

Decision I.D. # 44757

Service Date: October 16, 2015
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DRAFT ENVIRONMENTAL ASSESSMENT

Finance Docket No. 35874

**LONE STAR RAILROAD, INC. AND SOUTHERN SWITCHING COMPANY
RAIL CONSTRUCTION AND OPERATION IN HOWARD COUNTY, TEXAS**

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SURFACE TRANSPORTATION BOARD
Washington, DC 20423

Office of Environmental Analysis

October 16, 2015

Re: Docket No. FD 35874, Lone Star Railroad, Inc. and Southern Switching Company—Rail Construction and Operation—Howard County, Texas

Dear Reader:

The Surface Transportation Board's (Board) Office of Environmental Analysis (OEA) is pleased to provide you with the Draft Environmental Assessment (Draft EA) for the proposed construction and operation of approximately 3.18 miles of rail line by Lone Star Railroad, Inc. and Southern Switching Company that would connect to an existing Union Pacific mainline and provide rail service to an industrial park property near Big Spring, in Howard County, Texas.

This Draft EA discusses the potential environmental impacts that could result from the construction and operation of the proposed rail line and includes OEA's preliminary recommendations for mitigating possible environmental effects. The Draft EA reflects OEA's independent analysis and considers the views of federal, state, and local agencies.

Availability of the Draft Environmental Assessment

OEA has distributed the Draft EA to all parties of record for this docket and the environmental distribution list, including key governmental agencies and other appropriate entities. OEA has made a hard copy of the Draft EA available for review in the Howard County Library located at 500 South Main Street in Big Spring, Texas. The Draft EA is also available on the Board's website at <http://www.stb.dot.gov>.

Public Comment and Review of the Draft Environmental Assessment

OEA invites public comment on all aspects of the Draft EA and is providing a 30-day public comment period which begins on October 16, 2015. OEA will consider all comments and respond to substantive comments in the Final EA. The Final EA will include OEA's final conclusions on potential impacts that may result from the proposed project and will include OEA's final recommendations, including OEA's final recommended mitigation measures. The Board will then make its final decision regarding this project and any environmental conditions it might impose.

When submitting comments, please be as specific as possible and substantiate your concerns and recommendations. Please mail written comments on the Draft EA and the recommended environmental mitigation to the following address:

Ken Blodgett
Attention: Environmental filing, Docket No. FD 35874
Surface Transportation Board
395 E Street SW
Washington, DC 20423-0001

Comments may also be filed electronically on the Board's web site, www.stb.dot.gov, by clicking on the "E-FILING" link. The comment period will close on November 16, 2015. Please refer to Finance Docket No. 35874 in all correspondence, including e-filings, addressed to the Board.

Thank you for your interest and participation in the environmental review process. If you would like additional information about the environmental review process, please contact Kenneth Blodgett at (202) 245-0305 or by email at blodgett@stb.dot.gov.

Sincerely,

A handwritten signature in black ink, appearing to read "Victoria Rutson". The signature is fluid and cursive, with a large initial "V" and "R".

Victoria Rutson
Director
Office of Environmental Analysis

Summary of Major Conclusions

The Office of Environmental Analysis (OEA) has conducted a review of the potential environmental impacts that could from the proposed action, a new rail line approximately 3.18 miles long that would connect to an existing Union Pacific Railroad Company (UP) mainline and provide rail service to an industrial park property near Big Spring in Howard County, Texas. OEA has reached the following major conclusions based on the information available to date; consultation with federal, state, and local agencies and other organizations; and its own independent environmental analysis:

- 1) Lone Star Railroad, Inc. (LSR) and Southern Switching Company (SSC) (the Applicants) seek authority to construct and operate approximately 3.18 miles of new rail line that would connect to an existing UP mainline and provide rail service to an industrial park property near Big Spring in Howard County, Texas.
- 2) The proposed rail line would provide more effective service to the extensive Permian Basin shale oil activity located west and south of Big Spring by allowing for the efficient transloading of frac sand by rail to trucks at the industrial park. At this uncongested location, frac sand would be staged, transloaded to trucks, and delivered to crude oil wellheads in the Permian Basin near Midland and Odessa, Texas.
- 3) The proposed rail line would eventually support an average of five trains per week (including both inbound and outbound trains) consisting of up to 100 hopper cars of frac sand per train, resulting in 1,000 truckload shipments of frac sand per week.
- 4) The only federally endangered species currently listed for Howard County is the black-capped vireo. There is no suitable habitat to support breeding black-capped vireos and no documented occurrences within the wildlife survey area for this Draft EA. Under Section 7(a)(2) of the Endangered Species Act, OEA has determined that the construction and operation of the proposed project would have no effect on black-capped vireo. OEA also consulted with the Texas Parks and Wildlife Department (TPWD) regarding species designated by TPWD as rare, threatened, or endangered and has determined that, with the implementation of OEA's recommended mitigation measures, impacts resulting from the construction and operation of the proposed rail line on these species would not be likely.
- 5) OEA examined the addition of frac sand truck traffic to the roadways adjacent to the proposed rail line. OEA concluded that the addition of frac sand truck traffic to the roadways would result in increases in annual average daily traffic (AADT) ranging from 0.24 percent for Interstate 20 to 2.22 percent for Highway 176. These predicted increases in truck traffic would not result in a significant increase in AADT and represents a negligible impact on traffic and transportation in the project area.

- 6) OEA prepared a noise contour analysis to determine if noise impacts from the operation of the proposed rail line would result in adverse impacts on sensitive noise receptors. Rail noise from the operation of the proposed rail line in combination with the existing rail traffic would be less than 65 DNL at all receptor locations and DNL values at the closest receptor would be essentially unchanged. Consequently, there would be no adverse noise impacts resulting from the operation of the proposed rail line.
- 7) OEA conducted a survey within the proposed rail line right-of-way to identify prehistoric, historic, and cultural resources and to assess the significance of those resources and their potential to be eligible for inclusion in the National Register of Historic Places (NRHP). Three historic/prehistoric sites were identified during the survey, with portions of the sites located both within and outside the proposed rail line right-of-way. The portions of the sites within the proposed rail line right-of-way were determined to have no potential for the NRHP. Should rail line construction activities outside the proposed rail line right-of-way be required, OEA has recommended mitigation to address potential impacts to the portions of the sites located outside the proposed rail line right-of-way. The Texas State Historic Preservation Officer (SHPO) has concurred with OEA's Section 106 determination of "no historic properties affected."
- 8) OEA determined that there are no surface waters, wetlands, floodplains, or recorded groundwater wells within close proximity to the proposed rail line right-of-way and concluded that it is unlikely that drainage from the proposed rail line right-of-way would reach mapped waterbodies and wetlands. Groundwater aquifer recharge is limited in the proposed project area. Existing flood-storage capacity and the course of the existing floodways are unlikely to be affected. Consequently, the construction and operation of the proposed rail line would not likely result in impacts on surface waters, groundwater, wetlands, and floodplains.

Contents

List of Figures.....	iv
List of Tables.....	iv
List of Acronyms and Abbreviations.....	v
Executive Summary	ES-1
ES.1 Statement of Proposed Action	ES-1
ES.2 Alternatives	ES-3
ES.3 Description of the Affected Environment	ES-4
ES.4 Environmental Impacts of the Proposed Action	ES-5
ES.4.1 Physical Environment.....	ES-5
ES.4.2 Biological Resources	ES-7
ES.4.3 Transportation and Safety	ES-8
ES.4.4 Noise and Vibration	ES-8
ES.4.5 Cultural.....	ES-9
ES.4.6 Land Use.....	ES-9
ES.4.7 Hazardous Materials and Hazardous Waste Sites	ES-10
ES.4.8 Socioeconomics	ES-10
ES.4.9 Cumulative	ES-10
ES.5 OEA’s Recommendation for Mitigation	ES-11
ES.6 Preliminary Conclusions	ES-12
ES.7 Request for Comments.....	ES-13
Chapter 1 Purpose and Need.....	1-1
1.1 Introduction.....	1-1
1.2 Purpose and Need	1-1
1.3 Outreach and Consultation	1-3
Chapter 2 Proposed Action and Alternatives	2-1
2.1 Proposed Action	2-1
2.1.1 Construction.....	2-3
2.1.2 Operation.....	2-5
2.1.3 Maintenance.....	2-5
2.2 No Action Alternative	2-5
Chapter 3 Affected Environment.....	3-1
3.1 Physical Environment	3-1
3.1.1 Geology and Soils.....	3-1
3.1.2 Water Resources.....	3-2
3.1.3 Air Quality	3-5

3.2 Biological Resources 3-5

 3.2.1 Vegetation..... 3-6

 3.2.2 Wildlife 3-6

 3.2.3 Special-Status Species..... 3-8

3.3 Transportation and Safety..... 3-9

3.4 Noise and Vibration 3-10

3.5 Cultural Resources..... 3-11

3.6 Land Use 3-12

3.7 Hazardous Materials and Hazardous Waste Sites..... 3-13

3.8 Socioeconomics 3-14

Chapter 4 Environmental Consequences of Proposed Action..... 4-1

4.1 Physical Resources 4-1

 4.1.1 Geology and Soils..... 4-1

 4.1.2 Water Resources..... 4-2

 4.1.3 Air Quality 4-3

4.2 Biological Resources 4-5

 4.2.1 Vegetation..... 4-5

 4.2.2 Wildlife 4-6

 4.2.3 Threatened and Endangered Species 4-8

4.3 Transportation and Safety..... 4-9

4.4 Noise and Vibration 4-11

4.5 Cultural Resources..... 4-15

4.6 Land Use 4-16

4.7 Hazardous Materials and Hazardous Waste Sites..... 4-17

4.8 Socioeconomics 4-17

4.9 Cumulative Impacts..... 4-18

 4.9.1 Physical Resources 4-19

 4.9.2 Biological Resources 4-21

 4.9.3 Transportation and Safety 4-21

 4.9.4 Noise and Vibration 4-22

 4.9.5 Cultural Resources 4-22

 4.9.6 Land Use..... 4-22

 4.9.7 Hazardous Materials and Hazardous Waste Sites 4-22

 4.9.8 Socioeconomics 4-23

Chapter 5 Recommendations for Mitigation and Request for Comments 5-1

5.1 Overview of OEA’s Approach to Environmental Mitigation..... 5-1

5.2 Limits of the Board’s Conditioning Power..... 5-1

5.3 Voluntary Mitigation and Negotiated Agreements..... 5-2

5.4 Preliminary Nature of Environmental Mitigation..... 5-2

5.5 Applicants’ Voluntary Mitigation Measures..... 5-3

 5.5.1 Transportation and Safety 5-3

 5.5.2 Noise and Vibration 5-3

5.6 OEA’s Preliminary Recommended Mitigation Measures..... 5-3

 5.6.1 Physical Resources – Geology and Soils,
 Water Resources, and Air Quality..... 5-3

 5.6.2 Biological Resources – Vegetation, Wildlife,
 and Threatened and Endangered Species 5-4

 5.6.3 Cultural Resources 5-4

5.7 Conclusion 5-5

5.8 Request for Comments..... 5-5

Chapter 6 References 6-1

Appendix A Agency Outreach and Consultation

Appendix B Board and Petitioner’s Correspondence

Appendix C Lone Star Railroad Emissions Estimates

Appendix D Noise Impact Assessment Methods

List of Figures

Figure ES-1. Proposed Rail Line	ES-2
Figure 1-1. Proposed Project Area	1-2
Figure 2-1. Proposed Rail Line	2-2
Figure 2-2. Typical Rail Cross-Sections	2-4
Figure 3-1. Biological Resources Survey Area	3-7
Figure 4.4-1. Typical Day-Night Average Noise Levels (U.S. Environmental Protection Agency 1974)	4-12
Figure 4.4-2. Proposed Rail Line and Existing Mainline Combined 65 DNL Contour	4-14

List of Tables

Table 3.1-1. Soil Associations in the Proposed Rail Line Right-of-way, Industrial Park Property and within 0.5 mile buffer	3-2
Table 3.2-1 Special Status Species and Subspecies Listed for Howard County	3-9
Table 3.8-1. Population in the Proposed Project Area, 2010-2010	3-14
Table 3.8-2. Employment in Howard County by Industry, 2013	3-15
Table 4.1-1. Air Emissions as a Result of Proposed Rail Line Operation.....	4-4
Table 4.1-2. Air Emissions as a Result of Frac Sand Truck Shipment.....	4-5
Table 4.3-1. Potential Frac Sand Shipment Routes and Predicted AADT Increase.....	4-10
Table 4.4-1. Train Operational Data	4-13

Abbreviations and Acronyms

AADT	average annual daily traffic
APE	area of potential effects
Board	Surface Transportation Board
EA	Environmental Assessment
EDC	Economic Development Corporation
EIS	Environmental Impact Statement
EPA	Environmental Protection Agency
FEMA	Federal Emergency Management Agency
FIRM	Flood Insurance Rate Map
FPPA	Farmland Protection Policy Act
FRA	Federal Railroad Administration
GMA	Groundwater Management Area
ICC	Interstate Commerce Commission
LSR	Lone Star Railroad, Inc.
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act of 1966
NWI	National Wetlands Inventory
OEA	Office of Environmental Analysis
PLJV	Playa Lakes Joint Venture
SHPO	State Historic Preservation Officer
SSC	Southern Switching Company
T&E	Threatened and Endangered
TCEQ	Texas Commission on Environmental Quality
TPWD	Texas Parks and Wildlife Department
UP	Union Pacific Railroad Company
USACE	U.S. Army Corps of Engineers
USCB	U.S. Census Bureau
USDA	U.S. Department of Agriculture
USDOT	U.S. Department of Transportation
USFWS	U.S. Fish and Wildlife Service

ES.1 Statement of Proposed Action

Lone Star Railroad, Inc. (LSR) and Southern Switching Company (SSC) (collectively referred to hereafter as the Applicants) seek authority to construct and operate approximately 3.18 miles of new rail line (Tracks A, B, A-1, and B-1—the proposed action) as shown in Figure ES-1. The construction of Tracks A-1 and B-1 would be dependent on future land acquisition. The proposed action would connect to an existing Union Pacific Railroad Company (UP) mainline and would provide rail service to an industrial park property owned by the Applicants near Big Spring in Howard County, Texas. LSR would construct and SSC would operate the proposed rail line.

The primary purpose for the proposed rail line is the efficient delivery of frac sand by rail to the industrial park, where it would be transloaded to trucks and delivered to crude oil wellheads in the Permian Basin near Midland and Odessa, Texas. The production of crude oil requires large quantities of frac sand, which is mined primarily in Wisconsin and Minnesota and transported to West Texas by rail. The Applicants indicate that the proposed rail line would help to better serve the extensive Permian Basin shale oil activity located west and south of Big Spring by allowing for the efficient transloading of frac sand from rail to truck at an uncongested location for staging and delivery to the wellhead locations.

The Applicants proposal to construct the rail line would require approximately 37.6 acres for the rail line right-of-way to accommodate an average construction corridor of 50 feet from the each side of the rail centerline. Construction of the proposed rail line and rail bed would follow methods approved by the American Railway Engineering and Maintenance of Way Association and the Federal Railroad Administration. The majority of the proposed rail line would be located within the industrial park property. Construction details are provided in Chapter 2.

SSC would operate over the proposed rail line to provide service to shippers and receivers in the industrial park property. Although the Applicants anticipate that the proposed rail line would primarily be used to receive shipments of frac sand, the proposed rail line could also be used to ship and receive other supplies associated with shale oil production. While it is difficult to predict the likely train traffic volumes resulting from a volatile crude oil market, the Applicants anticipate that the proposed rail line would eventually support an average of five trains per week (including both inbound and outbound trains), consisting of up to 100 hopper cars of frac sand per train. In addition to commodities supporting shale oil activities, the proposed rail line could provide opportunities for non-shale commodities to originate, terminate, or be transloaded at the industrial park property.



Figure ES-1. Proposed Rail Line

On March 13, 2015 the Applicants submitted a written request to the Surface Transportation Board (the Board) for a waiver of the preparation of an Environmental Impact Statement (EIS) as required by the Board's environmental rules at 49 CFR 1105.06(a) (Appendix B, Exhibit 5). On March 25, 2015, the Office of Environmental Analysis (OEA) granted the EIS waiver (Appendix B, Exhibit 6) indicating that the preparation of an Environmental Assessment (EA) is the appropriate level of environmental documentation based on a number of factors outlined in Section 1.3 *Outreach and Consultation*, of this Draft EA.

ICF International, with corporate headquarters in Fairfax, Virginia, was retained by the Applicants as an independent third party consultant to assist OEA in the preparation of this Draft EA. The use of third party consultants is addressed at 49 CFR 1005.4(j). Under the direction, supervision, and approval of OEA, the third party consultant is generally responsible for gathering technical data required to complete the environmental review of the proposed action. The Applicants' request for use of a third party consultant and OEA's response approving the Applicants' selection is provided in Appendix B, Exhibits 2 & 4.

ES.2 Alternatives

NEPA regulations require federal agencies to consider a reasonable range of feasible alternatives to the proposed action. However, NEPA does not mandate consideration of every conceivable variation of an alternative, nor does NEPA require the evaluation of alternatives that do not meet the purpose and need for the proposed action. OEA has taken a hard look and determined that, because of the limits of the industrial park space, no alternative configurations of the rail line within the industrial park property would allow the Applicants to efficiently utilize the industrial park property for the delivery of frac sand by rail. OEA further determined that consideration of rail alternatives outside of the industrial park property are not warranted for this project as those alternatives would not reasonably and feasibly meet the purpose and need for the proposed action.

As part of its analysis, OEA considered the environmental impacts of the proposed action and the No Action Alternative. Under the No Action Alternative, the Board would not license the Applicants to construct and operate a common carrier rail line to provide service to the industrial park in Howard County. LSR would continue to use the industrial park property to support commercial and industrial activities. The continued use and future development of the industrial park property is considered to be part of the No Action Alternative.

ES.3 Description of the Affected Environment

The proposed rail line is located in Howard County, Texas outside the city limits of Big Spring. Chapter 3 contains a detailed discussion of the affected environment.

Much of the proposed project area is nearly flat and is largely former agricultural land, with petroleum extraction wells scattered across the landscape. The topography has been locally altered in areas where there has been development of petroleum extraction wells, roads, and other structures. Soils at or near the surface consist of windblown sand and silt, alluvium, and lacustrine deposits. Resistant caliche underlies the surface sediments and forms a resistant material known as caprock between 4 and 18 feet below the ground surface between the surface deposits and the Ogallala Formation that underlies that caliche. The Dockum Group—composed largely of shale—underlies the Ogallala Formation and is largely impermeable to water.

There are no surface waters located within the proposed rail line right-of-way or within the industrial park property. The closest mapped waterbody is Big Sandy Draw, which flows south into Beals Creek and is located approximately 1.4 miles to the northwest of the proposed rail line at its closest point. There are no mapped wetlands or floodplains within the proposed rail line right-of-way or within the industrial park property. The closest mapped wetlands in the National Wetlands Inventory (NWI) appear to be artificially-created and are located approximately 0.5 mile to the west of the proposed rail line. The majority of NWI-mapped wetlands are mapped as freshwater ponds that are either temporarily or seasonally flooded. There are no recorded groundwater wells located in the proposed rail line right-of-way or industrial park. Groundwater levels in the proposed project area typically occur between 35 to 50 feet below the ground surface.

The proposed project area is not within an Environmental Protection Agency (EPA) designated Air Quality Control Region. Air quality in the proposed project area is categorized as “attainment” for all criteria pollutants. “Attainment” means that the concentration of each criteria pollutant is below the concentration designated by EPA for the protection of air quality (U.S. Environmental Protection Agency 2007).

Overall species diversity is low in the proposed project area. Vegetation consists of a variety of cropland, mixed-grass prairie, and mesquite shrubland. Wildlife species that occur in the proposed project area are likely to be tolerant of human presence and adapted to disturbed areas. The black-capped vireo is the only federally endangered species currently listed for Howard County. There is no black-capped vireo designated critical habitat within the proposed project area and no suitable habitats or individuals were identified during the ground survey conducted for this Draft EA. There are seven mammal species, thirteen bird species and subspecies, two reptile species, and one plant species in Howard County that are designated as rare, threatened, or endangered by the Texas Parks and Wildlife Department (TPWD). Although suitable habitat exists for some of these species and they may potentially

occur in or near the proposed rail line right-of-way, none have been recorded in the area where the habitat assessment survey was conducted for this Draft EA.

Existing public roadways in the vicinity of the proposed rail line include North Midway Road, North Moss Lake Road, U.S. Interstate 20 (I-20), Route 820, Route 350, and County Road 26.

The primary sources of ambient noise in the proposed project area include rail traffic along the existing UP mainline, vehicle traffic along I-20, and operations at existing businesses.

OEA conducted an intensive pedestrian archaeological survey within the proposed rail line right-of-way to identify prehistoric, historic, and cultural resources and to assess the significance of those resources and their potential eligibility for inclusion in the National Register. OEA's investigation revealed three historic/prehistoric sites consisting of thin scatters of artifacts and one isolated object.

Land use within the proposed project area is predominantly industrial and agricultural and the land is experiencing ongoing disturbance with industrial activities. The "Moss Lake Road Groundwater Plume" is the only confirmed and registered site of hazardous material contamination identified within 0.5 mile of the proposed rail line right-of-way and the industrial park property.

The proposed rail line is located entirely in Howard County, Texas. The 2012 population of Howard County was 35,471. As of 2013, the main industries providing employment in Howard County were retail trade, mining, manufacturing, construction, and accommodation and food services.

ES.4 Synopsis of Environmental Impacts of the Proposed Action

As discussed in more detail in Chapter 4, the construction and operation of the proposed rail line would not be likely to have significant environmental impacts with the implementation of the voluntary and recommended mitigation measures.

ES.4.1 Physical Environment

ES.4.1.1 Geology and Soils

Because of the relatively flat topography, cut-and-fill activities related to the construction of the proposed rail line would result in minimal alteration of the terrain. The proposed rail line right-of-way would be approximately 100 feet wide and would require approximately 37.6 acres of land. Soils in the proposed rail line right-of-way have been previously disturbed by agricultural activity and crude oil development. Construction-related cut-and-fill activities would increase the likelihood of wind-erosion. OEA's recommended mitigation measures

requiring the Applicants to use water trucks and best management practices during rail line construction and limit construction activities to the rail line right-of-way would help control and suppress fugitive dust emissions during rail line construction. Overall, the construction and operation of the proposed rail line would not likely result in a significant impact on geology and soils.

ES.4.1.2 Water Resources

There are no surface waters, wetlands, floodplains, or recorded groundwater wells within close proximity to the proposed rail line right-of-way. It is unlikely that drainage from the proposed rail line right-of-way would reach the Big Sandy Draw, which is the closest mapped waterbody and is located over 1.0 mile to the west of the proposed rail line at its closest point. The proposed rail line construction would not result in any disturbance near a mapped wetland. Construction and operation of the proposed rail line would not likely change existing flood-storage capacity or alter the course of the existing floodways. Groundwater aquifer recharge from surface water infiltration is limited in the proposed project area because there is a caprock barrier between the surface soils and the aquifer. OEA's recommended mitigation measures would require the implementation of erosion and sedimentation control measures which would minimize potential impacts from stormwater runoff on water resources in the proposed project area. Overall, the construction and operation of the proposed rail line would not result in impacts on surface waters, wetlands, and floodplains and would not likely result in impacts on groundwater.

ES.4.1.3 Air Quality

Fugitive dust could be generated during the construction of the proposed rail line as a result of soil-disturbing activities and equipment movement on unpaved surfaces. Fugitive dust emissions during construction would be temporary. The implementation of OEA's recommended mitigation measures, which would require the Applicants to use water trucks and best management practices during rail line construction and limit construction activities to the rail line right-of-way, would minimize fugitive dust emissions. Air emissions from construction equipment exhaust, delivery vehicle exhaust, and employee vehicle exhaust would be temporary and localized to the proposed rail line right-of-way and nearby areas. Overall, the construction of the proposed rail line would not result in significant impacts on air quality.

Locomotive diesel emissions related to the operation of the proposed rail line would not likely adversely affect local or regional air quality because of the relatively small number of train movements and the short distances traveled. Likewise, truck diesel emissions related to the movement of frac sand would not be likely to adversely affect local or regional air quality. Overall, the operation of the proposed rail line would not likely adversely affect local and regional air quality.

