact: 10/01/2012
Data Release Frequency: Annually

Oil/Gas Pipelines: This data was obtained by EDR from the USGS in 1994. It is referred to by USGS as GeoData Digital Line Graphs from 1:100,000-Scale Maps. It was extracted from the transportation category including some oil, but primarily gas pipelines.

Electric Power Transmission Line Data
Source: Rextag Strategies Corp.
Telephone: (281) 769-2247
U.S. Electric Transmission and Power Plants Systems Digital GIS Data

Sensitive Receptors: There are individuals deemed sensitive receptors due to their fragile immune systems and special sensitivity to environmental discharges. These sensitive receptors typically include the elderly, the sick, and children. While the location of all sensitive receptors cannot be determined, EDR indicates those buildings and facilities - schools, daycares, hospitals, medical centers, and nursing homes - where individuals who are sensitive receptors are likely to be located.

AHA Hospitals:
Source: American Hospital Association, Inc.
Telephone: 312-280-5991
The database includes a listing of hospitals based on the American Hospital Association's annual survey of hospitals.

Medical Centers: Provider of Services Listing
Source: Centers for Medicare & Medicaid Services
Telephone: 410-786-3000
A listing of hospitals with Medicare provider number, produced by Centers of Medicare & Medicaid Services, a federal agency within the U.S. Department of Health and Human Services.

Nursing Homes
Source: National Institutes of Health
Telephone: 301-594-6248
Information on Medicare and Medicaid certified nursing homes in the United States.

Public Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on elementary and secondary public education in the United States. It is a comprehensive, annual, national statistical database of all public elementary and secondary schools and school districts, which contains data that are comparable across all states.

Private Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on private school locations in the United States.

Daycare Centers: Child Care Facility List
Source: Department of Protective & Regulatory Services
Telephone: 512-438-3269

Flood Zone Data: This data, available in select counties across the country, was obtained by EDR in 2003 & 2011 from the Federal Emergency Management Agency (FEMA). Data depicts 100-year and 500-year flood zones as defined by FEMA.

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002 and 2005 from the U.S. Fish and Wildlife Service.

Scanned Digital USGS 7.5' Topographic Map (DRG)
Source: United States Geologic Survey
A digital raster graphic (DRG) is a scanned image of a U.S. Geological Survey topographic map. The map images are made by scanning published paper maps on high-resolution scanners. The raster image is georeferenced and fit to the Universal Transverse Mercator (UTM) projection.

STREET AND ADDRESS INFORMATION

© 2010 Tele Atlas North America, Inc. All rights reserved. This material is proprietary and the subject of copyright protection and other intellectual property rights owned by or licensed to Tele Atlas North America, Inc. The use of this material is subject to the terms of a license agreement. You will be held liable for any unauthorized copying or disclosure of this material.

GEOCHECK ®- PHYSICAL SETTING SOURCE ADDENDUM

TARGET PROPERTY ADDRESS

P1
BOCA CHICA BOULEVARD
PORT ISABEL, TX 78578

TARGET PROPERTY COORDINATES

Latitude (North):	25.9856 - 25˚ 59' 8.16''
Longitude (West):	97.1867 - 97˚ 11' 12.12''
Universal Tranverse Mercator:	Zone 14
UTM X (Meters):	681515.0
UTM Y (Meters):	2875185.2
Elevation:	7 ft. above sea level

USGS TOPOGRAPHIC MAP

Target Property Map:	25097-H2 MOUTH OF RIO GRANDE, TX MX28
Most Recent Revision:	1970
North Map:	26097-A2 PORT ISABEL, TX
Most Recent Revision:	1983

EDR's GeoCheck Physical Setting Source Addendum is provided to assist the environmental professional in forming an opinion about the impact of potential contaminant migration.

Assessment of the impact of contaminant migration generally has two principal investigative components:

1. Groundwater flow direction, and
2. Groundwater flow velocity.

Groundwater flow direction may be impacted by surface topography, hydrology, hydrogeology, characteristics of the soil, and nearby wells. Groundwater flow velocity is generally impacted by the nature of the geologic strata.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW DIRECTION INFORMATION

Groundwater flow direction for a particular site is best determined by a qualified environmental professional using site-specific well data. If such data is not reasonably ascertainable, it may be necessary to rely on other sources of information, such as surface topographic information, hydrologic information, hydrogeologic data collected on nearby properties, and regional groundwater flow information (from deep aquifers).

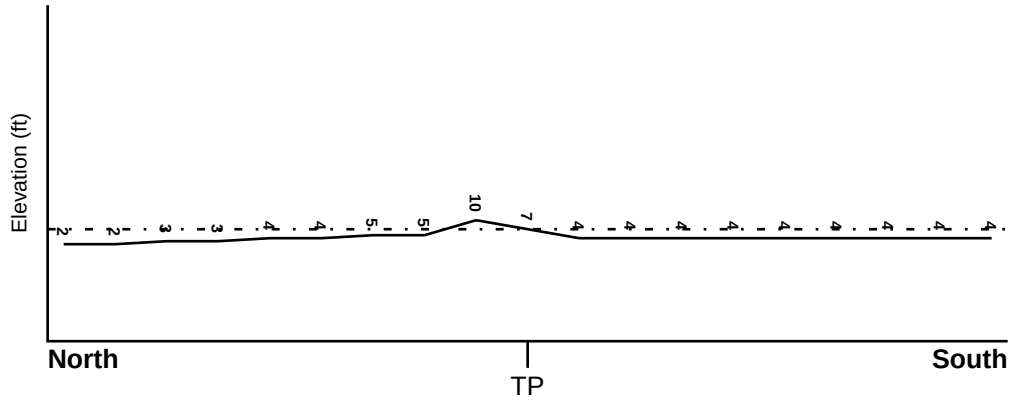
TOPOGRAPHIC INFORMATION

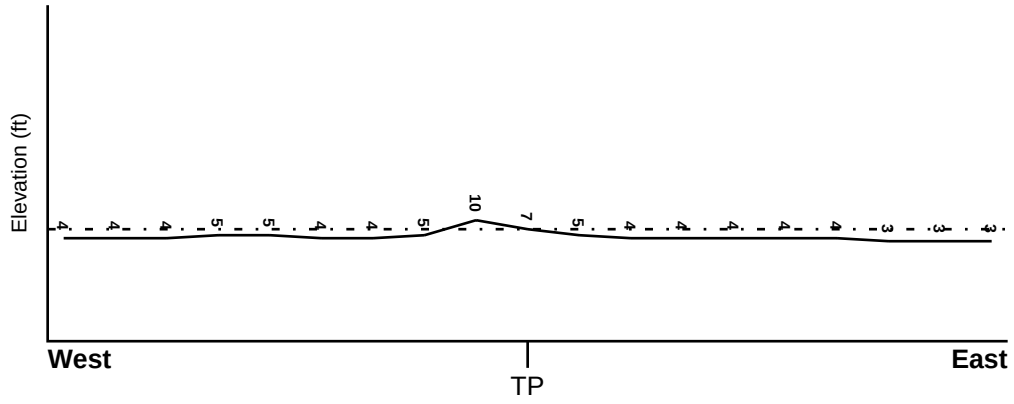
Surface topography may be indicative of the direction of surficial groundwater flow. This information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

TARGET PROPERTY TOPOGRAPHY

General Topographic Gradient: General South

SURROUNDING TOPOGRAPHY: ELEVATION PROFILES





Target Property Elevation: 7 ft.

0 1/2 1 Miles

Source: Topography has been determined from the USGS 7.5' Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

HYDROLOGIC INFORMATION

Surface water can act as a hydrologic barrier to groundwater flow. Such hydrologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Refer to the Physical Setting Source Map following this summary for hydrologic information (major waterways and bodies of water).

FEMA FLOOD ZONE

Target Property County	FEMA Flood Electronic Data
CAMERON, TX	YES - refer to the Overview Map and Detail Map

Flood Plain Panel at Target Property: 4801010375D - FEMA Q3 Flood data

Additional Panels in search area: Not Reported

NATIONAL WETLAND INVENTORY

NWI Quad at Target Property	NWI Electronic Data Coverage
MOUTH OF RIO GRANDE	YES - refer to the Overview Map and Detail Map

HYDROGEOLOGIC INFORMATION

Hydrogeologic information obtained by installation of wells on a specific site can often be an indicator of groundwater flow direction in the immediate area. Such hydrogeologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Site-Specific Hydrogeological Data*:

Search Radius: 1.25 miles
Status: Not found

AQUIFLOW®

Search Radius: 1.000 Mile.

EDR has developed the AQUIFLOW Information System to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted by environmental professionals to regulatory authorities at select sites and has extracted the date of the report, groundwater flow direction as determined hydrogeologically, and the depth to water table.

MAP ID	LOCATION FROM TP	GENERAL DIRECTION GROUNDWATER FLOW
Not Reported		

* ©1996 Site−specific hydrogeological data gathered by CERCLIS Alerts, Inc., Bainbridge Island, WA. All rights reserved. All of the information and opinions presented are those of the cited EPA report(s), which were completed under a Comprehensive Environmental Response Compensation and Liability Information System (CERCLIS) investigation.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW VELOCITY INFORMATION

Groundwater flow velocity information for a particular site is best determined by a qualified environmental professional using site specific geologic and soil strata data. If such data are not reasonably ascertainable, it may be necessary to rely on other sources of information, including geologic age identification, rock stratigraphic unit and soil characteristics data collected on nearby properties and regional soil information. In general, contaminant plumes move more quickly through sandy-gravelly types of soils than silty-clayey types of soils.

GEOLOGIC INFORMATION IN GENERAL AREA OF TARGET PROPERTY

Geologic information can be used by the environmental professional in forming an opinion about the relative speed at which contaminant migration may be occurring.

ROCK STRATIGRAPHIC UNIT

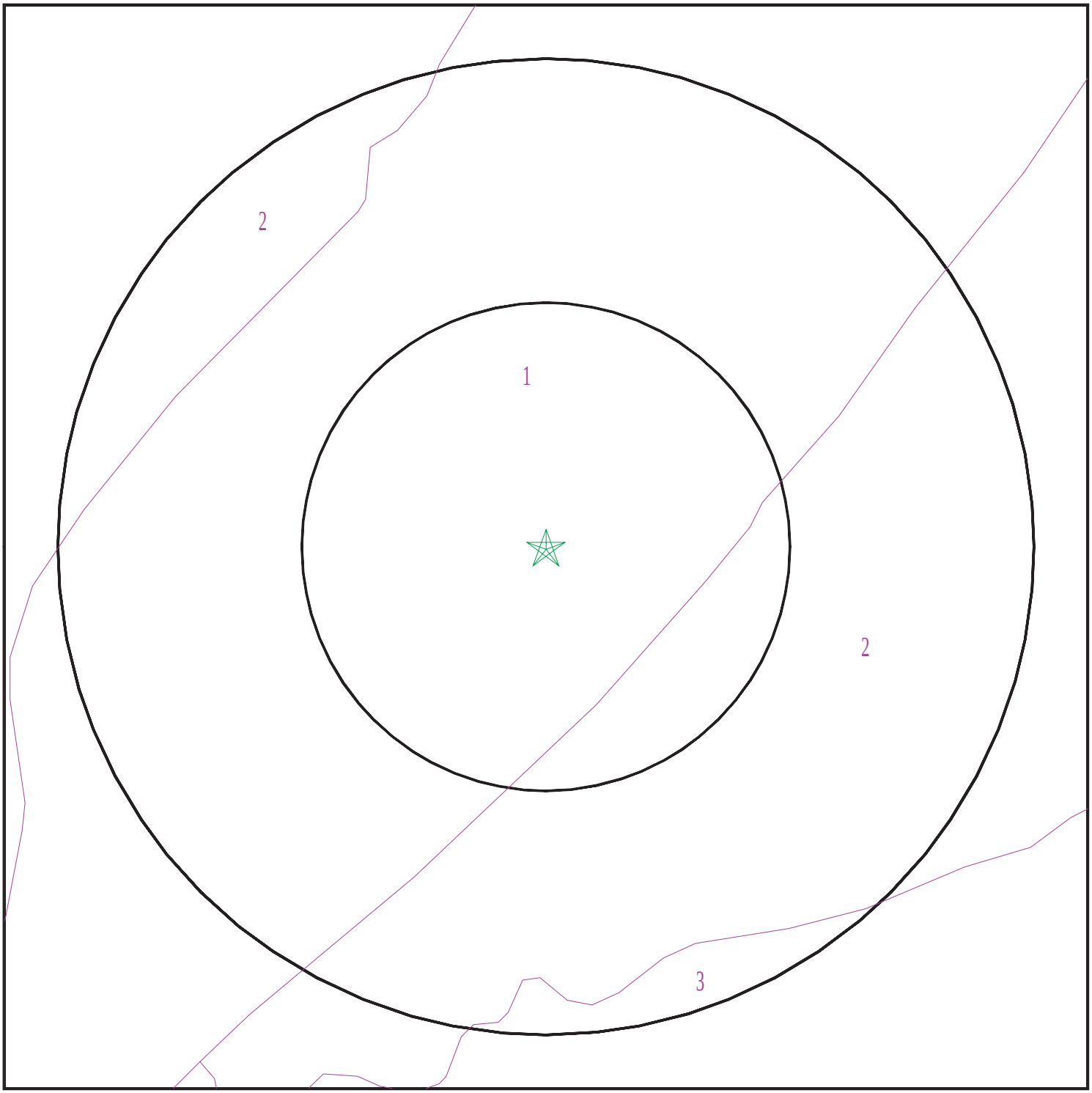
Era:	Cenozoic
System:	Quaternary
Series:	Holocene
Code:	Qh *(decoded above as Era, System & Series)*

GEOLOGIC AGE IDENTIFICATION

Category: Stratifed Sequence

Geologic Age and Rock Stratigraphic Unit Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - a digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

SSURGO SOIL MAP - 3410419.3s



Target Property
SSURGO Soil
Water

0 1/16 1/8 1/4 Miles

N

SITE NAME: P1 ADDRESS: Boca Chica Boulevard Port Isabel TX 78578 LAT/LONG: 25.9856 / 97.1867	CLIENT: SpaceX CONTACT: Steve Davis INQUIRY #: 3410419.3s DATE: September 14, 2012 9:23 am

Copyright © 2012 EDR, Inc. © 2010 Tele Atlas Rel. 07/2009.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

DOMINANT SOIL COMPOSITION IN GENERAL AREA OF TARGET PROPERTY

The U.S. Department of Agriculture's (USDA) Soil Conservation Service (SCS) leads the National Cooperative Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. The following information is based on Soil Conservation Service SSURGO data.

Soil Map ID: 1

Soil Component Name: Galveston

Soil Surface Texture: fine sand

Hydrologic Group: Class A - High infiltration rates. Soils are deep, well drained to excessively drained sands and gravels.

Soil Drainage Class: Somewhat excessively drained

Hydric Status: Partially hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 137 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	5 inches	fine sand	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Clean Sands, Poorly graded sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 141 Min: 42	Max: 8.4 Min: 5.6
2	5 inches	62 inches	fine sand	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Clean Sands, Poorly graded sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 141 Min: 42	Max: 8.4 Min: 5.6

Soil Map ID: 2

Soil Component Name: Barrada

Soil Surface Texture: clay

Hydrologic Group: Class D - Very slow infiltration rates. Soils are clayey, have a high water table, or are shallow to an impervious layer.

Soil Drainage Class: Very poorly drained

Hydric Status: Partially hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	51 inches	clay	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 0.42 Min: 0.01	Max: 9 Min: 7.9
2	51 inches	62 inches	silty clay	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 0.42 Min: 0.01	Max: 9 Min: 7.9

Soil Map ID: 3

Soil Component Name: Sejita

Soil Surface Texture: silty clay loam

Hydrologic Group: Class D - Very slow infiltration rates. Soils are clayey, have a high water table, or are shallow to an impervious layer.

Soil Drainage Class: Poorly drained

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Hydric Status: All hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	20 inches	silty clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 4 Min: 1.4	Max: 9 Min: 7.9
2	20 inches	59 inches	sr to silt loam to silty clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 4 Min: 1.4	Max: 9 Min: 7.9

LOCAL / REGIONAL WATER AGENCY RECORDS

EDR Local/Regional Water Agency records provide water well information to assist the environmental professional in assessing sources that may impact ground water flow direction, and in forming an opinion about the impact of contaminant migration on nearby drinking water wells.

WELL SEARCH DISTANCE INFORMATION

DATABASE	SEARCH DISTANCE (miles)
Federal USGS	1.000
Federal FRDS PWS	Nearest PWS within 1 mile
State Database	1.000

FEDERAL USGS WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
No Wells Found		

FEDERAL FRDS PUBLIC WATER SUPPLY SYSTEM INFORMATION

MAP ID	WELL ID	LOCATION FROM TP

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

FEDERAL FRDS PUBLIC WATER SUPPLY SYSTEM INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
No PWS System Found		

Note: PWS System location is not always the same as well location.

STATE DATABASE WELL INFORMATION

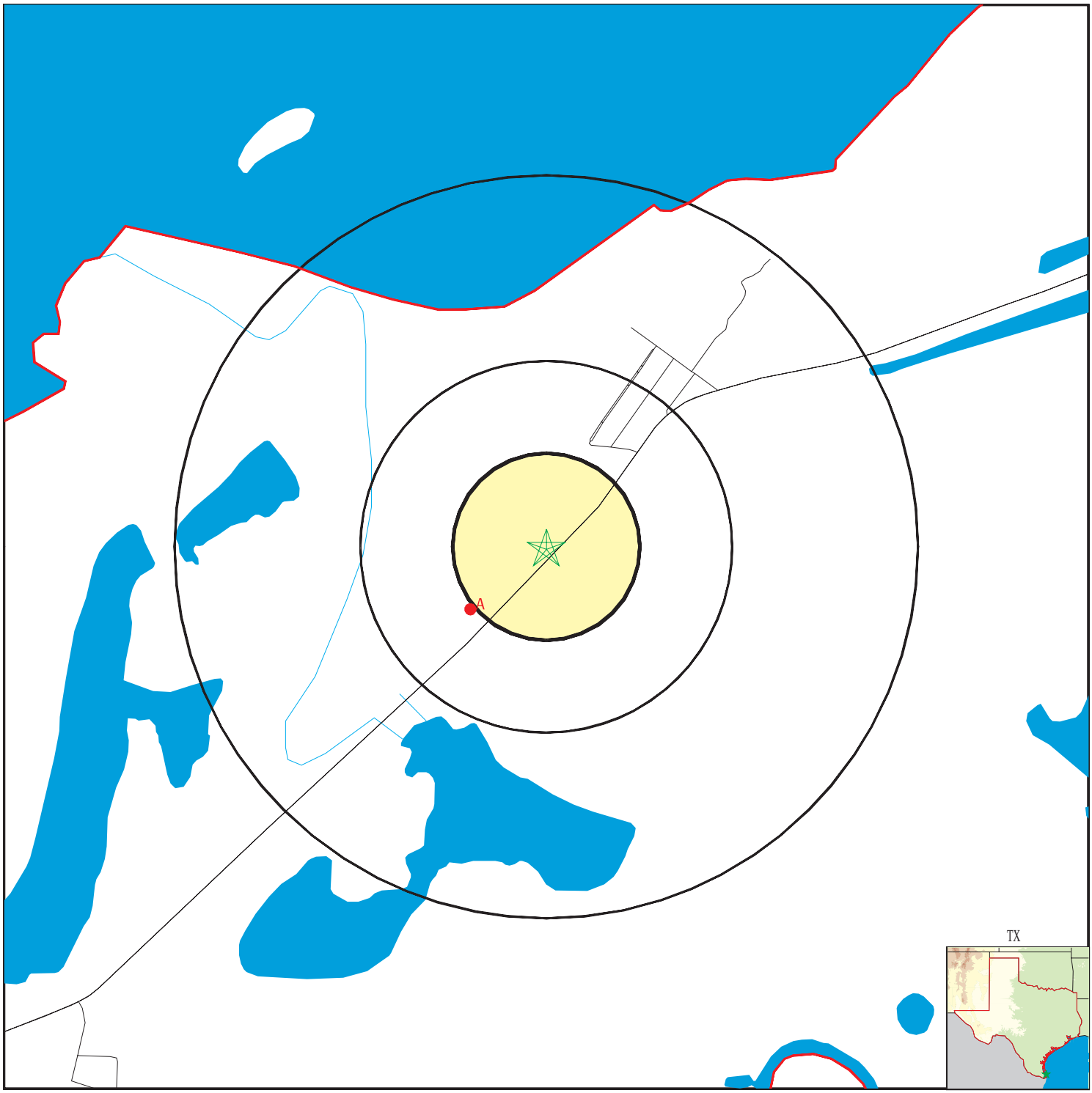
MAP ID	WELL ID	LOCATION FROM TP
No Wells Found		

OTHER STATE DATABASE INFORMATION

STATE OIL/GAS WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
A1	TXOG50000000061	1/8 - 1/4 Mile SW
A2	TXOG50000000060	1/8 - 1/4 Mile SW
A3	TXOG50000000059	1/4 - 1/2 Mile SW
A4	TXOG50000000058	1/4 - 1/2 Mile SW

PHYSICAL SETTING SOURCE MAP - 3410419.3s



County Boundary
Major Roads
Contour Lines
Earthquake epicenter, Richter 5 or greater
Water Wells
Public Water Supply Wells
Cluster of Multiple Icons

0 1/4 1/2 1 Miles

Groundwater Flow Direction
GI Indeterminate Groundwater Flow at Location
GV Groundwater Flow Varies at Location
HD Closest Hydrogeological Data
Oil or gas wells

N

No contour lines were detected within this map area.

SITE NAME: P1	CLIENT: SpaceX
ADDRESS: Boca Chica Boulevard Port Isabel TX 78578	CONTACT: Steve Davis INQUIRY #: 3410419.3s
LAT/LONG: 25.9856 / 97.1867	DATE: September 14, 2012 9:23 am

Copyright © 2012 EDR, Inc. © 2010 Tele Atlas Rel. 07/2009.

Map ID Direction Distance	Database	EDR ID Number

A1
SW
1/8 - 1/4 Mile

OIL_GAS **TXOG50000000061**

Surface id:	1211028		
Well Type:	Sidetrack Well Surface Location	Api:	06130526
Reliab:	Coordinate (operator reported).		
Longn:	-97.18924102		
Latn:	25.98325861		
Site id:	TXOG50000000061		

Surface id:	1211028		
Well Type:	Gas Well	Apinum:	4206130526D1
Out fips:	N	Reliab:	Operator reported location (distances and plat).
Cwellnum:	2R	Radioact:	Not Reported
Longn:	-97.18917918		
Latn:	25.97386947		

A2
SW
1/8 - 1/4 Mile

OIL_GAS **TXOG50000000060**

Surface id:	1236669		
Well Type:	Permitted Location	Api:	06130530
Reliab:	Coordinate (operator reported).		
Longn:	-97.18951632		
Latn:	25.98300918		
Site id:	TXOG50000000060		

Surface id:	1236669		
Well Type:	Permitted Location	Apinum:	4206130530
Out fips:	N	Reliab:	Coordinate (operator reported).
Cwellnum:	3	Radioact:	Not Reported
Longn:	-97.18951632		
Latn:	25.98300918		

A3
SW
1/4 - 1/2 Mile

OIL_GAS **TXOG50000000059**

Surface id:	1206112		
Well Type:	Sidetrack Well Surface Location	Api:	06130524
Reliab:	Coordinate (operator reported).		
Longn:	-97.19005837		
Latn:	25.98248608		
Site id:	TXOG50000000059		

Surface id:	1206112		
Well Type:	Dry Hole	Apinum:	4206130524D1
Out fips:	N	Reliab:	Coordinate (operator reported).
Cwellnum:	2	Radioact:	Not Reported
Longn:	-97.18959417		
Latn:	25.97384796		

Map ID Direction Distance		Database	EDR ID Number
A4 **SW** **1/4 - 1/2 Mile**		**OIL_GAS**	**TXOG50000000058**

Surface id:	1205995		
Well Type:	Sidetrack Well Surface Location	Api:	06130523
Reliab:	Coordinate (operator reported).		
Longn:	-97.19011118		
Latn:	25.98243761		
Site id:	TXOG50000000058		

Surface id:	1205995		
Well Type:	Gas Well	Apinum:	4206130523D1
Out fips:	N	Reliab:	Operator reported location (distances and plat).
Cwellnum:	1	Radioact:	Not Reported
Longn:	-97.19240281		
Latn:	25.98514046		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS
RADON

AREA RADON INFORMATION

State Database: TX Radon

Radon Test Results

County	Mean	Total Sites	%>4 pCi/L	%>20 pCi/L	Min pCi/L	Max pCi/L
CAMERON	<.5	11	.0	.0	<.5	1.4

Federal EPA Radon Zone for CAMERON County: 3

Note: Zone 1 indoor average level > 4 pCi/L.
: Zone 2 indoor average level >= 2 pCi/L and <= 4 pCi/L.
: Zone 3 indoor average level < 2 pCi/L.

Federal Area Radon Information for CAMERON COUNTY, TX

Number of sites tested: 7

Area	Average Activity	% <4 pCi/L	% 4-20 pCi/L	% >20 pCi/L
Living Area - 1st Floor	0.386 pCi/L	100%	0%	0%
Living Area - 2nd Floor	0.100 pCi/L	100%	0%	0%
Basement	Not Reported	Not Reported	Not Reported	Not Reported

PHYSICAL SETTING SOURCE RECORDS SEARCHED

TOPOGRAPHIC INFORMATION

USGS 7.5' Digital Elevation Model (DEM)
Source: United States Geologic Survey
EDR acquired the USGS 7.5' Digital Elevation Model in 2002 and updated it in 2006. The 7.5 minute DEM corresponds to the USGS 1:24,000- and 1:25,000-scale topographic quadrangle maps. The DEM provides elevation data with consistent elevation units and projection.

Scanned Digital USGS 7.5' Topographic Map (DRG)
Source: United States Geologic Survey
A digital raster graphic (DRG) is a scanned image of a U.S. Geological Survey topographic map. The map images are made by scanning published paper maps on high-resolution scanners. The raster image is georeferenced and fit to the Universal Transverse Mercator (UTM) projection.

HYDROLOGIC INFORMATION

Flood Zone Data: This data, available in select counties across the country, was obtained by EDR in 2003 & 2011 from the Federal Emergency Management Agency (FEMA). Data depicts 100-year and 500-year flood zones as defined by FEMA.

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002 and 2005 from the U.S. Fish and Wildlife Service.

HYDROGEOLOGIC INFORMATION

AQUIFLOW[R] Information System
Source: EDR proprietary database of groundwater flow information
EDR has developed the AQUIFLOW Information System (AIS) to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted to regulatory authorities at select sites and has extracted the date of the report, hydrogeologically determined groundwater flow direction and depth to water table information.

GEOLOGIC INFORMATION

Geologic Age and Rock Stratigraphic Unit
Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - A digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

STATSGO: State Soil Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Services
The U.S. Department of Agriculture's (USDA) Natural Resources Conservation Service (NRCS) leads the national Conservation Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps.

SSURGO: Soil Survey Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Services (NRCS)
Telephone: 800-672-5559
SSURGO is the most detailed level of mapping done by the Natural Resources Conservation Services, mapping scales generally range from 1:12,000 to 1:63,360. Field mapping methods using national standards are used to construct the soil maps in the Soil Survey Geographic (SSURGO) database. SSURGO digitizing duplicates the original soil survey maps. This level of mapping is designed for use by landowners, townships and county natural resource planning and management.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

LOCAL / REGIONAL WATER AGENCY RECORDS

FEDERAL WATER WELLS

PWS: Public Water Systems
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Public Water System data from the Federal Reporting Data System. A PWS is any water system which provides water to at least 25 people for at least 60 days annually. PWSs provide water from wells, rivers and other sources.

PWS ENF: Public Water Systems Violation and Enforcement Data
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Violation and Enforcement data for Public Water Systems from the Safe Drinking Water Information System (SDWIS) after August 1995. Prior to August 1995, the data came from the Federal Reporting Data System (FRDS).

USGS Water Wells: USGS National Water Inventory System (NWIS)
This database contains descriptive information on sites where the USGS collects or has collected data on surface water and/or groundwater. The groundwater data includes information on wells, springs, and other sources of groundwater.

STATE RECORDS

Public Water Supply Sources Databases
Source: Texas Commission on Environmental Quality
Telephone: 512-239-6199
Locations of public drinking water sources maintained by the TCEQ

Groundwater Database
Source: Texas Water Development Board
Telephone: 512-936-0837

Well Report Database
Source: Department of Licensing and Regulation
Telephone: 512-936-0833

Water Well Database
Source: Harris-Galveston Coastal Subsidence District
Telephone: 281-486-1105

Submitted Driller's Reports Database
Source: Texas Water Development Board
Telephone: 512-936-0833
The Submitted Driller's Reports Database is populated from the online Texas Well Report Submission and Retrieval System which is a cooperative Texas Department of Licensing and Regulation (TDLR) and Texas Water Development Board (TWDB) application that registered water-well drillers use to submit their required reports.

OTHER STATE DATABASE INFORMATION

Texas Oil and Gas Wells:
Source: Texas Railroad Commission
Telephone: 512-463-6882
Oil and gas well locations

RADON

State Database: TX Radon
Source: Department of Health
Telephone: 512-834-6688
Rinal Report of the Texas Indoor Radon Survey

PHYSICAL SETTING SOURCE RECORDS SEARCHED

Area Radon Information
Source: USGS
Telephone: 703-356-4020
The National Radon Database has been developed by the U.S. Environmental Protection Agency (USEPA) and is a compilation of the EPA/State Residential Radon Survey and the National Residential Radon Survey. The study covers the years 1986 - 1992. Where necessary data has been supplemented by information collected at private sources such as universities and research institutions.

EPA Radon Zones
Source: EPA
Telephone: 703-356-4020
Sections 307 & 309 of IRAA directed EPA to list and identify areas of U.S. with the potential for elevated indoor radon levels.

OTHER

Airport Landing Facilities: Private and public use landing facilities
Source: Federal Aviation Administration, 800-457-6656

Epicenters: World earthquake epicenters, Richter 5 or greater
Source: Department of Commerce, National Oceanic and Atmospheric Administration

STREET AND ADDRESS INFORMATION

© 2010 Tele Atlas North America, Inc. All rights reserved. This material is proprietary and the subject of copyright protection and other intellectual property rights owned by or licensed to Tele Atlas North America, Inc. The use of this material is subject to the terms of a license agreement. You will be held liable for any unauthorized copying or disclosure of this material.

THIS PAGE INTENTIONALLY LEFT BLANK

P23
Boca Chica Blvd
Port Isabel, TX 78578

Inquiry Number: 3410419.5s
September 14, 2012

The EDR Radius Map™ Report with GeoCheck®

EDR® Environmental Data Resources Inc

440 Wheelers Farms Road
Milford, CT 06461
Toll Free: 800.352.0050
www.edrnet.com

TABLE OF CONTENTS

SECTION	PAGE
Executive Summary	ES1
Overview Map	2
Detail Map	3
Map Findings Summary	4
Map Findings	7
Orphan Summary	8
Government Records Searched/Data Currency Tracking	GR-1

GEOCHECK ADDENDUM

Physical Setting Source Addendum	A-1
Physical Setting Source Summary	A-2
Physical Setting SSURGO Soil Map	A-5
Physical Setting Source Map	A-8
Physical Setting Source Map Findings	A-10
Physical Setting Source Records Searched	A-13

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

Disclaimer - Copyright and Trademark Notice

This Report contains certain information obtained from a variety of public and other sources reasonably available to Environmental Data Resources, Inc. It cannot be concluded from this Report that coverage information for the target and surrounding properties does not exist from other sources. **NO WARRANTY EXPRESSED OR IMPLIED, IS MADE WHATSOEVER IN CONNECTION WITH THIS REPORT. ENVIRONMENTAL DATA RESOURCES, INC. SPECIFICALLY DISCLAIMS THE MAKING OF ANY SUCH WARRANTIES, INCLUDING WITHOUT LIMITATION, MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE OR PURPOSE. ALL RISK IS ASSUMED BY THE USER. IN NO EVENT SHALL ENVIRONMENTAL DATA RESOURCES, INC. BE LIABLE TO ANYONE, WHETHER ARISING OUT OF ERRORS OR OMISSIONS, NEGLIGENCE, ACCIDENT OR ANY OTHER CAUSE, FOR ANY LOSS OF DAMAGE, INCLUDING, WITHOUT LIMITATION, SPECIAL, INCIDENTAL, CONSEQUENTIAL, OR EXEMPLARY DAMAGES. ANY LIABILITY ON THE PART OF ENVIRONMENTAL DATA RESOURCES, INC. IS STRICTLY LIMITED TO A REFUND OF THE AMOUNT PAID FOR THIS REPORT.** Purchaser accepts this Report "AS IS". Any analyses, estimates, ratings, environmental risk levels or risk codes provided in this Report are provided for illustrative purposes only, and are not intended to provide, nor should they be interpreted as providing any facts regarding, or prediction or forecast of, any environmental risk for any property. Only a Phase I Environmental Site Assessment performed by an environmental professional can provide information regarding the environmental risk for any property. Additionally, the information provided in this Report is not to be construed as legal advice.

Copyright 2012 by Environmental Data Resources, Inc. All rights reserved. Reproduction in any media or format, in whole or in part, of any report or map of Environmental Data Resources, Inc., or its affiliates, is prohibited without prior written permission.

EDR and its logos (including Sanborn and Sanborn Map) are trademarks of Environmental Data Resources, Inc. or its affiliates. All other trademarks used herein are the property of their respective owners.

EXECUTIVE SUMMARY

A search of available environmental records was conducted by Environmental Data Resources, Inc (EDR). The report was designed to assist parties seeking to meet the search requirements of EPA's Standards and Practices for All Appropriate Inquiries (40 CFR Part 312), the ASTM Standard Practice for Environmental Site Assessments (E 1527-05) or custom requirements developed for the evaluation of environmental risk associated with a parcel of real estate.

TARGET PROPERTY INFORMATION

ADDRESS

BOCA CHICA BLVD
PORT ISABEL, TX 78578

COORDINATES

Latitude (North):	25.9897000 - 25˚ 59' 22.92''
Longitude (West):	97.1828000 - 97˚ 10' 58.08''
Universal Tranverse Mercator:	Zone 14
UTM X (Meters):	681899.2
UTM Y (Meters):	2875645.0
Elevation:	5 ft. above sea level

USGS TOPOGRAPHIC MAP ASSOCIATED WITH TARGET PROPERTY

Target Property Map:	25097-H2 MOUTH OF RIO GRANDE, TX MX28
Most Recent Revision:	1970
North Map:	26097-A2 PORT ISABEL, TX
Most Recent Revision:	1983

AERIAL PHOTOGRAPHY IN THIS REPORT

Photo Year:	2010
Source:	USDA

TARGET PROPERTY SEARCH RESULTS

The target property was not listed in any of the databases searched by EDR.

DATABASES WITH NO MAPPED SITES

No mapped sites were found in EDR's search of available ("reasonably ascertainable ") government records either on the target property or within the search radius around the target property for the following databases:

STANDARD ENVIRONMENTAL RECORDS

Federal NPL site list

NPL---------- National Priority List

EXECUTIVE SUMMARY

Proposed NPL ..... Proposed National Priority List Sites
NPL LIENS ..... Federal Superfund Liens

Federal Delisted NPL site list

Delisted NPL ..... National Priority List Deletions

Federal CERCLIS list

CERCLIS ..... Comprehensive Environmental Response, Compensation, and Liability Information System
FEDERAL FACILITY ..... Federal Facility Site Information listing

Federal CERCLIS NFRAP site List

CERC-NFRAP ..... CERCLIS No Further Remedial Action Planned

Federal RCRA CORRACTS facilities list

CORRACTS ..... Corrective Action Report

Federal RCRA non-CORRACTS TSD facilities list

RCRA-TSDF ..... RCRA - Treatment, Storage and Disposal

Federal RCRA generators list

RCRA-LQG ..... RCRA - Large Quantity Generators
RCRA-SQG ..... RCRA - Small Quantity Generators
RCRA-CESQG ..... RCRA - Conditionally Exempt Small Quantity Generator

Federal institutional controls / engineering controls registries

US ENG CONTROLS ..... Engineering Controls Sites List
US INST CONTROL ..... Sites with Institutional Controls

Federal ERNS list

ERNS ..... Emergency Response Notification System

State- and tribal - equivalent NPL

SHWS ..... State Superfund Registry

State and tribal landfill and/or solid waste disposal site lists

SWF/LF ..... Permitted Solid Waste Facilities
CLI ..... Closed Landfill Inventory
WasteMgt ..... Commercial Hazardous & Solid Waste Management Facilities

State and tribal leaking storage tank lists

LPST ..... Leaking Petroleum Storage Tank Listing
INDIAN LUST ..... Leaking Underground Storage Tanks on Indian Land

State and tribal registered storage tank lists

UST ..... Petroleum Storage Tank Database

EXECUTIVE SUMMARY

AST ..... Petroleum Storage Tank Database
INDIAN UST ..... Underground Storage Tanks on Indian Land
FEMA UST ..... Underground Storage Tank Listing

State and tribal institutional control / engineering control registries

AUL ..... Sites with Controls

State and tribal voluntary cleanup sites

VCP ..... Voluntary Cleanup Program Database
INDIAN VCP ..... Voluntary Cleanup Priority Listing

State and tribal Brownfields sites

BROWNFIELDS ..... Brownfields Site Assessments

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS ..... A Listing of Brownfields Sites

Local Lists of Landfill / Solid Waste Disposal Sites

ODI ..... Open Dump Inventory
DEBRIS REGION 9 ..... Torres Martinez Reservation Illegal Dump Site Locations
INDIAN ODI ..... Report on the Status of Open Dumps on Indian Lands

Local Lists of Hazardous waste / Contaminated Sites

US CDL ..... Clandestine Drug Labs
DEL SHWS ..... Deleted Superfund Registry Sites
PRIORITYCLEANERS ..... Dry Cleaner Remediation Program Prioritization List
US HIST CDL ..... National Clandestine Laboratory Register

Local Land Records

LIENS 2 ..... CERCLA Lien Information
LUCIS ..... Land Use Control Information System
LIENS ..... Environmental Liens Listing
HIST LIENS ..... Environmental Liens Listing

Records of Emergency Release Reports

HMIRS ..... Hazardous Materials Information Reporting System
SPILLS ..... Spills Database

Other Ascertainable Records

RCRA-NonGen ..... RCRA - Non Generators
DOT OPS ..... Incident and Accident Data
DOD ..... Department of Defense Sites
FUDS ..... Formerly Used Defense Sites

EXECUTIVE SUMMARY

CONSENT	Superfund (CERCLA) Consent Decrees
ROD	Records Of Decision
UMTRA	Uranium Mill Tailings Sites
MINES	Mines Master Index File
TRIS	Toxic Chemical Release Inventory System
TSCA	Toxic Substances Control Act
FTTS	FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
HIST FTTS	FIFRA/TSCA Tracking System Administrative Case Listing
SSTS	Section 7 Tracking Systems
ICIS	Integrated Compliance Information System
PADS	PCB Activity Database System
MLTS	Material Licensing Tracking System
RADINFO	Radiation Information Database
FINDS	Facility Index System/Facility Registry System
RAATS	RCRA Administrative Action Tracking System
IOP	Innocent Owner/Operator Program
NPDES	NPDES Facility List
UIC	Underground Injection Wells Database Listing
DRYCLEANERS	Drycleaner Registration Database Listing
ENF	Notice of Violations Listing
Ind. Haz Waste	Industrial & Hazardous Waste Database
ED AQUIF	Edwards Aquifer Permits
AIRS	Current Emission Inventory Data
MSD	Municipal Settings Designations Database
TIER 2	Tier 2 Chemical Inventory Reports
RWS	Radioactive Waste Sites
INDIAN RESERV	Indian Reservations
SCRD DRYCLEANERS	State Coalition for Remediation of Drycleaners Listing
2020 COR ACTION	2020 Corrective Action Program List
GCC	Groundwater Contamination Cases
EPA WATCH LIST	EPA WATCH LIST
FINANCIAL ASSURANCE	Financial Assurance Information Listing
PCB TRANSFORMER	PCB Transformer Registration Database
PRP	Potentially Responsible Parties
COAL ASH DOE	Steam-Electric Plant Operation Data
COAL ASH EPA	Coal Combustion Residues Surface Impoundments List
US FIN ASSUR	Financial Assurance Information

EDR PROPRIETARY RECORDS

EDR Proprietary Records

Manufactured Gas Plants	EDR Proprietary Manufactured Gas Plants

SURROUNDING SITES: SEARCH RESULTS

Surrounding sites were not identified.

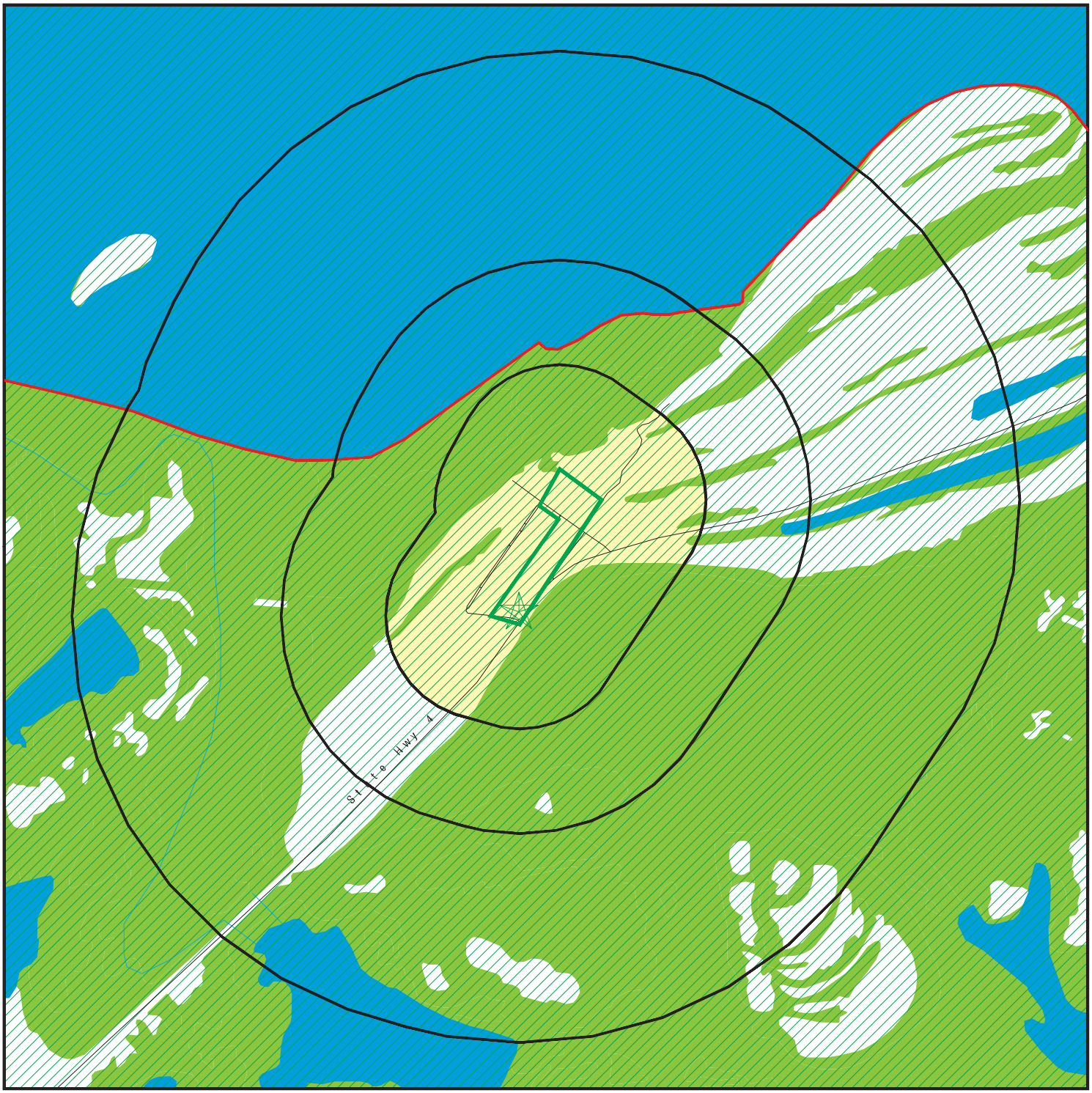
Unmappable (orphan) sites are not considered in the foregoing analysis.

EXECUTIVE SUMMARY

Due to poor or inadequate address information, the following sites were not mapped. Count: 6 records.