ES.4.2 Biological Resources

ES.4.2.1 Vegetation

Construction of the proposed rail line would permanently disturb some areas within the 37.6-acre rail line right-of-way, and temporarily disturb other areas. Because of the high level of previous disturbance in the proposed project area, vegetation communities in the proposed rail line right-of-way have already been heavily altered from their natural state. Vegetation cover types and the species that comprise them are common in the proposed project area and the area of permanent loss of vegetation would be small. Construction impacts from fugitive dust emissions on vegetation would be temporary, localized, and minimized through the implementation of OEA's recommended mitigation measures. Overall, the construction of the proposed rail line would not likely result in significant impacts on vegetation.

During the operation of the proposed rail line, maintenance activities may include the control of vegetation in the rail line right-of-way by mechanical methods or by the application of herbicides. Maintenance activities could also result in a small volume of petroleum leaks and spills from maintenance vehicles and equipment. Because the likelihood of leaks and spills from maintenance vehicles and the volumes associated with these occurrences is low, only minor impacts on the overall plant ecosystem would be likely. Overall, the operation of the proposed rail line would not likely result in significant impacts on vegetation.

ES.4.2.2 Wildlife

Construction and operation of the proposed rail line could increase mortality rates of wildlife, but species that would be affected are common in the region and are generally adapted to human presence and disturbance activities. Noise related to construction and operation activities could also cause species intolerant of human activity to avoid the proposed rail line right-of-way and the nearby surrounding area. Wildlife utilizing habitats in and around the proposed rail line would be expected to adapt to disturbances associated with rail line operations. Impacts on wildlife populations protected under the Migratory Bird Treaty Act (MBTA) would be minimized with the implementation of OEA's recommended mitigation measures. The amount of habitat that would be lost, degraded, altered, or fragmented by the construction and operation of the proposed rail line is relatively small. Human alteration and disturbance to wildlife habitat is already common in and around the proposed project area. Overall, the construction and operation of the proposed rail line would not likely result in significant impacts on wildlife or wildlife habitat.

ES.4.2.3 Threatened and Endangered Species

The only federally endangered species currently listed for Howard County is the black-capped vireo. There is no suitable habitat to support breeding black-capped vireos and no documented occurrences within the wildlife survey area. The construction and operation of the proposed rail line would have no effect on this species.

The potential for the occurrence of species designated by TPWD as rare, threatened, or endangered in the proposed project area is low. There have been no documented observations of these species in the proposed project area, nor were they observed during the wildlife field survey conducted for this Draft EA. With the implementation of OEA's recommended mitigation measures, impacts on these wildlife species resulting from the construction and operation of the proposed rail line would not be likely.

ES.4.3 Transportation and Safety

Temporary increases in local vehicle traffic during construction of the proposed rail line would represent a low increase in daily traffic volumes on I-20, highways, and county roads in the proposed project area. Overall, the construction of the proposed rail line would not likely significantly impact traffic operation.

No public roads would be crossed by the proposed rail line. There would therefore be no emergency vehicle response delays, passenger vehicle delays, or crossing safety concerns as a result of the proposed rail line construction and operation.

Up to 286 frac sand truck trips per day could be generated on area roadways as a result of the construction and operation of the proposed rail line. The anticipated primary transportation routes for frac sand shipments would include I-20, Highway 137, Highway 87, Highway 176, Highway 349, Highway 158, and Highway 33. The traffic increase on these roadways resulting from frac sand truck trips would range from 0.24 percent for I-20 to 2.22 percent for Highway 176. These predicted increases in truck traffic would not result in a significant increase in AADT and would have a negligible impact on traffic and transportation on area roadways.

The implementation of the Applicants' voluntary mitigation would lead to road planning and design improvements in collaboration with local transportation authorities to accommodate the anticipated level of increased traffic on North Moss Lake Road, the likely access point to the industrial park. Overall, the operation of the proposed rail line would not likely result in significant impacts on traffic and transportation.

ES.4.4 Noise and Vibration

No noise-sensitive receptors were identified within a half-mile of the of the proposed rail line to the east, north and west. The closest noise-sensitive receptors to the proposed rail line are residences to the south of the proposed rail line in the community of Sand Springs. With the

implementation of the Applicants' voluntary mitigation to use industry best practices to minimize noise in the residential area to the south of the proposed rail line construction, and because of the distance of the residences from construction activities and the masking effects of existing train traffic noise from the UP mainline, temporary noise generated during construction of the proposed rail line should have minimal, if any, impacts on noise-sensitive receptors.

Noise contours were developed for the No Action Alternative (existing UP mainline noise conservatively assuming 7 trains per day) and for the proposed rail line (5 trains per week or 0.7 train per day), which would be the combination of UP mainline rail noise and rail noise from the operation of the proposed rail line. Rail noise from the operation of the proposed rail line would be less than 65 DNL at all receptor locations and DNL values at the residences south of the mainline would be essentially unchanged. Consequently, there would be no adverse noise impacts resulting from the operation of the proposed rail line.

In addition to the noise generated by the construction and operation of the proposed rail line, noise in the proposed project area would be generated by new frac sand truck activity. Because of the high volume of existing traffic—including heavy freight truck traffic—on I-20 and the existing train traffic and train horn noise at road crossings along the UP mainline, the impacts from new truck traffic associated with the proposed rail line would be likely to be minimal.

ES.4.5 Cultural

OEA conducted a survey within the proposed rail line right-of-way to identify prehistoric, historic, and cultural resources and to assess the significance of those resources and their potential to be eligible for inclusion in the National Register of Historic Places (NRHP). Three historic/prehistoric sites were identified during the survey, with portions of the sites located both within and outside the proposed rail line right-of-way. The portions of the sites within the proposed rail line right-of-way were determined to have no potential for the NRHP. Should rail line construction activities outside the proposed rail line right-of-way be required, OEA has recommended mitigation to address potential impacts to the portions of the sites located outside the proposed rail line right-of-way.

By letter dated August 5, 2015, OEA requested that the Texas SHPO concur with a Section 106 finding of “no historic properties affected.” On August 24, 2015, the SHPO concurred with the OEA's determination.

ES.4.6 Land Use

Land outside of Big Spring city limits does not have official zoning designations. The proposed rail line is located in an area that is already developed and being utilized for industrial purposes. Because industrial development including rail transportation is prevalent in the proposed project area, the construction and operation of the proposed rail line would be

consistent with the existing land uses in the area. Additionally no public parks or recreation areas were identified adjacent to or near the proposed rail line. The construction and operation of the proposed rail line would not result in significant impacts on land use.

ES.4.7 Hazardous Materials and Hazardous Waste Sites

OEA conducted a records search to determine whether any hazardous materials and hazardous waste sites are located along or in the vicinity of the proposed rail line right-of-way. Two records were found representing a single documented groundwater plume of tetrachloroethylene on Moss Lake Road, approximately 0.7 mile to the east of the proposed rail line. Given the documented extent of the plume and the direction of groundwater flow, it is unlikely that the groundwater beneath the proposed rail line has been affected by the plume. The construction and operation of the proposed rail line would have no effect on existing hazardous materials or hazardous waste sites. The construction and operation of the proposed rail line would have no effect on hazardous materials or hazardous waste sites.

ES.4.8 Socioeconomics

The Applicants estimate that 30 construction workers may be employed for up to six months during the construction of the proposed rail line. Up to 10 full time staff members would be employed for the operation of the proposed rail line. Because these numbers constitute less than 0.2 percent of the current labor force in the county and 0.02 percent of the population within commuting distance, OEA expects that there would be no changes in current populations or employment trends. No high and adverse human health or environmental effects were identified in Chapter 4 of this Draft EA. No disproportionately high and adverse human health or environmental effects would be expected on minority or low-income populations as a result of the construction and operation of the proposed rail line.

ES.4.9 Cumulative

OEA consulted with local, state, and federal agencies as well as the Applicants, and conducted public outreach activities to identify other past, present, and reasonably foreseeable actions in the proposed project area. OEA determined that the further development of the industrial park property owned by LSR is the only project that overlaps with the proposed rail line in terms of geographic area and time frame. Because the development and operation of the industrial park property has the potential to impact some of the same resources as the rail line at about the same time as the rail line construction and operation, OEA determined that the analysis of the industrial park property is an appropriate part of the cumulative analysis for this case.

The cumulative impacts analysis for this Draft EA evaluated the potential impacts that may result when the impacts of constructing and operating the proposed rail line are added to the impacts of further development of the industrial park property. All resources described and evaluated in Chapters 3 and 4 of this Draft EA were considered in the cumulative impacts

analysis. OEA concluded that no significant impacts would result on any of the resources evaluated. For a detailed description of cumulative impacts, see Section 4.9 *Cumulative Impacts*.

ES.5 OEA's Recommendation for Mitigation

Based on independent analysis of the project and comments received from various agencies consulted with prior to and during the preparation of this Draft EA (see Appendix A), OEA recommends that if the Board grants the Applicants the authority to construct and operate the proposed rail line, such authority be subject to the voluntarily and recommended mitigation measures identified below.

- **VM-1.** The Applicants shall consult with Howard County, Texas regarding curb cut and road planning in the vicinity of the proposed rail line construction.
- **VM-2.** The Applicants shall use industry best practices in order to minimize noise in the residential area to the south of the proposed track construction.
- **MM-1.** The Applicants shall use water trucks as appropriate during rail line construction activities in order to minimize fugitive dust emissions and shall employ best management practices in the control and suppression of fugitive dust emissions.
- **MM-2.** The Applicants shall limit rail line construction activities, vegetation clearing, and soil disturbance to the rail line right-of-way in order to minimize fugitive dust generation.
- **MM-3.** The Applicants shall comply with the reasonable requirements of all applicable federal, state, and local regulations regarding the control of fugitive dust related to rail line construction activities.
- **MM-4.** Should federal funds be used by the Applicants in the construction of the rail line, the Applicants shall consult with the United States Department of Agriculture, Natural Resources Conservation Service regarding the requirements of the Farmland Protection Policy Act.
- **MM-5.** The Applicants shall implement soil erosion and sedimentation control measures to minimize impacts on surface waters in the project area from stormwater runoff during rail line construction activities.
- **MM-6.** The Applicants shall develop and implement a plan to prevent spills of oil or other petroleum products during rail line construction, operation, and maintenance. The plan shall address fuel storage and transfer practices to prevent spills and leaks, first response procedures for spills, and reporting and notification procedures.
- **MM-7.** The Applicants shall clear vegetation in preparation for rail line construction before or after the bird nesting season (March 1 to August 31) to avoid inadvertent removal of active nests (nesting adults, young, or eggs) and to ensure compliance with

the Migratory Bird Treaty Act. If vegetation clearing for the rail line construction is required during bird nesting season, the Applicants shall consult with the U.S. Fish and Wildlife Service regarding the implementation of appropriate nest survey methods to ensure that no migratory bird nests, eggs, or young are disturbed by construction activities until the eggs have hatched and the young have fledged.

- **MM-8.** To address the concerns of the Texas Parks and Wildlife Department (TPWD), the Applicants shall conduct ground-disturbing activities related to rail line construction to before or after the Texas horned lizard hibernation season (September/October to March/April – when ambient temperatures fall below 75° F) to avoid destruction of hibernating Texas horned lizards. If ground-disturbing activities for the rail line construction are required during the hibernation season of the Texas horned lizard, the Applicants shall consult with TPWD regarding the implementation of appropriate pre-construction surveys to determine the presence of Texas horned lizards. If Texas horned lizards are present, the Applicants shall contact TPWD to develop plans for their relocation.
- **MM-9.** Should any rail line construction activities take place adjacent to but outside the rail line right-of-way in the vicinity of the three sites recorded during OEA’s pedestrian archeological resources survey, Applicants shall, prior to conducting those construction activities, consult with OEA and the Texas State Historic Preservation Officer regarding additional archeological investigations that may be necessary.
- **MM-10.** In the event that any unanticipated archaeological sites, human remains, funerary items, or associated artifacts are discovered during rail line construction, the Applicants shall immediately cease all work and notify OEA and the Texas State Historic Preservation Officer pursuant to 36 C.F.R. § 800.13(b). OEA shall then consult with the SHPO, the Applicants, and other consulting parties, if any, to determine whether appropriate mitigation measures are necessary.

ES.6 Preliminary Conclusions

Based on available information provided from all sources to date, OEA preliminarily concludes that, as currently proposed, construction and operation of the Applicants’ proposed rail line would not significantly affect the quality of the natural or human environment provided that the voluntary and recommended mitigation measures as set forth in this Draft EA are implemented. Therefore, an Environmental Impact Statement is unnecessary in this proceeding.

This Draft EA considers the potential environmental impacts of the construction and operation of approximately 3.18 miles of rail line in Howard County, Texas. The proposed rail line would provide rail service to an industrial park property near Big Spring, Texas to allow for the efficient delivery of frac sand by rail to the industrial park, where it would be transloaded to trucks and delivered to crude oil wellheads in the Permian Basin near Midland

and Odessa, Texas. OEA recommends that, if the Board grants the Applicants authority to construct and operate the proposed rail line, the Applicants be required to implement the mitigation measures recommended above and in Chapter 5 of this Draft EA. OEA will consider all comments received in response to this Draft EA in rendering its final recommendations to the Board.

ES.7 Request for Comments

OEA invites comments on all aspects of this Draft EA. OEA will consider all comments received in response to the Draft EA in making its final recommendations to the Board. The Board will consider OEA's final recommendations and the environmental comments in making its final decision in this proceeding.

Please send any comments on this Draft E A by November 16, 2015 to:

Kenneth Blodgett
Attention: Environmental filing, Docket No. FD 35874
Surface Transportation Board
395 E Street SW
Washington, DC 20423-0001

Environmental comments may also be filed electronically on the Board's website, www.stb.gov, by clicking on the "E-FILING" link. Please refer to Finance Docket No. 35874 in all correspondence, including e-filings, addressed to the Board. If you have any questions regarding this Environmental Assessment, please contact Kenneth Blodgett by phone at (202) 245-0305 or email at blodgettk@stb.dot.gov.

1.1 Introduction

On February 24, 2015, Lone Star Railroad, Inc. (LSR) and Southern Switching Company (SSC) (collectively referred to hereafter as the Applicants) filed a petition for exemption with the Surface Transportation Board (Board),¹ pursuant to 49 U.S.C. 10502(a) and 49 C.F.R. 1121.1 *et seq.* LSR proposes to construct and SSC proposes to operate approximately 3.18 miles of rail line (the proposed action) that would connect to an existing Union Pacific Railroad Company (UP) mainline and provide rail service to an industrial park property near Big Spring, in Howard County, Texas. The Board is the agency responsible for granting the authority to construct and operate proposed rail lines and associated facilities under 49 U.S.C. § 10901. Under 49 U.S.C. 10502, the Board must exempt the proposed construction of a rail line from the requirements of 49 U.S.C. 10901 if it finds that regulation of the project: (1) is not necessary to carry out the transportation policy of 49 U.S.C. 10102; and (2) either: (a) the transaction or service is of limited scope, or (b) the application of a subdivision of subtitle IV of the ICC Termination Act of 1995 is not needed to protect shippers from the abuse of market power.

1.2 Purpose and Need

The primary purpose for the proposed action is the efficient delivery of frac sand² by rail to the industrial park property, where it would be transloaded to trucks and delivered to crude oil wellheads in the Permian Basin near Midland and Odessa, Texas. Figure 1-1 provides an overview of the project area.

¹ The Surface Transportation Board is a bipartisan, decisionally independent adjudicatory body, organizationally housed within the U.S. Department of Transportation (USDOT). The Board was established by the Interstate Commerce Commission (ICC) Termination Act of 1995 (49 U.S.C. 10101 *et seq.*; 104-88, December 29, 1995) to assume certain regulatory functions that the ICC administered. The Board has jurisdiction over rail constructions, rail abandonments, rail rates, railroad acquisitions, and consolidations. Other functions of the ICC were either eliminated or transferred to different agencies within DOT.

² Frac sand is quartz sand of a specific grain size and shape that is suspended in fluid and injected into oil and gas wells under very high pressure. The fluid pressure opens and enlarges fractures as well as creates new ones. Sand grains are carried into these fractures and prop them open after the fluid is pumped out (University of Wisconsin-Extension 2013).

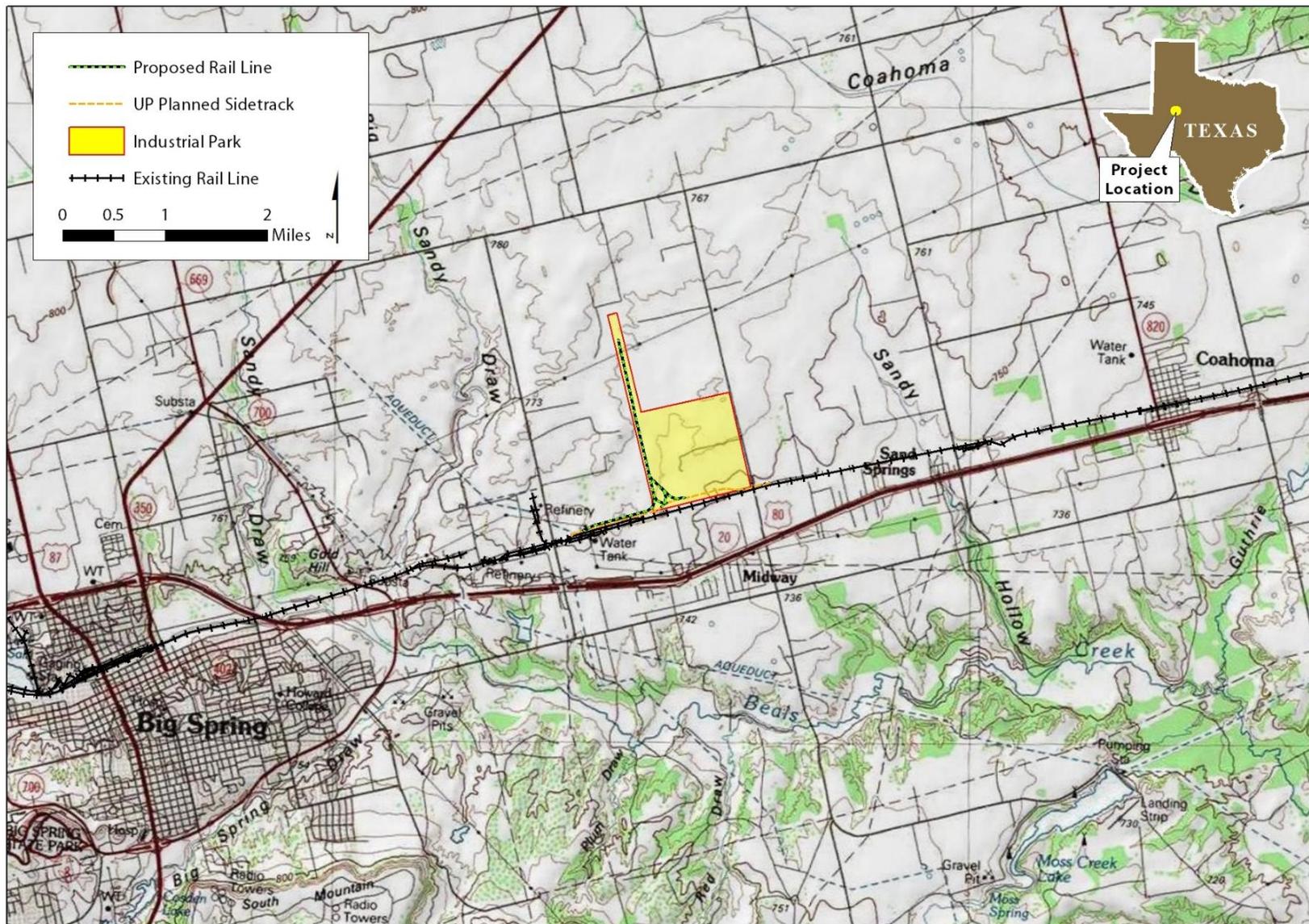


Figure 1-1. Proposed Project Area

The production of crude oil requires large quantities of frac sand and lesser quantities of other commodities, including several kinds of pipes. Frac sand for crude oil production is mined primarily in Wisconsin and eastern Minnesota and transported to west Texas by rail. Frac sand is typically transported long distances by rail and delivered to the wellhead locations by truck. The Applicants believe that the proposed action would allow for the efficient transloading of frac sand from rail to truck at an uncongested location somewhat removed from wellhead sites for more orderly staging and delivery to the wellhead locations.

The Applicants indicate that the proposed action would serve the extensive Permian Basin shale oil activity located west and south of Big Spring. The Permian Basin is the largest crude oil producing region of the United States. The Midland Basin, centered around Midland and Odessa, is the largest of the three major basins in the Permian Basin (U.S. Energy Information Administration 2014). Development in the oil and gas industry is the main driver of growth in this region (Center for Community and Business Research 2014). The Applicants believe the proposed action would address this growth by transloading frac sand at an industrial park that could accommodate the shipment of frac sand located a short distance from Interstate Highway I-20.

1.3 Outreach and Consultation

The Office of Environmental Analysis (OEA) is the office within the Board responsible for carrying out the Board's responsibilities under National Environmental Policy Act (NEPA), 42 U.S.C. § 4332, and related environmental laws. On January 9, 2015, OEA sent consultation letters to federal, state, and local agencies and tribal organizations that might have an interest or regulatory oversight role in the project. OEA has incorporated agency comments and concerns into this Draft Environmental Assessment (EA) and provided responses where applicable. The comment letters may be found in Appendix A and are summarized below.

- By letter dated January 23, 2015, the U.S. Department of Agriculture (USDA), Natural Resources Conservation Service (NRCS) indicated that soils of statewide importance are found in the project area and no hydric soils are listed in the project area, which would require an evaluation under Farmland Protection Policy Act (FPPA) if federal financial assistance were requested by the Applicants. The Applicants do not intend to use federal funds for this project; therefore, the proposed rail line is exempt from FPPA regulations.
- By letter dated January 27, 2015, Howard County Road and Bridge cited concerns about the capacity of county roads to handle traffic that may be generated by the proposed action. They also indicated that they do not anticipate a significant noise impact from the proposed action.
- By letter dated January 30, 2015, the Texas Historical Commission's State Historic Preservation Officer (SHPO) indicated that, according to their maps, the proposed project

is in an area that has the potential for cultural resources and that several archeological sites have previously been recorded in the vicinity. The SHPO recommended that a professional archeologist survey the project area. OEA conducted intensive pedestrian surveys in May 2015 and on August 5, 2015, OEA provided the SHPO with the Archeological Report for the proposed rail line and a letter requesting concurrence with a finding of “no historic properties affected.” On August 24, 2015, the SHPO concurred with the OEA's determination.

- By email dated February 6, 2015, the U.S. National Park Service indicated that they had no comments on the proposed action.
- By letter dated March 11, 2015, the U.S. Army Corps of Engineers (USACE), Fort Worth District indicated that it had determined that the proposed action would not involve activities subject to the requirements of Section 404 of the Clean Water Act, which regulates the discharge of dredged and fill material into waters of the United States, including wetlands. They also indicated that the proposed action would not involve activities subject to the requirements of Section 10 of the Rivers and Harbors Act of 1899, which regulates any work in, or affecting, navigable waters of the United States.
- By letter dated May 8, 2015, the Texas Parks and Wildlife Department (TPWD), provided information, comments, and recommendations based on their review of the proposed rail line. Information provided by TPWD is described in Section 4.2 *Biological Resources* of this Draft EA,

The Applicants conducted early outreach and consultation with a number of local agencies, officials, and interested parties. The Applicants received feedback from local stakeholders, including statements of support from the Mayor of Big Spring and the Chairman of the Big Spring Economic Development Corporation (EDC).

On March 13, 2015, the Applicants submitted a written request to the Board requesting a waiver from the Board's requirement for the preparation of an Environmental Impact Statement (EIS), which is normally required by the Board's regulations for rail line construction proposals. On March 25, 2015, OEA granted the waiver from the requirement to prepare an EIS, indicating that the preparation of an EA is the appropriate level of environmental documentation based on the following factors (included in Appendix B).

- The proposed track is short in length and would not cross any public roads.
- The area is not heavily populated; therefore, safety impacts are not expected to be significant.
- There would be no diversion of existing freight traffic to or from other transportation systems or modes.
- The proposed action is not expected to conflict with any existing land use plans.
- No significant impact to local or regional air quality is expected.

- It does not appear that the proposed action would have a lasting, adverse impact on surface or groundwater resources.
- There are no wildlife sanctuaries, refuges, or national or state parks or forests that would be affected by the proposed action.
- No historic structures or other potential historic or archeological resources were observed during the site visit.
- Any potential impacts resulting from the proposed action could most likely be addressed through appropriate mitigation measures.

The Board, through OEA, is the agency responsible under NEPA for preparing this Draft EA that identifies and evaluates the potential environmental impacts associated with the proposed action and alternatives.