Site Name	Database(s)
BAYSIDE NET & TWINE CO	CERC-NFRAP
CITY OF PORT ISABEL LANDFILL	SWF/LF
CAMERON COUNTY FWSD NO 1 TRANSFER	SWF/LF
CAMERON COUNTY FWSD NO 1 TRANSFER	SWF/LF
CITY OF PORT ISABEL LANDFILL	SWF/LF
VALLEY FISHERIES	AST

OVERVIEW MAP - 3410419.5s



Target Property

Sites at elevations higher than or equal to the target property

Sites at elevations lower than the target property

Manufactured Gas Plants

National Priority List Sites

Dept. Defense Sites

0 1/4 1/2 1 Miles

Indian Reservations BIA

County Boundary

Oil & Gas pipelines from USGS

100-year flood zone

500-year flood zone

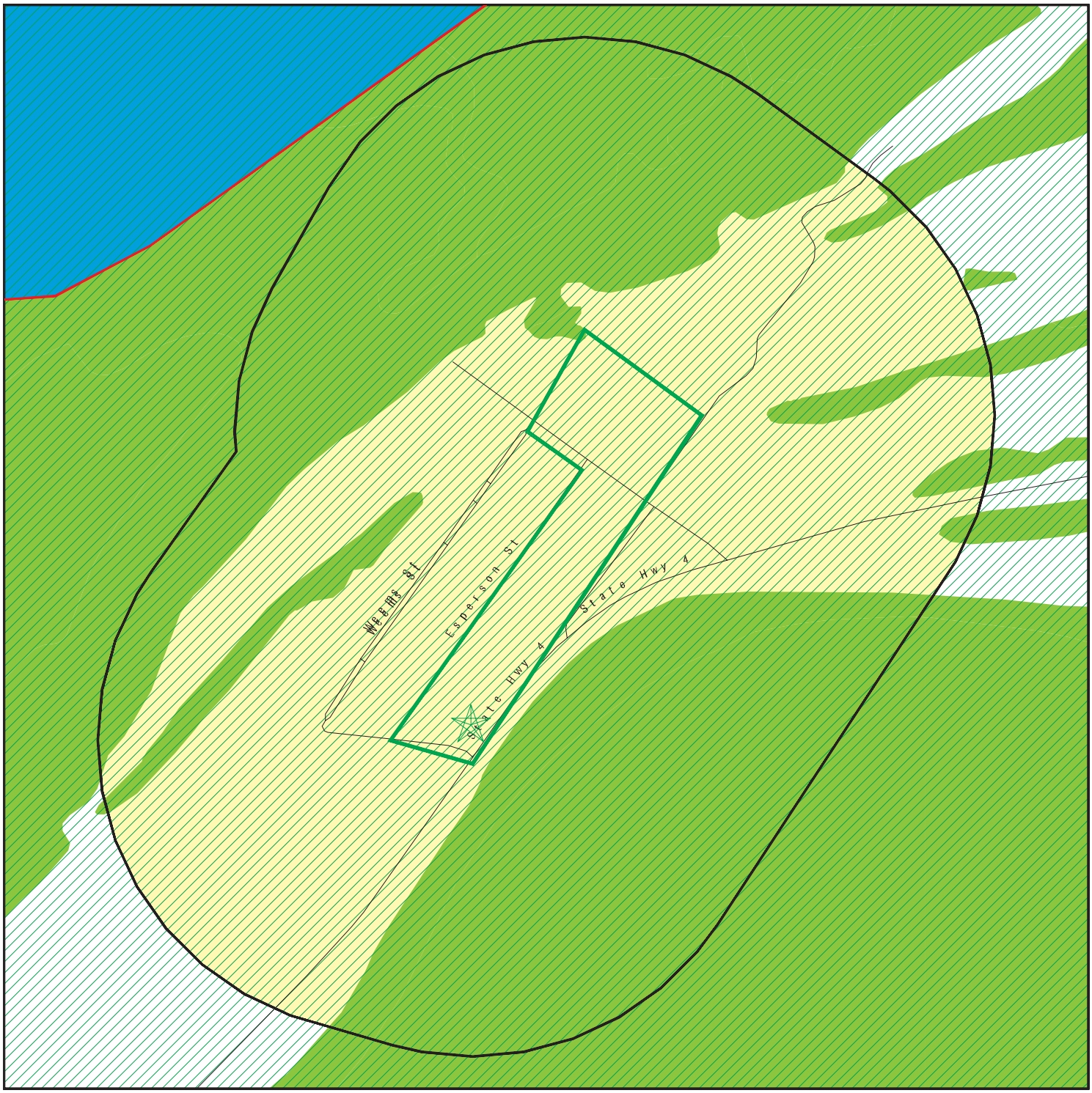
National Wetland Inventory

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME: P23	CLIENT: SpaceX
ADDRESS: Boca Chica Blvd Port Isabel TX 78578	CONTACT: Steve Davis INQUIRY #: 3410419.5s
LAT/LONG: 25.9897 / 97.1828	DATE: September 14, 2012 9:21 am

Copyright © 2012 EDR, Inc. © 2010 Tele Atlas Rel. 07/2009.

DETAIL MAP - 3410419.5s



Target Property

Sites at elevations higher than or equal to the target property

Sites at elevations lower than the target property

Manufactured Gas Plants

Sensitive Receptors

National Priority List Sites

Dept. Defense Sites

0 1/16 1/8 1/4 Miles

Indian Reservations BIA

County Boundary

Oil & Gas pipelines from USGS

100-year flood zone

500-year flood zone

National Wetland Inventory

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME: P23	CLIENT: SpaceX
ADDRESS: Boca Chica Blvd Port Isabel TX 78578	CONTACT: Steve Davis INQUIRY #: 3410419.5s
LAT/LONG: 25.9897 / 97.1828	DATE: September 14, 2012 9:23 am

Copyright © 2012 EDR, Inc. © 2010 Tele Atlas Rel. 07/2009.

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
STANDARD ENVIRONMENTAL RECORDS								
Federal NPL site list								
NPL	1.000		0	0	0	0	NR	0
Proposed NPL	1.000		0	0	0	0	NR	0
NPL LIENS	TP		NR	NR	NR	NR	NR	0
Federal Delisted NPL site list								
Delisted NPL	1.000		0	0	0	0	NR	0
Federal CERCLIS list								
CERCLIS	0.500		0	0	0	NR	NR	0
FEDERAL FACILITY	1.000		0	0	0	0	NR	0
Federal CERCLIS NFRAP site List								
CERC-NFRAP	0.500		0	0	0	NR	NR	0
Federal RCRA CORRACTS facilities list								
CORRACTS	1.000		0	0	0	0	NR	0
Federal RCRA non-CORRACTS TSD facilities list								
RCRA-TSDF	0.500		0	0	0	NR	NR	0
Federal RCRA generators list								
RCRA-LQG	0.250		0	0	NR	NR	NR	0
RCRA-SQG	0.250		0	0	NR	NR	NR	0
RCRA-CESQG	0.250		0	0	NR	NR	NR	0
Federal institutional controls / engineering controls registries								
US ENG CONTROLS	0.500		0	0	0	NR	NR	0
US INST CONTROL	0.500		0	0	0	NR	NR	0
Federal ERNS list								
ERNS	TP		NR	NR	NR	NR	NR	0
State- and tribal - equivalent NPL								
SHWS	1.000		0	0	0	0	NR	0
State and tribal landfill and/or solid waste disposal site lists								
SWF/LF	0.500		0	0	0	NR	NR	0
CLI	0.500		0	0	0	NR	NR	0
WasteMgt	TP		NR	NR	NR	NR	NR	0
State and tribal leaking storage tank lists								
LPST	0.500		0	0	0	NR	NR	0
INDIAN LUST	0.500		0	0	0	NR	NR	0
State and tribal registered storage tank lists								
UST	0.250		0	0	NR	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
AST	0.250		0	0	NR	NR	NR	0
INDIAN UST	0.250		0	0	NR	NR	NR	0
FEMA UST	0.250		0	0	NR	NR	NR	0
State and tribal institutional control / engineering control registries								
AUL	0.500		0	0	0	NR	NR	0
State and tribal voluntary cleanup sites								
VCP	0.500		0	0	0	NR	NR	0
INDIAN VCP	0.500		0	0	0	NR	NR	0
State and tribal Brownfields sites								
BROWNFIELDS	0.500		0	0	0	NR	NR	0
ADDITIONAL ENVIRONMENTAL RECORDS								
Local Brownfield lists								
US BROWNFIELDS	0.500		0	0	0	NR	NR	0
Local Lists of Landfill / Solid Waste Disposal Sites								
ODI	0.500		0	0	0	NR	NR	0
DEBRIS REGION 9	0.500		0	0	0	NR	NR	0
INDIAN ODI	0.500		0	0	0	NR	NR	0
Local Lists of Hazardous waste / Contaminated Sites								
US CDL	TP		NR	NR	NR	NR	NR	0
DEL SHWS	1.000		0	0	0	0	NR	0
PRIORITYCLEANERS	0.500		0	0	0	NR	NR	0
US HIST CDL	TP		NR	NR	NR	NR	NR	0
Local Land Records								
LIENS 2	TP		NR	NR	NR	NR	NR	0
LUCIS	0.500		0	0	0	NR	NR	0
LIENS	TP		NR	NR	NR	NR	NR	0
HIST LIENS	TP		NR	NR	NR	NR	NR	0
Records of Emergency Release Reports								
HMIRS	TP		NR	NR	NR	NR	NR	0
SPILLS	TP		NR	NR	NR	NR	NR	0
Other Ascertainable Records								
RCRA-NonGen	0.250		0	0	NR	NR	NR	0
DOT OPS	TP		NR	NR	NR	NR	NR	0
DOD	1.000		0	0	0	0	NR	0
FUDS	1.000		0	0	0	0	NR	0
CONSENT	1.000		0	0	0	0	NR	0
ROD	1.000		0	0	0	0	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
UMTRA	0.500		0	0	0	NR	NR	0
MINES	0.250		0	0	NR	NR	NR	0
TRIS	TP		NR	NR	NR	NR	NR	0
TSCA	TP		NR	NR	NR	NR	NR	0
FTTS	TP		NR	NR	NR	NR	NR	0
HIST FTTS	TP		NR	NR	NR	NR	NR	0
SSTS	TP		NR	NR	NR	NR	NR	0
ICIS	TP		NR	NR	NR	NR	NR	0
PADS	TP		NR	NR	NR	NR	NR	0
MLTS	TP		NR	NR	NR	NR	NR	0
RADINFO	TP		NR	NR	NR	NR	NR	0
FINDS	TP		NR	NR	NR	NR	NR	0
RAATS	TP		NR	NR	NR	NR	NR	0
IOP	TP		NR	NR	NR	NR	NR	0
NPDES	TP		NR	NR	NR	NR	NR	0
UIC	TP		NR	NR	NR	NR	NR	0
DRYCLEANERS	0.250		0	0	NR	NR	NR	0
ENF	TP		NR	NR	NR	NR	NR	0
Ind. Haz Waste	TP		NR	NR	NR	NR	NR	0
ED AQUIF	TP		NR	NR	NR	NR	NR	0
AIRS	TP		NR	NR	NR	NR	NR	0
MSD	0.500		0	0	0	NR	NR	0
TIER 2	TP		NR	NR	NR	NR	NR	0
RWS	TP		NR	NR	NR	NR	NR	0
INDIAN RESERV	1.000		0	0	0	0	NR	0
SCRD DRYCLEANERS	0.500		0	0	0	NR	NR	0
2020 COR ACTION	0.250		0	0	NR	NR	NR	0
GCC	TP		NR	NR	NR	NR	NR	0
EPA WATCH LIST	TP		NR	NR	NR	NR	NR	0
FINANCIAL ASSURANCE	TP		NR	NR	NR	NR	NR	0
PCB TRANSFORMER	TP		NR	NR	NR	NR	NR	0
PRP	TP		NR	NR	NR	NR	NR	0
COAL ASH DOE	TP		NR	NR	NR	NR	NR	0
COAL ASH EPA	0.500		0	0	0	NR	NR	0
US FIN ASSUR	TP		NR	NR	NR	NR	NR	0

EDR PROPRIETARY RECORDS

EDR Proprietary Records

Manufactured Gas Plants	1.000		0	0	0	0	NR	0

NOTES:

TP = Target Property

NR = Not Requested at this Search Distance

Sites may be listed in more than one database

MAP FINDINGS

Map ID Direction Distance Elevation	Site	Database(s)	EDR ID Number EPA ID Number

NO SITES FOUND

Count: 6 records.

ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
PORT ISABEL	1003875881	BAYSIDE NET & TWINE CO	HWY 100 N (P.O. BOX 959)	78578	CERC-NFRAP
PORT ISABEL	S108425080	CITY OF PORT ISABEL LANDFILL	15TH MILES SW OF INTERSECTION		SWF/LF
PORT ISABEL	S109515052	CAMERON COUNTY FWSD NO 1 TRANSFER	ADJACENT TO W BOUNDARY OF PRT		SWF/LF
PORT ISABEL	S109515053	CAMERON COUNTY FWSD NO 1 TRANSFER	ADJACENT TO W BOUNDRY OF PRT		SWF/LF
PORT ISABEL	A100190419	VALLEY FISHERIES	S JUNCTION HWY 48TH &	78578	AST
PORT ISABEL	S109978523	CITY OF PORT ISABEL LANDFILL	PORT RD		SWF/LF

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

To maintain currency of the following federal and state databases, EDR contacts the appropriate governmental agency on a monthly or quarterly basis, as required.

Number of Days to Update: Provides confirmation that EDR is reporting records that have been updated within 90 days from the date the government agency made the information available to the public.

STANDARD ENVIRONMENTAL RECORDS

Federal NPL site list

NPL: National Priority List

National Priorities List (Superfund). The NPL is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund Program. NPL sites may encompass relatively large areas. As such, EDR provides polygon coverage for over 1,000 NPL site boundaries produced by EPA's Environmental Photographic Interpretation Center (EPIC) and regional EPA offices.

Date of Government Version: 05/08/2012
Date Data Arrived at EDR: 05/10/2012
Date Made Active in Reports: 05/15/2012
Number of Days to Update: 5

Source: EPA
Telephone: N/A
Last EDR Contact: 07/05/2012
Next Scheduled EDR Contact: 10/22/2012
Data Release Frequency: Quarterly

NPL Site Boundaries

Sources:

EPA's Environmental Photographic Interpretation Center (EPIC)
Telephone: 202-564-7333

EPA Region 1
Telephone 617-918-1143

EPA Region 6
Telephone: 214-655-6659

EPA Region 3
Telephone 215-814-5418

EPA Region 7
Telephone: 913-551-7247

EPA Region 4
Telephone 404-562-8033

EPA Region 8
Telephone: 303-312-6774

EPA Region 5
Telephone 312-886-6686

EPA Region 9
Telephone: 415-947-4246

EPA Region 10
Telephone 206-553-8665

Proposed NPL: Proposed National Priority List Sites

A site that has been proposed for listing on the National Priorities List through the issuance of a proposed rule in the Federal Register. EPA then accepts public comments on the site, responds to the comments, and places on the NPL those sites that continue to meet the requirements for listing.

Date of Government Version: 03/30/2012
Date Data Arrived at EDR: 04/05/2012
Date Made Active in Reports: 05/15/2012
Number of Days to Update: 40

Source: EPA
Telephone: N/A
Last EDR Contact: 07/05/2012
Next Scheduled EDR Contact: 10/22/2012
Data Release Frequency: Quarterly

NPL LIENS: Federal Superfund Liens

Federal Superfund Liens. Under the authority granted the USEPA by CERCLA of 1980, the USEPA has the authority to file liens against real property in order to recover remedial action expenditures or when the property owner received notification of potential liability. USEPA compiles a listing of filed notices of Superfund Liens.

Date of Government Version: 10/15/1991
Date Data Arrived at EDR: 02/02/1994
Date Made Active in Reports: 03/30/1994
Number of Days to Update: 56

Source: EPA
Telephone: 202-564-4267
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

Federal Delisted NPL site list

DELISTED NPL: National Priority List Deletions

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.

Date of Government Version: 03/30/2012	Source: EPA
Date Data Arrived at EDR: 04/05/2012	Telephone: N/A
Date Made Active in Reports: 05/15/2012	Last EDR Contact: 07/05/2012
Number of Days to Update: 40	Next Scheduled EDR Contact: 10/22/2012
	Data Release Frequency: Quarterly

Federal CERCLIS list

CERCLIS: Comprehensive Environmental Response, Compensation, and Liability Information System

CERCLIS contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). CERCLIS contains sites which are either proposed to or on the National Priorities List (NPL) and sites which are in the screening and assessment phase for possible inclusion on the NPL.

Date of Government Version: 12/27/2011	Source: EPA
Date Data Arrived at EDR: 02/27/2012	Telephone: 703-412-9810
Date Made Active in Reports: 03/12/2012	Last EDR Contact: 08/28/2012
Number of Days to Update: 14	Next Scheduled EDR Contact: 12/10/2012
	Data Release Frequency: Quarterly

FEDERAL FACILITY: Federal Facility Site Information listing

A listing of National Priority List (NPL) and Base Realignment and Closure (BRAC) sites found in the Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) Database where EPA Federal Facilities Restoration and Reuse Office is involved in cleanup activities.

Date of Government Version: 12/10/2010	Source: Environmental Protection Agency
Date Data Arrived at EDR: 01/11/2011	Telephone: 703-603-8704
Date Made Active in Reports: 02/16/2011	Last EDR Contact: 07/13/2012
Number of Days to Update: 36	Next Scheduled EDR Contact: 10/22/2012
	Data Release Frequency: Varies

Federal CERCLIS NFRAP site List

CERCLIS-NFRAP: CERCLIS No Further Remedial Action Planned

Archived sites are sites that have been removed and archived from the inventory of CERCLIS sites. Archived status indicates that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list this site on the National Priorities List (NPL), unless information indicates this decision was not appropriate or other considerations require a recommendation for listing at a later time. This decision does not necessarily mean that there is no hazard associated with a given site; it only means that, based upon available information, the location is not judged to be a potential NPL site.

Date of Government Version: 12/28/2011	Source: EPA
Date Data Arrived at EDR: 02/27/2012	Telephone: 703-412-9810
Date Made Active in Reports: 03/12/2012	Last EDR Contact: 08/28/2012
Number of Days to Update: 14	Next Scheduled EDR Contact: 12/10/2012
	Data Release Frequency: Quarterly

Federal RCRA CORRACTS facilities list

CORRACTS: Corrective Action Report

CORRACTS identifies hazardous waste handlers with RCRA corrective action activity.

Date of Government Version: 08/19/2011
Date Data Arrived at EDR: 08/31/2011
Date Made Active in Reports: 01/10/2012
Number of Days to Update: 132

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 08/07/2012
Next Scheduled EDR Contact: 11/26/2012
Data Release Frequency: Quarterly

Federal RCRA non-CORRACTS TSD facilities list

RCRA-TSDF: RCRA - Treatment, Storage and Disposal

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Transporters are individuals or entities that move hazardous waste from the generator offsite to a facility that can recycle, treat, store, or dispose of the waste. TSDFs treat, store, or dispose of the waste.

Date of Government Version: 03/15/2012
Date Data Arrived at EDR: 04/04/2012
Date Made Active in Reports: 05/15/2012
Number of Days to Update: 41

Source: Environmental Protection Agency
Telephone: 214-665-6444
Last EDR Contact: 08/16/2012
Next Scheduled EDR Contact: 10/15/2012
Data Release Frequency: Quarterly

Federal RCRA generators list

RCRA-LQG: RCRA - Large Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Large quantity generators (LQGs) generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month.

Date of Government Version: 03/15/2012
Date Data Arrived at EDR: 04/04/2012
Date Made Active in Reports: 05/15/2012
Number of Days to Update: 41

Source: Environmental Protection Agency
Telephone: 214-665-6444
Last EDR Contact: 08/16/2012
Next Scheduled EDR Contact: 10/15/2012
Data Release Frequency: Quarterly

RCRA-SQG: RCRA - Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month.

Date of Government Version: 03/15/2012
Date Data Arrived at EDR: 04/04/2012
Date Made Active in Reports: 05/15/2012
Number of Days to Update: 41

Source: Environmental Protection Agency
Telephone: 214-665-6444
Last EDR Contact: 08/16/2012
Next Scheduled EDR Contact: 10/15/2012
Data Release Frequency: Quarterly

RCRA-CESQG: RCRA - Conditionally Exempt Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Conditionally exempt small quantity generators (CESQGs) generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month.

Date of Government Version: 03/15/2012
Date Data Arrived at EDR: 04/04/2012
Date Made Active in Reports: 05/15/2012
Number of Days to Update: 41

Source: Environmental Protection Agency
Telephone: 214-665-6444
Last EDR Contact: 08/16/2012
Next Scheduled EDR Contact: 10/15/2012
Data Release Frequency: Varies

Federal institutional controls / engineering controls registries

US ENG CONTROLS: Engineering Controls Sites List

A listing of sites with engineering controls in place. Engineering controls include various forms of caps, building foundations, liners, and treatment methods to create pathway elimination for regulated substances to enter environmental media or effect human health.

Date of Government Version: 12/30/2011
Date Data Arrived at EDR: 12/30/2011
Date Made Active in Reports: 01/10/2012
Number of Days to Update: 11

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 09/05/2012
Next Scheduled EDR Contact: 12/24/2012
Data Release Frequency: Varies

US INST CONTROL: Sites with Institutional Controls

A listing of sites with institutional controls in place. Institutional controls include administrative measures, such as groundwater use restrictions, construction restrictions, property use restrictions, and post remediation care requirements intended to prevent exposure to contaminants remaining on site. Deed restrictions are generally required as part of the institutional controls.

Date of Government Version: 12/30/2011
Date Data Arrived at EDR: 12/30/2011
Date Made Active in Reports: 01/10/2012
Number of Days to Update: 11

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 09/05/2012
Next Scheduled EDR Contact: 12/24/2012
Data Release Frequency: Varies

Federal ERNS list

ERNS: Emergency Response Notification System

Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous substances.

Date of Government Version: 04/02/2012
Date Data Arrived at EDR: 04/03/2012
Date Made Active in Reports: 06/14/2012
Number of Days to Update: 72

Source: National Response Center, United States Coast Guard
Telephone: 202-267-2180
Last EDR Contact: 07/02/2012
Next Scheduled EDR Contact: 10/15/2012
Data Release Frequency: Annually

State- and tribal - equivalent NPL

SHWS: State Superfund Registry

State Hazardous Waste Sites. State hazardous waste site records are the states' equivalent to CERCLIS. These sites may or may not already be listed on the federal CERCLIS list. Priority sites planned for cleanup using state funds (state equivalent of Superfund) are identified along with sites where cleanup will be paid for by potentially responsible parties. Available information varies by state.

Date of Government Version: 05/01/2012
Date Data Arrived at EDR: 06/21/2012
Date Made Active in Reports: 08/21/2012
Number of Days to Update: 61

Source: Texas Commission on Environmental Quality
Telephone: 512-239-5680
Last EDR Contact: 06/14/2012
Next Scheduled EDR Contact: 10/01/2012
Data Release Frequency: Semi-Annually

State and tribal landfill and/or solid waste disposal site lists

SWF/LF: Permitted Solid Waste Facilities

Solid Waste Facilities/Landfill Sites. SWF/LF type records typically contain an inventory of solid waste disposal facilities or landfills in a particular state. Depending on the state, these may be active or inactive facilities or open dumps that failed to meet RCRA Subtitle D Section 4004 criteria for solid waste landfills or disposal sites.

Date of Government Version: 08/02/2012
Date Data Arrived at EDR: 08/03/2012
Date Made Active in Reports: 08/23/2012
Number of Days to Update: 20

Source: Texas Commission on Environmental Quality
Telephone: 512-239-6706
Last EDR Contact: 07/27/2012
Next Scheduled EDR Contact: 11/12/2012
Data Release Frequency: Quarterly

CLI: Closed Landfill Inventory
Closed and abandoned landfills (permitted as well as unauthorized) across the state of Texas.

Date of Government Version: 08/30/1999
Date Data Arrived at EDR: 09/28/2000
Date Made Active in Reports: 10/30/2000
Number of Days to Update: 32

Source: Texas Commission on Environmental Quality
Telephone: 512-239-6016
Last EDR Contact: 07/05/2012
Next Scheduled EDR Contact: 10/22/2012
Data Release Frequency: Varies

H-GAC CLI: Houston-Galveston Closed Landfill Inventory
Closed Landfill Inventory for the Houston-Galveston Area Council Region. In 1993, the Texas Legislature passed House Bill (HB) 2537, which required Councils of Governments (COGs) to develop an inventory of closed municipal solid waste landfills for their regional solid waste management plans.

Date of Government Version: 03/23/2011
Date Data Arrived at EDR: 03/25/2011
Date Made Active in Reports: 04/22/2011
Number of Days to Update: 28

Source: Houston-Galveston Area Council
Telephone: 832-681-2518
Last EDR Contact: 07/05/2012
Next Scheduled EDR Contact: 10/22/2012
Data Release Frequency: Varies

WASTEMGT: Commercial Hazardous & Solid Waste Management Facilities
This list contains commercial recycling facilities and facilities permitted or authorized (interim status) by the Texas Natural Resource Conservation Commission.

Date of Government Version: 07/01/2011
Date Data Arrived at EDR: 10/13/2011
Date Made Active in Reports: 11/15/2011
Number of Days to Update: 33

Source: Texas Commission on Environmental Quality
Telephone: 512-239-2920
Last EDR Contact: 07/13/2012
Next Scheduled EDR Contact: 10/22/2012
Data Release Frequency: Varies

State and tribal leaking storage tank lists

LPST: Leaking Petroleum Storage Tank Database
An inventory of reported leaking petroleum storage tank incidents. Not all states maintain these records, and the information stored varies by state.