OEA is issuing this Draft EA for public review and comment. The Board will consider the entire environmental record, comprising the Draft EA and Final EA, public and agency comments submitted on the Draft EA, and OEA's environmental recommendations in making its final decision on the Applicants' proposal to construct and operate 3.18 miles of new track. The Board will decide whether to approve, approve with conditions (which could include conditions designed to mitigate environmental impacts), or deny the proposed action.

Proposed Action and Alternatives

2.1 Proposed Action

The proposed action consists of the construction and operation of a rail line approximately 3.18 miles in length (including Tracks A, B, A-1, and B-1 as shown in Figure 2-1) to provide service to an industrial park property located east of the city limits of Big Spring, in Howard County, Texas (Figure 1-1). LSR would construct and SSC would operate the proposed rail line, which would extend north from sidetrack that UP plans to construct between North Midway Road and North Moss Lake Road and parallel to the existing UP Toyah Subdivision mainline.

LSR owns over 600 acres of land adjacent to UP's planned sidetrack, which is being developed as an industrial park property (Figure 2-1). The proposed rail line includes approximately 2.14 miles of rail line for Tracks A and B that would be located on land presently owned by LSR and approximately 1.04 miles of rail line for Tracks A-1 and B-1. Approximately 0.74 mile of Track B-1 would not be located on property presently owned by LSR. LSR is currently engaged in negotiations to acquire a narrow strip of property on which most of Track B-1 would be located. If LSR acquires this land, Tracks A-1 and B-1 would be constructed and operated. Although the construction and operation of Tracks A-1 and B-1 depend on future land acquisition, the potential environmental impacts related to the construction and operation of these tracks are evaluated as part of this Draft EA. If LSR does not acquire the land to construct and operate Tracks A-1 and B-1, LSR would proceed with the construction and operation of the 2.14 miles of track associated with Tracks A and B, pending the approval of the proposed action by the Board.

The Applicants anticipate that the industrial park property would be used as a staging area for frac sand to be transloaded onto trucks for delivery to crude oil wellheads near the industrial park property if the proposed rail line is approved and constructed. A number of other commodities supporting shale oil drilling could be shipped, received, or transloaded at the industrial park property including line pipe, drill pipe, casing pipe, aggregate, natural gas, drilling mud, and liquid materials. The industrial park property could also support future temporary regional rail car storage. At present, the industrial park property is being used for other commercial and industrial purposes, such as crude oil extraction and transport, electric transmission, pipe staging and pipe storage.



Figure 2-1. Proposed Rail Line

To support customer rail operations within the industrial park property, a number of private customer tracks and a rail service yard would be constructed; however, the extent and specific configuration of private rail development is not known at this time and would be determined in the future based on shipper needs. Transloading equipment and storage facilities for frac sand would be required on the site. Other facilities that could be developed in the industrial park property include: a shop for maintenance and repair of locomotives, one or more unpaved private roads to connect facilities within the industrial park property to North Moss Lake Road, an office building that would likely be located in the southeast corner of the industrial park property, and a private well on the property to provide potable water and a contained septic system.

2.1.1 Construction

The proposed action evaluated in this Draft EA includes the construction of Tracks A, B, A-1, and B-1 as presented in Figure 2-1 above. It is not anticipated that all four tracks would be constructed by the Applicants to meet the project's purpose and need. The construction of Tracks A-1 and B-1 is dependent on future land acquisition by the Applicants. Tracks A and B could be constructed and operated without the land acquisition. Although the outcome of the Applicants land acquisition is uncertain at this time, the potential environmental impacts related to the construction and operation of Tracks A-1 and B-1 are evaluated as part of the proposed action for this Draft EA. All tracks would be constructed with rail ranging in weight from 110 pounds per yard to 119 pounds per yard. The proposed rail line would be designed to support railcar loads up to 286,000 pounds. Construction of the proposed rail line and rail bed would follow methods approved by the American Railway Engineering and Maintenance-of-Way Association and the Federal Railroad Administration (FRA). LSR has indicated that the construction of the proposed rail line would take four to six months to complete and that construction of the proposed rail line would employ approximately 30 construction workers.

Construction of the proposed rail line would initially involve clearing a right-of-way that would extend approximately 50 feet from each side of the rail centerline. The rail bed and an adjacent drainage ditch would be located within the proposed rail line right-of-way. Rail bed construction would include grading and compacting earth to create a flat surface for the rail track, and excavating to create a 4-foot wide drainage ditch. The track would be secured to rail ties built on 8 inches of ballast, which would rest on top of 8 inches of subballast. The subballast layer would extend a distance of 12 feet from each side of the rail centerline. Figure 2-2 shows a typical cross section for the proposed rail line including areas where only one track would be located and areas where two tracks would be configured closely together. There would be no public road crossings or crossings of identified waterbodies for the entire length of the proposed rail line.

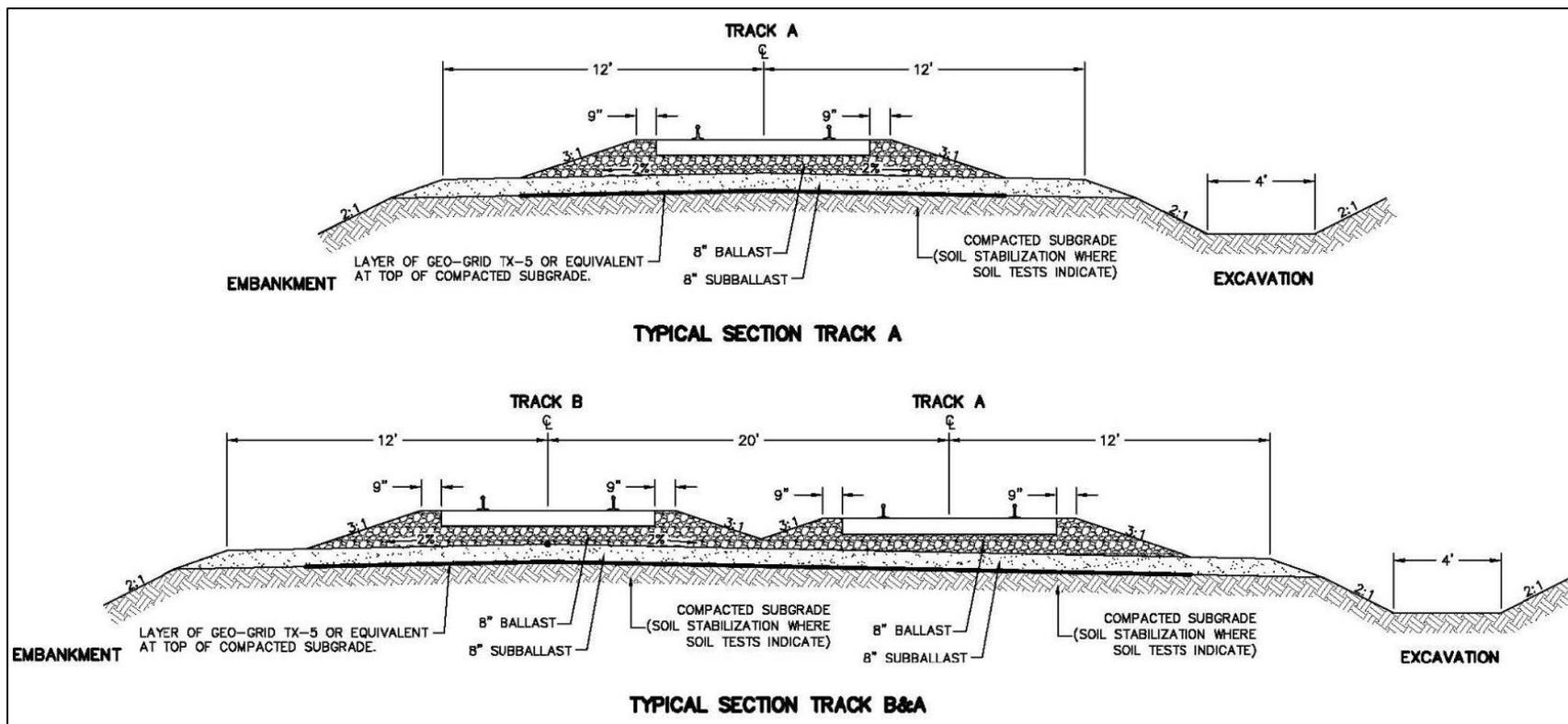


Figure 2-2. Typical Rail Cross-Sections

2.1.2 Operation

SSC would operate over the proposed rail line to provide service to shippers and receivers in the industrial park property. The Applicants anticipate that the proposed rail line would primarily be used to receive shipments of frac sand originating in Wisconsin and Minnesota. The proposed rail line could also be used to ship and receive other supplies associated with shale oil production. While it is difficult to predict the likely train traffic volumes resulting from a volatile crude oil market, LSR anticipates that the proposed rail line would eventually support an average of five trains per week (including both inbound and outbound trains).

LSR has indicated that the proposed rail line would have the capacity to handle trainload shipments of 100 cars or more. The site could also receive manifest¹ railcar traffic. Locomotives would be disconnected from incoming trains and used to move released² rail cars from the industrial park property. Depending on business demands, a permanent staff size of approximately 10 full-time employees is anticipated to operate the proposed rail line.

Each incoming unit train would include up to 100 hopper cars of frac sand, which would be transloaded onto trucks and delivered to crude oil wellheads located to the south and west of the industrial park property within an approximately 60-mile distance. LSR has indicated that four trucks would be required to ship one hopper car of frac sand. Therefore, for each 100-car unit train of frac sand received at the industrial park property, 400 truck trips would be required to deliver the frac sand to the wellheads.

2.1.3 Maintenance

The proposed rail line would be inspected for safety as required by FRA track standards. Additional inspections would be carried out, as necessary and when warranted by other operating conditions. Inspections and maintenance work would be performed by SSC.

2.2 No Action Alternative

NEPA regulations require federal agencies to consider a reasonable range of feasible alternatives to the proposed action. However, NEPA does not mandate consideration of every conceivable variation of an alternative, nor does NEPA require the evaluation of alternatives that do not meet the purpose and need for the proposed action. OEA has taken a hard look and determined that, because of the limits of the industrial park space, no alternative configurations of the rail line within the industrial park property would allow the Applicants to efficiently utilize the industrial park property for the delivery of frac sand by rail. OEA further determined that consideration of rail alternatives outside of the industrial park

¹ A manifest train refers to a freight train with a mixture of car types and cargoes.

² Released rail cars are those, empty or full, being removed from the industrial park property by means of a locomotive.

property are not warranted for this project as those alternatives would not reasonably and feasibly meet the purpose and need for the proposed action.

In addition to the proposed action, OEA is considering the No Action Alternative. Under the No Action Alternative, the Board would not license the Applicants to construct and operate a common carrier rail line to provide rail service to an industrial park property in Howard County, Texas and the environmental impacts associated with the construction and operation of the proposed rail line and increased truck traffic would not occur.

OEA has determined that, under the No Action Alternative, LSR would continue to use the industrial park property to support a number of commercial and industrial activities such as crude oil extraction, energy transmission, and staging and storage of heavy equipment and machinery. Although there would be some differences in the configuration of facilities and specific activities that would take place in the industrial park property under the No Action Alternative, the continued use and future development of the industrial park property is considered to be part of the No Action Alternative.

This chapter describes the existing environment in the area where the Applicant's proposed rail line would be constructed and operated.

3.1 Physical Environment

3.1.1 Geology and Soils

The proposed project area is located in Howard County, Texas (Figure 1-1). The topography of the proposed project area is gently undulating, ranging from approximately 2,450 feet above sea level to approximately 2,560 feet above sea level (TopoQuest 2015). Much of the proposed project area is nearly flat. The land is largely former agricultural land, with petroleum extraction wells scattered across the landscape (Texas General Land Office n.d.). Topography in the proposed project area has been locally altered in areas where there has been development of petroleum extraction wells, roads, and other structures.

Soils at or near the surface in the proposed project area consist of windblown sand and silt¹, alluvium², and lacustrine³ deposits. These lacustrine sediments are fine-grained and form sand sheets⁴, sand dunes, and sand dune ridges. The thickness of these deposits in the proposed project area ranges from 0 to 10 feet (Texas Commission on Environmental Quality 2010). Resistant caliche, formed from leaching of carbonate and silica from the surface soils and deposition of these minerals below the surface, underlies the surface sediments. This caliche forms a resistant material known as caprock⁵ between 4 and 18 feet below the ground surface between the surface deposits and the Ogallala Formation that underlies that caliche (Texas Commission on Environmental Quality 2010).

Ogallala sediments consist of alternating sequences of fine to coarse-grained clastics⁶, medium- to coarse-grained sands, and larger particles from pea-sized gravels to cobbles to boulders. Ogallala sediments are encountered at depths ranging from 5 to 64 feet below ground surface in the proposed project area (North Plains Groundwater Conservation District 2011, Texas Commission on Environmental Quality 2010). Aquifers are present within the water-bearing sediments of the Ogallala Formation.

¹ Silt is a term for loose particles of rock or mineral that are finer than sand, but coarser than clay.

² Alluvium is a general term for clay, silt, sand, or gravel deposited by flowing streams in a river valley or delta.

³ Lacustrine is a general term for a sedimentary deposit laid down on the floor of, or along the shore of, a lake.

⁴ Sand sheets are flat or gently undulating areas of sand that generally exist where sand particle size is too large, or wind speeds are too low to form sand dunes.

⁵ Caprock is a layer of hard, impervious rock which lies immediately above a source rock. Because of its impervious nature, caprock acts as a barrier preventing the migration of hydrocarbons or water.

⁶ Clastic refers to rock or sediments made up primarily of broken fragments of pre-existing rocks or minerals.

The Dockum Group underlies the Ogallala Formation. It is composed largely of shale and is largely impermeable to water. In the proposed project area, the Dockum Group lies at depths approximately 35 to 65 feet below ground surface (Texas Commission on Environmental Quality 2010).

OEA identified five soil associations in the proposed rail line right-of-way and the nearby area, including the industrial park property and a surrounding 0.5-mile buffer. Soil associations consist of two or more dissimilar components occurring in a regularly repeating pattern. Table 3.1-1 summarizes the soil associations in the proposed rail line right-of-way, industrial park property, and within a 0.5-mile buffer.

Table 3.1-1. Soil Associations in the Proposed Rail Line Right-of-way, Industrial Park Property and within 0.5 mile buffer

Soil Association	Erodibility Hazard, Water	Erodibility Hazard, Wind ^a	Ponding Frequency ^b
Amarillo loamy fine sand, 0 to 3 percent slopes	Slight	2	None
Brownfield fine sand, thick surface	Slight	1	None
Patricia fine sand, 0 to 3 percent slopes	Slight	1	None
Springer loamy fine sand, undulating	Slight	2	None
Circleback fine sand	Slight	1	None

Source: Natural Resources Conservation Service 2015.

Notes:

- a. The soils assigned to group 1 are the most susceptible to wind erosion, and those assigned to group 8 are the least susceptible.
- b. Ponding is standing water in a closed depression that can only be removed by evaporation, percolation, transpiration, or a combination of these processes. A Ponding Frequency of “None” indicates that there is no reasonable possibility of ponding.

While pockets of prime farmland are found in the proposed project area, the proposed rail line right-of-way, the industrial park property, and most of the immediately surrounding area do not include prime farmland (Natural Resources Conservation Service 2015). As indicated by the NRCS in their comment letter, neither the proposed rail line right-of-way nor the industrial park property contains hydric soils. However, NRCS indicated that the proposed rail line would cross soils of statewide importance which would require an evaluation under FPPA if federal financial assistance were requested by the Applicants. The Applicants do not intend to use federal funds for this project; therefore, the proposed rail line is exempt from FPPA regulations.

3.1.2 Water Resources

3.1.2.1 Surface Water

The proposed project area is located in the Llano Estacado subregion of the High Plains ecoregion, which is described as a dry, elevated plain surrounded by escarpments on three sides, with the Edwards Plateau to the south (Griffith et al. 2004). This region is characterized as having a cold semiarid climate with long, hot summers, cold winters, and

extremely low rainfall. As a result of the limited precipitation, the fact that this landform is cut off from mountain surface waters, and the limited slope across the landscape, the density of streams and surface drainages present in this region is low (Griffith et al. 2004). Most of the surface water occurs in small intermittent ponds or playa lakes⁷ that hold seasonal rainfall (Texas Parks and Wildlife Department 2015a). Impounded stock ponds and reservoirs are also common, with the larger regional reservoirs used for municipal water supply and recreation.

The proposed project area lies within the Beals Creek subbasin of the Colorado River basin. Beals Creek is the main drainageway in this subbasin and consists of an approximately 67.0 mile-long intermittent stream that originates from a salt lake approximately 4.0 miles west of Big Spring (Texas State Historical Association 2010). It flows east to the Colorado River of Texas, which drains into the Gulf of Mexico. The Beals Creek subbasin drains approximately 25.1 square miles and extends into Howard, Sterling, Mitchell, and Glasscock counties (U.S. Environmental Protection Agency 2015).

No surface waters occur directly within the proposed rail line right-of-way or within the industrial park property. The closest mapped waterbody is Big Sandy Draw, which is located approximately 1.4 miles to the northwest of the proposed rail line at its closest point (U.S. Geological Survey 1971a). This intermittent drainage flows south to Beals Creek. Other surface waterbodies in the proposed project area include Refinery Lake, Red Draw Reservoir, and Moss Creek Lake (U.S. Geological Survey 1971b). Refinery Lake is an approximately 26-acre impounded reservoir located about 1.0 mile to the southwest of the proposed rail line at its closest point (U.S. Army Corps of Engineers 2015). Red Draw Reservoir is located approximately 3.5 miles to the south of the proposed rail line on the Red Draw River at its closest point. It is owned by Colorado River Municipal Water District and is part of their Diverted Water System for water quality improvement purposes (Texas Water Development Board 2015). Moss Creek Lake is located approximately 4.5 miles to the southeast of the proposed rail line at its closest point. It was constructed in 1938 by the City of Big Spring and the USACE as a surface water source. This water source provides drinking water for Howard County and several surrounding counties, in addition to serving as a recreational facility (City of Big Spring 2015).

3.1.2.2 Wetlands

No wetlands within the proposed rail line right-of-way or the industrial park property were identified in the U.S. Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI) (U.S. Fish and Wildlife Service 2015a). The closest wetlands mapped in the NWI are located approximately 0.5 mile to the west of the proposed rail line and the majority are mapped as freshwater ponds that are either temporarily or seasonally flooded. Most of these areas appear to be artificially-created (e.g., excavated, impounded) ponds associated with oil wells and other industrial activities. An additional wetland is mapped approximately 1.5

⁷ Playa lakes are shallow, circular-shaped seasonal wetlands that go through frequent, unpredictable wet and dry cycles (Texas Parks and Wildlife Department 2015a).

miles to the east of the proposed rail line and is characterized as a freshwater emergent wetland. It appears to have been partially disturbed by oil extraction activities.

Wetlands in this region often occur as playa lakes. During wet years, playa lakes support the production of annual plants that provide an important food source for migrating waterfowl. They also provide a critical recharge source for the underlying Ogallala Aquifer. Playa Lakes Joint Venture (PLJV) maintains spatial database of probable playa lakes for portions of Texas and five other states. The closest PLJV-mapped playa lake occurs approximately 2.3 miles to the northeast of the proposed rail line and corresponds with an NWI-mapped freshwater pond wetland (Playa Lake Joint Venture 2015).

3.1.2.3 Floodplains

Floodplains mapped on the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) in the proposed project area include the floodplain associated with Big Sandy Draw to the west of the proposed rail line, the floodplain associated with Sandy Hollow Creek, and three isolated floodplains to the east of the proposed rail line (Federal Emergency Management Agency 2010a, 2010b). None of these floodplains extend into the proposed rail line right-of-way or the industrial park property.

3.1.2.4 Groundwater

The proposed project area is underlain by the Ogallala Aquifer, one of the major aquifers in the Texas panhandle region and the largest aquifer in the United States (Texas Water Development Board 2014a). The Ogallala Aquifer is composed of coarse to medium-grained sand and gravel in the lower strata, grading upward to fine clay, silt, and sand in the upper strata (Freese and Nichols, Inc. et al. 2015). Recharge of the water in the aquifer typically occurs through infiltration of precipitation on the surface, with the highest recharge infiltration rates occurring in areas overlain by sandy soils and in some playa lake basins.

The proposed project area is located in Texas Groundwater Management Area (GMA) 2 (Texas Water Development Board 2014b). GMAs are geographically defined areas for the joint planning and management of groundwater resources in the state. These areas are further divided into Groundwater Conservation Districts, which are required to develop and implement a plan for the effective management of their groundwater resources. The proposed project area is located in the Permian Basin Underground Water Conservation and Supply District (Texas Commission on Environmental Quality 2015).

Howard County is not part of a Priority Groundwater Management Area⁸. According to water well logs maintained in the Texas Water Development Board (TWDB) groundwater database, there are no recorded groundwater wells located in the proposed rail line right-of-

⁸ Priority Groundwater Management Areas are areas designated and delineated by the Texas Commission of Environmental Quality that are experiencing, or are expected to experience within 50 years, critical groundwater problems including shortages of surface water or groundwater, land subsidence resulting from groundwater withdrawal, and contamination of groundwater supplies (Texas Commission of Environmental Quality 2015).

way or the industrial park property (Texas Water Development Board 2002). Groundwater levels in the proposed project area typically occur between 35 to 50 feet below the ground surface. Most irrigation water comes from the underlying Ogallala Aquifer (Texas Water Development Board, 2014). Groundwater pumped from this aquifer is also used for municipal water supply and industrial uses. As discussed above in Section 3.1.1 *Geology and Soils* of this Draft EA, the soils of the proposed project area includes a subsurface layer of caliche, which occurs at 4 to 18 feet below ground surface and forms a caprock barrier between the surface deposits and the Ogallala Aquifer formation. Because of the caprock barrier, only limited aquifer recharge from surface water infiltration is likely in the proposed project area.

3.1.3 Air Quality

The proposed project area is not within an Environmental Protection Agency (EPA) designated Air Quality Control Region. Air quality in the proposed project area is categorized as “attainment” for all criteria pollutants (40 CFR 81). “Attainment” means that the concentration of each criteria pollutant is below the concentration designated by EPA for the protection of air quality (U.S. Environmental Protection Agency 2007). Criteria pollutants include sulfur dioxide, carbon monoxide, ozone, oxides of nitrogen, lead, and particulate matter. The proposed project area is located approximately 250 miles from the Big Bend National Park and approximately 208 miles from the Guadalupe Mountain National Park, which are both Class I regions (U.S. Environmental Protection Agency 2014). Under the Clean Air Act, Class I areas are designated areas in which visibility is protected more stringently than under the national ambient air quality standards. Class I areas tend to include national parks, wilderness areas, monuments, and other areas of special national and cultural significance (U.S. Environmental Protection Agency 2014). Emissions associated with the construction and operation of the proposed rail line are not expected to impact visibility within these Class I regions. Air emissions in the proposed project area currently include emissions from vehicle traffic on roadways and railroad locomotive engines. There are twelve point emission sources⁹ located within Howard County which include refineries, gas processing plants, and pipeline facilities (Texas Commission on Environmental Quality 2014).

3.2 Biological Resources

This section describes vegetation communities, available wildlife habitats, and wildlife resources known to occur in the proposed project area. To identify wildlife features and populations and determine the special-status species that could be present in Howard County, Texas and in the proposed project area, OEA reviewed online database records maintained by USFWS (U.S. Fish and Wildlife Service 2015b), consulted with representatives from the

⁹ Point emission sources are a single identifiable source of air emissions.

USFWS Austin Ecological Services Field Office (LeBlanc pers. comm.), and consulted with the TPWD Wildlife Habitat Assessment Program. OEA also obtained data from the Texas Natural Diversity Database, which maintains records of observations of federal and state listed and tracked threatened, endangered, and rare species (Texas Parks and Wildlife Department 2014).

OEA also conducted a survey that included a habitat assessment and general reconnaissance in order to characterize the habitats present within the proposed project area and identify habitats that could support Threatened and Endangered (T&E) species and other species of concern. The wildlife survey area, depicted in Figure 3-1 below, comprises approximately 8.8 square miles and includes the proposed rail line right-of-way and a 1.0-mile buffer around the proposed rail line right-of-way.

3.2.1 Vegetation

The predominant vegetation cover types that were observed in the survey area include cropland, mixed-grass prairie, and mesquite (*Prosopis* spp.) shrubland. The dominant crop observed in the survey area was cotton. Cotton was observed in the proposed rail line right-of-way; however these fields are no longer actively cultivated. Mixed-grass prairies were found interspersed throughout the survey area, but vegetation was dormant during the survey, making species identification difficult. Based on limited observations during the survey of grass seed heads and the knowledge of dominant species in this ecoregion¹⁰, grass species are expected to include blue grama (*Bouteloua gracilis*), buffalograss (*Bouteloua dactyloides*), and sideoats grama (*Bouteloua curtipendula*). Yucca (*Yucca* spp.) and cactus (*Opuntia* spp.) were commonly observed, but overall species diversity appeared to be low throughout the survey area. Shin oak (*Quercus sinuata*) was also found intermixed with grasses in the survey area. Mesquite shrublands were observed primarily in the southwestern portion of the survey area, but isolated mesquite stands were found scattered in patches throughout the survey area. In the southwestern portion of the survey area, mesquite was observed in fairly dense thickets with a dense vegetation understory.

3.2.2 Wildlife

Due to the high disturbance level as a result of existing human activity within the proposed project area, wildlife species that occur in the proposed project area are likely to be tolerant of human presence and adapted to disturbed areas. Some species common to the Texas High Plains region where the proposed project area is located include: coyote (*Canus latrans*), collared peccary (*Pecari tajacu*), desert cottontail (*Sylvilagus audubonii*), pocket gophers (*Geomys* spp.) hispid pocket mouse (*Chaetodipus hispidus*), scaled quail (*Callipepla squamata*), house finch (*Haemorhous mexicanus*), western kingbird (*Tyrannus verticalis*), plains spadefoot toad (*Spea bombifrons*), spotted chorus frog (*Pseudacris clarkia*), and plains black-headed snake (*Tantilla nigriceps*) (U.S. Forest Service, 1996).

¹⁰ Ecoregions are large areas of similar climate where ecosystems recur in predictable patterns.

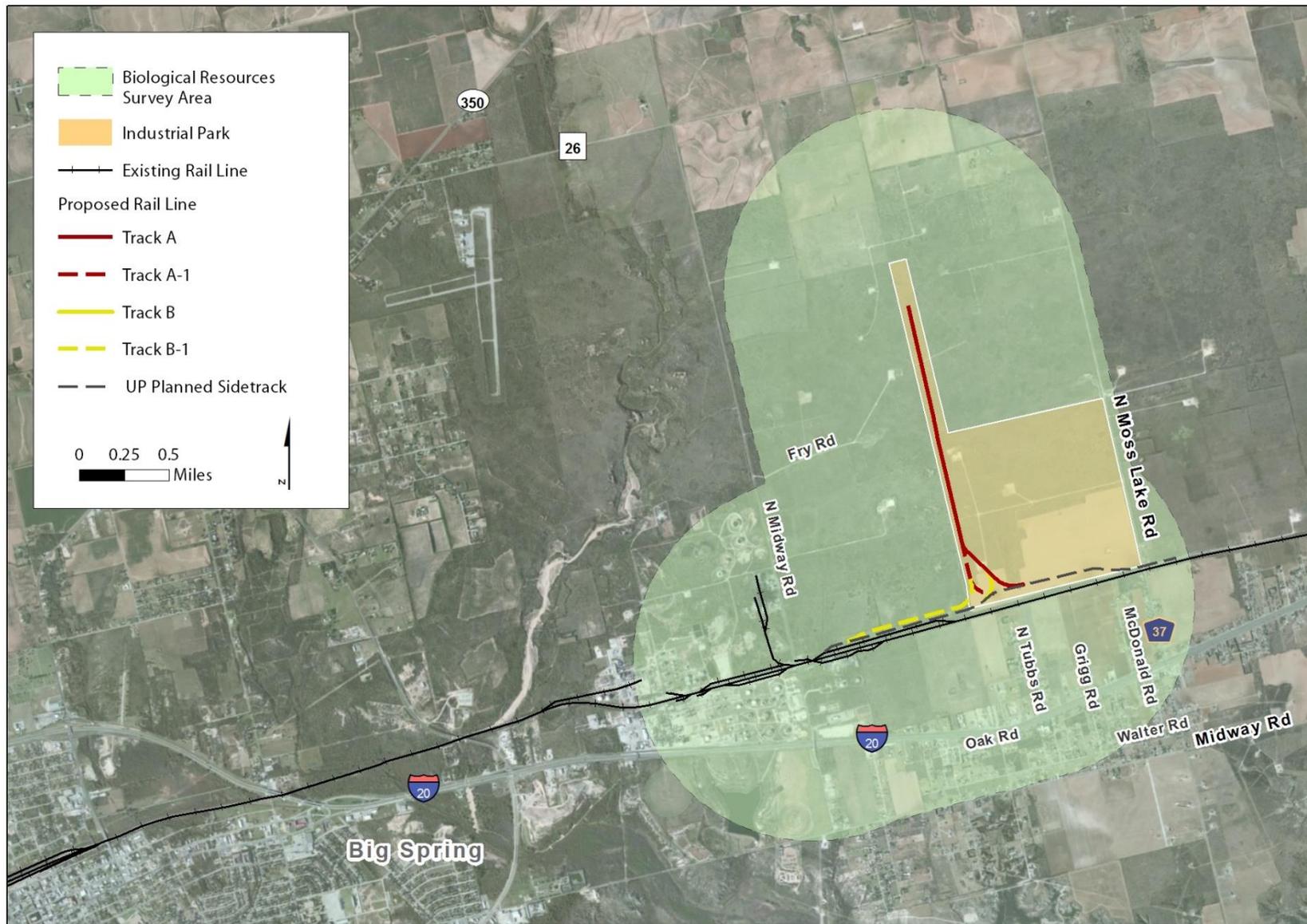


Figure 3-1. Biological Resources Survey Area

Species that were recorded during the survey in the survey area included: mule deer (*Odocoileus hemionus*), American kestrel (*Falco sparverius*), eastern meadowlark (*Sturnella magna*), loggerhead shrike (*Lanius ludovicianus*), northern bobwhite (*Colinus virginianus*), pyrrhuloxia (*Cardinalis sinuatus*), song sparrow (*Melospiza melodia*), spotted towhee (*Pipilo maculatus*), white-crowned sparrow (*Zonotrichia leucophrys*), and western ornate box turtle (*Terrapene ornate*). Plains pocket gopher (*Geomys bursarius*) mounds and snake burrows were recorded in the survey area. Sandhill cranes (*Grus canadensis*) were observed flying over the survey area, but were not recorded using habitats within the survey area.

3.2.3 Special-Status Species

Special-status species include plant and animal species listed as candidate, threatened, or endangered under the federal Endangered Species Act or species considered rare, threatened, or endangered by TPWD. Table 3.2-1 identifies special-status species and subspecies listed for Howard County by USFWS and TPWD.

There is currently one federally endangered species listed for Howard County: the black-capped vireo. The black-capped vireo is a bird that was listed as endangered throughout its range in 1987 and occurs in northern Mexico, central Texas, and southern Oklahoma. Breeding habitat for the black-capped vireo consists primarily of deciduous shrublands in poor soils with rocky substrates. Suitable shrublands are irregular in height and patchy with open areas interspersed and contain thickets of shrubs with high vegetation densities. A variety of shrub species are associated with nesting substrates, but oaks (*Quercus* spp.) are the most common (Grzybowski, 1991, 1995; U.S. Fish and Wildlife Service, 2007). There is no black-capped vireo designated critical habitat within the survey area and no suitable habitats or individuals were identified during the ground survey. Also, no known records of black-capped vireo exist in the survey area.

As identified above in Table 3.2-1, there are seven mammal species, thirteen bird species and subspecies, two reptile species, and one plant species in Howard County that are designated as rare, threatened, or endangered by TPWD. One bird and one mammal are designated as endangered, three birds and one reptile are designated as threatened, and the remaining are designated as rare. Due to the level of disturbance and human activity within the survey area, suitable habitats are not present for many of these species; however, there is a remote possibility that habitats within the survey area could be used for stopover during migration. Species that could potentially occur within the survey area include swift fox, Baird's sparrow, mountain plover (*Charadrius montanus*), western burrowing owl, and Texas horned lizard; however, none have ever been recorded in the survey area.

Table 3.2-1. Special Status Species and Subspecies Listed for Howard County^a

Common Name ^b	Scientific Name	Texas State Status	USFWS Status
Mammals			
Big free-tailed bat	<i>Nyctinomops macrotis</i>	Rare	
Black-footed ferret	<i>Mustela nigripes</i>	Rare	
Black-tailed prairie dog	<i>Cynomys ludovicianus</i>	Rare	
Cave myotis bat	<i>Myotis velifer</i>	Rare	
Gray wolf	<i>Canis lupus</i>	Endangered	
Pale Townsend's big-eared bat	<i>Corynorhinus townsendii pallescens</i>	Rare	
Swift fox	<i>Vulpes velox</i>	Rare	
Birds			
Baird's Sparrow	<i>Ammodramus bairdii</i>	Rare	
Bald eagle	<i>Haliaeetus leucocephalus</i>	Threatened	
Black-capped vireo	<i>Vireo atricapilla</i>		Endangered
Ferruginous Hawk	<i>Buteo regalis</i>	Rare	
Mountain Plover	<i>Charadrius montanus</i>	Rare	
Peregrine Falcon	<i>Falco peregrinus</i>	Threatened	
American Peregrine Falcon	<i>Falco peregrinus anatum</i>	Threatened	
Arctic Peregrine Falcon	<i>Falco peregrinus tundrius</i>	Rare	
Snowy Plover	<i>Charadrius alexandrinus</i>	Rare	
Western Snowy Plover	<i>Charadrius alexandrinus nivosus</i>	Rare	
Sprague's Pipit	<i>Anthus spragueii</i>	Rare	
Western Burrowing Owl	<i>Athene cunicularia hypugaea</i>	Rare	
Whooping Crane	<i>Grus americana</i>	Endangered	
Amphibians and Reptiles			
Spot-tailed earless lizard	<i>Holbrookia lacerata</i>	Rare	
Texas horned lizard	<i>Phrynosoma cornutum</i>	Threatened	
Plants			
Irion County wild-buckwheat	<i>Eriogonum nealleyi</i>	Rare	

Sources: Texas Parks and Wildlife Department 2015b and U.S. Fish and Wildlife Service 2015b.

Notes:

^a Other species are listed by USFWS for Howard County, but only need to be considered for wind energy projects. These include the Red Knot (*Calidris canutus rufa*), Least tern (*Sterna antillarum*), and the Piping plover (*Charadrius melodus*).

^b Common and scientific names that are indented in the table indicate a subspecies of the species above them.

3.3 Transportation and Safety

Howard County is part of the Abilene Transportation District within the Texas Department of Transportation System. Vehicle miles traveled have increased throughout the county from 2002 to 2012, ranging from a 35 percent increase to an 85 percent increase depending on the year and location considered (Texas Department of Transportation 2014). The major transportation route to and from the proposed project area is Interstate 20 (I-20) with a recorded average annual daily traffic (AADT) between 15,757 and 19,978 vehicles in 2013

depending on the location recorded¹¹. In the proposed project area, I-20 is a major 4-lane divided interstate highway running east-west (Texas Department of Transportation 2013). The closest public roadways to the proposed rail line are North Midway Road and North Moss Lake Road which are both two lane undivided rural roadways with no current AADT values recorded. The closest roadway with recorded traffic count data is Route 820, with a recorded AADT of 484 vehicles in 2013 (Texas Department of Transportation 2013). There are two permanent traffic counters within Howard County. One permanent counter (M1275) is located along Highway 87, which runs north-south through Big Spring, and recorded an AADT of 2,230 vehicles in 2015. Another permanent counter (M1105) is located along Route 350, which runs in a northeast direction from Big Spring, and recorded an AADT of 2,205 vehicles in 2015 (Texas Department of Transportation 2015).

A mainline railroad track owned by UP extends east-west through Howard County and is located adjacent to the southern boundary of the industrial park property. This line handles approximately 7-16 trains per day with some switching activity along the section between Baird and Toyah subdivisions (Federal Railroad Administration 2015).

3.4 Noise and Vibration

Primary sources of ambient noise in the proposed project area include rail traffic along the existing UP mainline, vehicle traffic along I-20, and operations at existing businesses. Approximately 7-16 trains per day operate on the UP mainline near the proposed rail line and generate wayside noise throughout the area. There are two existing at-grade rail crossings of public roads near the proposed rail line where trains are required to sound their horns when crossing. One at-grade crossing is located at the intersection of the UP mainline and North Moss Lake Road, approximately 0.7 mile southeast of the proposed rail line. The other at-grade crossing is located at the intersection of the UP mainline and Midway Road, approximately 0.3 mile to the west of the proposed rail line. There are a few residences located to the south of both at-grade crossings. As noted in Section 3.3 *Transportation and Safety* of this Draft EA, I-20 had a recorded AADT in 2013 of between 15,757 and 19,978 vehicles. At its closest point, the proposed rail line would be located approximately 0.5 mile to the north of I-20. According to the Texas Department of Transportation (2015a), heavy trucks make up approximately 43 percent of the traffic along I-20 in this location. The industrial park property is adjacent to North Moss Lake Road. Other local roadways are also found in the proposed project area. Traffic along all of these roadways generates noise in the proposed project area. Other sources of nearby noise in the proposed project area include operations at the Alon USA Refinery and the Sid Richardson Carbon Company, both located to the west of the industrial park property.

¹¹ The traffic data range for I-20 represents monitored traffic data in 2013 along different points of the highway. Due to several intersections and potential traffic sinks (e.g. large housing developments or stores) traffic levels will vary at different points along a roadway.

3.5 Cultural Resources

Section 106 of the National Historic Preservation Act of 1966 (NHPA) requires federal agencies to “take into account how each of its undertakings could affect historic properties.” Historic properties include buildings, structures, objects, sites, districts and archaeological resources that are at least 50 years of age and have been identified as being listed on or eligible for listing on the National Register.

OEA initiated the Section 106 cultural resource process for this project by conducting a preliminary search of the National Register and Texas Historical Commission website. The research revealed no historic or cultural resources immediately surrounding the proposed rail line right-of-way. On January 9, 2015, OEA sent a consultation letter to the Texas Historical Commission, who responded in writing on January 30, 2015, indicating that, according to their maps, the proposed rail line is in an area that has the potential for cultural resources and that several archeological sites have previously been recorded in the vicinity. The Texas Historical Commission recommended that a professional archeologist survey the proposed project area.

OEA conducted an intensive pedestrian archaeological survey within the proposed rail line right-of-way from May 4 to May 8, 2015 to identify prehistoric, historic, and cultural resources, to assess the significance of those resources and their potential to be eligible for inclusion in the National Register, and to make recommendations for the treatment of those resources. The pedestrian survey covered 100 percent of the proposed rail line right-of-way, which is also the area of potential effects (APE) of the undertaking.

During the five days of fieldwork, a total of 96 shovel tests were excavated for the archaeological investigation, and these revealed three historic/prehistoric sites and one isolated object. The sites were delineated by a combination of shovel testing and examination of surface expression. A total of 57 prehistoric artifacts were recovered from the sites and numerous historic and prehistoric artifacts were observed on the surface but not collected. The sections of these three sites that fell within the APE were thin scatters of artifacts that are relatively shallow in depth that exhibited low artifact density and diversity. Consequently, OEA determined that portions of the site that fall within the proposed rail line right-of-way (i.e., within the project APE) have no potential to meet the standards for being potentially eligible for the National Register and have no further research value.

OEA also sent letters requesting comment on the proposed rail line to three federally-recognized tribes which were identified as having a possible interest in the proposed project area to determine the potential impacts on tribal resources and land-use in the area. These included the Apache Tribe of Oklahoma, the Comanche Nation, and the Kiowa Indian Tribe of Oklahoma. There has been no response from these tribes indicating concerns about tribal cultural resources within the proposed project area.

3.6 Land Use

Land use within the proposed project area is predominantly industrial and agricultural. Several oil rigs, access roads, and associated ancillary facilities are scattered throughout the proposed project area. UP sidetracks for railroad car storage are located to the southwest of the proposed rail line along the UP mainline near North Midway Road. Active cotton fields are located to the north of the proposed rail line. Some land in the proposed project area is also used for cattle grazing.

The land in and around the proposed project area is experiencing ongoing disturbance with industrial activities such as the pipe storage and oil extraction activities currently taking place. There is a small pipeline that crosses the industrial park property and two high-voltage transmission lines on the west side of the industrial park property. The Sid Richardson Carbon and Energy Company is located approximately 0.4 mile to the northwest and the Alon USA Refinery is located approximate 0.4 mile to the southwest of the proposed rail line along North Midway Road.

At its closest point, the proposed rail line would be located approximately 400 feet north of the existing UP mainline. The nearest transportation corridors are I-20 to the south, North Moss Lake Road to the east, and North Midway Road to the west. Other local roads (unpaved and paved) are located in the proposed project area. There are few residential properties in the vicinity of the proposed rail line with the closest located approximately 0.16 mile southeast of the proposed rail line in the Sand Springs community between I-20 and the existing UP mainline.

The proposed rail line is located within Howard County and outside the city limits of Big Spring. Land outside of Big Spring city limits does not have zoning designations because counties in Texas do not have zoning capacity (Klinksiek pers. comm.). The Applicants presently own most of the land in which the proposed rail line would be located and plan to acquire an additional small parcel of land from the Big Spring EDC where the proposed Track B-1 would be constructed.

No recreational areas or activities are found in or near the proposed rail line right-of-way or the industrial park property. Big Spring State Park is located approximately 6.5 miles southwest from the proposed rail line. Big Spring State Park provides dramatic views off a 200 foot bluff and contains a Civilian Conservation Corps built road that loops around the 382-acre park (Texas Parks and Wildlife Department 2015c). Within the Big Spring city limits, there are two golf courses. Big Spring also has several attractions including the Heritage Museum, Hangar 25 Air Museum, Big Spring Vietnam War Memorial, and the Potton House (City of Big Spring 2015). Other recreational areas in and around the proposed project area include Lake Colorado City Park, Comanche Trail Park and Historical Spring, and Moss Creek Lake (Texas Parks and Wildlife Department 2015c).

3.7 Hazardous Materials and Hazardous Waste Sites

The land in the proposed project area is predominantly used for extraction of crude petroleum and natural gas. Aboveground conveyance piping and petroleum storage facilities are prevalent in the proposed project area. OEA conducted a search of federal, state, local, and Native American tribal records to determine whether any hazardous materials/waste sites occur in the proposed rail line right-of-way, industrial park property, and a 0.5-mile buffer around the proposed rail line right-of-way and industrial park property.

Although the record search identified 19 sites, only the Moss Lake Road Groundwater Plume represents a confirmed and registered site of hazardous material contamination (Environmental Data Resources 2015). This groundwater plume of tetrachloroethylene was first identified in 2007 during routine groundwater testing by the Texas Commission on Environmental Quality (TCEQ) (Texas Commission on Environmental Quality 2014). Since its original discovery, the plume has been mapped at multiple groundwater monitoring wells.

The plume is located just outside the eastern border of the industrial park property on North Moss Lake Road, approximately 0.7 mile from the proposed rail line. The plume is at a depth of 40–65 feet below ground surface and is flowing southeast (Texas Commission on Environmental Quality 2010, Environmental Data Resources, Inc. 2015, Daniel B. Stephens & Associates, Inc. 2015). In 2012, soil borings were sampled to determine the source of the groundwater contamination, but the source remains unidentified (Texas Commission on Environmental Quality 2014).

Another groundwater plume with the same contaminant listed as “proposed to registry” was identified during the records search (Environmental Data Resources 2015). This site is approximately 0.25 mile to the southeast of the confirmed and registered site identified above. Because of their proximity, because they contain the same contaminant, and because of the direction of groundwater flow, it is likely that these two records identify the same groundwater contamination.

Surface water and soil are not contaminated from these sites (Texas Commission on Environmental Quality 2010). The TCEQ has installed and maintains granular activated carbon water filtration systems at points of use where tetrachloroethylene concentrations exceeded maximum contaminant levels (Texas Commission on Environmental Quality 2014).

None of the other sites discovered in the search of federal, state, local, and Native American tribal records for hazardous materials/waste sites in the proposed project area represent sources of contamination (Environmental Data Resources 2015). No sources of contamination other than the groundwater plume on North Moss Lake Road were identified.

3.8 Socioeconomics

Howard County has an estimated population of 35,471 (Table 3.8-1, 2012 estimate). Approximately 78 percent of this population (27,593) resides in the county seat of Big Spring. Other population concentrations include Sand Springs (population 841) and Coahoma (population 838), both located along I-20 to the east of Big Spring. Based on the 2010 Census of Population, 80 percent of the population of Howard County is classified urban with over 96 percent of the urban population living in Big Spring. Most of the population outside of Big Spring is classified as rural (U.S. Census Bureau 2010). The population in the county is expected to grow at an annual rate of 0.45 percent between 2010 and 2020. Howard County's population by city or town and projected growth in comparison to the state are shown in Table 3.8-1.

Table 3.8-1. Population in the Proposed Project Area, 2010-2020

	2010	2012	2020	Annual Growth Rate 2010-2020
Texas	25,145,561	26,059,203	27,238,610	0.80%
Howard County	35,012	35,471	36,604	0.45%
<i>Big Springs</i>	27,282	27,593	28,523	0.45%
<i>Sand Springs</i>	835	841	873	0.45%
<i>Coahoma</i>	817	838	854	0.45%

Source: U.S. Census Bureau 2010.

Notes:

Data for 2012 are July estimates, data for 2020 are projections. Projections for places are based on projected growth rate for Howard County.

Population concentrations in neighboring counties within an hour drive of the proposed rail line along I-20 include Midland (population 118,624) and Odessa (population 105,320) to the west and Colorado City (population 4,214) and Sweetwater (population 10,974) to the east (Texas Office of the State Demographer 2015)¹².

Based on U.S. Census Bureau (USCB) 2010 data, there is one census block within 0.5 mile of the proposed rail line where there are more minorities present than in Howard County as a whole. This census block had 32 residents in 2010, of which 18 (56 percent) belonged to a minority group. Minority groups make up 46 percent of the population of Howard County as a whole.

The share of the population of Howard County in poverty¹³ was 15.0 percent, per 2013 data (U.S. Census Bureau 2013a). Based on USCB 2013 data, there were no census block groups within 0.5 mile of the proposed rail line where the share of the population in poverty was greater than that for Howard County as a whole. However, some communities in the

¹² Population estimates are for 2012.

¹³ Determined using the USCB 2013 poverty thresholds. The USCB uses a set of money income thresholds that vary by family size and composition to determine who is in poverty. If a family's total income is less than the family's threshold, then that family and every individual in it is considered in poverty.

proposed project area have poverty rates above that of Howard County. These include the city of Big Spring with 16.6 percent of the population in poverty, and Sand Springs with 15.7 percent of the population in poverty.

As of 2013, the main industries providing private employment in Howard County were retail trade, mining, manufacturing, construction, and accommodation and food services (see Table 3.8-2).

Table 3.8-2. Employment in Howard County by Industry, 2013

Industry	Jobs	Share of Total
Total Employment	17,043	100.00%
Farm Employment	516	3.03%
Forestry, fishing, and related activities	68	0.40%
Mining	1,609	9.44%
Utilities	255	1.50%
Construction	1,129	6.62%
Manufacturing	1,284	7.53%
Wholesale trade	440	2.58%
Retail trade	1,748	10.26%
Transportation and warehousing	334	1.96%
Information	126	0.74%
Finance and insurance	552	3.24%
Real estate and rental and leasing	505	2.96%
Professional, scientific, and technical services	409	2.40%
Arts, entertainment, and recreation	119	0.70%
Accommodation and food services	1,261	7.40%
Government and government enterprises	3,649	21.41%
Other ^a	3,039	17.83%

Source: Bureau of Economic Analysis 2013.

Note:

^a. Includes, among other services, various industries not shown to avoid disclosure of confidential information such as management of companies and enterprises, administrative and waste management services, educational services and health care and social assistance.

In 2012, approximately 19 percent of county general fiscal revenues were generated by intergovernmental revenue¹⁴, 48 percent were generated by taxes, and 33 percent were generated by charges and other miscellaneous sources other than taxes and intergovernmental revenue (U.S. Census Bureau 2012). The main source of Howard County tax revenues is the property tax, which includes tax on mineral, industrial, real and personal property, and intangible property. In 2013, approximately 41 percent of total assessed value for property taxation in Howard County (before exemptions) was for mineral property, 26 percent was for industrial property, and 33 percent was for real and personal property. The total assessed value for property taxes (before exemptions) was approximately \$4.1 billion (Howard County 2013).

¹⁴ Intergovernmental revenue includes amounts received from other governments as fiscal aid in the form of shared revenues and grants-in-aid, as reimbursements for performance of general government functions and specific services (U.S. Census Bureau 2013b).