Date of Government Version: 06/08/2012
Date Data Arrived at EDR: 07/03/2012
Date Made Active in Reports: 08/23/2012
Number of Days to Update: 51

Source: Texas Commission on Environmental Quality
Telephone: 512-239-2200
Last EDR Contact: 07/03/2012
Next Scheduled EDR Contact: 10/15/2012
Data Release Frequency: Quarterly

INDIAN LUST R10: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Alaska, Idaho, Oregon and Washington.

Date of Government Version: 05/07/2012
Date Data Arrived at EDR: 05/08/2012
Date Made Active in Reports: 07/10/2012
Number of Days to Update: 63

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 07/26/2012
Next Scheduled EDR Contact: 11/12/2012
Data Release Frequency: Quarterly

INDIAN LUST R9: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Arizona, California, New Mexico and Nevada

Date of Government Version: 05/25/2012
Date Data Arrived at EDR: 05/25/2012
Date Made Active in Reports: 07/16/2012
Number of Days to Update: 52

Source: Environmental Protection Agency
Telephone: 415-972-3372
Last EDR Contact: 07/26/2012
Next Scheduled EDR Contact: 11/12/2012
Data Release Frequency: Quarterly

INDIAN LUST R6: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in New Mexico and Oklahoma.

Date of Government Version: 09/12/2011
Date Data Arrived at EDR: 09/13/2011
Date Made Active in Reports: 11/11/2011
Number of Days to Update: 59

Source: EPA Region 6
Telephone: 214-665-6597
Last EDR Contact: 07/26/2012
Next Scheduled EDR Contact: 11/12/2012
Data Release Frequency: Varies

INDIAN LUST R8: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Colorado, Montana, North Dakota, South Dakota, Utah and Wyoming.

Date of Government Version: 08/18/2011
Date Data Arrived at EDR: 08/19/2011
Date Made Active in Reports: 09/13/2011
Number of Days to Update: 25

Source: EPA Region 8
Telephone: 303-312-6271
Last EDR Contact: 07/26/2012
Next Scheduled EDR Contact: 11/26/2012
Data Release Frequency: Quarterly

INDIAN LUST R7: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Iowa, Kansas, and Nebraska

Date of Government Version: 02/07/2012
Date Data Arrived at EDR: 02/17/2012
Date Made Active in Reports: 05/15/2012
Number of Days to Update: 88

Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 07/26/2012
Next Scheduled EDR Contact: 11/12/2012
Data Release Frequency: Varies

INDIAN LUST R4: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Florida, Mississippi and North Carolina.

Date of Government Version: 12/14/2011
Date Data Arrived at EDR: 12/15/2011
Date Made Active in Reports: 01/10/2012
Number of Days to Update: 26

Source: EPA Region 4
Telephone: 404-562-8677
Last EDR Contact: 07/26/2012
Next Scheduled EDR Contact: 11/12/2012
Data Release Frequency: Semi-Annually

INDIAN LUST R1: Leaking Underground Storage Tanks on Indian Land
A listing of leaking underground storage tank locations on Indian Land.

Date of Government Version: 04/12/2012
Date Data Arrived at EDR: 05/09/2012
Date Made Active in Reports: 07/10/2012
Number of Days to Update: 62

Source: EPA Region 1
Telephone: 617-918-1313
Last EDR Contact: 08/03/2012
Next Scheduled EDR Contact: 11/12/2012
Data Release Frequency: Varies

State and tribal registered storage tank lists

UST: Petroleum Storage Tank Database
Registered Underground Storage Tanks. UST's are regulated under Subtitle I of the Resource Conservation and Recovery Act (RCRA) and must be registered with the state department responsible for administering the UST program. Available information varies by state program.

Date of Government Version: 06/08/2012
Date Data Arrived at EDR: 07/03/2012
Date Made Active in Reports: 08/21/2012
Number of Days to Update: 49

Source: Texas Commission on Environmental Quality
Telephone: 512-239-2160
Last EDR Contact: 07/03/2012
Next Scheduled EDR Contact: 10/15/2012
Data Release Frequency: Quarterly

AST: Petroleum Storage Tank Database
Registered Aboveground Storage Tanks.

Date of Government Version: 06/08/2012
Date Data Arrived at EDR: 07/03/2012
Date Made Active in Reports: 08/21/2012
Number of Days to Update: 49

Source: Texas Commission on Environmental Quality
Telephone: 512-239-2160
Last EDR Contact: 07/03/2012
Next Scheduled EDR Contact: 10/15/2012
Data Release Frequency: Quarterly

INDIAN UST R10: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 10 (Alaska, Idaho, Oregon, Washington, and Tribal Nations).

Date of Government Version: 05/07/2012
Date Data Arrived at EDR: 05/08/2012
Date Made Active in Reports: 07/16/2012
Number of Days to Update: 69

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 07/26/2012
Next Scheduled EDR Contact: 11/12/2012
Data Release Frequency: Quarterly

INDIAN UST R9: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 9 (Arizona, California, Hawaii, Nevada, the Pacific Islands, and Tribal Nations).

Date of Government Version: 11/28/2011
Date Data Arrived at EDR: 11/29/2011
Date Made Active in Reports: 01/10/2012
Number of Days to Update: 42

Source: EPA Region 9
Telephone: 415-972-3368
Last EDR Contact: 07/26/2012
Next Scheduled EDR Contact: 11/12/2012
Data Release Frequency: Quarterly

INDIAN UST R8: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 8 (Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming and 27 Tribal Nations).

Date of Government Version: 08/18/2011
Date Data Arrived at EDR: 08/19/2011
Date Made Active in Reports: 09/13/2011
Number of Days to Update: 25

Source: EPA Region 8
Telephone: 303-312-6137
Last EDR Contact: 07/26/2012
Next Scheduled EDR Contact: 11/12/2012
Data Release Frequency: Quarterly

INDIAN UST R7: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 7 (Iowa, Kansas, Missouri, Nebraska, and 9 Tribal Nations).

Date of Government Version: 02/07/2012
Date Data Arrived at EDR: 02/17/2012
Date Made Active in Reports: 05/15/2012
Number of Days to Update: 88

Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 07/26/2012
Next Scheduled EDR Contact: 11/12/2012
Data Release Frequency: Varies

INDIAN UST R6: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 6 (Louisiana, Arkansas, Oklahoma, New Mexico, Texas and 65 Tribes).

Date of Government Version: 05/10/2011
Date Data Arrived at EDR: 05/11/2011
Date Made Active in Reports: 06/14/2011
Number of Days to Update: 34

Source: EPA Region 6
Telephone: 214-665-7591
Last EDR Contact: 07/26/2012
Next Scheduled EDR Contact: 11/12/2012
Data Release Frequency: Semi-Annually

INDIAN UST R5: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 5 (Michigan, Minnesota and Wisconsin and Tribal Nations).

Date of Government Version: 02/28/2012
Date Data Arrived at EDR: 02/29/2012
Date Made Active in Reports: 05/15/2012
Number of Days to Update: 76

Source: EPA Region 5
Telephone: 312-886-6136
Last EDR Contact: 07/26/2012
Next Scheduled EDR Contact: 11/12/2012
Data Release Frequency: Varies

INDIAN UST R4: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 4 (Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee and Tribal Nations)

Date of Government Version: 12/14/2011
Date Data Arrived at EDR: 12/15/2011
Date Made Active in Reports: 01/10/2012
Number of Days to Update: 26

Source: EPA Region 4
Telephone: 404-562-9424
Last EDR Contact: 07/26/2012
Next Scheduled EDR Contact: 11/12/2012
Data Release Frequency: Semi-Annually

INDIAN UST R1: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 1 (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont and ten Tribal Nations).

Date of Government Version: 04/12/2012
Date Data Arrived at EDR: 05/02/2012
Date Made Active in Reports: 07/16/2012
Number of Days to Update: 75

Source: EPA, Region 1
Telephone: 617-918-1313
Last EDR Contact: 08/03/2012
Next Scheduled EDR Contact: 11/12/2012
Data Release Frequency: Varies

FEMA UST: Underground Storage Tank Listing
A listing of all FEMA owned underground storage tanks.

Date of Government Version: 01/01/2010
Date Data Arrived at EDR: 02/16/2010
Date Made Active in Reports: 04/12/2010
Number of Days to Update: 55

Source: FEMA
Telephone: 202-646-5797
Last EDR Contact: 07/12/2012
Next Scheduled EDR Contact: 10/29/2012
Data Release Frequency: Varies

State and tribal institutional control / engineering control registries

AUL: Sites with Controls
Activity and use limitations include both engineering controls and institutional controls.

Date of Government Version: 06/27/2012
Date Data Arrived at EDR: 07/13/2012
Date Made Active in Reports: 08/23/2012
Number of Days to Update: 41

Source: Texas Commission on Environmental Quality
Telephone: 512-239-5891
Last EDR Contact: 07/13/2012
Next Scheduled EDR Contact: 10/22/2012
Data Release Frequency: Varies

State and tribal voluntary cleanup sites

INDIAN VCP R1: Voluntary Cleanup Priority Listing
A listing of voluntary cleanup priority sites located on Indian Land located in Region 1.

Date of Government Version: 02/17/2012
Date Data Arrived at EDR: 04/03/2012
Date Made Active in Reports: 05/15/2012
Number of Days to Update: 42

Source: EPA, Region 1
Telephone: 617-918-1102
Last EDR Contact: 07/02/2012
Next Scheduled EDR Contact: 10/15/2012
Data Release Frequency: Varies

VCP RRC: Voluntary Cleanup Program Sites
The Voluntary Cleanup Program (RRC-VCP) provides an incentive to remediate Oil & Gas related pollution by participants as long as they did not cause or contribute to the contamination. Applicants to the program receive a release of liability to the state in exchange for a successful cleanup.

Date of Government Version: 04/26/2012
Date Data Arrived at EDR: 07/13/2012
Date Made Active in Reports: 08/23/2012
Number of Days to Update: 41

Source: Railroad Commission of Texas
Telephone: 512-463-6969
Last EDR Contact: 07/13/2012
Next Scheduled EDR Contact: 10/22/2012
Data Release Frequency: Varies

INDIAN VCP R7: Voluntary Cleanup Priority Lisitng
A listing of voluntary cleanup priority sites located on Indian Land located in Region 7.

Date of Government Version: 03/20/2008
Date Data Arrived at EDR: 04/22/2008
Date Made Active in Reports: 05/19/2008
Number of Days to Update: 27

Source: EPA, Region 7
Telephone: 913-551-7365
Last EDR Contact: 04/20/2009
Next Scheduled EDR Contact: 07/20/2009
Data Release Frequency: Varies

VCP TCEQ: Voluntary Cleanup Program Database
The Texas Voluntary Cleanup Program was established to provide administrative, technical, and legal incentives to encourage the cleanup of contaminated sites in Texas.

Date of Government Version: 06/27/2012
Date Data Arrived at EDR: 07/13/2012
Date Made Active in Reports: 08/23/2012
Number of Days to Update: 41

Source: Texas Commission on Environmental Quality
Telephone: 512-239-5891
Last EDR Contact: 07/13/2012
Next Scheduled EDR Contact: 10/22/2012
Data Release Frequency: Quarterly

State and tribal Brownfields sites

BROWNFIELDS: Brownfields Site Assessments
Brownfield site assessments that are being cleaned under EPA grant monies.

Date of Government Version: 06/27/2012
Date Data Arrived at EDR: 07/13/2012
Date Made Active in Reports: 08/21/2012
Number of Days to Update: 39

Source: TCEQ
Telephone: 512-239-5872
Last EDR Contact: 07/13/2012
Next Scheduled EDR Contact: 10/22/2012
Data Release Frequency: Semi-Annually

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS: A Listing of Brownfields Sites
Brownfields are real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. Cleaning up and reinvesting in these properties takes development pressures off of undeveloped, open land, and both improves and protects the environment. Assessment, Cleanup and Redevelopment Exchange System (ACRES) stores information reported by EPA Brownfields grant recipients on brownfields properties assessed or cleaned up with grant funding as well as information on Targeted Brownfields Assessments performed by EPA Regions. A listing of ACRES Brownfield sites is obtained from Cleanups in My Community. Cleanups in My Community provides information on Brownfields properties for which information is reported back to EPA, as well as areas served by Brownfields grant programs.

Date of Government Version: 06/27/2011
Date Data Arrived at EDR: 06/27/2011
Date Made Active in Reports: 09/13/2011
Number of Days to Update: 78

Source: Environmental Protection Agency
Telephone: 202-566-2777
Last EDR Contact: 06/25/2012
Next Scheduled EDR Contact: 10/08/2012
Data Release Frequency: Semi-Annually

Local Lists of Landfill / Solid Waste Disposal Sites

DEBRIS REGION 9: Torres Martinez Reservation Illegal Dump Site Locations
A listing of illegal dump sites location on the Torres Martinez Indian Reservation located in eastern Riverside County and northern Imperial County, California.

Date of Government Version: 01/12/2009
Date Data Arrived at EDR: 05/07/2009
Date Made Active in Reports: 09/21/2009
Number of Days to Update: 137

Source: EPA, Region 9
Telephone: 415-947-4219
Last EDR Contact: 07/03/2012
Next Scheduled EDR Contact: 10/08/2012
Data Release Frequency: No Update Planned

ODI: Open Dump Inventory
An open dump is defined as a disposal facility that does not comply with one or more of the Part 257 or Part 258 Subtitle D Criteria.

Date of Government Version: 06/30/1985
Date Data Arrived at EDR: 08/09/2004
Date Made Active in Reports: 09/17/2004
Number of Days to Update: 39

Source: Environmental Protection Agency
Telephone: 800-424-9346
Last EDR Contact: 06/09/2004
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

INDIAN ODI: Report on the Status of Open Dumps on Indian Lands
Location of open dumps on Indian land.

Date of Government Version: 12/31/1998
Date Data Arrived at EDR: 12/03/2007
Date Made Active in Reports: 01/24/2008
Number of Days to Update: 52

Source: Environmental Protection Agency
Telephone: 703-308-8245
Last EDR Contact: 08/03/2012
Next Scheduled EDR Contact: 11/19/2012
Data Release Frequency: Varies

Local Lists of Hazardous waste / Contaminated Sites

US CDL: Clandestine Drug Labs
A listing of clandestine drug lab locations. The U.S. Department of Justice ("the Department") provides this web site as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments.

Date of Government Version: 03/16/2012
Date Data Arrived at EDR: 06/12/2012
Date Made Active in Reports: 07/16/2012
Number of Days to Update: 34

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 09/05/2012
Next Scheduled EDR Contact: 12/17/2012
Data Release Frequency: Quarterly

DEL SHWS: Deleted Superfund Registry Sites
Sites have been deleted from the state Superfund registry in accordance with the Act, ?361.189

Date of Government Version: 05/01/2012
Date Data Arrived at EDR: 06/21/2012
Date Made Active in Reports: 08/21/2012
Number of Days to Update: 61

Source: Texas Commission on Environmental Quality
Telephone: 512-239-0666
Last EDR Contact: 06/14/2012
Next Scheduled EDR Contact: 10/01/2012
Data Release Frequency: Quarterly

PRIORITY CLEANERS: Dry Cleaner Remediation Program Prioritization List
A listing of dry cleaner related contaminated sites.

Date of Government Version: 04/12/2012
Date Data Arrived at EDR: 06/13/2012
Date Made Active in Reports: 08/21/2012
Number of Days to Update: 69

Source: Texas Commisision on Environmenatl Quality
Telephone: 512-239-5658
Last EDR Contact: 09/12/2012
Next Scheduled EDR Contact: 12/24/2012
Data Release Frequency: Varies

US HIST CDL: National Clandestine Laboratory Register

A listing of clandestine drug lab locations. The U.S. Department of Justice ("the Department") provides this web site as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments.

Date of Government Version: 09/01/2007
Date Data Arrived at EDR: 11/19/2008
Date Made Active in Reports: 03/30/2009
Number of Days to Update: 131

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 03/23/2009
Next Scheduled EDR Contact: 06/22/2009
Data Release Frequency: No Update Planned

Local Land Records

LIENS 2: CERCLA Lien Information

A Federal CERCLA ('Superfund') lien can exist by operation of law at any site or property at which EPA has spent Superfund monies. These monies are spent to investigate and address releases and threatened releases of contamination. CERCLIS provides information as to the identity of these sites and properties.

Date of Government Version: 02/16/2012
Date Data Arrived at EDR: 03/26/2012
Date Made Active in Reports: 06/14/2012
Number of Days to Update: 80

Source: Environmental Protection Agency
Telephone: 202-564-6023
Last EDR Contact: 07/27/2012
Next Scheduled EDR Contact: 11/12/2012
Data Release Frequency: Varies

LUCIS: Land Use Control Information System

LUCIS contains records of land use control information pertaining to the former Navy Base Realignment and Closure properties.

Date of Government Version: 12/09/2005
Date Data Arrived at EDR: 12/11/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 31

Source: Department of the Navy
Telephone: 843-820-7326
Last EDR Contact: 05/21/2012
Next Scheduled EDR Contact: 09/03/2012
Data Release Frequency: Varies

LIENS: Environmental Liens Listing

The listing covers TCEQ liens placed against either State Superfund sites or Federal Superfund sites to recover cost incurred by TCEQ.

Date of Government Version: 08/24/2012
Date Data Arrived at EDR: 08/29/2012
Date Made Active in Reports: 09/12/2012
Number of Days to Update: 14

Source: Texas Commission on Environmental Quality
Telephone: 512-239-2209
Last EDR Contact: 08/23/2012
Next Scheduled EDR Contact: 12/10/2012
Data Release Frequency: Varies

HIST LIENS: Environmental Liens Listing

This listing contains information fields that are no longer tracked in the LIENS database.

Date of Government Version: 03/23/2007
Date Data Arrived at EDR: 03/23/2007
Date Made Active in Reports: 05/02/2007
Number of Days to Update: 40

Source: Texas Commission on Environmental Qualilty
Telephone: 512-239-2209
Last EDR Contact: 12/17/2007
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

Records of Emergency Release Reports

HMIRS: Hazardous Materials Information Reporting System

Hazardous Materials Incident Report System. HMIRS contains hazardous material spill incidents reported to DOT.

Date of Government Version: 04/01/2012
Date Data Arrived at EDR: 04/03/2012
Date Made Active in Reports: 06/14/2012
Number of Days to Update: 72

Source: U.S. Department of Transportation
Telephone: 202-366-4555
Last EDR Contact: 07/02/2012
Next Scheduled EDR Contact: 10/15/2012
Data Release Frequency: Annually

SPILLS: Spills Database
Spills reported to the Emergency Response Division.

Date of Government Version: 06/06/2012
Date Data Arrived at EDR: 07/03/2012
Date Made Active in Reports: 08/29/2012
Number of Days to Update: 57

Source: Texas Commission on Environmental Quality
Telephone: 512-239-2507
Last EDR Contact: 08/23/2012
Next Scheduled EDR Contact: 12/10/2012
Data Release Frequency: Quarterly

Other Ascertainable Records

RCRA-NonGen: RCRA - Non Generators
RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Non-Generators do not presently generate hazardous waste.

Date of Government Version: 03/15/2012
Date Data Arrived at EDR: 04/04/2012
Date Made Active in Reports: 05/15/2012
Number of Days to Update: 41

Source: Environmental Protection Agency
Telephone: 214-665-6444
Last EDR Contact: 08/16/2012
Next Scheduled EDR Contact: 10/15/2012
Data Release Frequency: Varies

DOT OPS: Incident and Accident Data
Department of Transporation, Office of Pipeline Safety Incident and Accident data.

Date of Government Version: 07/29/2011
Date Data Arrived at EDR: 08/09/2011
Date Made Active in Reports: 11/11/2011
Number of Days to Update: 94

Source: Department of Transporation, Office of Pipeline Safety
Telephone: 202-366-4595
Last EDR Contact: 08/07/2012
Next Scheduled EDR Contact: 11/19/2012
Data Release Frequency: Varies

DOD: Department of Defense Sites
This data set consists of federally owned or administered lands, administered by the Department of Defense, that have any area equal to or greater than 640 acres of the United States, Puerto Rico, and the U.S. Virgin Islands.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 11/10/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 62

Source: USGS
Telephone: 888-275-8747
Last EDR Contact: 07/19/2012
Next Scheduled EDR Contact: 10/29/2012
Data Release Frequency: Semi-Annually

FUDS: Formerly Used Defense Sites
The listing includes locations of Formerly Used Defense Sites properties where the US Army Corps of Engineers is actively working or will take necessary cleanup actions.

Date of Government Version: 12/31/2009
Date Data Arrived at EDR: 08/12/2010
Date Made Active in Reports: 12/02/2010
Number of Days to Update: 112

Source: U.S. Army Corps of Engineers
Telephone: 202-528-4285
Last EDR Contact: 09/10/2012
Next Scheduled EDR Contact: 12/24/2012
Data Release Frequency: Varies

CONSENT: Superfund (CERCLA) Consent Decrees

Major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites. Released periodically by United States District Courts after settlement by parties to litigation matters.

Date of Government Version: 12/01/2011
Date Data Arrived at EDR: 01/25/2012
Date Made Active in Reports: 03/01/2012
Number of Days to Update: 36

Source: Department of Justice, Consent Decree Library
Telephone: Varies
Last EDR Contact: 06/27/2012
Next Scheduled EDR Contact: 10/15/2012
Data Release Frequency: Varies

ROD: Records Of Decision

Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid in the cleanup.

Date of Government Version: 02/27/2012
Date Data Arrived at EDR: 03/14/2012
Date Made Active in Reports: 06/14/2012
Number of Days to Update: 92

Source: EPA
Telephone: 703-416-0223
Last EDR Contact: 09/12/2012
Next Scheduled EDR Contact: 12/24/2012
Data Release Frequency: Annually

UMTRA: Uranium Mill Tailings Sites

Uranium ore was mined by private companies for federal government use in national defense programs. When the mills shut down, large piles of the sand-like material (mill tailings) remain after uranium has been extracted from the ore. Levels of human exposure to radioactive materials from the piles are low; however, in some cases tailings were used as construction materials before the potential health hazards of the tailings were recognized.

Date of Government Version: 09/14/2010
Date Data Arrived at EDR: 10/07/2011
Date Made Active in Reports: 03/01/2012
Number of Days to Update: 146

Source: Department of Energy
Telephone: 505-845-0011
Last EDR Contact: 08/28/2012
Next Scheduled EDR Contact: 12/10/2012
Data Release Frequency: Varies

MINES: Mines Master Index File

Contains all mine identification numbers issued for mines active or opened since 1971. The data also includes violation information.

Date of Government Version: 08/18/2011
Date Data Arrived at EDR: 09/08/2011
Date Made Active in Reports: 09/29/2011
Number of Days to Update: 21

Source: Department of Labor, Mine Safety and Health Administration
Telephone: 303-231-5959
Last EDR Contact: 09/04/2012
Next Scheduled EDR Contact: 12/17/2012
Data Release Frequency: Semi-Annually

TRIS: Toxic Chemical Release Inventory System

Toxic Release Inventory System. TRIS identifies facilities which release toxic chemicals to the air, water and land in reportable quantities under SARA Title III Section 313.

Date of Government Version: 12/31/2009
Date Data Arrived at EDR: 09/01/2011
Date Made Active in Reports: 01/10/2012
Number of Days to Update: 131

Source: EPA
Telephone: 202-566-0250
Last EDR Contact: 08/31/2012
Next Scheduled EDR Contact: 12/10/2012
Data Release Frequency: Annually

TSCA: Toxic Substances Control Act

Toxic Substances Control Act. TSCA identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory list. It includes data on the production volume of these substances by plant site.

Date of Government Version: 12/31/2006
Date Data Arrived at EDR: 09/29/2010
Date Made Active in Reports: 12/02/2010
Number of Days to Update: 64

Source: EPA
Telephone: 202-260-5521
Last EDR Contact: 06/29/2012
Next Scheduled EDR Contact: 10/08/2012
Data Release Frequency: Every 4 Years

FTTS: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
FTTS tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCA and EPCRA (Emergency Planning and Community Right-to-Know Act). To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25

Source: EPA/Office of Prevention, Pesticides and Toxic Substances
Telephone: 202-566-1667
Last EDR Contact: 08/22/2012
Next Scheduled EDR Contact: 12/10/2012
Data Release Frequency: Quarterly

FTTS INSP: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
A listing of FIFRA/TSCA Tracking System (FTTS) inspections and enforcements.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25

Source: EPA
Telephone: 202-566-1667
Last EDR Contact: 08/22/2012
Next Scheduled EDR Contact: 12/10/2012
Data Release Frequency: Quarterly

HIST FTTS: FIFRA/TSCA Tracking System Administrative Case Listing
A complete administrative case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2007
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

HIST FTTS INSP: FIFRA/TSCA Tracking System Inspection & Enforcement Case Listing
A complete inspection and enforcement case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2008
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

SSTS: Section 7 Tracking Systems
Section 7 of the Federal Insecticide, Fungicide and Rodenticide Act, as amended (92 Stat. 829) requires all registered pesticide-producing establishments to submit a report to the Environmental Protection Agency by March 1st each year. Each establishment must report the types and amounts of pesticides, active ingredients and devices being produced, and those having been produced and sold or distributed in the past year.

Date of Government Version: 12/31/2009
Date Data Arrived at EDR: 12/10/2010
Date Made Active in Reports: 02/25/2011
Number of Days to Update: 77

Source: EPA
Telephone: 202-564-4203
Last EDR Contact: 07/27/2012
Next Scheduled EDR Contact: 11/12/2012
Data Release Frequency: Annually

ICIS: Integrated Compliance Information System

The Integrated Compliance Information System (ICIS) supports the information needs of the national enforcement and compliance program as well as the unique needs of the National Pollutant Discharge Elimination System (NPDES) program.

Date of Government Version: 07/20/2011
Date Data Arrived at EDR: 11/10/2011
Date Made Active in Reports: 01/10/2012
Number of Days to Update: 61

Source: Environmental Protection Agency
Telephone: 202-564-5088
Last EDR Contact: 06/21/2012
Next Scheduled EDR Contact: 10/08/2012
Data Release Frequency: Quarterly

PADS: PCB Activity Database System

PCB Activity Database. PADS Identifies generators, transporters, commercial storers and/or brokers and disposers of PCB's who are required to notify the EPA of such activities.

Date of Government Version: 11/01/2010
Date Data Arrived at EDR: 11/10/2010
Date Made Active in Reports: 02/16/2011
Number of Days to Update: 98

Source: EPA
Telephone: 202-566-0500
Last EDR Contact: 07/19/2012
Next Scheduled EDR Contact: 10/29/2012
Data Release Frequency: Annually

MLTS: Material Licensing Tracking System

MLTS is maintained by the Nuclear Regulatory Commission and contains a list of approximately 8,100 sites which possess or use radioactive materials and which are subject to NRC licensing requirements. To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 06/21/2011
Date Data Arrived at EDR: 07/15/2011
Date Made Active in Reports: 09/13/2011
Number of Days to Update: 60

Source: Nuclear Regulatory Commission
Telephone: 301-415-7169
Last EDR Contact: 09/05/2012
Next Scheduled EDR Contact: 12/24/2012
Data Release Frequency: Quarterly

RADINFO: Radiation Information Database

The Radiation Information Database (RADINFO) contains information about facilities that are regulated by U.S. Environmental Protection Agency (EPA) regulations for radiation and radioactivity.

Date of Government Version: 01/10/2012
Date Data Arrived at EDR: 01/12/2012
Date Made Active in Reports: 03/01/2012
Number of Days to Update: 49

Source: Environmental Protection Agency
Telephone: 202-343-9775
Last EDR Contact: 07/11/2012
Next Scheduled EDR Contact: 10/22/2012
Data Release Frequency: Quarterly

FINDS: Facility Index System/Facility Registry System

Facility Index System. FINDS contains both facility information and 'pointers' to other sources that contain more detail. EDR includes the following FINDS databases in this report: PCS (Permit Compliance System), AIRS (Aerometric Information Retrieval System), DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes), FURS (Federal Underground Injection Control), C-DOCKET (Criminal Docket System used to track criminal enforcement actions for all environmental statutes), FFIS (Federal Facilities Information System), STATE (State Environmental Laws and Statutes), and PADS (PCB Activity Data System).

Date of Government Version: 10/23/2011
Date Data Arrived at EDR: 12/13/2011
Date Made Active in Reports: 03/01/2012
Number of Days to Update: 79

Source: EPA
Telephone: (214) 665-2200
Last EDR Contact: 09/11/2012
Next Scheduled EDR Contact: 12/24/2012
Data Release Frequency: Quarterly

RAATS: RCRA Administrative Action Tracking System

RCRA Administration Action Tracking System. RAATS contains records based on enforcement actions issued under RCRA pertaining to major violators and includes administrative and civil actions brought by the EPA. For administration actions after September 30, 1995, data entry in the RAATS database was discontinued. EPA will retain a copy of the database for historical records. It was necessary to terminate RAATS because a decrease in agency resources made it impossible to continue to update the information contained in the database.

Date of Government Version: 04/17/1995
Date Data Arrived at EDR: 07/03/1995
Date Made Active in Reports: 08/07/1995
Number of Days to Update: 35

Source: EPA
Telephone: 202-564-4104
Last EDR Contact: 06/02/2008
Next Scheduled EDR Contact: 09/01/2008
Data Release Frequency: No Update Planned

BRS: Biennial Reporting System

The Biennial Reporting System is a national system administered by the EPA that collects data on the generation and management of hazardous waste. BRS captures detailed data from two groups: Large Quantity Generators (LQG) and Treatment, Storage, and Disposal Facilities.

Date of Government Version: 12/31/2009
Date Data Arrived at EDR: 03/01/2011
Date Made Active in Reports: 05/02/2011
Number of Days to Update: 62

Source: EPA/NTIS
Telephone: 800-424-9346
Last EDR Contact: 08/31/2012
Next Scheduled EDR Contact: 12/10/2012
Data Release Frequency: Biennially

IOP: Innocent Owner/Operator Program

Contains information on all sites that are in the IOP. An IOP is an innocent owner or operator whose property is contaminated as a result of a release or migration of contaminants from a source or sources not located on the property, and they did not cause or contribute to the source or sources of contamination.

Date of Government Version: 06/27/2012
Date Data Arrived at EDR: 07/13/2012
Date Made Active in Reports: 08/23/2012
Number of Days to Update: 41

Source: Texas Commission on Environmental Quality
Telephone: 512-239-5894
Last EDR Contact: 07/13/2012
Next Scheduled EDR Contact: 10/22/2012
Data Release Frequency: Quarterly

NPDES: NPDES Facility List

Permitted wastewater outfalls.

Date of Government Version: 03/02/2012
Date Data Arrived at EDR: 05/24/2012
Date Made Active in Reports: 06/11/2012
Number of Days to Update: 18

Source: Texas Commission on Environmental Quality
Telephone: 512-239-4591
Last EDR Contact: 08/24/2012
Next Scheduled EDR Contact: 12/03/2012
Data Release Frequency: Varies

UIC: Underground Injection Wells Database Listing

Class V injection wells regulated by the TCEQ. Class V wells are used to inject non-hazardous fluids underground. Most Class V wells are used to dispose of wastes into or above underground sources of drinking water and can pose a threat to ground water quality, if not managed properly.

Date of Government Version: 07/23/2012
Date Data Arrived at EDR: 07/26/2012
Date Made Active in Reports: 08/29/2012
Number of Days to Update: 34

Source: Texas Commission on Environmental Quality
Telephone: 512-239-6627
Last EDR Contact: 07/19/2012
Next Scheduled EDR Contact: 11/05/2012
Data Release Frequency: Varies

DRYCLEANERS: Drycleaner Registration Database Listing

A listing of drycleaning facilities.

Date of Government Version: 03/31/2012
Date Data Arrived at EDR: 06/13/2012
Date Made Active in Reports: 08/17/2012
Number of Days to Update: 65

Source: Texas Commission on Environmental Quality
Telephone: 512-239-2160
Last EDR Contact: 09/12/2012
Next Scheduled EDR Contact: 12/24/2012
Data Release Frequency: Varies

ENFORCEMENT: Notice of Violations Listing

A listing of permit violations.

Date of Government Version: 03/16/2012
Date Data Arrived at EDR: 03/22/2012
Date Made Active in Reports: 04/06/2012
Number of Days to Update: 15

Source: Texas Commission on Environmental Quality
Telephone: 512-239-6012
Last EDR Contact: 09/06/2012
Next Scheduled EDR Contact: 12/24/2012
Data Release Frequency: Semi-Annually

Ind. Haz Waste: Industrial & Hazardous Waste Database
Summary reports reported by waste handlers, generators and shippers in Texas.

Date of Government Version: 05/31/2012
Date Data Arrived at EDR: 07/13/2012
Date Made Active in Reports: 08/23/2012
Number of Days to Update: 41

Source: Texas Commission on Environmental Quality
Telephone: 512-239-0985
Last EDR Contact: 07/13/2012
Next Scheduled EDR Contact: 10/22/2012
Data Release Frequency: Annually

ED AQUIF: Edwards Aquifer Permits
A listing of permits in the Edwards Aquifer Protection Program database. The information provided is for the counties located in the Austin Region (Hays, Travis, and Williamson counties).

Date of Government Version: 07/19/2012
Date Data Arrived at EDR: 07/26/2012
Date Made Active in Reports: 08/23/2012
Number of Days to Update: 28

Source: Texas Commission on Environmental Quality, Austin Region
Telephone: 512-339-2929
Last EDR Contact: 07/13/2012
Next Scheduled EDR Contact: 10/15/2012
Data Release Frequency: Varies

AIRS: Current Emission Inventory Data
The database lists by company, along with their actual emissions, the TNRCC air accounts that emit EPA criteria pollutants.

Date of Government Version: 12/31/2010
Date Data Arrived at EDR: 01/12/2012
Date Made Active in Reports: 02/06/2012
Number of Days to Update: 25

Source: Texas Commission on Environmental Quality
Telephone: N/A
Last EDR Contact: 06/22/2012
Next Scheduled EDR Contact: 10/01/2012
Data Release Frequency: Semi-Annually

MSD: Municipal Settings Designations Database
An MSD is an official state designation given to property within a municipality or its extraterritorial jurisdiction that certifies that designated groundwater at the property is not use as potable water, and is prohibited from future use as potatable water because that groundwater is contaminated in excess of the applicable potable-water protective concentration level.

Date of Government Version: 06/25/2012
Date Data Arrived at EDR: 06/29/2012
Date Made Active in Reports: 08/21/2012
Number of Days to Update: 53

Source: Texas Commission on Environmental Quality
Telephone: 512-239-4982
Last EDR Contact: 06/22/2012
Next Scheduled EDR Contact: 10/08/2012
Data Release Frequency: Varies

TIER 2: Tier 2 Chemical Inventory Reports
A listing of facilities which store or manufacture hazardous materials and submit a chemical inventory report.

Date of Government Version: 12/31/2011
Date Data Arrived at EDR: 06/13/2012
Date Made Active in Reports: 08/21/2012
Number of Days to Update: 69

Source: Department of State Health Services
Telephone: 512-834-6603
Last EDR Contact: 08/23/2012
Next Scheduled EDR Contact: 12/10/2012
Data Release Frequency: Annually

RWS: Radioactive Waste Sites
Sites in the State of Texas that have been designated as Radioactive Waste sites.

Date of Government Version: 07/24/2006
Date Data Arrived at EDR: 12/14/2006
Date Made Active in Reports: 01/23/2007
Number of Days to Update: 40

Source: Texas Commission on Environmental Quality
Telephone: 512-239-0859
Last EDR Contact: 08/24/2012
Next Scheduled EDR Contact: 12/03/2012
Data Release Frequency: Semi-Annually

INDIAN RESERV: Indian Reservations

This map layer portrays Indian administered lands of the United States that have any area equal to or greater than 640 acres.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 12/08/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 34

Source: USGS
Telephone: 202-208-3710
Last EDR Contact: 07/19/2012
Next Scheduled EDR Contact: 10/29/2012
Data Release Frequency: Semi-Annually

SCRD DRYCLEANERS: State Coalition for Remediation of Drycleaners Listing

The State Coalition for Remediation of Drycleaners was established in 1998, with support from the U.S. EPA Office of Superfund Remediation and Technology Innovation. It is comprised of representatives of states with established drycleaner remediation programs. Currently the member states are Alabama, Connecticut, Florida, Illinois, Kansas, Minnesota, Missouri, North Carolina, Oregon, South Carolina, Tennessee, Texas, and Wisconsin.

Date of Government Version: 03/07/2011
Date Data Arrived at EDR: 03/09/2011
Date Made Active in Reports: 05/02/2011
Number of Days to Update: 54

Source: Environmental Protection Agency
Telephone: 615-532-8599
Last EDR Contact: 07/19/2012
Next Scheduled EDR Contact: 11/05/2012
Data Release Frequency: Varies

US FIN ASSUR: Financial Assurance Information

All owners and operators of facilities that treat, store, or dispose of hazardous waste are required to provide proof that they will have sufficient funds to pay for the clean up, closure, and post-closure care of their facilities.

Date of Government Version: 05/24/2012
Date Data Arrived at EDR: 06/05/2012
Date Made Active in Reports: 06/14/2012
Number of Days to Update: 9

Source: Environmental Protection Agency
Telephone: 202-566-1917
Last EDR Contact: 08/14/2012
Next Scheduled EDR Contact: 12/03/2012
Data Release Frequency: Quarterly

EPA WATCH LIST: EPA WATCH LIST

EPA maintains a "Watch List" to facilitate dialogue between EPA, state and local environmental agencies on enforcement matters relating to facilities with alleged violations identified as either significant or high priority. Being on the Watch List does not mean that the facility has actually violated the law only that an investigation by EPA or a state or local environmental agency has led those organizations to allege that an unproven violation has in fact occurred. Being on the Watch List does not represent a higher level of concern regarding the alleged violations that were detected, but instead indicates cases requiring additional dialogue between EPA, state and local agencies - primarily because of the length of time the alleged violation has gone unaddressed or unresolved.

Date of Government Version: 03/31/2012
Date Data Arrived at EDR: 05/17/2012
Date Made Active in Reports: 06/14/2012
Number of Days to Update: 28

Source: Environmental Protection Agency
Telephone: 617-520-3000
Last EDR Contact: 08/07/2012
Next Scheduled EDR Contact: 11/26/2012
Data Release Frequency: Quarterly

GCC: Groundwater Contamination Cases

Texas Water Code, Section 26.406 requires the annual report to describe the current status of groundwater monitoring activities conducted or required by each agency at regulated facilities or associated with regulated activities. The report is required to contain a description of each case of groundwater contamination documented during the previous calendar year. Also to be included, is a description of each case of contamination documented during previous periods for which voluntary clean up action was incomplete at the time the preceding report was issued. The report is also required to indicate the status of enforcement action for each listed case.

Date of Government Version: 12/31/2010
Date Data Arrived at EDR: 12/20/2011
Date Made Active in Reports: 02/01/2012
Number of Days to Update: 43

Source: Texas Commission on Environmental Quality
Telephone: 512-239-5690
Last EDR Contact: 09/07/2012
Next Scheduled EDR Contact: 12/17/2012
Data Release Frequency: Annually

PRP: Potentially Responsible Parties

A listing of verified Potentially Responsible Parties

Date of Government Version: 02/27/2012
Date Data Arrived at EDR: 04/04/2012
Date Made Active in Reports: 05/15/2012
Number of Days to Update: 41

Source: EPA
Telephone: 202-564-6023
Last EDR Contact: 07/02/2012
Next Scheduled EDR Contact: 10/15/2012
Data Release Frequency: Quarterly

FEDLAND: Federal and Indian Lands

Federally and Indian administrated lands of the United States. Lands included are administrated by: Army Corps of Engineers, Bureau of Reclamation, National Wild and Scenic River, National Wildlife Refuge, Public Domain Land, Wilderness, Wilderness Study Area, Wildlife Management Area, Bureau of Indian Affairs, Bureau of Land Management, Department of Justice, Forest Service, Fish and Wildlife Service, National Park Service.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 02/06/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 339

Source: U.S. Geological Survey
Telephone: 888-275-8747
Last EDR Contact: 07/19/2012
Next Scheduled EDR Contact: 10/29/2012
Data Release Frequency: N/A

2020 COR ACTION: 2020 Corrective Action Program List

The EPA has set ambitious goals for the RCRA Corrective Action program by creating the 2020 Corrective Action Universe. This RCRA cleanup baseline includes facilities expected to need corrective action. The 2020 universe contains a wide variety of sites. Some properties are heavily contaminated while others were contaminated but have since been cleaned up. Still others have not been fully investigated yet, and may require little or no remediation. Inclusion in the 2020 Universe does not necessarily imply failure on the part of a facility to meet its RCRA obligations.

Date of Government Version: 11/11/2011
Date Data Arrived at EDR: 05/18/2012
Date Made Active in Reports: 05/25/2012
Number of Days to Update: 7

Source: Environmental Protection Agency
Telephone: 703-308-4044
Last EDR Contact: 08/16/2012
Next Scheduled EDR Contact: 11/26/2012
Data Release Frequency: Varies

FINANCIAL ASSURANCE 2: Financial Assurance Information Listing

Financial Assurance information for underground storage tank facilities. Financial assurance is intended to ensure that resources are available to pay for the cost of closure, post-closure care, and corrective measures if the owner or operator of a regulated facility is unable or unwilling to pay

Date of Government Version: 06/08/2012
Date Data Arrived at EDR: 07/03/2012
Date Made Active in Reports: 08/21/2012
Number of Days to Update: 49

Source: Texas Commission on Environmental Quality
Telephone: 512-239-0986
Last EDR Contact: 07/03/2012
Next Scheduled EDR Contact: 10/15/2012
Data Release Frequency: Quarterly

PCB TRANSFORMER: PCB Transformer Registration Database

The database of PCB transformer registrations that includes all PCB registration submittals.

Date of Government Version: 02/01/2011
Date Data Arrived at EDR: 10/19/2011
Date Made Active in Reports: 01/10/2012
Number of Days to Update: 83

Source: Environmental Protection Agency
Telephone: 202-566-0517
Last EDR Contact: 08/03/2012
Next Scheduled EDR Contact: 11/12/2012
Data Release Frequency: Varies

COAL ASH DOE: Sleam-Electric Plan Operation Data
A listing of power plants that store ash in surface ponds.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 08/07/2009
Date Made Active in Reports: 10/22/2009
Number of Days to Update: 76

Source: Department of Energy
Telephone: 202-586-8719
Last EDR Contact: 07/16/2012
Next Scheduled EDR Contact: 10/29/2012
Data Release Frequency: Varies

COAL ASH EPA: Coal Combustion Residues Surface Impoundments List
A listing of coal combustion residues surface impoundments with high hazard potential ratings.

Date of Government Version: 08/17/2010
Date Data Arrived at EDR: 01/03/2011
Date Made Active in Reports: 03/21/2011
Number of Days to Update: 77

Source: Environmental Protection Agency
Telephone: N/A
Last EDR Contact: 06/12/2012
Next Scheduled EDR Contact: 09/24/2012
Data Release Frequency: Varies

FINANCIAL ASSURANCE 1: Financial Assurance Information Listing
Financial assurance information.

Date of Government Version: 07/02/2012
Date Data Arrived at EDR: 07/03/2012
Date Made Active in Reports: 08/21/2012
Number of Days to Update: 49

Source: Texas Commission on Environmental Quality
Telephone: 512-239-6239
Last EDR Contact: 06/29/2012
Next Scheduled EDR Contact: 10/15/2012
Data Release Frequency: Varies

EDR PROPRIETARY RECORDS

EDR Proprietary Records

Manufactured Gas Plants: EDR Proprietary Manufactured Gas Plants
The EDR Proprietary Manufactured Gas Plant Database includes records of coal gas plants (manufactured gas plants) compiled by EDR's researchers. Manufactured gas sites were used in the United States from the 1800's to 1950's to produce a gas that could be distributed and used as fuel. These plants used whale oil, rosin, coal, or a mixture of coal, oil, and water that also produced a significant amount of waste. Many of the byproducts of the gas production, such as coal tar (oily waste containing volatile and non-volatile chemicals), sludges, oils and other compounds are potentially hazardous to human health and the environment. The byproduct from this process was frequently disposed of directly at the plant site and can remain or spread slowly, serving as a continuous source of soil and groundwater contamination.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

COUNTY RECORDS

TRAVIS COUNTY:

Historic Tank Records
A listing of historic records from the City of Austin.

Date of Government Version: 06/25/2012
Date Data Arrived at EDR: 06/29/2012
Date Made Active in Reports: 08/23/2012
Number of Days to Update: 55

Source: Department of Planning & Development Review
Telephone: 512-974-2715
Last EDR Contact: 09/06/2012
Next Scheduled EDR Contact: 12/24/2012
Data Release Frequency: Varies

OTHER DATABASE(S)

Depending on the geographic area covered by this report, the data provided in these specialty databases may or may not be complete. For example, the existence of wetlands information data in a specific report does not mean that all wetlands in the area covered by the report are included. Moreover, the absence of any reported wetlands information does not necessarily mean that wetlands do not exist in the area covered by the report.

CT MANIFEST: Hazardous Waste Manifest Data
Facility and manifest data. Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a tsd facility.

Date of Government Version: 05/21/2012
Date Data Arrived at EDR: 05/22/2012
Date Made Active in Reports: 05/31/2012
Number of Days to Update: 9

Source: Department of Energy & Environmental Protection
Telephone: 860-424-3375
Last EDR Contact: 08/20/2012
Next Scheduled EDR Contact: 12/03/2012
Data Release Frequency: Annually

NJ MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 12/31/2011
Date Data Arrived at EDR: 07/19/2012
Date Made Active in Reports: 08/28/2012
Number of Days to Update: 40

Source: Department of Environmental Protection
Telephone: N/A
Last EDR Contact: 07/19/2012
Next Scheduled EDR Contact: 10/29/2012
Data Release Frequency: Annually

NY MANIFEST: Facility and Manifest Data
Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a TSD facility.

Date of Government Version: 05/01/2012
Date Data Arrived at EDR: 05/09/2012
Date Made Active in Reports: 06/14/2012
Number of Days to Update: 36

Source: Department of Environmental Conservation
Telephone: 518-402-8651
Last EDR Contact: 08/09/2012
Next Scheduled EDR Contact: 11/19/2012
Data Release Frequency: Annually

PA MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 12/31/2010
Date Data Arrived at EDR: 04/27/2012
Date Made Active in Reports: 06/05/2012
Number of Days to Update: 39

Source: Department of Environmental Protection
Telephone: 717-783-8990
Last EDR Contact: 07/19/2012
Next Scheduled EDR Contact: 11/05/2012
Data Release Frequency: Annually

RI MANIFEST: Manifest information
Hazardous waste manifest information

Date of Government Version: 12/31/2011
Date Data Arrived at EDR: 06/22/2012
Date Made Active in Reports: 07/31/2012
Number of Days to Update: 39

Source: Department of Environmental Management
Telephone: 401-222-2797
Last EDR Contact: 08/23/2012
Next Scheduled EDR Contact: 12/10/2012
Data Release Frequency: Annually

VT MANIFEST: Hazardous Waste Manifest Data
Hazardous waste manifest information.