Environmental Consequences of Proposed Action

This chapter discusses the potential environmental impacts associated with the construction and operation of the proposed rail line.

4.1 Physical Resources

4.1.1 Geology and Soils

The topography of the project area is gently undulating, with local disturbance that has slightly altered the terrain. Because of the relatively flat topography present, minimal alteration of the terrain in the proposed rail line right-of-way would result from cut-and-fill activities necessary for the construction of the proposed rail line. No significant impact on local topography would be likely.

Impacts on existing geology and soils would primarily be limited to the proposed rail line right-of-way, which includes 3.18 miles of track. The proposed rail line right-of-way includes the rail bed and an adjacent drainage ditch and would be approximately 100 feet wide, requiring approximately 37.6 acres. Soils in the proposed rail line right-of-way have been previously disturbed by agricultural cultivation and crude oil developments including well pads, access roads, and pipelines.

Soils in the proposed rail line right-of-way are identified as having low susceptibility to water erosion and high susceptibility to wind erosion. Construction-related cut-and-fill activities would mobilize soil and increase the likelihood of wind-erosion impacts. OEA's recommended Mitigation Measure MM-1 would require the use of water trucks to be employed as necessary to mitigate fugitive dust emissions and would also require best management practices to be employed to control and suppress fugitive dust emissions. Mitigation Measure MM-2 would require the Applicants to limit proposed rail line construction activities, vegetation clearing, and soil disturbance to the proposed rail line right-of-way to minimize fugitive dust emissions. OEA's recommended Mitigation Measure MM-3 would require that the Applicants comply with the reasonable requirements of applicable federal, state, and local regulations regarding the control of fugitive dust related to proposed rail line construction activities (see Chapter 5 *Mitigation* of this Draft EA). With implementation of OEA's recommended mitigation measures, wind erosion resulting from the construction and operation of the proposed rail line would not likely result in significant impacts on soils.

Based on a review of the NRCS Soil Survey Geographic Database and confirmed in a letter from the NRCS dated January 23, 2015, the proposed rail line right-of-way would not cross

any soils identified as prime or prime if irrigated (Natural Resources Conservation Service 2015). NRCS indicated that the proposed rail line would cross soils of statewide importance which would require an evaluation under FFPA if federal financial assistance were requested by the Applicants. The Applicants do not intend to use federal funds for this project; therefore, the proposed rail line is exempt from FFPA regulations. Should the Applicants' decision on the use of federal funding change, NRCS' concerns would be addressed by OEA's recommended Mitigation Measure MM-4 which would require the Applicants to comply with the provisions of the FFPA.

4.1.2 Water Resources

4.1.2.1 Surface Water

There are no surface waters occurring directly in, adjacent to, or in close proximity to the proposed rail line right-of-way. The closest mapped waterbody—the Big Sandy Draw—is located over 1.0 mile to the west of the proposed rail line at its closest point. There is a small natural hill located between the proposed rail line and Big Sandy Draw as well as paved and unpaved roads and industrial retention ponds, making it unlikely that drainage from the proposed rail line would reach the Big Sandy Draw. Furthermore, OEA's recommended Mitigation Measure MM-5 would require the Applicants to implement erosion and sedimentation control measures to minimize potential impacts from stormwater runoff on surface waters in the proposed project area. Therefore, with implementation of OEA's recommended mitigation measure, the construction and operation of the proposed rail line would not result in impacts on surface waters.

4.1.2.2 Wetlands

There are no mapped wetlands occurring directly in or adjacent to the proposed rail line right-of-way. The closest mapped wetland is located over 0.5 mile to the west of the proposed rail line at its closest point. As noted in Section 3.1.2 *Water Resources* of this Draft EA, this and other nearby wetland features are mapped as freshwater ponds that are artificially created and are often part of industrial facilities such as retention ponds. Because the proposed rail line would not result in any fill in or disturbance near a mapped wetland and the implementation of OEA's recommended Mitigation Measure MM-5 would minimize the potential impacts from soil erosion and sedimentation, the construction and operation of the proposed rail line would not result in impacts on wetlands.

4.1.2.3 Floodplains

As identified in Section 3.1.2 *Water Resources* of this Draft EA, there are no FEMA-mapped floodplains located in, adjacent to, or near the proposed rail line right-of-way. Construction and operation of the proposed rail line would not likely change existing flood-storage capacity or alter the course of the existing floodways; therefore, the construction and operation of the proposed rail line would not result in impacts on floodplains.

4.1.2.4 Groundwater

As described in Section 3.1.2 *Water Resources* of this Draft EA, there are no recorded groundwater wells located in, adjacent to, or near the proposed rail line right-of-way. The proposed rail line is underlain by the Ogallala Aquifer, from which water is pumped for agricultural, municipal, and industrial uses. As noted in Section 3.1.2 *Water Resources* of this Draft EA, there is a caprock barrier between the surface soils and the aquifer and aquifer recharge from surface water infiltration is limited in the proposed project area. Therefore, the construction and operation of the proposed rail line would not likely result in impacts on groundwater.

4.1.3 Air Quality

During the construction of the proposed rail line, there would be temporary and localized diesel emissions from heavy construction equipment, emissions from construction crew vehicles, and fugitive dust emissions in the immediate area along the proposed rail line right-of-way. Fugitive dust could be generated during proposed rail line construction, travel on unpaved surfaces, and other soil-disturbing activities. As noted above, OEA's recommended Mitigation Measure MM-1 would require the use of water trucks to be employed as necessary to mitigate fugitive dust emissions; Mitigation Measure MM-2 would require the Applicant to limit proposed rail line construction activities, vegetation clearing, and soil disturbance to the proposed rail line right-of-way to minimize fugitive dust emissions; and Mitigation Measure MM-3 would require that the Applicants comply with the reasonable requirements of applicable federal, state, and local regulations regarding the control of fugitive dust related to proposed rail line construction activities. Because fugitive dust emissions would be temporary and the implementation of OEA's proposed mitigation measures would minimize the amount of fugitive dust emissions, the construction of the proposed rail would not result in significant impacts on air quality from fugitive dust emissions.

Air emissions from construction of the proposed rail line would also originate from construction equipment exhaust, delivery vehicles, and employee vehicle exhaust. Because the increase in vehicle emissions from construction equipment would be temporary and localized to the proposed rail line right-of-way and nearby areas, the impacts on air quality from construction-related vehicle emissions would be considered negligible.

The operation of the proposed rail line would result in the operation of diesel-electric locomotives to move trains to, from, and along the proposed rail line. Rail operations can affect air quality through emission of air pollutants from locomotive diesel fuel combustion.

As described in Section 3.1.3 *Air Quality* of this Draft EA, the proposed project area is not within an EPA-designated Air Quality Control Region, and it is over 200 miles from the closest Class I area. Howard County is in attainment for all criteria air pollutants. At a

maximum, the proposed action would result in the operation of 5 trains per week or 0.7 train per day (including both inbound and outbound).

Air emission increases for key pollutants resulting from the operation of the proposed rail line are presented below in Table 4.1-1. OEA compared the results of its analysis to the EPA’s emissions thresholds set forth under the Clean Air Act General Conformity Rule (40 C.F.R. Part 93.153). The rule applies to Federal agencies that exercise continuing program control over the operation of a project. Although the Board does not exercise continuing program control over rail operation and would not exercise such control over the proposed rail line, the rule establishes useful indicators for assessing potential impacts on air quality through emissions thresholds, or *de minimis* levels, for use in evaluating the conformity of a project.

Table 4.1-1. Air Emissions as a Result of Proposed Rail Line Operation

Pollutant	General Conformity Thresholds (tons/year)	Proposed Project Emission Levels (tons/year^a)
Carbon Monoxide (CO)	100	0.13
Nitrogen Oxides (NO _x)	100	0.86
Particulate Matter ≤ 10 microns in diameter (PM ₁₀)	100	0.03
Particulate Matter ≤ 2.5 microns in diameter (PM _{2.5})	100	0.03
Sulfur Dioxide (SO ₂)	100	0.00
Volatile Organic Compounds (VOCs)	100	0.05

Notes:
^a Emission rates conservatively based on use of Tier 0 locomotives generating 3,000 horsepower each. Tier 0 includes locomotives manufactured between 1973-2001 (Environmental Protection Agency 2009).

No thresholds are currently established for mobile emission sources, such as locomotives. Therefore, OEA used emissions thresholds set forth under the Clean Air Act General Conformity Rule. For a project that is subject to conformity, if the net emission increases due to a project would be less than these thresholds, the project is presumed to conform and no further conformity evaluation is necessary. For a project that is not subject to conformity, these thresholds can be used to indicate whether further analysis may be warranted. Emissions for each pollutant were calculated in tons per year, and are shown in Appendix C.

Diesel emissions resulting from the operation of the proposed rail line would not exceed EPA thresholds because of the small number of train locomotives and the short distances traveled by them each day. The operation of the proposed rail line would not likely adversely affect local or regional air quality.

The construction and operation of the proposed rail line could generate additional traffic on roadways in the proposed project area, including trucks to transport frac sand from the

industrial park property to crude oil wellheads. As described in Section 4.3 *Transportation and Safety* of this Draft EA, up to 1,000 truckloads of frac sand per week would be shipped, resulting in approximately 143 loaded and 143 unloaded truck trips per day on average.

Air emission increases for key pollutants resulting from the shipment of frac sand by heavy truck are presented in Table 4.1-2 below.

Table 4.1-2. Air Emissions as a Result of Frac Sand Truck Shipment

Pollutant	General Conformity Thresholds (tons/year)	Proposed Frac Sand Truck Emission Levels (tons/year ^a)
Carbon Monoxide (CO)	100	15.47
Nitrogen Oxides (NO _x)	100	48.54
Particulate Matter ≤ 10 microns in diameter (PM ₁₀)	100	2.69
Particulate Matter ≤ 2.5 microns in diameter (PM _{2.5})	100	2.71
Sulfur Dioxide (SO ₂)	100	0.10
Volatile Organic Compounds (VOCs)	100	2.21

Notes:

- a. Emission factors were based on California Air Resources Board (CARB) heavy duty reports. CARB uses stricter ambient air quality standards than the National Ambient Air Quality Standards and applies a greater emissions factor to diesel combustion in heavy trucks. Therefore, frac sand truck emissions levels presented in this table are inherently conservative.

Using conservative methods, diesel emissions resulting from the shipment of frac sand by truck associated with the operation of the proposed rail line would not exceed EPA thresholds and; therefore, would not likely adversely affect local or regional air quality.

4.2 Biological Resources

4.2.1 Vegetation

Construction of the proposed rail line would require clearing, excavating, and filling, which would result in temporary and permanent loss or alteration of vegetation. Construction would permanently disturb some areas within the 37.6-acre proposed rail line right-of-way and temporarily disturb other areas. Although it is unlikely that the entire proposed rail line right-of-way would be disturbed during construction, the exact locations of permanent and temporary disturbance within the proposed rail line right-of-way would be determined during final engineering and design. As described in Section 3.2.1 *Vegetation* of this Draft EA, vegetation cover types affected would include mixedgrass prairie and mesquite shrubland. These cover types and the species that comprise them are common in the general project area and a small loss of vegetation as a result of the construction and operation of the proposed rail line would not result in significant impacts on vegetation.

Construction of the proposed rail line could also affect vegetation by the introduction of noxious weeds, soils compaction, and dust deposition. Introduced noxious weeds can out-compete native vegetation and result in an altered vegetation structure and a reduction in plant species richness. Because of the high level of previous disturbance in the proposed project area, vegetation communities are already heavily altered. The potential introduction of noxious weeds from the construction of the proposed rail line would not result in significant impacts on vegetation because the existing vegetation habitats are already heavily altered by human disturbance. The movement of heavy equipment used during proposed rail line construction could temporarily compact the ground surface and soil, which can inhibit seed germination and root penetration. Revegetation could occur in temporarily disturbed areas as soils return to pre-compacted conditions over time. Fugitive construction dust and its deposition on plants in and near the proposed rail line right-of-way could also affect vegetation by reducing photosynthesis and inhibiting plant growth. The extent of such impacts would vary based on the affected vegetation, relative abundance of vegetation, soil conditions, topography, and the extent of topographic modification required for the proposed rail line construction. Because fugitive dust emissions would be temporary, localized, and minimized through the implementation of OEA's recommended Mitigation Measures MM-1 and MM-2, fugitive dust deposition resulting from the construction of the proposed rail line would not likely result in significant impacts on vegetation.

During the operation of the proposed rail line, maintenance activities may include controlling vegetation in the proposed rail line right-of-way either by mechanical methods or by the application of herbicides. Such activities would be infrequent and brief, but could permanently alter vegetation. Proposed rail line maintenance activities could result in a small volume of petroleum leaks and spills from maintenance vehicles and equipment. Any mobilized sediment, spilled chemicals, or petroleum products could reach and damage adjacent vegetation, affecting plant density and diversity. Because of the existing level of human-caused disturbance of vegetation within the proposed rail line right-of-way, the low likelihood of leaks and spills anticipated from maintenance vehicles, and the low volumes associated with these occurrences, only minor impacts on the overall plant ecosystem would be likely. Furthermore, OEA's recommended Mitigation Measure MM-6 would require the Applicants to implement a plan to prevent spills of oil or other petroleum products during construction, operation, and maintenance of the proposed rail line. With the implementation of OEA's recommended mitigation, maintenance activities conducted during the operation of the proposed rail line would not likely result in significant impacts on vegetation.

4.2.2 Wildlife

Construction and operation of the proposed rail line could increase mortality rates of individual wildlife species; however, species that could be affected are common within the region and are generally adapted to human presence and disturbance activities. Whereas most wildlife could avoid construction activities, some smaller species such as burrowing rodents and reptiles might not be able to escape land-clearing activities and higher mortality

rates could occur. Construction and operation of the proposed rail line could also result in mortality of wildlife if collisions with construction equipment, maintenance equipment, and truck traffic occurs. However, due to the high level of human presence and disturbance already prevalent within the proposed project area, wildlife utilizing habitats in and around the proposed rail line would be expected to adapt to disturbances associated with operations and increases in mortality would not be detrimental to wildlife populations as a whole. Higher noise levels due to construction or operation activities could also cause species intolerant of human activity to avoid the proposed rail line and surrounding area or move to other habitats. However, due to the level of human presence and disturbance already occurring within the proposed project area, increased noise levels may cause wildlife to be displaced temporarily, but would not cause permanent species composition changes.

Individual wildlife species that may be affected by the proposed action include a number of bird species protected under the Migratory Bird Treaty Act (MBTA). Taking, capturing, and killing of migratory birds, their eggs, and their nests is prohibited under the MBTA. OEA's recommend Mitigation Measure MM-7 would require the Applicants to clear vegetation in preparation for proposed rail line construction only before or after the breeding bird nesting season to avoid inadvertent removal of active nests and to ensure compliance with the MBTA. If clearing for proposed rail line construction is required during the nesting season, OEA's recommended Mitigation Measure MM-7 would also require the Applicants to consult with the USFWS regarding the implementation of appropriate nest survey methods to ensure that no migratory bird nests, eggs, or young would be disturbed by construction activities until the eggs have hatched and the young have fledged.

Wildlife habitats could be affected by construction and operations of the proposed rail line. Wildlife habitats that would be affected by the proposed rail line are consistent with the vegetative cover types described in Section 3.2.1 *Vegetation* of this Draft EA. Impacts specific to habitats include habitat loss, habitat degradation, habitat alteration, and habitat fragmentation.

Approximately 37.6 acres of potential habitat required for the proposed rail line right-of-way could be lost or altered by construction activities. Construction and maintenance activities could affect habitats within and adjacent to the proposed rail line right-of-way due to increased fugitive dust emissions, as dust would affect the quality of forage for wildlife. Land-clearing activities and subsequent revegetation of the proposed rail line right-of-way would alter vegetation communities from their current habitat types and the presence of the proposed rail line would permanently alter wildlife habitat. Also, increased disturbance of the vegetation communities and vegetation maintenance (physical and chemical) to keep the proposed rail line right-of-way clear may lead to the colonization of invasive species, which would also reduce the quality of forage for wildlife. Fragmented habitats are currently found within and around the proposed project area, and additional fragmentation is not expected to impede wildlife movements or impact wildlife populations as species occurring in the area will adapt to new disturbances as they have to past development. Further habitat fragmentation in the area could result in vegetation changes, microclimate changes, and

increased habitat edge. Because of the relatively small amount of habitat that could be lost, degraded, altered, or fragmented by the construction and operation of the proposed rail line and because human alteration and disturbance is already common in and around the proposed project area, the construction and operation of the proposed rail line would not likely result in significant impacts on wildlife or their habitat.

4.2.3 Threatened and Endangered Species

There is currently one federally endangered species listed for Howard County—the black-capped vireo. There is no suitable habitat to support breeding black-capped vireos and no documented occurrences within the wildlife survey area; therefore, the construction and operation of the proposed rail line is not expected to affect this species. Thus, under Section 7(a)(2) of the Endangered Species Act, OEA has determined that the construction and operation of the proposed project would have no effect on black-capped vireo.

In Howard County, TPWD has designated seven mammals, ten birds, two reptiles, and one plant as rare, threatened, or endangered. Only six of these species, including swift fox, Baird's sparrow, mountain plover, western burrowing owl, spot-tailed earless lizard, and Texas horned lizard, could potentially occur within the area where OEA conducted the wildlife survey; however, none have ever been documented within the wildlife survey area and none were recorded during the wildlife survey conducted by OEA.

In a letter dated May 8, 2015, TPWD indicated that suitable habitat for the Texas horned lizard may be present in the proposed project area. TPWD noted that, if they are present in the proposed project area, Texas horned lizards could be impacted by construction activities when hibernating in loose soils a few inches below ground during the cool months from September/October to March/April. TPWD recommended that pre-construction surveys be conducted to determine if horned lizards are present in or directly adjacent to the construction area. TPWD further recommended that, if horned lizards were identified during pre-construction surveys, coordination with TPWD should take place to develop plans to relocate the individuals discovered. In order to avoid impacts on the Texas horned lizard, OEA has recommended Mitigation Measure MM-8, which would require the Applicants to conduct ground-disturbing construction activities before or after the Texas horned lizard hibernation season to avoid destruction of hibernating individuals and to ensure compliance with Texas State Laws. If ground-disturbing construction activities are required during the hibernation season of the Texas horned lizard, OEA's recommended Mitigation Measure MM-8 would also require the Applicants to consult with the TPWD regarding the implementation of appropriate pre-construction surveys and the potential relocation of individual Texas horned lizards, if present.

Because of the low potential for the occurrence of species designated by TPWD as rare, threatened, or endangered, the lack of documented observations of these species, the absence of these species during the field survey, and OEA's recommended mitigation measures

described above, impacts resulting from the construction and operation of the proposed rail line on species designated by TPWD would not be likely.

4.3 Transportation and Safety

During construction of the proposed rail line, there may be temporary impacts on the transportation network in the proposed project area from increased local truck traffic due to delivery of rail construction materials. An average of 30 construction workers per day would also commute to the location of the proposed rail line during the construction of the proposed rail line. The closest major roadway to the proposed rail line, located less than one mile to the south, is I-20. As noted in Section 3.3 *Transportation and Safety* of this Draft EA, I-20 has a measured AADT of between 15,757 and 19,978 vehicles per day.¹ Other nearby roadways with a measured AADT on record include Highway 87 (AADT 2,230), Route 350 (AADT 2,205) and Route 820 (AADT 484). Temporary construction traffic generated by workers and equipment deliveries would represent a low increase in daily traffic volumes on I-20, highways, and county roads in the proposed project area.

Construction-related traffic could cause traffic delay on roadways in the proposed project area when construction equipment and workers travel to and from the construction site using I-20, County Road 26, and other local county roads. These impacts would be temporary and are not likely to substantially impact traffic operation.

No public roads would be crossed by the proposed rail line. Therefore, there would be no emergency vehicle response delays, safety concerns, or passenger vehicle delays resulting from crossings of public roads. Once the proposed rail line is operational, frac sand from Wisconsin and Minnesota would be shipped via rail to the industrial park property. It is estimated that for every one hopper car of frac sand delivered by rail, four freight truckloads would be required to deliver the frac sand to oil wellheads. At full capacity, the operation of the proposed rail line would result in up to 5 trains per week (including inbound and outbound) consisting of 100 cars. This would result in 1,000 truckload shipments of frac sand per week, increasing the AADT of area roadways.

Because the anticipated wellhead destinations for frac sand are to the west and south and within 60 miles of the proposed rail line, anticipated primary transportation routes for frac sand shipments would include I-20, Highway 137, Highway 87, Highway 176, Highway 349, Highway 158, and Highway 33. The precise traffic routes the trucks would follow and the volume of truck traffic along those routes is unknown at this time and would likely depend on the end market for the frac sand.

Because the proposed action would serve the extensive Permian Basin shale oil activity located west and south of Big Spring and because the primary route leading to western and

¹ The traffic data range for I-20 represents monitored traffic data in 2013 along different points of the highway. Due to several intersections and potential traffic sinks (e.g. large housing developments or stores) traffic levels will vary at different points along a roadway.

southern roadways is I-20, OEA assumed that 100 percent of all frac sand trucks leaving the proposed rail line would initially follow I-20 west from the proposed rail line toward Big Spring. Along the segment between the proposed rail line and Big Spring, I-20 has an AADT of 19,978 vehicles per day (Texas Department of Transportation 2015a). The shipment of 1,000 truckloads of frac sand would require 2,000 truck trips as each shipment of sand would include a loaded truck trip and an unloaded truck trip. An addition of 2,000 truck trips per week (or 286 truck trips per day) would result in a 1.4 percent increase in traffic along I-20 in this location, a negligible impact on traffic on I-20. As they continue west, trucks would exit I-20 onto other arterial and collector roadways and the number of frac sand trucks travelling on I-20 would decrease.

In addition to the I-20 segment between the industrial park property and Big Spring, there are a number of other roadways classified as collectors and arterials to the west and south of the proposed rail line and within a 60-mile distance. These roadways include I-20 west of Big Spring, Highway 137, Highway 87, Highway 176, Highway 349, Highway 158, and Highway 33. Although the analysis for this Draft EA assumes that, after travelling from the industrial park property to Big Spring, 286 frac sand trucks would travel these roadways each day, it is unknown what proportion of frac sand truck traffic would occur along each roadway. In order to reasonably predict the potential number of frac sand truck trips on these roadways, OEA reviewed the most recent AADT and truck traffic data to determine current usage patterns. OEA then assigned proportions of anticipated frac sand truck traffic (286 truck trips per day) to each roadway based on current truck traffic percentages. Table 4.3-1 presents historical 2013 AADT and truck traffic percentage, predicted addition of frac sand trucks, predicted total AADT, and percentage increase in AADT for the roadways identified above.

Table 4.3-1. Potential Frac Sand Shipment Routes and Predicted AADT Increase

Roadway	2013 AADT	Existing Truck Traffic (% of 2013 AADT)	Frac Sand Truck Trips Added per Day	Total AADT	Increase in AADT (%)
I-20 (west of Big Spring, TX)	18,911	30%	46	18,957	0.24%
Highway 137	4,013	12%	18	4,031	0.45%
Highway 349	3,786	30%	46	3,832	1.21%
Highway 158	6,432	30%	46	6,478	0.71%
Highway 33	7,576	23%	35	7,611	0.46%
Highway 87	9,429	30%	46	9,475	0.48%
Highway 176	2,263	33%	50	2,313	2.22%

Source of 2013 AADT levels and truck traffic: Texas Department of Transportation 2015a.

As presented in Table 4.3-1, the addition of frac sand truck traffic to the roadways would result in increases in AADT ranging from 0.24 percent for I-20 to 2.22 percent for Highway 176. These predicted increases in truck traffic would not result in a significant increase in AADT and represent a negligible impact on traffic and transportation along the roadways.

Increased traffic to and from the industrial park property served by the proposed rail line during operations would result in heavy truck traffic along North Moss Lake Road, the likely access point to the industrial park property. This could result in greater wear and tear on this smaller road which is presently not designed to accommodate this level of traffic. The Applicants have proposed Voluntary Mitigation VM-1 requiring that the Applicants shall consult with Howard County, Texas regarding curb cuts and road planning in the vicinity of the proposed rail line construction. The implementation of the Applicants' voluntary mitigation would lead to road planning and design improvements in collaboration with local transportation authorities to accommodate the anticipated level of increased truck traffic on North Moss Lake Road. With the implementation of the Applicants' voluntary mitigation, impacts on North Moss Lake Road resulting from the construction and operation of the proposed rail would not likely be significant.