Date of Government Version: 08/09/2012
Date Data Arrived at EDR: 08/15/2012
Date Made Active in Reports: 09/13/2012
Number of Days to Update: 29

Source: Department of Environmental Conservation
Telephone: 802-241-3443
Last EDR Contact: 07/23/2012
Next Scheduled EDR Contact: 11/05/2012
Data Release Frequency: Annually

WI MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 12/31/2010
Date Data Arrived at EDR: 08/19/2011
Date Made Active in Reports: 09/15/2011
Number of Days to Update: 27

Source: Department of Natural Resources
Telephone: N/A
Last EDR Contact: 07/16/2012
Next Scheduled EDR Contact: 10/01/2012
Data Release Frequency: Annually

Oil/Gas Pipelines: This data was obtained by EDR from the USGS in 1994. It is referred to by USGS as GeoData Digital Line Graphs from 1:100,000-Scale Maps. It was extracted from the transportation category including some oil, but primarily gas pipelines.

Electric Power Transmission Line Data
Source: Rextag Strategies Corp.
Telephone: (281) 769-2247
U.S. Electric Transmission and Power Plants Systems Digital GIS Data

Sensitive Receptors: There are individuals deemed sensitive receptors due to their fragile immune systems and special sensitivity to environmental discharges. These sensitive receptors typically include the elderly, the sick, and children. While the location of all sensitive receptors cannot be determined, EDR indicates those buildings and facilities - schools, daycares, hospitals, medical centers, and nursing homes - where individuals who are sensitive receptors are likely to be located.

AHA Hospitals:
Source: American Hospital Association, Inc.
Telephone: 312-280-5991
The database includes a listing of hospitals based on the American Hospital Association's annual survey of hospitals.

Medical Centers: Provider of Services Listing
Source: Centers for Medicare & Medicaid Services
Telephone: 410-786-3000
A listing of hospitals with Medicare provider number, produced by Centers of Medicare & Medicaid Services, a federal agency within the U.S. Department of Health and Human Services.

Nursing Homes
Source: National Institutes of Health
Telephone: 301-594-6248
Information on Medicare and Medicaid certified nursing homes in the United States.

Public Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on elementary and secondary public education in the United States. It is a comprehensive, annual, national statistical database of all public elementary and secondary schools and school districts, which contains data that are comparable across all states.

Private Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on private school locations in the United States.

Daycare Centers: Child Care Facility List
Source: Department of Protective & Regulatory Services
Telephone: 512-438-3269

Flood Zone Data: This data, available in select counties across the country, was obtained by EDR in 2003 & 2011 from the Federal Emergency Management Agency (FEMA). Data depicts 100-year and 500-year flood zones as defined by FEMA.

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002 and 2005 from the U.S. Fish and Wildlife Service.

Scanned Digital USGS 7.5' Topographic Map (DRG)
Source: United States Geologic Survey
A digital raster graphic (DRG) is a scanned image of a U.S. Geological Survey topographic map. The map images are made by scanning published paper maps on high-resolution scanners. The raster image is georeferenced and fit to the Universal Transverse Mercator (UTM) projection.

STREET AND ADDRESS INFORMATION

© 2010 Tele Atlas North America, Inc. All rights reserved. This material is proprietary and the subject of copyright protection and other intellectual property rights owned by or licensed to Tele Atlas North America, Inc. The use of this material is subject to the terms of a license agreement. You will be held liable for any unauthorized copying or disclosure of this material.

GEOCHECK ®- PHYSICAL SETTING SOURCE ADDENDUM

TARGET PROPERTY ADDRESS

P23
BOCA CHICA BLVD
PORT ISABEL, TX 78578

TARGET PROPERTY COORDINATES

Latitude (North):	25.9897 - 25˚ 59’ 22.92’’
Longitude (West):	97.1828 - 97˚ 10’ 58.08’’
Universal Tranverse Mercator:	Zone 14
UTM X (Meters):	681899.2
UTM Y (Meters):	2875645.0
Elevation:	5 ft. above sea level

USGS TOPOGRAPHIC MAP

Target Property Map:	25097-H2 MOUTH OF RIO GRANDE, TX MX28
Most Recent Revision:	1970
North Map:	26097-A2 PORT ISABEL, TX
Most Recent Revision:	1983

EDR’s GeoCheck Physical Setting Source Addendum is provided to assist the environmental professional in forming an opinion about the impact of potential contaminant migration.

Assessment of the impact of contaminant migration generally has two principal investigative components:

1. Groundwater flow direction, and
2. Groundwater flow velocity.

Groundwater flow direction may be impacted by surface topography, hydrology, hydrogeology, characteristics of the soil, and nearby wells. Groundwater flow velocity is generally impacted by the nature of the geologic strata.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW DIRECTION INFORMATION

Groundwater flow direction for a particular site is best determined by a qualified environmental professional using site-specific well data. If such data is not reasonably ascertainable, it may be necessary to rely on other sources of information, such as surface topographic information, hydrologic information, hydrogeologic data collected on nearby properties, and regional groundwater flow information (from deep aquifers).

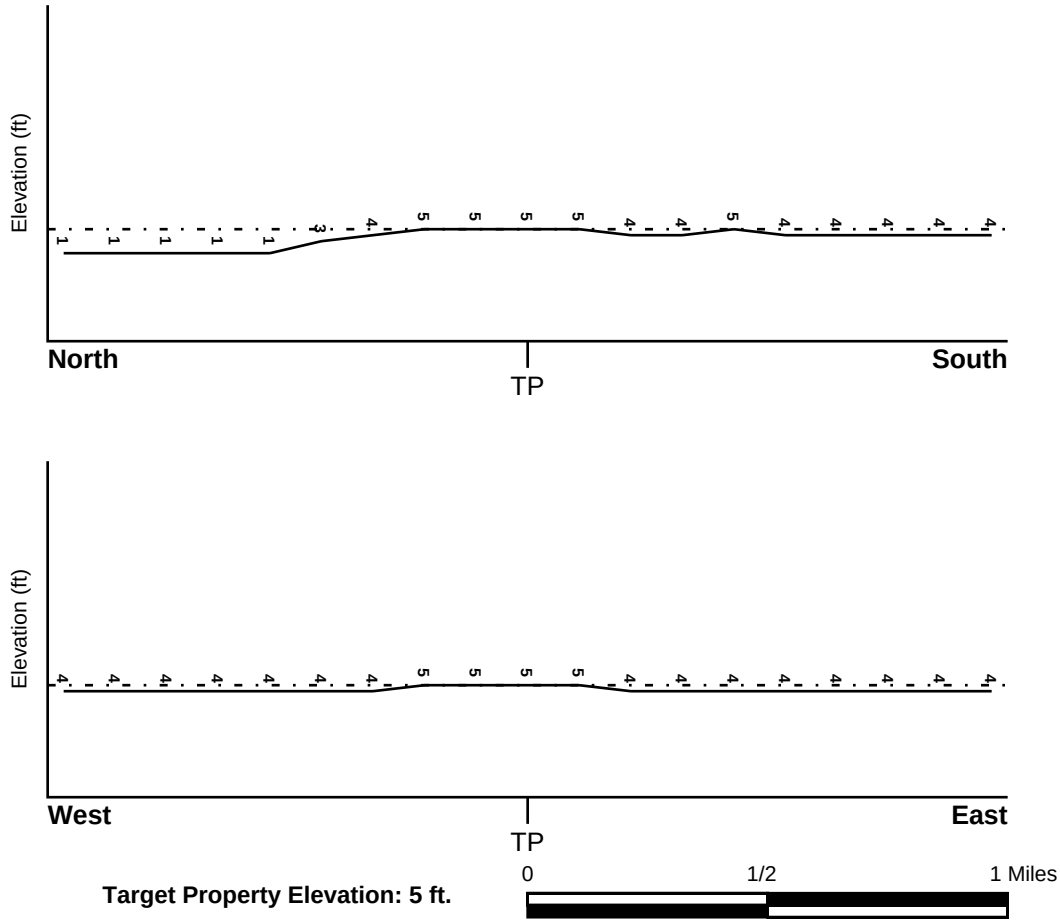
TOPOGRAPHIC INFORMATION

Surface topography may be indicative of the direction of surficial groundwater flow. This information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

TARGET PROPERTY TOPOGRAPHY

General Topographic Gradient: General SE

SURROUNDING TOPOGRAPHY: ELEVATION PROFILES



Target Property Elevation: 5 ft.

Source: Topography has been determined from the USGS 7.5' Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

HYDROLOGIC INFORMATION

Surface water can act as a hydrologic barrier to groundwater flow. Such hydrologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Refer to the Physical Setting Source Map following this summary for hydrologic information (major waterways and bodies of water).

FEMA FLOOD ZONE

Target Property County	FEMA Flood Electronic Data
CAMERON, TX	YES - refer to the Overview Map and Detail Map

Flood Plain Panel at Target Property: 4801010375D - FEMA Q3 Flood data

Additional Panels in search area: Not Reported

NATIONAL WETLAND INVENTORY

NWI Quad at Target Property	NWI Electronic Data Coverage
MOUTH OF RIO GRANDE	YES - refer to the Overview Map and Detail Map

HYDROGEOLOGIC INFORMATION

Hydrogeologic information obtained by installation of wells on a specific site can often be an indicator of groundwater flow direction in the immediate area. Such hydrogeologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Site-Specific Hydrogeological Data*:

Search Radius: 1.25 miles
Status: Not found

AQUIFLOW®

Search Radius: 1.000 Mile.

EDR has developed the AQUIFLOW Information System to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted by environmental professionals to regulatory authorities at select sites and has extracted the date of the report, groundwater flow direction as determined hydrogeologically, and the depth to water table.

MAP ID	LOCATION FROM TP	GENERAL DIRECTION GROUNDWATER FLOW
Not Reported		

* ©1996 Site−specific hydrogeological data gathered by CERCLIS Alerts, Inc., Bainbridge Island, WA. All rights reserved. All of the information and opinions presented are those of the cited EPA report(s), which were completed under a Comprehensive Environmental Response Compensation and Liability Information System (CERCLIS) investigation.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW VELOCITY INFORMATION

Groundwater flow velocity information for a particular site is best determined by a qualified environmental professional using site specific geologic and soil strata data. If such data are not reasonably ascertainable, it may be necessary to rely on other sources of information, including geologic age identification, rock stratigraphic unit and soil characteristics data collected on nearby properties and regional soil information. In general, contaminant plumes move more quickly through sandy-gravelly types of soils than silty-clayey types of soils.

GEOLOGIC INFORMATION IN GENERAL AREA OF TARGET PROPERTY

Geologic information can be used by the environmental professional in forming an opinion about the relative speed at which contaminant migration may be occurring.

ROCK STRATIGRAPHIC UNIT

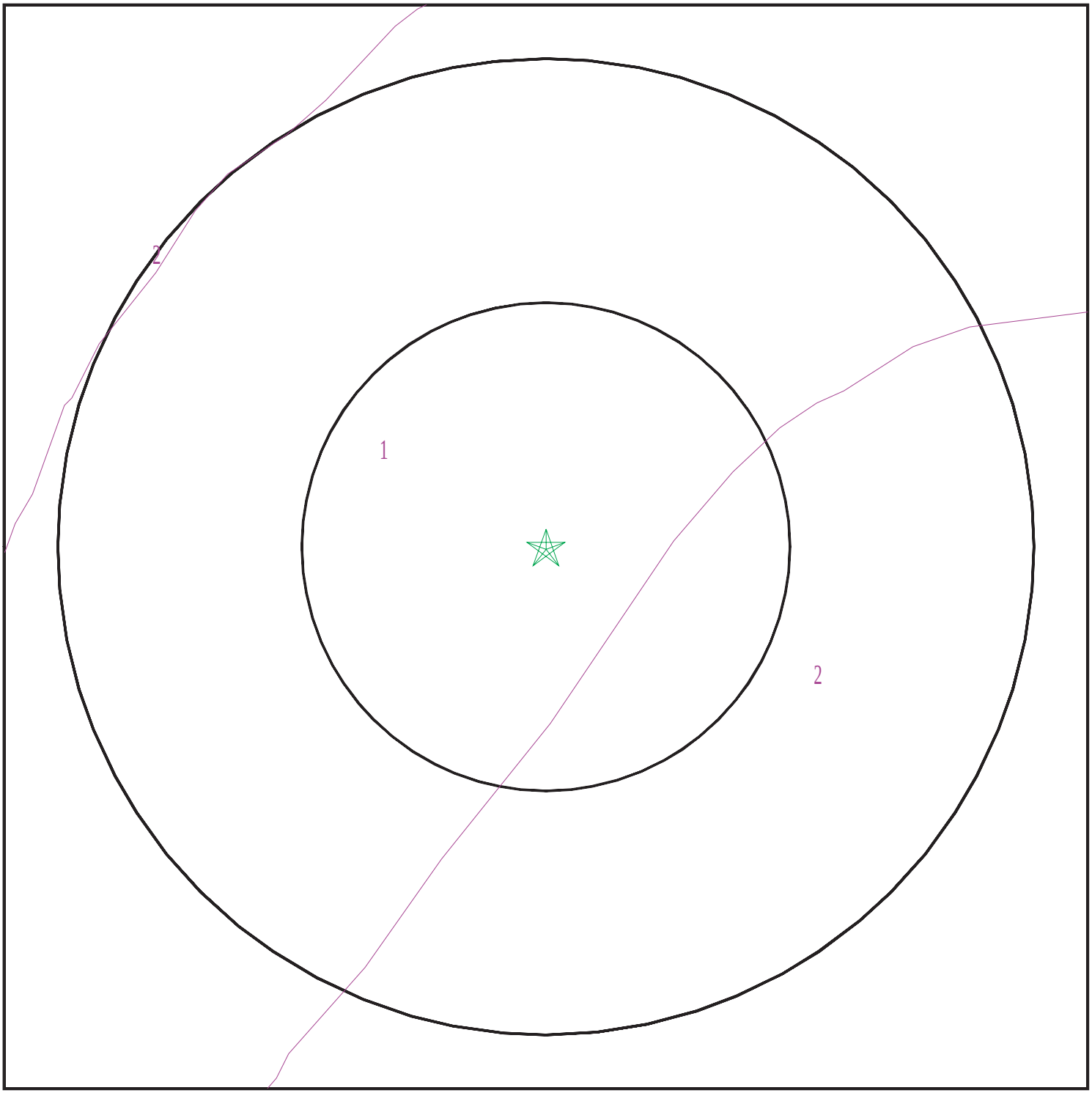
Era:	Cenozoic
System:	Quaternary
Series:	Holocene
Code:	Qh *(decoded above as Era, System & Series)*

GEOLOGIC AGE IDENTIFICATION

Category: Stratifed Sequence

Geologic Age and Rock Stratigraphic Unit Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - a digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

SSURGO SOIL MAP - 3410419.5s



Target Property
SSURGO Soil
Water

0 1/16 1/8 1/4 Miles

N

SITE NAME: P23 ADDRESS: Boca Chica Blvd Port Isabel TX 78578 LAT/LONG: 25.9897 / 97.1828	CLIENT: SpaceX CONTACT: Steve Davis INQUIRY #: 3410419.5s DATE: September 14, 2012 9:23 am

Copyright © 2012 EDR, Inc. © 2010 Tele Atlas Rel. 07/2009.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

DOMINANT SOIL COMPOSITION IN GENERAL AREA OF TARGET PROPERTY

The U.S. Department of Agriculture's (USDA) Soil Conservation Service (SCS) leads the National Cooperative Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. The following information is based on Soil Conservation Service SSURGO data.

Soil Map ID: 1

Soil Component Name: Galveston

Soil Surface Texture: fine sand

Hydrologic Group: Class A - High infiltration rates. Soils are deep, well drained to excessively drained sands and gravels.

Soil Drainage Class: Somewhat excessively drained

Hydric Status: Partially hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 137 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	5 inches	fine sand	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Clean Sands, Poorly graded sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 141 Min: 42	Max: 8.4 Min: 5.6
2	5 inches	62 inches	fine sand	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Clean Sands, Poorly graded sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 141 Min: 42	Max: 8.4 Min: 5.6

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Map ID: 2

Soil Component Name: Barrada

Soil Surface Texture: clay

Hydrologic Group: Class D - Very slow infiltration rates. Soils are clayey, have a high water table, or are shallow to an impervious layer.

Soil Drainage Class: Very poorly drained

Hydric Status: Partially hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	51 inches	clay	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 0.42 Min: 0.01	Max: 9 Min: 7.9
2	51 inches	62 inches	silty clay	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 0.42 Min: 0.01	Max: 9 Min: 7.9

LOCAL / REGIONAL WATER AGENCY RECORDS

EDR Local/Regional Water Agency records provide water well information to assist the environmental professional in assessing sources that may impact ground water flow direction, and in forming an opinion about the impact of contaminant migration on nearby drinking water wells.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

WELL SEARCH DISTANCE INFORMATION

DATABASE	SEARCH DISTANCE (miles)
Federal USGS	1.000
Federal FRDS PWS	Nearest PWS within 1 mile
State Database	1.000

FEDERAL USGS WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
No Wells Found		

FEDERAL FRDS PUBLIC WATER SUPPLY SYSTEM INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
No PWS System Found		

Note: PWS System location is not always the same as well location.

STATE DATABASE WELL INFORMATION

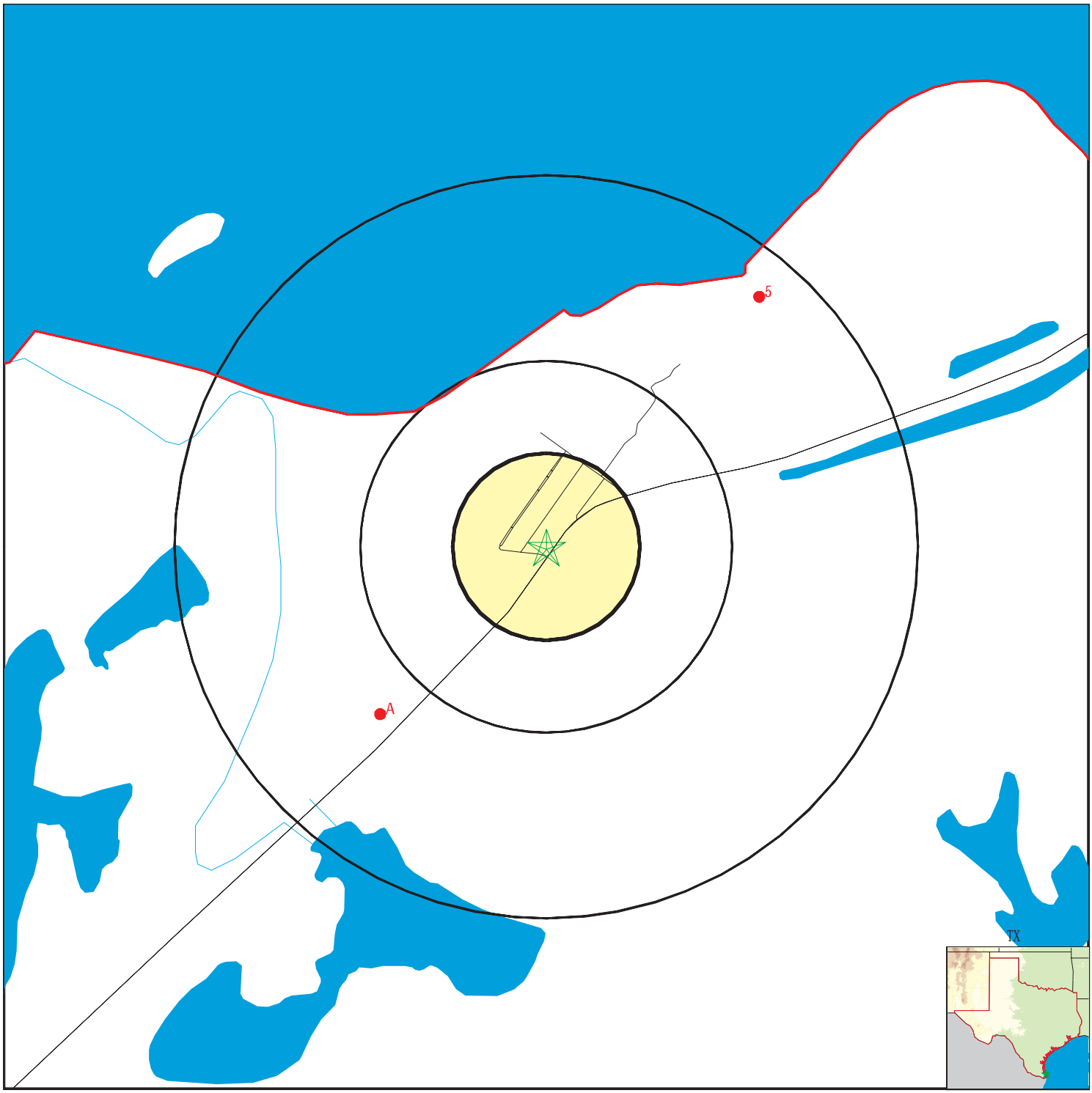
MAP ID	WELL ID	LOCATION FROM TP
No Wells Found		

OTHER STATE DATABASE INFORMATION

STATE OIL/GAS WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
A1	TXOG50000000061	1/2 - 1 Mile SW
A2	TXOG50000000060	1/2 - 1 Mile SW
A3	TXOG50000000059	1/2 - 1 Mile SW
A4	TXOG50000000058	1/2 - 1 Mile SW
5	TXOG50000000067	1/2 - 1 Mile NE

PHYSICAL SETTING SOURCE MAP - 3410419.5s



County Boundary
Major Roads
Contour Lines
Earthquake epicenter, Richter 5 or greater
Water Wells
Public Water Supply Wells
Cluster of Multiple Icons

0 1/4 1/2 1 Miles

Groundwater Flow Direction
GI Indeterminate Groundwater Flow at Location
GV Groundwater Flow Varies at Location
HD Closest Hydrogeological Data
Oil or gas wells

N

No contour lines were detected within this map area.

SITE NAME: P23 ADDRESS: Boca Chica Blvd Port Isabel TX 78578 LAT/LONG: 25.9897 / 97.1828	CLIENT: SpaceX CONTACT: Steve Davis INQUIRY #: 3410419.5s DATE: September 14, 2012 9:23 am

Copyright © 2012 EDR, Inc. © 2010 Tele Atlas Rel. 07/2009.