4.4 Noise and Vibration

OEA reviewed the location of noise-sensitive receptors (such as schools, libraries, hospitals, residences, retirement communities, and nursing homes) in the vicinity of the proposed rail line. OEA identified very few receptors within a mile to the east, north, and west of the proposed rail line. No noise-sensitive receptors were identified within a half-mile of the proposed rail line to the east, north and west. The closest noise-sensitive receptors to the proposed rail line are residences to the south in the community of Sand Springs. At its closest point, the proposed rail line is approximately 850 feet to the north of the closest residence in this community. The existing UP mainline is located approximately 300 feet north of this residence, between the residence and the proposed rail line.

OEA performed a noise contour analysis to determine if the noise impacts from the operation of the proposed rail line would result in adverse noise impacts on sensitive noise receptors. Potential impacts were analyzed based on the following criteria:

- An increase in noise exposure as measured by a day-night average noise level (DNL)² of 3 A-weighted decibels (dBA)³ or more.
- An increase to a noise level of 65 DNL or greater.

² DNL is the energy average of A-weighted decibels (dBA) sound level over a 24-hour period. DNL includes an adjustment factor for noise between 10 p.m. and 7 a.m. to account for the greater sensitivity of most people to noise during the night. The effect of nighttime adjustment is that one nighttime event, such as a train passing by between 10 p.m. and 7 a.m., is equivalent to 10 similar events during the daytime.

³ A-weighted decibels (dBA) is a measure of noise level used to compare noise from various sources. A-weighting approximates the frequency response of the human ear.

Both of these two components (3 dBA increase and 65 DNL) are employed to determine an upper bound of any area of potential noise impact. Both components must be met to cause an adverse noise impact (Surface Transportation Board 1998; Coate 1999). That is, the Board would find an adverse noise impact in any location the proposed rail line noise levels both increase by 3 dBA or more and are equal to at least 65 DNL. If the estimated noise levels would exceed these criteria, the number of affected receptors would then be estimated. For reference, Figure 4.4-1 shows typical noise levels (DNL) for selected community environments.

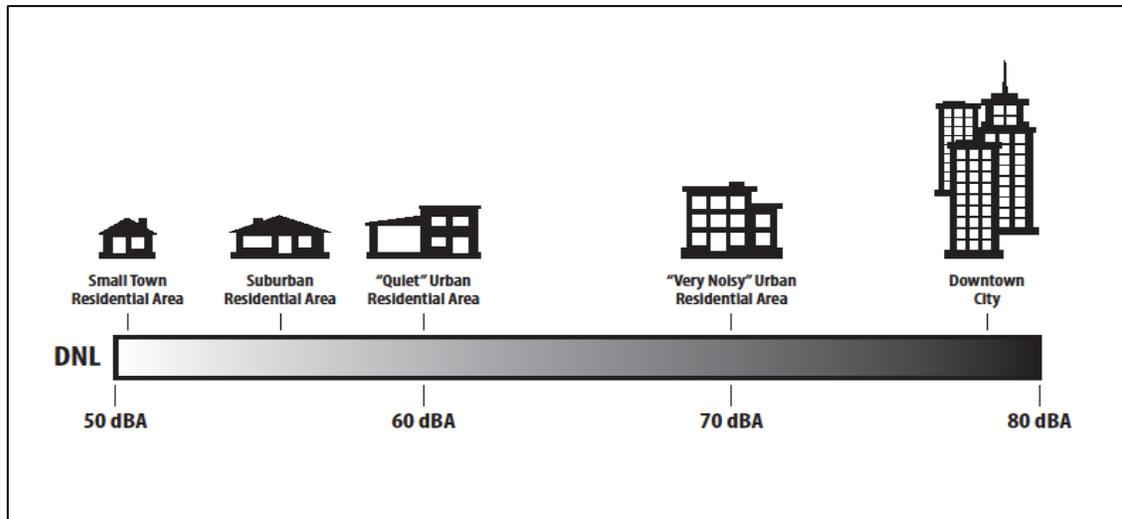


Figure 4.4-1. Typical Day-Night Average Noise Levels (U.S. Environmental Protection Agency 1974)

During construction of the proposed rail line, daytime noise levels in the proposed project area would increase temporarily due to increased truck traffic and heavy equipment use. The Applicants have proposed Voluntary Mitigation VM-2, requiring that the Applicants use industry best practices in order to minimize noise in the residential area to the south of the proposed track construction where the closest noise-sensitive receptors are located. As described in Section 3.6 *Land Use* of this Draft EA, there are few residential properties in the vicinity of the proposed rail line with the closest located approximately 0.16 mile southeast of the proposed rail line in the Sand Springs community between I-20 and the existing UP mainline.

With the implementation of the Applicants' voluntary mitigation and because of the distance from construction activities as well as the masking effects of existing train traffic noise on the mainline, temporary noise generated during construction of the proposed rail line should have minimal, if any, impacts on noise-sensitive receptors.

Rail operations on the proposed rail line would consist of up to 5 trains per week or 0.7 trains per day, including both inbound and outbound trains. Existing train traffic along the nearby UP mainline consists of 7 to 16 trains per day. Noise contours were developed for the existing mainline noise conservatively assuming 7 trains per day and for the proposed rail line which would be the combination of mainline rail noise and rail noise from the operation

of the proposed rail line. Noise contours were generated using Computer Aided Noise Abatement (CADNA), an internationally accepted environmental noise software program.

Table 4.1-1 shows the train operational data used in the noise modeling as well as calculated distances to the 65 DNL noise contour line. Appendix D presents the equations and data used to calculate these wayside noise level contour distances.

Table 4.4-1. Train Operational Data

	Existing Main Line^a	Proposed Rail Line^b
Train Volume (trains per day)	7	0.7
Number of locomotives	3	3
Locomotive Length (ft)	68	75
Number of cars	110	100
Car Length (ft)	72	42
Total train length (ft)	8,124	4,425
Train Speed (mph)	55	10
Distance from centerline to 65 DNL contour (ft)	310	60

Notes:

^a. Existing mainline train data is representative of a typical freight train operating along the mainline using publically available freight train data from the Texas Department of Transportation, Union Pacific, and CSX.

^b. Proposed train data represents an anticipated typical frac sand unit train.

Figure 4.4-2 presents the results of the noise modeling including the existing mainline 65 DNL contour with the combined effect of noise generated from Tracks A and B and Tracks A1 and B1⁴.

The closest residence to the south of the mainline would fall just outside the existing Union Pacific mainline’s 65 DNL contour. In addition, the modeled noise level at this same residence would essentially remain unchanged as a result of the additional noise associated with the operation of the proposed rail line. The reason for this is due to the much more dominant mainline noise source as well as the residence’s closer proximity to the mainline versus the proposed rail.

In summary, rail noise from the operation of the proposed rail line would be less than 65 DNL at all receptor locations and DNL values at the residences south of the mainline would be essentially unchanged (i.e., the increase in noise level would be less than 3 dBA). Consequently, there would be no adverse noise impacts resulting from the operation of the proposed rail line.

⁴ This figure is for presentational purposes only. The proposed rail noise contours were generated assuming that 0.7 trains per day would be on each track set (Tracks A and B and Tracks A1 and B1). Consequently, the noise contour figure overstates the noise level that would be generated in practice.



Figure 4.4-2. Proposed Rail Line and Existing Mainline Combined 65 DNL Contour

As described above in Section 4.3 *Transportation* of this Draft EA, if the proposed rail line was constructed and operated, up to 1,000 truckloads per week of frac sand would be shipped to wellheads within approximately 60 miles of the proposed rail line. Presently it is not known precisely which road segments the truck traffic would follow to reach their destinations; however, OEA anticipates that most trucks carrying frac sand from the proposed rail line would travel south on North Moss Lake Road to reach I-20.

Trucks travelling south to I-20 would follow a segment of North Moss Lake Road measuring approximately 0.5 mile between the existing UP mainline and I-20. In this area, several residences are situated along the east and west sides of North Moss Lake Road. Residences towards the northern end of this segment presently experience noise impacts resulting from train traffic along the existing UP mainline, and train horns that are sounded as trains approach the at-grade rail crossing of North Moss Lake Road. As noted in Section 3.3 *Transportation and Safety* of this Draft EA, between 7 and 16 trains per day travel along the UP mainline in this area, each of which would be required to sound its horn before crossing North Moss Lake Road. Residences towards the southern end of this segment of North Moss Lake Road presently experience noise impacts from existing vehicular traffic on I-20. As described in Section 3.3 *Transportation and Safety* of this Draft EA, AADT on I-20 ranges between 15,757 and 19,978 vehicles and approximately 43 percent of this traffic consists of heavy freight trucks (Texas Department of Transportation 2015b). All residences along this segment of North Moss Lake Road presently experience noise impacts resulting from existing vehicular traffic that currently travels along North Moss Lake Road.

In addition to the noise generated by the construction and operation the proposed rail line, noise would be generated by frac sand truck activity associated with the proposed rail line.

This would increase noise levels in this area, but because of the high volumes of traffic—including heavy freight truck traffic—on I-20 and the frequency of train traffic noise and train horn noise along the existing UP mainline, the impacts from new truck traffic associated with the proposed rail line are likely to be minimal.

4.5 Cultural Resources

A preliminary search of the National Register of Historic Places (NRHP) and Texas Historical Commission website revealed no historic or cultural resources in the proposed rail line right-of-way or immediately nearby. OEA sent letters requesting comments regarding the proposed rail line to three federally-recognized tribes which were identified as having a possible interest in the project area to determine the potential impacts on tribal resources and land-use in the area. These included the Apache Tribe of Oklahoma, the Comanche Nation, and the Kiowa Indian Tribe of Oklahoma. There has been no response from these tribes indicating concerns about tribal cultural resources within the project area.

OEA consulted with the Texas Historical Commission's SHPO. In a letter dated January 30, 2015, the SHPO indicated that the proposed rail line is in an area that has the potential for cultural resources and that several archeological sites have previously been recorded in the vicinity. The SHPO recommended that a professional archeologist survey the project area. OEA conducted an intensive pedestrian archeological resources survey within the proposed rail line right-of-way from May 4 to May 8, 2015 to identify prehistoric, historic, and cultural resources, to assess the significance of those resources and their potential to be eligible for inclusion in the NRHP, and to make recommendations for the treatment of those resources. The pedestrian archeological resources survey covered 100 percent of the proposed rail line right-of-way, which is also the area of potential effects (APE) of the undertaking.

A total of 96 shovel tests were excavated for the archaeological investigation, and these revealed three historic/prehistoric sites and one isolated object. The sites were delineated by a combination of shovel testing and examination of surface expression. Portions of the identified sites were located within the APE, though the site boundaries as determined by surface examination also extend outside the proposed rail line right-of-way. The accessible portions of the sites (i.e., within the project APE and where shovel testing was conducted) were determined to have no potential for the NRHP and no further research value.

Because the historic/prehistoric sites extend beyond the boundaries of the proposed rail line right-of-way, additional archeological investigations would be necessary prior to any ground disturbance adjacent to, but outside the proposed rail line right-of-way within the vicinity of the newly recorded sites to determine the extent, integrity, and potential significance of the sites. In the unlikely event that future rail line construction activities would take place outside the proposed rail line right-of-way, OEA is recommending Mitigation Measure MM-9, which would require that the Applicants shall, prior to conducting construction activities, consult with OEA and the SHPO regarding additional archaeological

investigations that may be necessary. Furthermore, OEA is recommending Mitigation Measure MM-10, requiring that in the event that any unanticipated archaeological sites, human remains, funerary items or associated artifacts are discovered during proposed rail line construction, Applicants shall immediately cease all work and notify OEA and the SHPO.

By letter dated August 5, 2015, OEA requested that the Texas SHPO concur with a Section 106 finding of “no historic properties affected.” On August 24, 2015, the SHPO concurred with the OEA's determination.

Pursuant to the Section 106 regulations of the NHPA at 36 C.F.R. § 800.5(b), and following consultation with the SHPO and the public, OEA has determined that the construction of the proposed rail line would not affect historic properties listed in or eligible for inclusion in the NRHP. The documentation for this finding, as specified at 36 C.F.R. § 800.11(e), consists of all relevant correspondence and this Draft EA, which have been provided to the SHPO and made available to the public through posting on the Board's website at <http://www.stb.dot.gov>.

4.6 Land Use

Construction and operation of the proposed rail line would have a minimal impact on land use in the proposed project area. Land outside of Big Spring city limits does not have official zoning designations; however, the proposed rail line is located in an area that is already developed and being utilized for industrial purposes. The proposed rail line is adjacent to the UP mainline and the Alon Refinery and the Sid Richardson Carbon Black Plant are nearby. The Alon Refinery is located approximately 0.4 mile to the northwest of the proposed rail, and the Sid Richardson Carbon Black plant is located approximately 0.4 mile to the southwest of the proposed rail line. Because industrial development including rail transportation is prevalent in the proposed project area, the construction and operation of the proposed rail line would be consistent with the existing land uses in the area and would not result in significant impacts on land use.

The Applicants intend to purchase land from the Big Spring EDC where the construction and operation of Track B-1 would occur parallel to the existing UP mainline. Although not presently in use, this land is being offered for sale as an industrial site that can accommodate permissible industrial operations (Big Spring Economic Development Corporation 2015). While this would result in a change in land ownership, the use of this land for the proposed rail line would be consistent with existing and planned land uses in the area.

As described in Section 3.6 *Land Use* of this Draft EA, no public parks or recreation areas were identified adjacent to or near the proposed rail line. Therefore, the construction and operation of the proposed rail line would have no impact on recreation.

4.7 Hazardous Materials and Hazardous Waste Sites

OEA conducted a search of federal, state, local, and Native American tribal records to determine whether any hazardous materials and hazardous waste sites are located along or in the vicinity of the proposed rail line right-of-way. Two records were found representing a single documented groundwater plume of tetrachloroethylene on Moss Lake Road, approximately 0.7 mile to the east of the proposed rail line (Environmental Data Resources, Inc. 2015). The plume is at a depth ranging from 40 to 65 feet below ground surface in an area where direction of the groundwater flow, and hence the plume, is southward. Given the documented extent of the plume and the direction of groundwater flow, it is unlikely that the groundwater beneath the proposed rail line has been affected by the plume. The construction and operation of the proposed rail line would have no effect on existing hazardous materials or hazardous waste sites.

4.8 Socioeconomics

Construction and operation of the proposed rail line would generate employment opportunities in Howard County. There is no formal estimate of the number of workers needed during construction, but initial expectations from the Applicants suggest 30 construction workers could be needed for a construction period of up to 6 months. In addition, 10 full time staff would be employed during operations. Because these numbers are less than 0.2 percent of the current labor force in Howard County and less than 0.02 percent of the population within commuting distance of the proposed rail line, OEA expects that there would be no changes in current population and employment trends as a result of the construction and operation of the proposed rail line. Because no changes in population trends are expected, OEA also does not expect that there would be changes in current trends in demand for housing and public services in Howard County as a result of the construction and operation of the proposed rail line.

Employment opportunities and associated expenditures would constitute a stimulus to the local economy. This stimulus would be temporary during construction and based on the employment estimates described, would not perceptibly alter current economic trends. The proposed rail line would also provide opportunity for additional businesses to locate along the line, with potential to create more employment opportunities. As described in Section 3.8 *Socioeconomics* of this Draft EA, the main source of county tax revenues in Howard County is the property tax, including taxes on industrial property and mineral property. The construction and operation of the proposed rail line will directly contribute to local property tax revenues and contribute to tax revenues indirectly through support of the oil and gas industry.

As described in Chapter 1 *Purpose and Need* of this Draft EA, the Applicants have indicated that the proposed rail line would serve the extensive Permian Basin shale oil activity located south and west of Big Spring. By servicing the oil and gas industry, it would support a major economic activity and source of employment for Howard County and would not be expected to alter the current livelihood of Howard County families, nor affect current values associated with those livelihoods.

OEA analyzed the effects of the proposed rail line on low-income and minority populations in accordance with the procedures outlined in Executive Order 12898: "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations." Pursuant to the Executive Order, an adverse environmental justice impact would only occur if any high and adverse effect were to fall disproportionately on a low-income or minority population. Because no high and adverse human health or environmental effects were identified in Sections 4.1 through 4.8 of this Draft EA, no disproportionately high and adverse human health or environmental effects would be likely on minority or low-income populations as a result of the construction and operations of the proposed rail line.

4.9 Cumulative Impacts

The Council on Environmental Quality (CEQ) regulations implementing NEPA define a cumulative impact as, "the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal, or non-federal) or person undertakes such other actions" (40 CFR 1508.7). Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time. To assist federal agencies in assessing cumulative impacts under NEPA, CEQ developed a handbook titled *Considering Cumulative Effects under the National Environmental Policy Act* (Council on Environmental Quality 1997). OEA followed CEQ's guidelines in its evaluation of whether the potential impacts of the proposed rail line construction and operation in combination with projects in the area would cumulatively result in significant adverse environmental impacts.

OEA consulted with local, state, and federal agencies as well as the Applicants, and conducted public outreach activities to identify other past, present, and reasonably foreseeable actions in the proposed project area. Although a number of potential future developments and projects were identified, many of them were not considered to be reasonably foreseeable and others would be located too far away geographically to have potential overlapping impacts on the same resources as the proposed rail line.

OEA determined that the further development of the industrial park property owned by LSR is the only project that overlaps with the proposed rail line in terms of geographic area and time frame. Because the development and operation of the industrial park property has the potential to impact some of the same resources as the proposed rail line at about the same time as the proposed rail line construction and operation, OEA determined that the analysis

of the industrial park property is an appropriate part of the cumulative analysis for this case. Thus, OEA's cumulative analysis has assessed the combined effects of the proposed rail line and the further development of the industrial park property on the environment.

As described in Section 2.1 *Proposed Action* of this Draft EA, and depicted in Figure 2-1, LSR owns over 600 acres of land on which most of the proposed rail line would be constructed. This industrial park property is adjacent to the existing UP mainline, which is located to the south. The Applicants have indicated that if the Board grants a license to construct and operate the proposed rail line, they would develop the industrial park property into a staging area for frac sand to be transloaded onto trucks and shipped to crude oil wellheads within approximately 60 miles of the industrial park property. The Applicants have also noted that a number of other commodities could be shipped from the industrial park property including line pipe, drill pipe, casing pipe, aggregate, natural gas, drilling mud, and liquid materials. The industrial park property may also accommodate future rail car storage. To support customer rail operations within the industrial park property, a number of private customer tracks and a rail service yard would be required. Transloading equipment and storage facilities for frac sand would be required on the site. The Applicants have indicated that a shop for maintenance and repair of locomotives may be constructed within the industrial park property. One or more unpaved private roads would connect facilities within the industrial park property to North Moss Lake Road. An office building would likely be located in the southeast corner of the industrial park property. The Applicants would dig a private well on the property to provide potable water and a contained septic system would be installed.

Although a number of conceptual facilities and developments within the industrial park property have been identified by the Applicants, at this time it is unknown the precise location and type of facilities that would be developed. The final layout and design of the industrial park property would depend on the clients that locate there and the commodities and products that are shipped to and from the industrial park property along the proposed rail line. At present, LSR is using the industrial park property for commercial and industrial purposes, including pipe staging and storage. There are also oil extraction wells, pipelines, and transmission lines active in the industrial park property.

OEA provides the cumulative impacts analysis below, separated into environmental resource categories. OEA evaluated cumulative impacts on those environmental resource areas which both the proposed action and the proposed industrial park property could cause environmental impacts.

4.9.1 Physical Resources

Geology and Soils: The industrial park property does not contain any soils classified as prime or unique soils by NRCS; however, there are approximately 105 acres of soil of statewide importance within the industrial park property. As noted in Section 4.1.1 *Geology and Soils* of this Draft EA, conversion of these soils would require an evaluation under FPPA

if federal funding were used in the development of the industrial park property. The topographic characteristics and soil types present in the industrial park property are largely similar to those described in 3.1.1 *Geology and Soils* of this Draft EA. It is not anticipated that the development of the industrial park property would require extensive earthwork or deep excavations. Impacts from the future development of the industrial park property would be similar to that of the proposed rail line. Therefore, the proposed rail line, when combined with the industrial park property development, would result in minor cumulative impacts on geology and soils.

Water Resources: As described in Section 4.1.2 *Water Resources* of this Draft EA, the construction and operation of the proposed rail line would not result in impacts on surface waters, wetlands, floodplains, or groundwater. Because there are no surface waters or mapped wetlands inside the industrial park property or within 0.5 mile of the property, it would also not likely have impacts on surface waters and wetlands. The private customer tracks, rail service yard, locomotive shop, and other buildings anticipated for the industrial park property would not require deep excavation and would not be likely to result in impacts on groundwater. LSR has indicated that a private water well may be constructed in the industrial park property, but withdrawals would be limited to potable water for the full time staff and would not result in a noticeable loss in the quality or availability of groundwater. One small, isolated, FEMA-mapped floodplain was identified inside the industrial park property. This area was mapped as Zone A, which is defined as a special flood area subject to inundation by 100-year flood levels; however, the floodway is not associated with any surface waters, nor is it connected to a FEMA-identified floodway. Overall, impacts on water resources resulting from the combination of impacts from the proposed rail line and the impacts from the industrial park property would not result in a significant cumulative impact on water resources.

Air Quality: The construction of future facilities within the industrial park property could lead to impacts on air quality from fugitive dust and vehicle and equipment emissions. If the construction of facilities in the industrial park property overlapped with the construction of the proposed rail line, there may be a temporary and localized cumulative impact on air quality; however, the cumulative impact would be minor due to the relatively small and isolated size of the construction area and the mitigation measures that would be implemented for the construction of the proposed rail line. The operation of the proposed rail line may contribute to air quality impacts when combined with the operations of the future industrial park property. However, the contribution of the proposed rail line would be minor and while there may be some emission-generating equipment required, it is not likely that the operation of transloading equipment, small office facilities, and other equipment in the industrial park property would result in significant emissions that would adversely affect regional air quality. Overall, cumulative impacts on air quality from the proposed action and the development of the industrial park property would be minor.

4.9.2 Biological Resources

Vegetation: Construction of the industrial park property could impact up to an additional 600 acres of vegetation communities. Most of this area has been converted and used for agricultural and industrial purposes and has little natural vegetation cover. It is unlikely that all 600 acres of the vegetation in the industrial park property would be cleared. The development of the industrial park property could lead to impacts on vegetation similar to those described for the proposed rail line; however, due to the relative abundance of similar vegetation types in and around the proposed project area and the high level of human-caused disturbance to vegetation communities already present in the region, cumulative impacts on vegetation would be minor.

Wildlife: Wildlife habitat types in the industrial park property are largely identical to those found in the right-of-way for the proposed rail line. As such, the development of the industrial park property would result in similar impacts as the proposed rail line on up to 600 acres of wildlife habitats. However, it is unlikely that all 600 acres of wildlife habitat would be cleared, altered or degraded in the industrial park property. Because human alteration and disturbance is already common in and around the project area, the proposed rail line when combined with the development of the industrial park property would not result in significant cumulative impacts on wildlife or their habitat.

Threatened and Endangered Species: Because the habitat found in the industrial park property is nearly identical to that in the right-of-way for the proposed rail line, it is likely that threatened and endangered species would have the same likelihood of occurrence in the industrial park property. As noted in Section 4.2.3 *Threatened and Endangered Species* of this Draft EA, the proposed rail line would not result in impacts on any federal or state listed species. As such, the proposed action would not contribute to any incremental impacts on threatened and endangered species.

4.9.3 Transportation and Safety

Similar to the proposed rail line, the development of the industrial park property would not physically affect any existing roadways in the proposed project area. During future construction of the facilities within the industrial park property, there may be additional traffic from construction workers and construction materials to and from the industrial park property. If the construction period of industrial park property facilities overlapped with the construction period of the proposed rail line, this could result in a small, localized, and temporary cumulative impact on traffic and safety. Operation of the facilities within the industrial park property would require additional employees to commute to and from the industrial park property daily, leading to small increases in traffic volumes during limited periods of the day. When combined with the traffic increases expected from the operation of the proposed rail line, this would lead to a minor cumulative impact on transportation and safety. Additionally, if the other commodities identified in Section 4.9 *Cumulative Impacts*, are shipped from the industrial park property, this may also lead to increases in truck traffic

volume. However the volume of truck traffic and roadways used will depend on the types and volumes of other commodities shipped through the industrial park property, which is not known at this time.

4.9.4 Noise and Vibration

Construction and installation of facilities in the industrial park property would likely result in localized and temporary noise impacts. The intensity and duration of this noise is not known at this time and would depend on the type of facilities to be constructed, the equipment used in construction, and the timing of construction. If construction and installation of facilities for the industrial park property overlaps with the construction period for the proposed rail line, temporary and localized cumulative increases in noise levels would result. Due to the limited number of nearby sensitive noise receptors, construction noise levels resulting from the combination of the proposed rail line and the industrial park property would be minor. Operations of equipment in the industrial park property would also contribute to operational noise in the proposed project area; however, the intensity of these noise sources is not known at this time and would depend on the specific types of equipment used. Due to the presence of existing and ongoing noise sources including the traffic along the existing UP rail line, as well as the relatively limited number of nearby sensitive noise receptors, the cumulative operational noise impacts would be minor.

4.9.5 Cultural Resources

As discussed in Section 4.5 *Cultural Resources* of this Draft EA, the construction and operation of the proposed rail line would not affect historic properties listed in or eligible for inclusion in the NRHP. As such, the proposed rail line would not result in a contribution to incremental impacts when combined with the potential impacts from the development of the industrial park property.

4.9.6 Land Use

Similar to the proposed rail line, future development of the industrial park property in the project area would be consistent with the existing land uses in the area and the development of the industrial park property would not result in land use impacts. Therefore, no adverse cumulative impacts on land use would be likely from the combination of the proposed rail line and the development of the industrial park property.

4.9.7 Hazardous Materials and Hazardous Waste Sites

As noted in Section 4.7 *Hazardous Materials and Hazardous Waste Sites* of this Draft EA, the proposed rail line would have no effect on hazardous materials and hazardous waste sites. As such, it would not result in a contribution to incremental impacts when combined with the potential impacts from the development of the industrial park property.

4.9.8 Socioeconomics

To the extent that additional industrial clients make use of the rail services, the development of the industrial park property would provide additional employment opportunities and income to the local economy. Therefore, a minor beneficial cumulative impact would be likely from the combination of the proposed rail line and the development of the industrial park property.

Chapter 5

Recommendations for Mitigation and Request for Comments

This chapter describes OEA’s recommended mitigation measures that, if imposed by the Board in any decision granting the Applicants the authority to construct and operate the proposed rail line, would avoid, minimize, or compensate for the potential environmental impacts related to the construction, operation, and maintenance of the proposed rail line. OEA developed the preliminary mitigation measures based on information available to date, consultations with appropriate agencies, comments from interested parties, and extensive environmental analyses. In addition, the Applicants have proposed voluntary mitigation measures that include ongoing consultation with Howard County, Texas and the use of best management practices.

5.1 Overview of OEA’s Approach to Environmental Mitigation

In conducting this environmental review, OEA has taken a hard look at the environmental consequences of the proposed action and the No Action Alternative. The potential environmental effects that OEA identified would be both beneficial and adverse. Chapter 3 *Affected Environment* and Chapter 4 *Environmental Consequences of Proposed Action* of this Draft EA discuss in detail the affected environment and potential environmental impacts related to the proposed rail line construction and operation. OEA’s environmental analysis and its resulting mitigation recommendations reflect the variety of the environmental issues and offer a reasonable and feasible way of minimizing some of the environmental impacts discovered during the course of OEA’s environmental review. OEA also encourages negotiations between applicants and potentially affected communities, or others, to reach mutually acceptable solutions to address the parties’ concerns. The mitigation in this Draft EA includes both mitigation developed by OEA and voluntary mitigation offered by the Applicants.

5.2 Limits of the Board’s Conditioning Power

The Board has the authority to impose conditions to mitigate environmental impacts. As a government agency, the Board can only impose conditions that are consistent with its statutory authority. Accordingly, any mitigation measure the Board imposes must relate directly to the transaction before the Board, must be reasonable, and must be supported by the record before the Board. The Board’s consistent practice has been to mitigate only those

impacts that result directly from the proposed action. The Board typically does not require mitigation for preexisting environmental conditions.

5.3 Voluntary Mitigation and Negotiated Agreements

OEA encourages applicants to propose voluntary mitigation. In some situations, voluntary mitigation could replace, supplement, or reach farther than mitigation measures the Board might otherwise impose. Because applicants gain a substantial amount of knowledge about the issues associated with a proposed rail line during project planning, and because they consult with regulatory agencies during the permitting process, they are often in a position to offer relevant voluntary mitigation. In that regard, the Applicants have proposed voluntary mitigation, which is discussed below.

OEA encourages applicants to negotiate mutually acceptable agreements with affected communities and other government entities to address potential environmental impacts, if appropriate. Negotiated agreements could be with neighborhoods, communities, counties, cities, regional coalitions, states, and other entities. If the Applicants submit to the Board any such negotiated agreements, the Board would require compliance with the terms of any such agreements as environmental conditions in any final decision authorizing construction and operation of the proposed rail line. Any potential negotiated agreement would supersede any environmental conditions for that particular community or other entity that the Board might otherwise impose.

5.4 Preliminary Nature of Environmental Mitigation

OEA's preliminary mitigation measures are based on the information available to date, consultation with appropriate agencies, and the environmental analyses presented in this document. These preliminary mitigation measures could be imposed by the Board in addition to the Applicants' voluntary mitigation measures.

OEA will make its final recommendations on mitigation to the Board in the Final EA after considering all public comments on this Draft EA. The Board will then make its final decision regarding the proposed rail line and any conditions it might impose. In making its decision, the Board will consider this Draft EA, the Final EA, public and agency comments, and OEA's final mitigation recommendations.

5.5 Applicants' Voluntary Mitigation Measures

The Applicants have offered two voluntary mitigation measures for the Board to consider. OEA has reviewed the voluntary mitigation measures and recommends that the Board, should the proposed rail line be approved, require the Applicants to comply with both of the voluntary mitigation measures submitted. These voluntary mitigation measures are set forth below.

5.5.1 Transportation and Safety

- **VM-1.** The Applicants shall consult with Howard County, Texas regarding curb cut and road planning in the vicinity of the proposed rail line construction.

5.5.2 Noise and Vibration

- **VM-2.** The Applicants shall use industry best practices in order to minimize noise in the residential area to the south of the proposed track construction.

5.6 OEA's Preliminary Recommended Mitigation Measures

Based on available project information and comments received during the consultation process, OEA considered preliminary recommended mitigation measures to address the potential environmental impacts of the proposed action in the following resource areas: geology and soils, water resources, air quality, vegetation, wildlife, threatened and endangered species, and cultural resources. These recommended mitigation measures would supplement the Applicants' proposed voluntary mitigation.

5.6.1 Physical Resources – Geology and Soils, Water Resources, and Air Quality

- **MM-1.** The Applicants shall use water trucks as appropriate during rail line construction activities in order to minimize fugitive dust emissions and shall employ best management practices in the control and suppression of fugitive dust emissions.
- **MM-2.** The Applicants shall limit rail line construction activities, vegetation clearing, and soil disturbance to the rail line right-of-way in order to minimize fugitive dust generation.
- **MM-3.** The Applicants shall comply with the reasonable requirements of applicable federal, state, and local regulations regarding the control of fugitive dust related to rail line construction activities.

- **MM-4.** Should federal funds be used by the Applicants in the construction of the rail line, the Applicants shall consult with the United States Department of Agriculture, Natural Resources Conservation Service regarding the requirements of the Farmland Protection Policy Act.
- **MM-5.** The Applicants shall implement soil erosion and sedimentation control measures to minimize impacts on surface waters in the project area from stormwater runoff during rail line construction activities.

5.6.2 Biological Resources – Vegetation, Wildlife, and Threatened and Endangered Species

- **MM-6.** The Applicants shall develop and implement a plan to prevent spills of oil or other petroleum products during rail line construction, operation, and maintenance. The plan shall address fuel storage and transfer practices to prevent spills and leaks, first response procedures for spills, and reporting and notification procedures.
- **MM-7.** The Applicants shall clear vegetation in preparation for rail line construction before or after the bird nesting season (March 1 to August 31) to avoid inadvertent removal of active nests (nesting adults, young, or eggs) and to ensure compliance with the Migratory Bird Treaty Act. If vegetation clearing for the rail line construction is required during bird nesting season, the Applicants shall consult with the U.S. Fish and Wildlife Service regarding the implementation of appropriate nest survey methods to ensure that no migratory bird nests, eggs, or young are disturbed by construction activities until the eggs have hatched and the young have fledged.
- **MM-8.** To address the concerns of the Texas Parks and Wildlife Department (TPWD), the Applicants shall conduct ground-disturbing activities related to rail line construction to before or after the Texas horned lizard hibernation season (September/October to March/April – when ambient temperatures fall below 75° F) to avoid destruction of hibernating Texas horned lizards. If ground-disturbing activities for the rail line construction are required during the hibernation season of the Texas horned lizard, the Applicants shall consult with TPWD regarding the implementation of appropriate pre-construction surveys to determine the presence of Texas horned lizards. If Texas horned lizards are present, the Applicants shall contact TPWD to develop plans for their relocation.

5.6.3 Cultural Resources

- **MM-9.** Should any rail line construction activities take place adjacent to but outside the rail line right-of-way in the vicinity of the three historic/prehistoric sites recorded during OEA's pedestrian archeological resources survey, Applicants shall, prior to conducting those construction activities, consult with OEA and the Texas State Historic Preservation Officer regarding additional archeological investigations that may be necessary.

- **MM-10.** In the event that any unanticipated archaeological sites, human remains, funerary items, or associated artifacts are discovered during rail line construction, the Applicants shall immediately cease all work and notify OEA and the Texas State Historic Preservation Officer pursuant to 36 C.F.R. § 800.13(b). OEA shall then consult with the SHPO, the Applicants, and other consulting parties, if any, to determine whether appropriate mitigation measures are necessary.

5.7 Conclusion

Based on available information provided from all sources to date, OEA preliminarily concludes that, as currently proposed, construction and operation of the Applicants' proposed rail line would not significantly affect the quality of the natural or human environment provided that the recommended mitigation measures as set forth in this Draft EA are implemented.

5.8 Request for Comments

OEA invites comments on all aspects of this Draft EA, including the scope and adequacy of the recommended mitigation. OEA emphasizes that the identified mitigation measures are preliminary and invites public and agency comments on these proposed mitigation measures. For OEA to assess the comments effectively, it is critical that the public be specific regarding any desired mitigation and the reasons why the suggested mitigation would be appropriate.

OEA will consider all comments received in response to the Draft EA in making its final recommendations to the Board. The Board will consider OEA's final recommendations and the environmental comments in making its final decision in this proceeding.

Please send any comments on this Draft EA to:

Kenneth Blodgett
Attention: Environmental filing, Docket No. FD 35874
Surface Transportation Board
395 E Street SW
Washington, DC 20423-0001

Environmental comments may also be filed electronically on the Board's website, www.stb.gov, by clicking on the "E-FILING" link. Please refer to Finance Docket No. 35874 in all correspondence, including e-filings, addressed to the Board. If you have any questions regarding this Environmental Assessment, please contact Kenneth Blodgett by phone at (202) 245-0305 or email at blodgettk@stb.dot.gov.

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- U.S. Geological Survey. 1971a. Big Spring North, Texas. 1:24,000. 7.5 Minute Series. Reston, VA.
- U.S. Geological Survey. 1971b. Coahoma, Texas. 1:24,000. 7.5 Minute Series. Reston, VA.

APPENDIX A

Agency Outreach and Consultation

Appendix A

Agency Outreach and Consultation

- Exhibit 1 Environmental Consultation Letter
 Environmental Consultation Mailing List
- Exhibit 2 Correspondence with United States Department of Agriculture - Natural
 Resources Conservation Service
- Exhibit 3 Correspondence with Howard County Road & Bridge
- Exhibit 4 Correspondence with National Park Service
- Exhibit 5 Correspondence with U.S. Army Corps of Engineers
- Exhibit 6 Correspondence with Texas Parks and Wildlife Department
- Exhibit 7 Correspondence with U.S. Fish and Wildlife Service
- Exhibit 8 Correspondence with Texas Historical Commission

Exhibit 1

Environmental Consultation Letter, Environmental Consultation Mailing List



SURFACE TRANSPORTATION BOARD
Washington, DC 20423

EO-2462

Office of Environmental Analysis

January 9, 2015

US Army Corps of Engineers
Southwestern Division
1100 Commerce Street
Suite 831
Dallas, Texas 75242

Re: STB Docket No. FD 35874, Lone Star Railroad, Inc. and Southern Switching Company – Proposed Construction and Operation – Howard County, Texas; Environmental Consultation

Dear Sir or Madam,

I am writing to let you know that the Surface Transportation Board's (Board) Office of Environmental Analysis (OEA) is initiating an environmental review under the National Environmental Policy Act (NEPA) of the project described below. I am also writing to ask your assistance in providing any information on the potential environmental impacts, resources, issues, or permits over which your agency or organization has special expertise or jurisdiction concerning this project.

Description of the Project

The Lone Star Railroad, Inc. (LSR) intends to file a petition with the Board requesting authority to construct a new rail line that would provide service to a growing industrial park area near Big Spring, Texas. The proposed line would be approximately 16,750 feet (3.2 miles) long and would connect to an industrial lead track, planned by Union Pacific Railroad Company, at two points between N. Midway Road and N. Moss Lake Road (see enclosed Project Location Map and Project Features Map).

An affiliate of LSR, Southern Switching Company, proposes to operate on the newly constructed track. The principal shippers and receivers would initially be related to crude-oil production in the Permian Basin. It is expected that shippers and receivers of commodities unrelated to crude oil production would also locate in the Industrial Park. At this time, it is estimated that rail traffic along the new LSR rail line would consist of approximately five trains per week (including inbound and outbound trains).

Preliminary Consultation Process

The Board is the federal agency that will decide whether to approve, approve with conditions (which could include conditions designed to mitigate potential impacts on the environment), or deny LSR's request for a license to construct and operate the proposed new line. Your participation in the agency consultation process will assist us in gathering information needed to assess the potential environmental effects, both positive and negative, that may be associated with the proposed rail line construction and operation.

In conducting the environmental review required by NEPA, we are consulting with, and soliciting comments from agencies and organizations that may have specific knowledge of potential environmental issues and impacts that may be associated with the proposed project. Your comments would be most helpful to us if they focused on specific environmental issues or concerns pertaining to your jurisdiction. Issues and resource areas that may be important to this project include, but are not limited to, the following:

- Local, regional, and national transportation systems
- Local land use plans
- Air emissions and air quality impacts
- Noise impacts
- Historic resources
- Biological resources
- Water resources
- Impacts to "environmental justice communities"

We also welcome information on any additional issues or concerns that you consider appropriate.

Submitting Your Comments

We request your response by January 30, 2015, so that we may incorporate your response into the scope of study, as appropriate, and address your concerns when scheduling meetings, site visits, or surveys.

Please send your comments to:

Mr. Kenneth Blodgett
Surface Transportation Board
395 E Street, SW
Washington, DC 20423-0001
Attention: STB Finance Docket No. 35874

If you have any questions concerning agency coordination and responses, the Board's environmental review process, or need specific information about the proposed project, please feel free to contact Kenneth Blodgett, OEA's Environmental Project Manager, by phone at (202) 245-0305 or by email at Kenneth.Blodgett@stb.dot.gov. We appreciate your assistance and look forward to your participation in the Board's environmental review process for this project.

Sincerely,

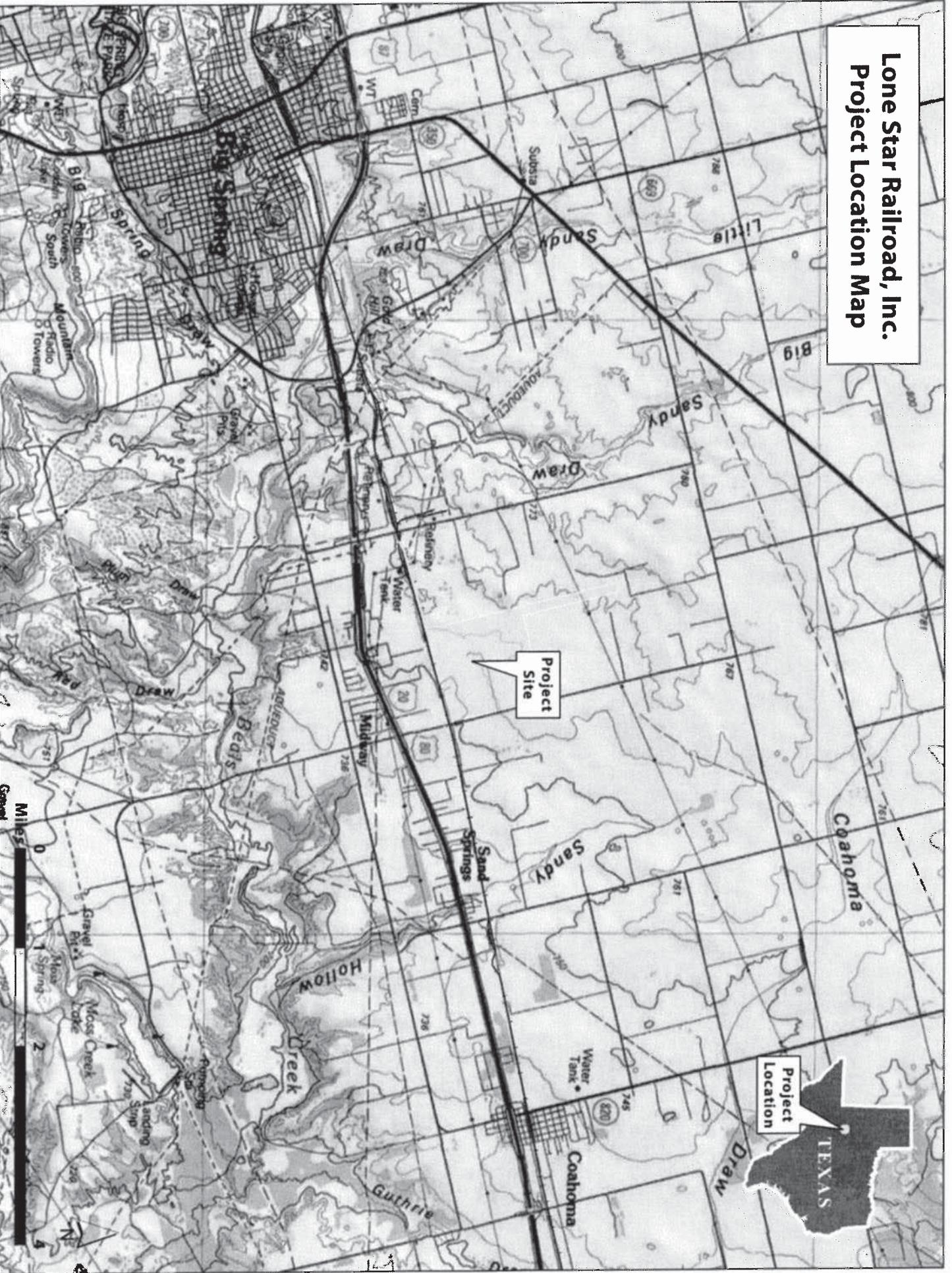
A handwritten signature in black ink, appearing to read "Victoria Rutson". The signature is fluid and cursive, with a large initial "V" and "R".

Victoria Rutson
Director
Office of Environmental Analysis

Enclosures:

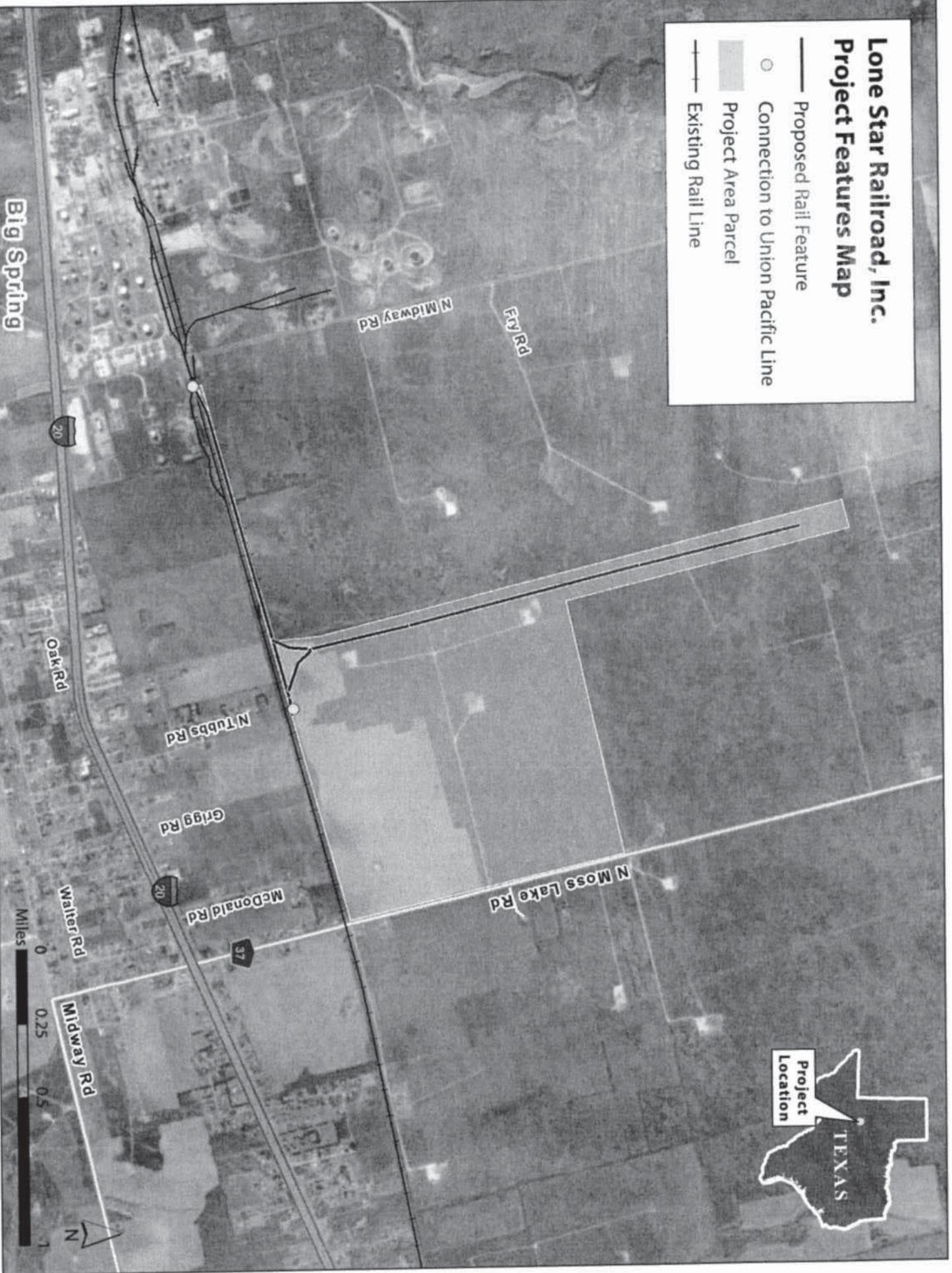
- Lone Star Railroad, Inc. Project Location Map
- Lone Star Railroad, Inc. Project Features Map

Lone Star Railroad, Inc. Project Location Map



Lone Star Railroad, Inc. Project Features Map

- Proposed Rail Feature
- Connection to Union Pacific Line
- Project Area Parcel
- Existing Rail Line



Environmental Consultation Mailing List

US Army Corps of Engineers
Southwestern Division
1100 Commerce Street
Suite 831
Dallas, Texas 75242

US Department of Agriculture
Natural Resource Conservation Service Texas
101 South Main Street
Temple, Texas 76501

Debra Bills
US Fish and Wildlife Service
Region 2
2005 Northeast Green Oaks Blvd
Suite 140
Arlington, Texas 76006

Federal Emergency Management Agency
Region 6
FRC 800 North Loop 288
Denton, Texas 76209

US National Park Service
Intermountain Region
12795 West Alameda Parkway
Lakewood, Colorado 80228

Mark Wolfe
Texas Historic Commission
P.O. Box 12276
Austin, Texas 78711

Texas Department of Transportation
4250 North Clack Street
Abilene, Texas 79601

Lorinda Gardner
Texas Commission on Environmental Quality
9900 West Interstate 20
Suite 100
Midland, Texas 79706

Mark Lockwood
Texas Parks and Wildlife
P.O. Box 1079
Fort Davis, Texas 79734

Railroad Commission of Texas
1701 North Congress Avenue
Austin, Texas 78701

Bob Tarrant
Texas Department of Agriculture
5402 Engelwood Avenue
Lubbock, Texas 79414

Ryan Vise
Texas State Clearing House
P.O. Box 12428
Austin, Texas 78711

City of Big Spring
310 Nolan Street
Big Spring, Texas 79720

The Honorable Larry McLellan
Mayor of Big Spring, Texas
310 Nolan Street
Big Spring, Texas 79720

Brian Klinksiek
Howard County Engineer
1011 North San Antonio Street
Big Spring, Texas 79720

Alonzo Chalepah
Acting Chairman, Apache Tribe of Oklahoma
P.O. Box 1220
Anadarko, Oklahoma 73005

Jimmy Arterberry
THPO, Comanche Nation
P.O. Box 908
Lawton, Oklahoma 73502

Johnny Waugua
Chairman, Comanche Nation
P.O. Box 908
Lawton, Oklahoma 73502

Ronald Twohatchet
Chairperson, Kiowa Indian Tribe of Oklahoma
P.O. Box 369
Carnegie, Oklahoma 73015

Exhibit 2

Correspondence with United States Department of Agriculture - Natural Resources Conservation Service



United States Department of Agriculture

Natural Resources
Conservation Service

January 23, 2015

State Office

101 South Main
Temple, TX
76501-7602
254-742-9800

Mr. Kenneth Blodgett
Attn: STB Finance Docket No. 35874
Surface Transportation Board
395 E Street, SW
Washington, DC 20423-0001

Dear Mr. Blodgett:

The NRCS has reviewed the proposed Lone Star Railroad Inc. and Southern Switching Company construction project as outlined in the map provided in your January 9, 2015, letter.