Map ID Direction Distance	Database	EDR ID Number

A1
SW
1/2 - 1 Mile

OIL_GAS **TXOG50000000061**

Surface id:	1211028		
Well Type:	Sidetrack Well Surface Location	Api:	06130526
Reliab:	Coordinate (operator reported).		
Longn:	-97.18924102		
Latn:	25.98325861		
Site id:	TXOG50000000061		

Surface id:	1211028		
Well Type:	Gas Well	Apinum:	4206130526D1
Out fips:	N	Reliab:	Operator reported location (distances and plat).
Cwellnum:	2R	Radioact:	Not Reported
Longn:	-97.18917918		
Latn:	25.97386947		

A2
SW
1/2 - 1 Mile

OIL_GAS **TXOG50000000060**

Surface id:	1236669		
Well Type:	Permitted Location	Api:	06130530
Reliab:	Coordinate (operator reported).		
Longn:	-97.18951632		
Latn:	25.98300918		
Site id:	TXOG50000000060		

Surface id:	1236669		
Well Type:	Permitted Location	Apinum:	4206130530
Out fips:	N	Reliab:	Coordinate (operator reported).
Cwellnum:	3	Radioact:	Not Reported
Longn:	-97.18951632		
Latn:	25.98300918		

A3
SW
1/2 - 1 Mile

OIL_GAS **TXOG50000000059**

Surface id:	1206112		
Well Type:	Sidetrack Well Surface Location	Api:	06130524
Reliab:	Coordinate (operator reported).		
Longn:	-97.19005837		
Latn:	25.98248608		
Site id:	TXOG50000000059		

Surface id:	1206112		
Well Type:	Dry Hole	Apinum:	4206130524D1
Out fips:	N	Reliab:	Coordinate (operator reported).
Cwellnum:	2	Radioact:	Not Reported
Longn:	-97.18959417		
Latn:	25.97384796		

Map ID Direction Distance	Database	EDR ID Number

A4
SW
1/2 - 1 Mile

OIL_GAS **TXOG50000000058**

Surface id:	1205995		
Well Type:	Sidetrack Well Surface Location	Api:	06130523
Reliab:	Coordinate (operator reported).		
Longn:	-97.19011118		
Latn:	25.98243761		
Site id:	TXOG50000000058		

Surface id:	1205995		
Well Type:	Gas Well	Apinum:	4206130523D1
Out fips:	N	Reliab:	Operator reported location (distances and plat).
Cwellnum:	1	Radioact:	Not Reported
Longn:	-97.19240281		
Latn:	25.98514046		

5
NE
1/2 - 1 Mile

OIL_GAS **TXOG50000000067**

Surface id:	58		
Well Type:	Dry Hole	Api:	061
Reliab:	RRC Hardcopy Map		
Longn:	-97.17334312		
Latn:	25.99911608		
Site id:	TXOG50000000067		

Surface id:	58		
Well Type:	Dry Hole	Apinum:	42061
Out fips:	N	Reliab:	RRC Hardcopy Map
Cwellnum:	1	Radioact:	Not Reported
Longn:	-97.1733431		
Latn:	25.9991161		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS
RADON

AREA RADON INFORMATION

State Database: TX Radon

Radon Test Results

County	Mean	Total Sites	%>4 pCi/L	%>20 pCi/L	Min pCi/L	Max pCi/L
CAMERON	<.5	11	.0	.0	<.5	1.4

Federal EPA Radon Zone for CAMERON County: 3

Note: Zone 1 indoor average level > 4 pCi/L.
: Zone 2 indoor average level >= 2 pCi/L and <= 4 pCi/L.
: Zone 3 indoor average level < 2 pCi/L.

Federal Area Radon Information for CAMERON COUNTY, TX

Number of sites tested: 7

Area	Average Activity	% <4 pCi/L	% 4-20 pCi/L	% >20 pCi/L
Living Area - 1st Floor	0.386 pCi/L	100%	0%	0%
Living Area - 2nd Floor	0.100 pCi/L	100%	0%	0%
Basement	Not Reported	Not Reported	Not Reported	Not Reported

PHYSICAL SETTING SOURCE RECORDS SEARCHED

TOPOGRAPHIC INFORMATION

USGS 7.5' Digital Elevation Model (DEM)
Source: United States Geologic Survey
EDR acquired the USGS 7.5' Digital Elevation Model in 2002 and updated it in 2006. The 7.5 minute DEM corresponds to the USGS 1:24,000- and 1:25,000-scale topographic quadrangle maps. The DEM provides elevation data with consistent elevation units and projection.

Scanned Digital USGS 7.5' Topographic Map (DRG)
Source: United States Geologic Survey
A digital raster graphic (DRG) is a scanned image of a U.S. Geological Survey topographic map. The map images are made by scanning published paper maps on high-resolution scanners. The raster image is georeferenced and fit to the Universal Transverse Mercator (UTM) projection.

HYDROLOGIC INFORMATION

Flood Zone Data: This data, available in select counties across the country, was obtained by EDR in 2003 & 2011 from the Federal Emergency Management Agency (FEMA). Data depicts 100-year and 500-year flood zones as defined by FEMA.

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002 and 2005 from the U.S. Fish and Wildlife Service.

HYDROGEOLOGIC INFORMATION

AQUIFLOW[R] Information System
Source: EDR proprietary database of groundwater flow information
EDR has developed the AQUIFLOW Information System (AIS) to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted to regulatory authorities at select sites and has extracted the date of the report, hydrogeologically determined groundwater flow direction and depth to water table information.

GEOLOGIC INFORMATION

Geologic Age and Rock Stratigraphic Unit
Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - A digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

STATSGO: State Soil Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Services
The U.S. Department of Agriculture's (USDA) Natural Resources Conservation Service (NRCS) leads the national Conservation Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps.

SSURGO: Soil Survey Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Services (NRCS)
Telephone: 800-672-5559
SSURGO is the most detailed level of mapping done by the Natural Resources Conservation Services, mapping scales generally range from 1:12,000 to 1:63,360. Field mapping methods using national standards are used to construct the soil maps in the Soil Survey Geographic (SSURGO) database. SSURGO digitizing duplicates the original soil survey maps. This level of mapping is designed for use by landowners, townships and county natural resource planning and management.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

LOCAL / REGIONAL WATER AGENCY RECORDS

FEDERAL WATER WELLS

PWS: Public Water Systems
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Public Water System data from the Federal Reporting Data System. A PWS is any water system which provides water to at least 25 people for at least 60 days annually. PWSs provide water from wells, rivers and other sources.

PWS ENF: Public Water Systems Violation and Enforcement Data
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Violation and Enforcement data for Public Water Systems from the Safe Drinking Water Information System (SDWIS) after August 1995. Prior to August 1995, the data came from the Federal Reporting Data System (FRDS).

USGS Water Wells: USGS National Water Inventory System (NWIS)
This database contains descriptive information on sites where the USGS collects or has collected data on surface water and/or groundwater. The groundwater data includes information on wells, springs, and other sources of groundwater.

STATE RECORDS

Public Water Supply Sources Databases
Source: Texas Commission on Environmental Quality
Telephone: 512-239-6199
Locations of public drinking water sources maintained by the TCEQ

Groundwater Database
Source: Texas Water Development Board
Telephone: 512-936-0837

Well Report Database
Source: Department of Licensing and Regulation
Telephone: 512-936-0833

Water Well Database
Source: Harris-Galveston Coastal Subsidence District
Telephone: 281-486-1105

Submitted Driller's Reports Database
Source: Texas Water Development Board
Telephone: 512-936-0833
The Submitted Driller's Reports Database is populated from the online Texas Well Report Submission and Retrieval System which is a cooperative Texas Department of Licensing and Regulation (TDLR) and Texas Water Development Board (TWDB) application that registered water-well drillers use to submit their required reports.

OTHER STATE DATABASE INFORMATION

Texas Oil and Gas Wells:
Source: Texas Railroad Commission
Telephone: 512-463-6882
Oil and gas well locations

RADON

State Database: TX Radon
Source: Department of Health
Telephone: 512-834-6688
Rinal Report of the Texas Indoor Radon Survey

PHYSICAL SETTING SOURCE RECORDS SEARCHED

Area Radon Information
Source: USGS
Telephone: 703-356-4020
The National Radon Database has been developed by the U.S. Environmental Protection Agency (USEPA) and is a compilation of the EPA/State Residential Radon Survey and the National Residential Radon Survey. The study covers the years 1986 - 1992. Where necessary data has been supplemented by information collected at private sources such as universities and research institutions.

EPA Radon Zones
Source: EPA
Telephone: 703-356-4020
Sections 307 & 309 of IRAA directed EPA to list and identify areas of U.S. with the potential for elevated indoor radon levels.

OTHER

Airport Landing Facilities: Private and public use landing facilities
Source: Federal Aviation Administration, 800-457-6656

Epicenters: World earthquake epicenters, Richter 5 or greater
Source: Department of Commerce, National Oceanic and Atmospheric Administration

STREET AND ADDRESS INFORMATION

© 2010 Tele Atlas North America, Inc. All rights reserved. This material is proprietary and the subject of copyright protection and other intellectual property rights owned by or licensed to Tele Atlas North America, Inc. The use of this material is subject to the terms of a license agreement. You will be held liable for any unauthorized copying or disclosure of this material.

Appendix I
Airspace

THIS PAGE INTENTIONALLY LEFT BLANK

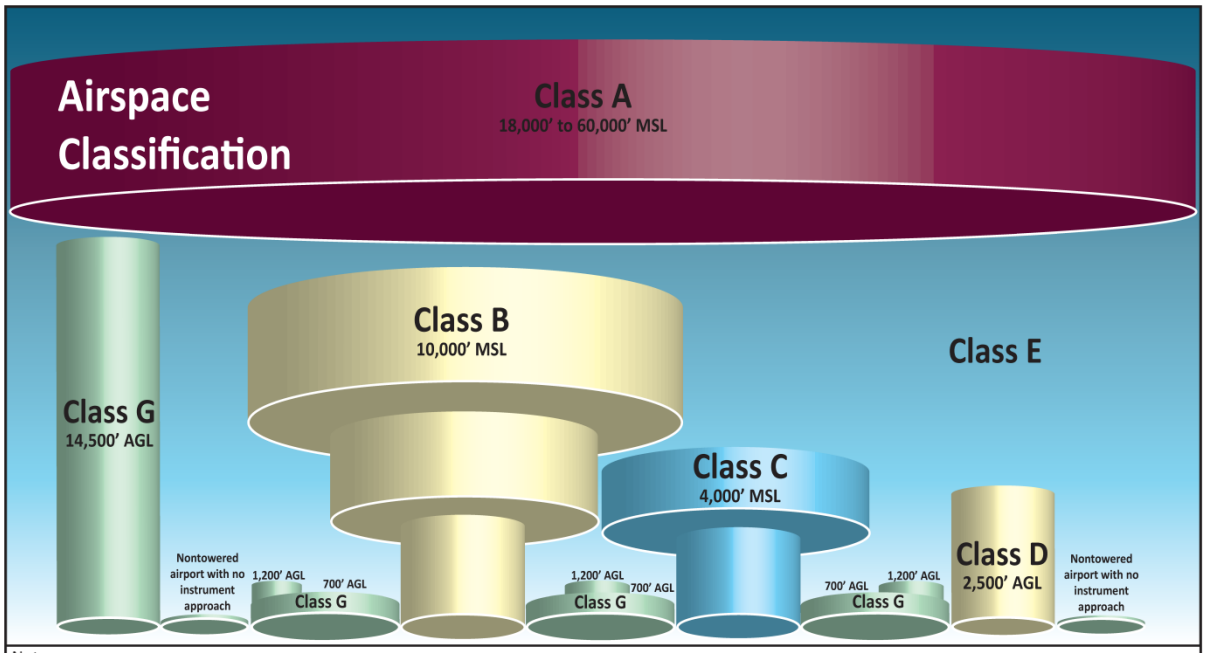
I.1 AIRSPACE

I.1.1 DEFINITION AND DESCRIPTION

Airspace management considers how airspace is designated, used, and administered to best accommodate the individual and common needs of military, commercial, and general aviation. The FAA considers multiple and sometimes competing demands for airspace in relation to airport operations, federal airways, jet routes, military flight training activities, and other special needs to determine how the National Airspace System (NAS) can be best structured to address all user requirements.

The FAA designs and manages the NAS based on the Code of Federal Regulations (CFRs). The FAA has designated four types of airspace above the U.S.: controlled airspace, Special Use Airspace (SUA), other airspace, and uncontrolled airspace.

- **Controlled airspace** is categorized into five separate classes: Classes A, B, C, D, and E airspace (Exhibit I.1-1). These classes identify airspace that is controlled, airspace supporting airport operations, and designated airways affording en route transit from place-to-place. The classes also dictate pilot qualification requirements, rules of flight that must be followed, and the type of equipment necessary to operate within that airspace.
- **SUA** consists of airspace within which specific activities must be confined, or where limitations are imposed on aircraft not participating in those activities. The FAA has designated SUA areas that are listed in FAA Order 7400.8U. These SUA areas are also charted on Instrument Fight Rules (IFR) and Visual Flight Rules (VFR) en route charts. Prohibited Areas, Restricted Areas, Warning Areas, and Military Operations Areas (MOAs) are examples of SUA. Most SUA areas have specific hours of operations, and users must obtain permission from the using agency or the controlling agency before flight through the defined areas.
- **Other airspace** consists of advisory areas, areas that have specific flight limitations or designated prohibitions, areas designated for parachute jump operations, military training routes (MTRs), and aerial refueling tracks. This category also includes Air Traffic Control Assigned Airspace (ATCAA) and airspace designated for altitude reservations.
- **Uncontrolled airspace** is designated Class G airspace and has no specific prohibitions associated with its use.



Notes:
1. Class A - Spanning from 18,000 to 60,000 feet MSL, Class A airspace mostly supports long-distance commercial and military aircraft. All flight operations must be under Air Traffic Control (ATC) radar coverage and have a clearance prior to entry.
2. Class B - Airspace surrounding the busiest airports in the U.S. (e.g., Phoenix, Los Angeles, Atlanta, etc.) normally beginning at the surface in the immediate airport area and extending higher as the distance from the airport increases, up to an upper limit of 10,000 feet MSL
3. Class C - Similar to Class B, but around moderately busy airports (e.g., Chicago Midway, Boise, Jacksonville, etc.) with a vertical limit of 4,000 feet above the airport.
4. Class D- This class extends from the surface to 2,500 feet AGL around airports with a control tower and not otherwise within Class B or Class C airspace.
5. Class E - Usually Class E airspace begins at 1,200 AGL and extends up to but not including 18,000 feet MSL. No ATC clearance or radio communication is required for flights under Visual Flight Rules.
6. Class F - There is no Class F airspace in the U.S.
7. Class G - Includes all airspace not otherwise classified below 60,000 feet MSL. Class G airspace is typically the airspace very near the ground; 700 or 1,200 feet AGL near airports adjacent to Class B, C or D airspace, and below 14,500 beneath Class E airspace away from airports.
Source: Derived from FAA 2008

Exhibit I.1-1. Cross Section of Controlled and Uncontrolled Airspace Classes

I.1.2 REGULATORY SETTING

The FAA regulates the airspace above the proposed vertical launch area pursuant to regulations at 14 CFR 71, which defines the airspace classes and designations as discussed above in Section I.1.1., and the classification of air traffic service and jet routes. Airspace management is defined as the direction, control, and handling of flight operations in the "navigable airspace" that overlies the geopolitical borders of the U.S. and its territories. Navigable airspace is defined as airspace above the minimum altitudes of flight prescribed by regulations under 49 U.S.C. 40102, and includes airspace needed to ensure safety in the take-off and landing of aircraft. Under 49 U.S.C. 40101 et seq., the U.S. Government has exclusive sovereignty over the nation's airspace. The FAA is responsible for developing plans and policies for the use of navigable airspace. The FAA assigns use of airspace necessary to ensure its efficient use, as well as the safety of aircraft (49 U.S.C. 40103(b); FAA Order JO 7400.8U).

I.1.3 REGION OF INFLUENCE

The ROI for airspace includes the airspace above the proposed vertical launch area, the airspace surrounding the launch trajectory, and the airspace associated with any hazard areas that must be protected to ensure public safety. The airspace above the proposed vertical launch area is controlled by the Houston Air Route Traffic Control Center (ARTCC). The Houston ARTCC encompasses the southern portion of Texas, and Mississippi, the southwestern portion of Alabama, all of Louisiana, and portions of the Gulf of Mexico. All launch trajectories would be to the east over the open ocean of the Gulf of Mexico. For each mission, SpaceX would establish hazard areas to ensure public safety according to regulations in 14 CFR 400. The size, location, and extent of these areas would vary mission-to-mission based on launch vehicle and mission specific parameters. Hazard areas could extend beyond the boundaries of the airspace controlled by the FAA and into airspace controlled by Mexico. 14 CFR 400 regulations require the launch operator to establish agreements with air traffic control facilities with jurisdiction over the airspace to be used. As part of the licensing process, the FAA would require SpaceX to establish agreements with the Mexican Ministry of Communications and Transportation or its designee and the FAA to coordinate the use of the required airspace.

I.1.4 EXISTING CONDITIONS

The airspace directly above the proposed vertical launch area is not designated as SUA. However, Warning Areas 228C and D (W-228C, W-228D) are located over the Gulf of Mexico directly to the east of the proposed vertical launch area, and they extend from the surface up to 45,000 feet (ft) mean sea level (MSL). While the Houston ARTCC is the controlling agency, the using agency of this 12,574 square mile area is the US Navy Commander Training Air Wing FOUR of the Naval Air Station Corpus Christi. This airspace is active on a continuous basis (FAA Order 7400.8U).

Further from shore, there are additional warning areas: W-147E (26,000 ft MSL up to 50,000 ft MSL) and W-602 (surface up to 25,000 ft MSL). Both of these warning areas are controlled by the FAA Houston ARTCC. W-147E is used by the 147th Fighter Group, Ellington Field from 0800 to 2200 daily. W-602 is used on a continuous basis by the US Navy Commanding Officer Strategic Communications Wing (STRATCOMMWING) 1 of Tinker Air Force Base (FAA Order 7400.8U). Exhibit I.1-2 shows the warning areas. SpaceX would coordinate, as appropriate, with the respective agencies if operations or hazard areas extend into the Warning Areas.

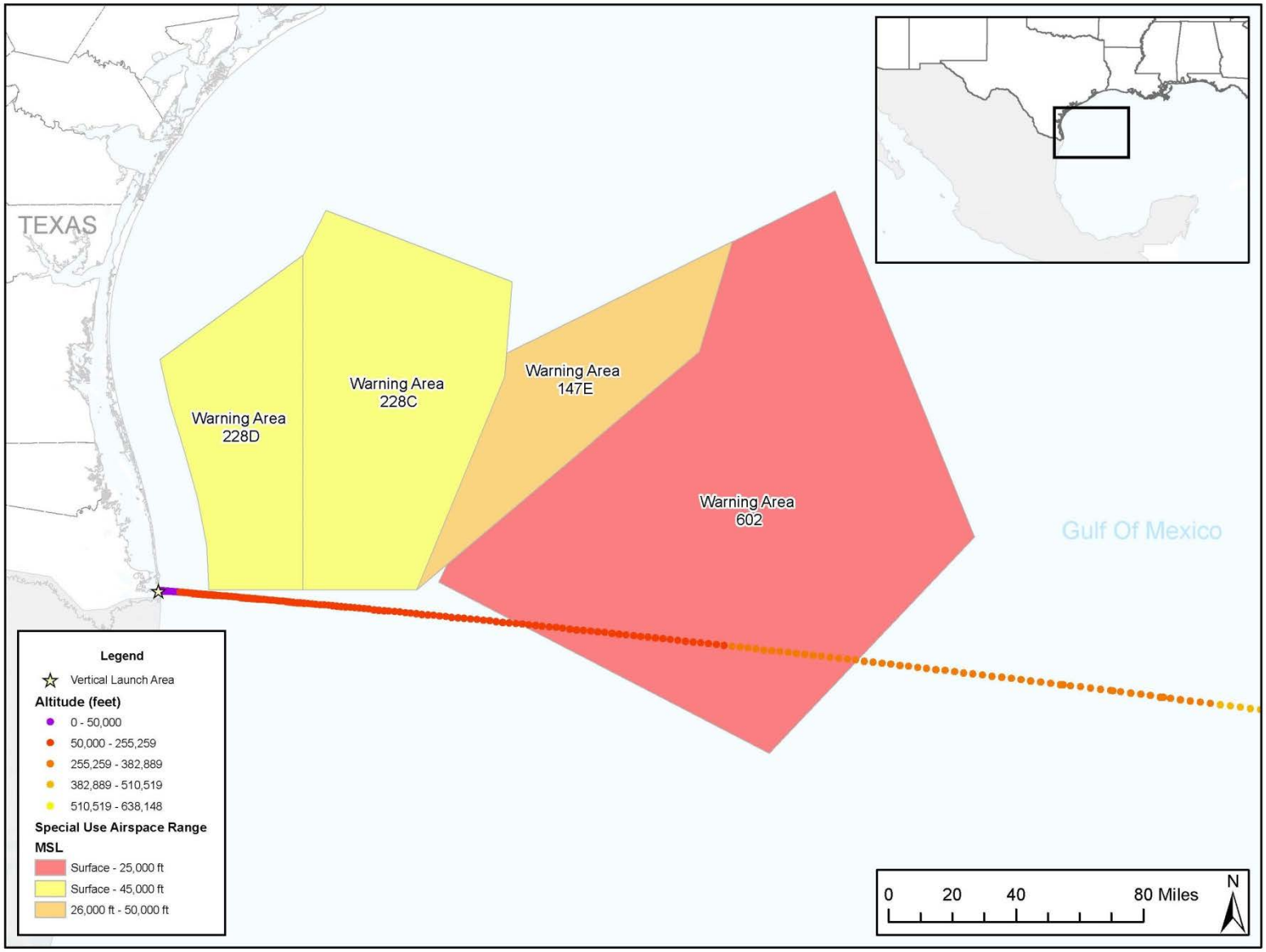


Exhibit I.1-2 Special Use Areas in the Potential Trajectories for Falcon 9 and Falcon Heavy

I.2 AIRSPACE USE

I.2.1 PROPOSED ACTION

I.2.1.1 Construction

Under the Proposed Action, construction activities would use ground equipment that could obstruct the navigable airspace. Prior to construction, SpaceX would be required to consult 14 CFR 77 and FAA Advisory Circular 7460 to determine if an obstruction evaluation is required. The use of cranes and the construction of the water tower and lighting towers may require an obstruction analysis.

I.2.1.2 Operation

Under the Proposed Action, the FAA/AST would issue launch licenses and/or experimental permits that would allow SpaceX to launch the Falcon 9 and Falcon Heavy orbital vertical launch vehicles and a variety of suborbital launch vehicles. Airspace use would be coordinated by the FAA and the appropriate SUA using agencies, depending on the trajectory and hazard area of the launch vehicles. SpaceX must obtain Letters of Agreement (LOA) from the Houston ARTCC and these using agencies to operate the Falcon 9 and Falcon Heavy in the proposed airspace before any launches could commence.

Under the Proposed Action, the FAA would not alter the dimensions (shape and altitude) of the airspace. However, temporary closures of existing airspace may be necessary to ensure the safety of the proposed operations. The LOAs will include notification requirements, including requirements for the issuance of a Notices to Airmen (NOTAMs), which provide notice of unanticipated or temporary changes to components of, or hazards in, the National Airspace System (FAA Order 7930.2M).

Because there would be few launches each year and the launches would only last for a few minutes, temporary closures of existing airspace would not impact the performance and capability of the NAS. In addition, even if the protection of the required airspace lasted longer than the launches themselves, there would be few launches per year and therefore it is not anticipated that there would be a significant impact on other users of the airspace.

I.2.2 NO ACTION ALTERNATIVE

Under the No Action Alternative, the FAA/AST would not issue launch licenses and/or experimental permits that would allow SpaceX to launch the Falcon 9 and Falcon Heavy orbital vertical launch vehicles and a variety of suborbital launch vehicles. Therefore, the level of airspace use would not change and there would be no impacts to airspace.

I.3 CUMULATIVE IMPACTS

The cumulative impacts of operations on regional airspace are currently unknown. However, no new restricted airspace would be required and operations at the proposed launch site would be in accordance with the established LOA with the Houston ARTCC.

I.4 MITIGATION

FAA policy provides equitable access to the NAS for all stakeholders. Prior to each mission, the FAA would assess the effect of the launch on the performance and capacity of the NAS. Where necessary, alternative strategies may be identified and implemented. The goal of these strategies is to reduce the effect of the operation on the system without reducing SpaceX's opportunity to successfully accomplish its mission.

References

FAA. 2008. Pilot's Handbook of Aeronautical Knowledge. FAA-H-8083-25A.

THIS PAGE INTENTIONALLY LEFT BLANK

Appendix J
Health and Safety

THIS PAGE INTENTIONALLY LEFT BLANK

J.1 HEALTH AND SAFETY

J.1.1 DEFINITION AND DESCRIPTION

Health and safety includes consideration of any activities, occurrences, or operations that have the potential to affect the well-being, safety, or health of workers or members of the public. Health and safety can be divided into occupational health and safety and environmental health and safety. Occupational health and safety is concerned with work sites and operational areas where workers could be located. Hazard analyses can be used to identify and assess credible accident scenarios at work and to establish procedures to prevent accidents and to respond to any accidents that do occur. Environmental health and safety considers environmental risks and hazards, both on and off the worksite, which could affect the health of the general public. Risk assessments can be used to identify, characterize, quantify, and evaluate risks to human health and the environment, and to establish preventive and mitigating measures that would reduce risk.

The mission of the FAA commercial space transportation licensing program is to ensure protection of the public, property, and the national security and foreign policy interests of the U.S. during commercial space launches and reentry activities. Protection of public health and safety and the safety of property is the objective of the FAA licensing, compliance monitoring, and safety inspection process. As part of the licensing process, SpaceX will include the appropriate documentation in its launch license and/or experimental permit application per the FAA statutory and regulatory requirements as described in 14 CFR Parts 400-450. The FAA would only issue a launch license and/or experimental permit if it was determined that SpaceX's launch activities would not jeopardize public health and safety, safety of property, U.S. national security or foreign policy interests, or U.S. international obligations.

J.1.2 REGULATORY SETTING

Overall public health and safety is controlled by many laws that regulate the transportation of hazardous cargo, provide for the protection of workers in the workplace, protect the public from exposure to hazardous materials, and provide for emergency preparedness.

Federal

CEQ regulations for implementing NEPA direct agencies to evaluate health effects (40 CFR § 1508.8) and to consider "…the degree to which the Proposed Action affects public health and safety" (40 CFR § 1508.27). The Occupational Safety and Health Administration (OSHA) regulates occupational health and safety. OSHA regulations at 29 CFR Part 1910 (Occupational Safety and Health Standards) and 29 CFR Part 1926 (Safety and Health Regulations for Construction) "…assure safe and healthful working conditions for working men and women" during construction and operational activities. FAA regulations at 14 CFR Parts 400-450 contain licensing requirements that include health and safety provisions (the role of the FAA is further described in Section 1.2.1 of the EIS).

The transport of hazardous materials by roadway vehicles to and from the proposed launch site falls under the purview of the DOT's Hazardous Materials Regulations (49 CFR Parts 171-173).

State

Congress requires each state to appoint a State Emergency Response Commission as part of the Emergency Planning and Community Right-to-Know Act (EPCRA) (42 U.S.C. § 11001 et seq.). TCEQ includes at least ten member agencies of the Emergency Management Council of Texas. TCEQ is responsible for receiving reports about accidental releases and the updating the Toxic Release Inventory in order to protect the health and safety of the environment and the public from chemical hazards.

Other applicable state regulations include Chapter 401 of the Texas Labor Code, enforced by the Texas Department of Insurance, Division of Worker's Compensation, which provides workplace safety and health guidelines for Texas employers. The Hazard Communication Act (Texas Healthy and Safety Code, Title 6, Subtitle D, Chapter 502) states that all personnel that may be exposed to hazardous chemicals during normal employment activities must have access to information and knowledge of exposure to said hazardous chemicals.

J.1.3 REGION OF INFLUENCE

The ROI includes the vertical launch area and the control center area during construction, payload processing, transport, and launch operations, as well as the nearby areas that would be exposed to noise from launch activities. In the event of a launch failure, the ROI would be expanded to include coastal waters in the Gulf of Mexico under the trajectory of the launch vehicle.

J.1.4 EXISTING CONDITIONS

The proposed vertical launch area and control center area are in a sparsely populated coastal area off the Gulf of Mexico comprised mostly of sand and mud flats. Boca Chica Village, a small residential subdivision with a transient population, is directly adjacent to the three parcels that comprise the control center area and approximately 2 miles from the vertical launch area. The area surrounding the proposed vertical launch and control center areas is primarily used for recreational purposes (e.g., national wildlife refuge and state parks).

The proposed vertical launch and control center areas are located within Zones A8 and V10 of the Flood Insurance Rate Map for Cameron County, Texas (for more information on flood hazards, see Volume I, Section 3.7.4.4, *Floodplains*, of the EIS).

J.2 HEALTH AND SAFETY

J.2.1 Proposed Action

J.2.1.1 Construction

Under the Proposed Action, SpaceX plans to construct new facilities, structure and utility connections in two areas in order to support up to 12 launches per year with a maximum of two Falcon Heavy launches. The proposed schedule for construction activities would be a 24 month period. Visitors and the general public would not be exposed to health and safety hazards during construction unless they trespassed into the construction sites. Therefore, no impacts to the health and safety of the public are expected from construction activities. Construction personnel would be contractually required to strictly adhere to all OSHA, other Federal, State, and local health and safety standards.

J.2.1.2 Operation

Personnel and the general public within the ROI could be exposed to potential hazards from operational activities, such as chemicals, propellants, fires, and launch noise. These hazards would be minimized by following applicable Federal and State regulations and guidelines (see Section J.1.2). To minimize the risk of fire or explosion, all propellants would be stored and used in accordance with Federal and State regulations. In addition, all site personnel who perform propellant loading operations would be properly trained to safely use and store propellants. Therefore, propellant-loading activities associated with a launch would not be anticipated to affect the health and safety of site personnel or the surrounding public.

There could be risks to personnel and the general public within the ROI from launch failures, such as flying or falling debris. A launch failure could occur on the launch pad or after the launch vehicle has traveled several miles into the atmosphere. However, all reasonable and feasible measures would be taken by SpaceX operators and the FAA to minimize accidents. To minimize the risk of accidents, SpaceX would fully comply with safety requirements set forth in 14 CFR Parts 400-450, for both ground safety and flight safety, and any other applicable regulations or guidance from the FAA. In addition, the security, fire, safety, and emergency response capabilities exist through Cameron and Willacy counties (see Section 3.10.3.4, *Emergency Response,* of the EIS). SpaceX may enter into agreements with local security service providers, or may rely on local police and fire departments. Also, hazards to the public would be minimized during launch events by the strict enforcement of closures and checkpoints by the U.S. Border Patrol and Cameron County and State of Texas law enforcement agencies (see Section 2.1.1.6, *Launch Day Activities,* of the EIS).

As part of the launch license and/or experimental permit application process, SpaceX must prepare an analysis that identifies and characterizes the hazards and assesses the risk to public health and safety and property from each licensed or permitted flight. The FAA safety review ensures that the SpaceX application correctly assesses the possible hazards associated with the proposed operations and that

SpaceX is able to comply with the FAA regulations for safety of the public. Therefore, the Proposed Action would not be expected to result in significant impacts to public health and safety.

In addition to the health and safety impacts described here, the increased traffic resulting from construction and operation of the proposed vertical launch and control center areas could impact public health and safety due to an increase in the number of traffic accidents. Ground traffic and transportation are analyzed in Appendix K of the EIS.

J.2.2 No Action Alternative

Under the No Action Alternative, the FAA/AST would not issue launch licenses and/or experimental permits that would allow SpaceX to launch the Falcon 9 and Falcon Heavy orbital vertical launch vehicles and a variety of suborbital launch vehicles. The vertical launch area and control center area would not be constructed. There would be no impacts to the health and safety of SpaceX personnel and the general public from the No Action Alternative.

J.3 CUMULATIVE IMPACTS

The FAA is not aware of any past, present, and reasonably foreseeable projects that have the potential to affect the health and safety of the general public within the ROI. Therefore, no cumulative health and safety impacts to the general public or SpaceX personnel would be expected from the Proposed Action.

J.4 MITIGATION

SpaceX would educate the public on safe and lawful areas where they could view launches to prevent impacts to health and safety as a result of the Proposed Action. In addition, hazards to the general public would be minimized by strict safety and distance requirements set by the FAA during its safety review.

Appendix K
Ground Traffic and Transportation

THIS PAGE INTENTIONALLY LEFT BLANK

K.1 GROUND TRAFFIC AND TRANSPORTATION

K.1.1 DEFINITION AND DESCRIPTION

The analysis of ground traffic and transportation describes vehicle movement throughout a road and highway network. The American Association of Highway and Transportation Officials classifies roadways as principal arterials, minor arterial streets, collector streets, and local streets. Principal arterials (i.e., arterial highways and interstates) serve the movement of traffic regionally and between population and activity centers with a minimal level of access to adjacent properties. Collector roadways (i.e., minor arterial and collector streets) serve the movement of traffic from population and activity centers and funnel vehicles onto principal arterials with a moderate level of access to adjacent properties. Local roadways provide access to adjacent properties and move traffic onto collector and arterial roadways.

Average daily traffic (ADT) and design capacity of the roadway represent two parameters to measure traffic. Using these two measures of traffic, each roadway segment receives a corresponding level of service (LOS). The LOS designation is a professional industry standard used to describe the operating conditions of a roadway segment or intersection. The LOS is defined on a scale of A to F that describes the range of operating conditions on a particular type of roadway facility. LOS A or LOS B indicates free flow travel, LOS C indicates stable traffic flow, LOS D indicates the beginning of traffic congestion, LOS E indicates the nearing of traffic breakdown conditions, and LOS F indicates stop-and-go traffic conditions (Transportation Research Board 2010).

K.1.2 REGULATORY SETTING

The Texas Department of Transportation (TxDOT) regulates speed and other vehicle operations safety parameters (TxDOT 2012a). Additionally, the U.S. Border Patrol operates a checkpoint along Texas State Highway 4 between Brownsville and the proposed vertical launch area and control center area. Traffic operating along this stretch of State Highway 4 is subject to the U.S. Border Patrol laws as established in 8 Code of Federal Regulations (CFR) Part 287 (U.S. Border Patrol 2012). All vehicles transporting hazardous materials are also subject to U.S. Department of Transportation (DOT) regulations in 49 CFR Parts 171–179 for the transport of hazardous materials.

K.1.3 REGION OF INFLUENCE

The region of influence (ROI) for ground traffic and transportation includes the roadways that provide access to the proposed vertical launch and control center areas. State Highway 4 is the only major corridor that provides access to the proposed vertical launch and control center areas. Boca Chica Village is also in the ROI, with local roads including Esperson Street and Eichorn Boulevard providing access to the control center area.

K.1.4 EXISTING CONDITIONS

K.1.4.1 LOCAL AND REGIONAL TRAFFIC CIRCULATION

The vertical launch area would be located directly adjacent to the eastern terminus of State Highway 4 (Boca Chica Boulevard), and the control center area would be located approximately 2 miles west of the launch area, north of State Highway 4 in the community of Boca Chica Village. The entire route of State Highway 4 is located in Cameron County, TX. State Highway 4 is 24.4 miles long. It originates at the Gateway International Bridge in downtown Brownsville, TX and ends at Boca Chica Beach on the Gulf Coast. Approximately 6.3 miles of State Highway 4 is an arterial road running through the city of Brownsville. The last intersection on State Highway 4 in Brownsville is Indiana Avenue (FM 511). The remaining 18.1 miles is a two-lane connector road running northeast to Boca Chica Beach. Much of this corridor is located within the Lower Rio Grande Valley National Wildlife Refuge (NWR). The speed limit along the 18.1 miles of the two-lane highway is 55 mph, and based on traffic counts provided by the TxDOT Department of Traffic for 2010, this section of State Highway 4 is not a heavily travelled corridor (TxDOT 2012b). The annual ADT along the corridor within the Lower Rio Grande Valley NWR is estimated at 380 vehicles, and the annual ADT along the corridor past the NWR to Boca Chica Beach, in the vicinity of the proposed vertical launch area, is estimated at 190 vehicles per day travelling.

Based on these ADT counts, State Highway 4 is categorized as LOS A through both the NWR section and the approach to Boca Chica Beach, as indicated in Table K.1-1. It should be noted that the ADT counts are reported in vehicles per day and the Maximum Flow Rate in Table K.1-1 is listed in vehicles per hour. Therefore, traffic along this corridor is well below the capacity of this two-lane highway.

Table K.1-1. Maximum Flow Rate for Different Levels of Service

LOS	Maximum Flow Rate – Both Directions combined (vehicles per hour)
A	490
B	780
C	1190
D	1830
E	3200

Source: Goswami 2009a.

K.2 GROUND TRAFFIC AND TRANSPORTATION

K.2.1 Proposed Action

The implementation of the Proposed Action would have the potential to impact the local ground traffic and transportation during construction of the proposed facilities as well as during program operations. Due to the location of the Proposed Action at the eastern terminus of State Highway 4, approximately 18 miles from the closest intersection in Brownsville, traffic impacts are assessed only along the main access corridor and within Boca Chica Village. It is anticipated that the Proposed Action would have no significant impacts to traffic within the city of Brownsville.

K.2.1.1 Construction

The Proposed Action includes the construction of a number of facilities at the vertical launch area and the control center area, as identified in Section 2.1.2, *Construction Activities*, of this EIS. The construction period to complete both areas is estimated to be 24 months. During the construction period, additional traffic associated with the Proposed Action would include daily construction worker traffic, transportation of construction equipment, and delivery of construction materials. It is assumed that the construction equipment would remain on-site during the construction period and transportation of the equipment to and from the site would have negligible impacts to traffic.

Due to its remote location at the terminus of State Highway 4, all construction worker traffic and material delivery is assumed to come from Brownsville and other surrounding communities, such that all traffic to the construction sites would be along State Highway 4. At some construction sites, small plants for mixing concrete are established on-site or nearby to limit truck traffic associated with transporting concrete. However, for the purposes of this assessment, it is assumed that concrete would be trucked to the construction sites from the Brownsville area. Due to the requirements of concrete and asphalt for this project, delivery to the site would require numerous trucks. The amount of concrete for structures such as the vertical launch area launch pad/flame duct and hangar could require approximately 250 trucks each, assuming each truck carries 9 cubic yards of concrete. Concrete pours this large would not be performed all at one time. It is assumed that the maximum number of trucks travelling to the site each day would be 60 trucks. Applying a heavy truck equivalence factor of 1.5, the equivalent passenger car traffic associated with 60 trucks is 90 passenger cars (Goswami 2009b). Also, as discussed in Section 4.10, *Socioeconomics, Environmental Justice, and Children's Environmental Health Risks and Safety Risks*, of this EIS, it is assumed that the maximum number of construction workers traveling to the site in a single day would be 47. Table K.2-1 summarizes the existing and maximum potential construction traffic anticipated.

Table K.2-1. ADT - State Highway 4 Existing and Potential Construction Traffic

Traffic Source	NWR Corridor	Boca Chica Beach Corridor
Existing	380	190
Construction worker vehicles	47	47
Construction material trucks	90	90
Total	**517**	**327**

As seen in Table K.2-1, traffic during the construction period would increase to approximately 517 vehicles per day within the Lower Rio Grande Valley NWR corridor and to approximately 327 vehicles per day within the corridor providing access to Boca Chica Beach and the vertical launch area. As noted in Section K.1.4, the LOS condition for both corridors is LOS A, and the maximum flow rate for an LOS A corridor is approximately 490 vehicles per hour. Because the total vehicles listed in Table K.2-1 are estimated based on daily traffic, the Proposed Action would not have a significant impact to the LOS along either part of the corridor. However, traffic associated with construction could produce temporary traffic congestion at the U.S. Border Patrol checkpoint and to local traffic in the vicinity of the construction areas as the trucks slow to enter and exit these areas.

Access to the vertical launch area would be directly from State Highway 4, in the vicinity of the entrance to Boca Chica Beach. Although there is ample space inside the fence line of the parcel for queuing vehicles, significant numbers of construction vehicles entering the vertical launch area during peak periods are likely to create some congestion on State Highway 4. To avoid potential impacts to the daytime beach traffic, peak construction truck access could be scheduled for evening hours or other off-peak traffic time. With some flexibility to schedule major truck-intensive efforts such as concrete pours during off-peak times, it is anticipated that construction traffic in the vicinity of the vertical launch area would not create significant congestion issues. The flexibility in scheduling truck-intensive efforts during off-peak times would also help to minimize potential traffic congestion at the U.S. Border Patrol checkpoint, and should offset potential conflicts with other traffic, such as residential, beach, and NWR visitors.

Direct access to the control center area would be located along Esperson Street and Eichorn Boulevard, small connector roads in Boca Chica Village within a few hundred feet of State Highway 4. The number of concrete pours at the control center area would be much smaller than the requirements for the vertical launch area. Therefore, the number of heavy trucks accessing the control center site would be significantly less. Although there would still be the potential for periodic large convoys of trucks (approximately 60) to deliver concrete or other materials to the control center area, these deliveries would typically be smaller. However, during peak construction traffic access, additional traffic would potentially create some congestion at the U.S. Border Patrol checkpoint and within the Boca Chica Village community. Since the control center area is located next to a residential community, there is less flexibility for nighttime construction traffic and activities. It is expected that there may be occasional

brief periods of congestion at the U.S. Border Patrol checkpoint and within Boca Chica Village, but there would not be permanent or significant traffic congestion.

During construction, hazardous materials such as fuel, compressed gases, paints, and epoxies would be transported to the vertical launch and control center areas. The transportation of these and all other hazardous materials would be required to meet DOT Hazardous Materials Regulations, 49 CFR 100-199. These requirements include DOT-approved packaging, with containers properly marked and labeled for shipment over public roadways. The shipment of hazardous materials is very common and in fact, the DOT reports that the likelihood of accidents involving hazardous material transport is 0.32 accidents per million vehicle miles, which is half the likelihood of accidents involving vehicles transporting non-hazardous materials (DOT 2001). With the traffic volume increases (137 vehicles per day) estimated in Table K.2-1 and assuming vehicles would travel 46.8 miles round trip (23.4 miles one-way along State Highway 4) each day, there is a potential increase of an accident involving non-hazardous materials along State Highway 4 of one accident every 244 days. This assumes the likelihood of 0.64 accidents per million vehicle miles for the transport of non-hazardous material. With only a fraction of the trucks carrying hazardous material and the accident potential for hazardous material half of that for non-hazardous material, there would be minimal additional risk associated with construction under the Proposed Action. Therefore, the transport of hazardous materials and the increased likelihood of accidents involving hazardous or non-hazardous materials during construction are not anticipated to significantly impact the traffic and transportation in the vicinity of the vertical launch area and control center area.

K.2.1.2 Operation

Operations would include up to 12 launches per year, with each launch campaign expected to last up to two weeks. There would be differing levels of ground traffic and transportation associated with operations during a launch campaign compared to typical vehicular traffic associated with regular operations by the facility's full-time personnel. Table 2.1-2 in Section 2.1.3, *Personnel Levels*, of this EIS, identifies the anticipated maximum number of employees and contractors working on-site for the next 10 years (2013 - 2022). In addition to the full-time on-site personnel, each launch campaign would require up to 100 local or transient workers.

Based on Table 2.1-2, the maximum number of full-time on-site employees is anticipated to be 30 in 2013, increasing to 150 by 2022. During launch campaigns, the number of full-time and transient employees is estimated at a maximum of 130 in 2013 and 250 in 2022. As discussed previously, existing traffic conditions along State Highway 4 are categorized as LOS A. The analysis in this EIS assumes that employees and contractors would drive separately to the facilities (no car pools). The addition of 130 vehicles per day, and even 250 vehicles per day in the future, is minimal compared to the amount of traffic that would be required to downgrade the LOS condition to LOS B along State Highway 4. As discussed above in Section K.2.1.1, the traffic concerns associated with the Proposed Action are primarily focused at the U.S. Border Patrol checkpoint and the entrances of the vertical launch area and

control center area. Although the additional traffic would have minimal impact along the State Highway 4 corridor, there would likely be some associated congestion at the U.S. Border Patrol checkpoint and the entrances to the facilities during morning and afternoon peak hours, as much of the additional traffic would have the same work hours. However, this congestion is not anticipated to be significant.

Additionally, during the launches, State Highway 4 would be closed between the control center area and the vertical launch area and SpaceX would work with the U.S. Border Patrol and County and State law enforcement officials to limit public access to State Highway 4 at pre-defined checkpoints. As discussed in Section 2.1.1.6, *Launch Day Activities*, of this EIS, a soft checkpoint would be established in the vicinity of Massey Way, approximately 3 miles west of Boca Chica Village. At this soft checkpoint, government personnel, SpaceX personnel, property owners, and emergency personnel would be allowed to pass. A hard checkpoint would be established at the boundary of the FAA approved hazard area. No one would be permitted to pass by this hard checkpoint during launch operations. These closures would be in effect for up to 15 hours for each launch. With the relatively low traffic counts for this corridor and the advanced notice that would be provided to the public prior to each launch, these closures are not anticipated to have a significant impact on the traffic in the vicinity. Therefore, no significant impacts are anticipated to traffic and transportation associated with the implementation of the Proposed Action.

Under the Proposed Action, the risks to traffic associated with the transport of hazardous material and the likelihood of increased accidents during operation are less than those identified during construction, as traffic would be less during operations than during the construction period. Although there may be some additional risk, the risk is anticipated to be minimal. Therefore, the transport of hazardous and non-hazardous materials during operation is not anticipated to significantly impact the traffic or transportation in the vicinity of the vertical launch area and the control center area.

K.2.2 No Action Alternative

Under the No Action Alternative, the FAA would not issue launch licenses and/or experimental permits to SpaceX for launch operations from the private site in Cameron County, TX. SpaceX would not construct the vertical launch area and the control center area. Therefore, there would be no impacts to ground traffic and transportation. Traffic along State Highway 4 would remain as it is today.

K.3 CUMULATIVE IMPACTS

The cumulative impacts of operations on traffic and transportation would be negligible. There are currently no other known projects occurring or proposed along State Highway 4.

K.4 MITIGATION

Construction contractors and SpaceX employees would be educated on the potential for vehicle collisions with wildlife and be encouraged to reduce their speeds on State Highway 4 and within the proposed vertical launch and control center areas.

References

DOT. 2001. Comparative Risks of Hazardous Materials and Non-Hazardous Materials Truck Shipment Accidents/Incidents. Available electronically at http://www.phmsa.dot.gov/staticfiles/PHMSA/DownloadableFiles/Files/hazmatriskfinalreport.pdf. Accessed 2 August 2012.

Goswami, Indranil. 2009a. Civil Engineering PE Breadth and Depth, Capacity of Two Lane Highways pg. 734.

Goswami, Indranil. 2009b. Civil Engineering PE Breadth and Depth. Table 408.3.

Transportation Research Board. 2010. Development of Levels of Service for the Interstate Highway System. National Cooperative Highway Research Program (NCHRP) Report 677. Available electronically at http://onlinepubs.trb.org/onlinepubs/nchrp/nchrp_rpt_677.pdf. Accessed 2 August 2012.

TxDOT. 2012a. Setting Speed Limits. http://www.txdot.gov/safety/speed_limit/setting.htm. Accessed 17 July 2012.

TxDOT. 2012b. Personal communication between Jill Yamaner, Project Engineer, Cardno TEC, Annapolis, MD and Jerry Vallejo, TxDOT Traffic Section. 20 July 2012.

U.S. Border Patrol. 2012. Border Patrol Laws, Part 1. http://www.usborderpatrol.com/Border_Patrol608.htm. Accessed 17 July 2012.

THIS PAGE INTENTIONALLY LEFT BLANK