In reviewing the area, there are no hydric soils listed for the area of interest based on your January 9 map. There are approximately 105 acres of soils that are of statewide importance in your area of interest. This could require a Farmland Protection Policy Act (FPPA) rating if federal assistance is requested. If no federal funding or technical assistance is involved with this construction project, then it is exempt from the FPPA regulations (see Part 523 – Farmland Protection Policy Act Manual; Subpart B; 523.10, B., (8)).

Thank you for the opportunity to review this proposed project.

Sincerely,

A handwritten signature in blue ink that reads "Salvador Salinas".

SALVADOR SALINAS
State Conservationist

Enclosures

Hydric Rating by Map Unit—Howard County, Texas
 (Lone Star Railroad, Inc. and Southern Switching Company)



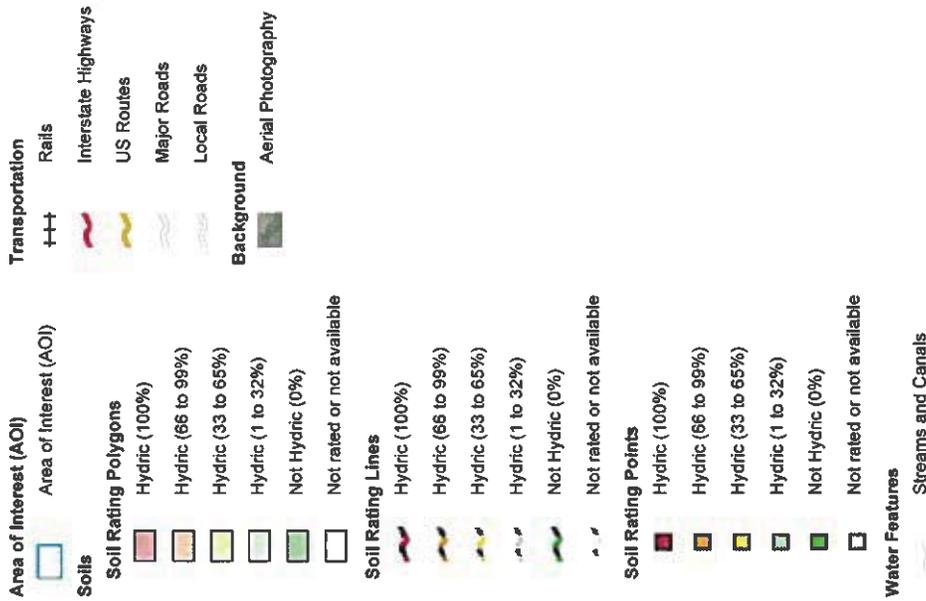
Map Scale: 1:18,700 if printed on A portrait (8.5" x 11") sheet.



Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 14N WGS84



MAP LEGEND



MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000. Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
 Web Soil Survey URL: <http://websoilsurvey.nrcs.usda.gov>
 Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Howard County, Texas
 Survey Area Data: Version 11, Sep 30, 2014

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Aug 3, 2010—Jan 30, 2011

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Hydric Rating by Map Unit

Hydric Rating by Map Unit— Summary by Map Unit — Howard County, Texas (TX227)				
Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
AmB	Amarillo loamy fine sand, 0 to 3 percent slopes	0	94.2	13.4%
BfB	Brownfield fine sand, thick surface	0	179.0	25.5%
BvB	Patricia fine sand, 0 to 3 percent slopes	0	206.9	29.5%
Sr	Springer loamy fine sand, undulating	0	11.0	1.6%
Tf	Circleback fine sand	0	211.1	30.1%
Totals for Area of Interest			702.2	100.0%

Description

This rating indicates the percentage of map units that meets the criteria for hydric soils. Map units are composed of one or more map unit components or soil types, each of which is rated as hydric soil or not hydric. Map units that are made up dominantly of hydric soils may have small areas of minor nonhydric components in the higher positions on the landform, and map units that are made up dominantly of nonhydric soils may have small areas of minor hydric components in the lower positions on the landform. Each map unit is rated based on its respective components and the percentage of each component within the map unit.

The thematic map is color coded based on the composition of hydric components. The five color classes are separated as 100 percent hydric components, 66 to 99 percent hydric components, 33 to 65 percent hydric components, 1 to 32 percent hydric components, and less than one percent hydric components.

In Web Soil Survey, the Summary by Map Unit table that is displayed below the map pane contains a column named 'Rating'. In this column the percentage of each map unit that is classified as hydric is displayed.

Hydric soils are defined by the National Technical Committee for Hydric Soils (NTCHS) as soils that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part (Federal Register, 1994). Under natural conditions, these soils are either saturated or inundated long enough during the growing season to support the growth and reproduction of hydrophytic vegetation.

The NTCHS definition identifies general soil properties that are associated with wetness. In order to determine whether a specific soil is a hydric soil or nonhydric soil, however, more specific information, such as information about the depth and duration of the water table, is needed. Thus, criteria that identify those estimated soil properties unique to hydric soils have been established (Federal Register, 2002). These criteria are used to identify map unit components that normally are associated with wetlands. The criteria used are selected estimated soil properties that are described in "Soil Taxonomy" (Soil Survey Staff, 1999) and "Keys to Soil Taxonomy" (Soil Survey Staff, 2006) and in the "Soil Survey Manual" (Soil Survey Division Staff, 1993).

If soils are wet enough for a long enough period of time to be considered hydric, they should exhibit certain properties that can be easily observed in the field. These visible properties are indicators of hydric soils. The indicators used to make onsite determinations of hydric soils are specified in "Field Indicators of Hydric Soils in the United States" (Hurt and Vasilas, 2006).

References:

Federal Register. July 13, 1994. Changes in hydric soils of the United States.

Federal Register. September 18, 2002. Hydric soils of the United States.

Hurt, G.W., and L.M. Vasilas, editors. Version 6.0, 2006. Field indicators of hydric soils in the United States.

Soil Survey Division Staff. 1993. Soil survey manual. Soil Conservation Service. U.S. Department of Agriculture Handbook 18.

Soil Survey Staff. 1999. Soil taxonomy: A basic system of soil classification for making and interpreting soil surveys. 2nd edition. Natural Resources Conservation Service. U.S. Department of Agriculture Handbook 436.

Soil Survey Staff. 2006. Keys to soil taxonomy. 10th edition. U.S. Department of Agriculture, Natural Resources Conservation Service.

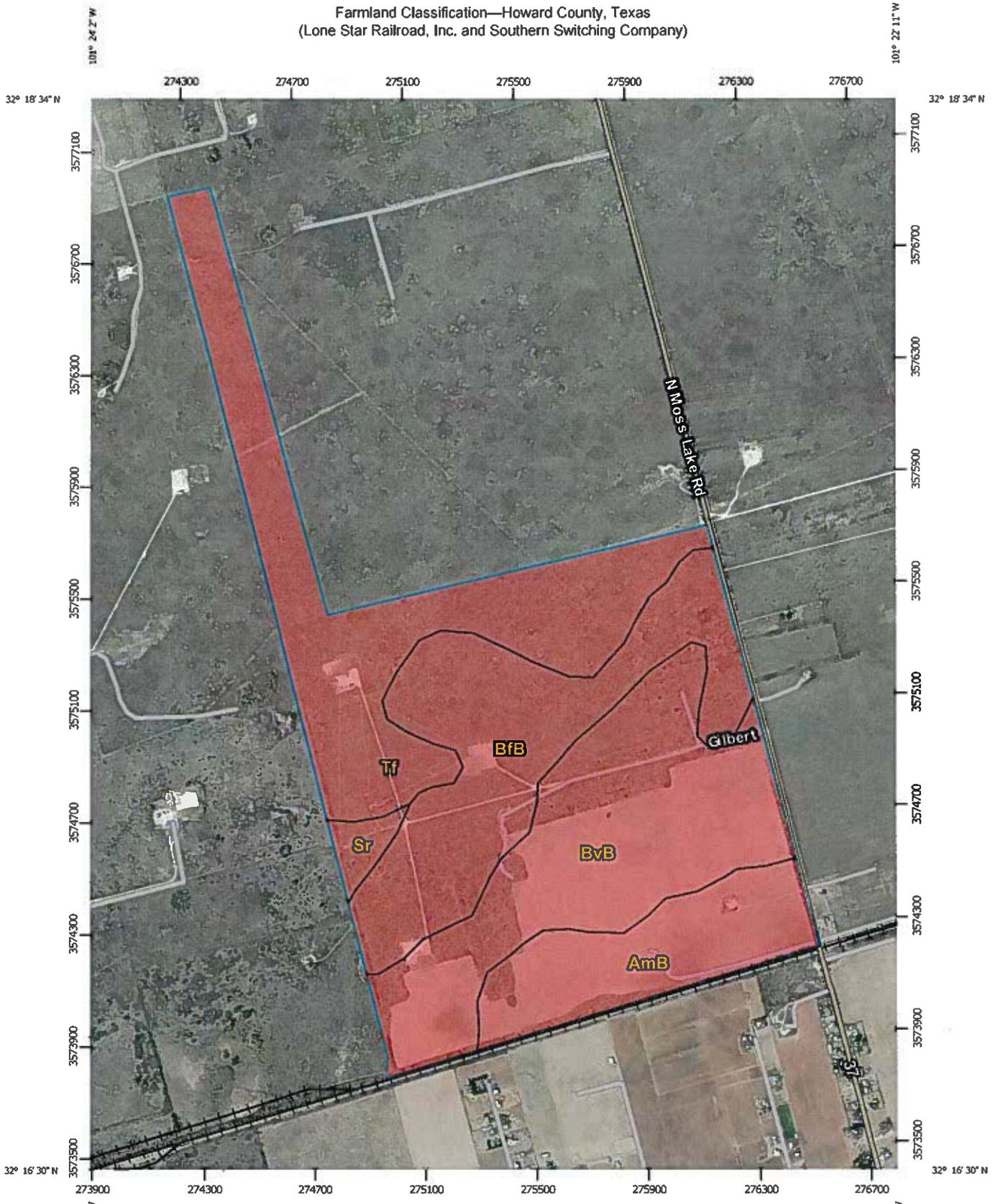
Rating Options

Aggregation Method: Percent Present

Component Percent Cutoff: None Specified

Tie-break Rule: Lower

Farmland Classification—Howard County, Texas
(Lone Star Railroad, Inc. and Southern Switching Company)



Map Scale: 1:18,700 if printed on A portrait (8.5" x 11") sheet.



Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 14N WGS84



MAP INFORMATION

-  Streams and Canals
- Transportation**
-  Rails
-  Interstate Highways
-  US Routes
-  Major Roads
-  Local Roads
- Background**
-  Aerial Photography

The soil surveys that comprise your AOI were mapped at 1:24,000. Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: <http://websoilsurvey.nrcs.usda.gov>
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Howard County, Texas
Survey Area Data: Version 11, Sep 30, 2014

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Aug 3, 2010—Jan 30, 2011

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Farmland Classification

Farmland Classification— Summary by Map Unit — Howard County, Texas (TX227)				
Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
AmB	Amarillo loamy fine sand, 0 to 3 percent slopes	Not prime farmland	94.2	13.4%
BfB	Brownfield fine sand, thick surface	Not prime farmland	179.0	25.5%
BvB	Patricia fine sand, 0 to 3 percent slopes	Not prime farmland	206.9	29.5%
Sr	Springer loamy fine sand, undulating	Not prime farmland	11.0	1.6%
Tf	Circleback fine sand	Not prime farmland	211.1	30.1%
Totals for Area of Interest			702.2	100.0%

Soil of State-wide Importance

Soil of State-wide Importance

Description

Farmland classification identifies map units as prime farmland, farmland of statewide importance, farmland of local importance, or unique farmland. It identifies the location and extent of the soils that are best suited to food, feed, fiber, forage, and oilseed crops. NRCS policy and procedures on prime and unique farmlands are published in the "Federal Register," Vol. 43, No. 21, January 31, 1978.

Rating Options

Aggregation Method: No Aggregation Necessary

Tie-break Rule: Lower

Exhibit 3

Correspondence with Howard County Road & Bridge



EI-20908

January 27, 2015

Mr. Kenneth Blodgett
Surface Transportation Board
395 E Street, SW
Washington, DC 20423-0001
Attention STB Finance Docket No. 35874

RE: STB Docket No. FD35874, Lone Star Railroad, Inc. and Southern Switching Company – Proposed Construction and Operation – Howard County, Texas; Environmental Consultation

Dear Mr. Blodgett,

In response to your January 9, 2015 letter I offer the following general information. The proposed project is located approximately 0.55 miles north of IH 20 and directly to the West of County Road 37 (North Moss Lake Road). Cr 37 is a county arterial road providing connecting access to other roads to the North. It is also residential for the affected 0.55 from the Interstate. The proposed project area is a combination of cultivated cotton field and scrub brush. The only planned development in this area is proposed 2.38 Acre "Family Dollar" General store on the Northwest corner of the intersection of the North Interstate Frontage road and CR 37.

It is difficult for a small agency such as mine to determine impact of most of the areas of concern listed, therefore I will limit my comments to the two areas I am most knowledgeable about. First, given the proximity of the residences to both the Interstate and existing railroad track I do not see a significant noise impact from the proposed railyard/ industrial park. Second we are concerned that all of our roads including CR 37 were not constructed to handle the large number of heavy loads that may be generated by this development. If the traffic is limited to the 0.55 miles from the interstate to the railyard it will be manageable, however if a significant portion of the traffic comes in from SH 350 to the Northwest then a 7.17 mile portion of CR 26 and CR 37 will need additional work.

Sincerely,

A handwritten signature in blue ink that reads "Brian J. Klinksiek". The signature is written in a cursive, flowing style.

Brian J. Klinksiek P.E.

Exhibit 4

Correspondence with National Park Service



Re: STB Docket No. FD 35874, Lone Star Railroad, Inc. and Southern Switching Company
– Proposed Construction and Operation – Howard County, Texas; Environmental
Consultation
IMRextrev, NPS

EI-20924

to:
Moelter, Chris
02/06/2015 12:13 PM
Sent by:
<david_hurd@nps.gov>
Cc:
"Kenneth.Blodgett@stb.dot.gov"
Hide Details
From: "IMRextrev, NPS" <imrxtrev@nps.gov>
To: "Moelter, Chris" <Chris.Moelter@icfi.com>
Cc: "Kenneth.Blodgett@stb.dot.gov" <Kenneth.Blodgett@stb.dot.gov>
Sent by: <david_hurd@nps.gov>

Dear Mr. Moelter,

The National Park Service has reviewed this project and has found no comments at this time. Additionally the National Park Service, Intermountain Regional office is pleased to announce the selection of Sue E. Masica as our new Regional Director.

Regards,

National Park Service
Intermountain Region External Review Team
Serving MT, UT, WY, CO, AZ, NM, OK, TX
imrxtrev@nps.gov

On Fri, Jan 16, 2015 at 12:35 AM, Moelter, Chris <Chris.Moelter@icfi.com> wrote:

Dear Sir or Madame:

I am writing you on behalf of the Surface Transportation Board's Office of Environmental Analysis (OEA), to let you know that the OEA is initiating an environmental review under the National Environmental Policy Act of the proposed Lone Star Railroad Project in Howard County, Texas. OEA requests your assistance in providing any information on the potential environmental impacts, resources, issues, or permits over which your agency or organization has special expertise or jurisdiction concerning this project. Please review the attached letter for additional details on the project and information concerning the consultation process.

Kind regards,

Christopher Moelter | Manager | 503.525.6145 (office) | cmoelter@icfi.com | icfi.com

ICF INTERNATIONAL | 615 SW Alder Street, Suite 200, Portland, OR 97205 | 503.228.3820 (fax)

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Exhibit 5

Correspondence with U.S. Army Corps of Engineers



REPLY TO
ATTENTION OF

DEPARTMENT OF THE ARMY
FORT WORTH DISTRICT, CORPS OF ENGINEERS
P. O. BOX 17300
FORT WORTH, TEXAS 76102-0300

EI-20952

March 11, 2015

Regulatory Division

SUBJECT: Project Number SWF-2015-00057, Howard County Rail Line

Mr. Kenneth Blodgett
Surface Transportation Board
395 E Street, SW
Washington, DC 20423-0001

Dear Mr. Blodgett:

This letter is in regard to information received January 29, 2015, concerning a proposal by Lone Star Railroad, Inc. and Southern Switching Company to construct a new rail line located in Howard County, Texas. This project has been assigned Project Number SWF-2015-00057. Please include this number in all future correspondence concerning this project.

Under Section 404 of the Clean Water Act the U.S. Army Corps of Engineers (USACE) regulates the discharge of dredged and fill material into waters of the United States, including wetlands. USACE responsibility under Section 10 of the Rivers and Harbors Act of 1899 is to regulate any work in, or affecting, navigable waters of the United States. Based on your description of the proposed work, and other information available to us, we have determined this project will not involve activities subject to the requirements of Section 404 or Section 10. Therefore, it will not require Department of the Army authorization pursuant to Section 404 and/or Section 10.

Thank you for your interest in our nation's water resources. If you have any questions concerning our regulatory program, please refer to our website at <http://www.swf.usace.army.mil/Missions/Regulatory.aspx> or contact Mr. Billy Standridge at the address above or telephone 817-886-1662 and refer to your assigned project number.

Please help the regulatory program improve its service by completing the survey on the following website: http://corpsmapu.usace.army.mil/cm_apex/f?p=regulatory_survey

Sincerely,


For Stephen L Brooks
Chief, Regulatory Division

Exhibit 6

Correspondence with Texas Parks and Wildlife Department

From: Nicodemus, Amanda
Sent: Wednesday, April 08, 2015 2:21 PM
To: Richard Hanson; kevin.mote@tpwd.texas.gov
Cc: Moelter, Chris
Subject: LoneStar Railroad project outside Big Spring, TX

Rick and Kevin:

Thank you for taking the time to talk with me this morning. The basic project description is as follows: The Lone Star Railroad, Inc. (LSR) intends to file a petition with the Surface Transportation Board requesting authority to construct a new rail line that would provide service to a growing industrial park area near Big Spring, Texas. An affiliate of LSR, Southern Switching Company, proposes to operate on the newly constructed track. At this time, it is estimated that rail traffic along the new LSR rail line would consist of approximately 5 trains per week including inbound and outbound trains. The proposed line would be approximately 16,750 feet (3.2 miles) long and would connect to an industrial lead track, planned by Union Pacific Railroad Company, at two points between N. Midway Road and N. Moss Lake Road. Please find attached the proposed project footprint.

We have already obtained the TXNDD data for this project site and there were no rare, threatened, or endangered species known to occur in this area. Also, in our conversations this morning, no potential wildlife concerns were identified. After you have had time to review the project site information, could you please confirm that there are no wildlife concerns or issues with this project; or if after review Texas Parks and Wildlife identifies a certain species or taxa group that are of particular concern, please let me know.

Again thanks and it was good to talk with you!
Amanda

Amanda Nicodemus
Project Manager/Wildlife Biologist
307.687.4763 office
307.247.2992 cell
amanda.nicodemus@icfi.com

ICF INTERNATIONAL | icfi.com | 405 Boxelder Road, Suite A-5, Gillette, WY 82718

From: Richard Hanson [mailto:Richard.Hanson@tpwd.texas.gov]
Sent: Thursday, April 09, 2015 5:38 AM
To: Nicodemus, Amanda; Kevin Mote
Cc: Moelter, Chris
Subject: RE: LoneStar Railroad project outside Big Spring, TX

Amanda,

Could you fill out the attached project coordination and review request form and submit the form and any other documentation to whab@tpwd.texas.gov so the project can be tracked in our database? Thanks.

Rick Hanson
Wildlife Habitat Assessment Program
Texas Parks and Wildlife Department
1702 Landmark Lane, Suite 3
Lubbock, TX 79415
Office: (806) 761-4936
Richard.Hanson@tpwd.texas.gov

From: Nicodemus, Amanda [mailto:Amanda.Nicodemus@icfi.com]
Sent: Wednesday, April 08, 2015 4:21 PM
To: Richard Hanson; Kevin Mote
Cc: Moelter, Chris
Subject: LoneStar Railroad project outside Big Spring, TX

Rick and Kevin:

Thank you for taking the time to talk with me this morning. The basic project description is as follows: The Lone Star Railroad, Inc. (LSR) intends to file a petition with the Surface Transportation Board requesting authority to construct a new rail line that would provide service to a growing industrial park area near Big Spring, Texas. An affiliate of LSR, Southern Switching Company, proposes to operate on the newly constructed track. At this time, it is estimated that rail traffic along the new LSR rail line would consist of approximately 5 trains per week including inbound and outbound trains. The proposed line would be approximately 16,750 feet (3.2 miles) long and would connect to an industrial lead track, planned by Union Pacific Railroad Company, at

two points between N. Midway Road and N. Moss Lake Road. Please find attached the proposed project footprint.

We have already obtained the TXNDD data for this project site and there were no rare, threatened, or endangered species known to occur in this area. Also, in our conversations this morning, no potential wildlife concerns were identified. After you have had time to review the project site information, could you please confirm that there are no wildlife concerns or issues with this project; or if after review Texas Parks and Wildlife identifies a certain species or taxa group that are of particular concern, please let me know.

Again thanks and it was good to talk with you!
Amanda

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307.687.4763 office
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amanda.nicodemus@icfi.com

ICF INTERNATIONAL | icfi.com | 405 Boxelder Road, Suite A-5, Gillette, WY 82718



Please consider the environment before printing this e-mail.

Project Coordination and Review Requests **(Including Threatened and Endangered Species)**

EARLY PROJECT COORDINATION

If you are in the information gathering phase of project coordination and assessment, *in lieu of* submitting a Project Review form or a letter request, you may obtain information from the following Texas Parks and Wildlife Department (TPWD) sources regarding sensitive resource information for use in your analyses. TPWD recommends you use at least the following two sources of information when analyzing for project impacts to sensitive resources, including before submitting a request for TPWD review and recommendations.

RARE, THREATENED, AND ENDANGERED SPECIES OF TEXAS BY COUNTY - This database includes lists of species known to occur and potentially occurring in Texas at the county level. It can be accessed online at: http://www.tpwd.state.tx.us/landwater/land/maps/gis/ris/endangered_species/ or by contacting our administrative staff at (512) 389-4571. Appropriate use and interpretation of the county level lists are the responsibility of the recipient.

TEXAS NATURAL DIVERSITY DATABASE (TXNDD) – The TXNDD is publicly available location specific data on rare, threatened and endangered species, natural communities and other significant features of conservation concern to TPWD. This information can be obtained by submitting a data request to txndd@tpwd.state.tx.us. Response to a data request will include available TXNDD records, reports, and geographic information system compatible shapefiles of recorded locations for species and other rare resources on the U.S. Geological Survey (USGS) 7.5 minute topographic quadrangle of the project and surrounding area. Responses generally take a maximum of five business days from receipt of the request. Appropriate use and interpretation of TXNDD data are the responsibility of the recipient.

WILDLIFE HABITAT ASSESSMENT (WHAB) PROGRAM REVIEW

PROJECT REVIEW REQUESTS – The WHAB Program can provide a review of your assessment, after your analysis for impacts using the above two data sources. Please complete the WHAB Review Request form (attached; use Word format for fill-in version), or use the form as an outline of information to include with your letter request. The WHAB Program response will provide an evaluation of your environmental assessment for impacts to fish and wildlife and their habitats, including rare, threatened, and endangered species, other significant resources and concerns presently known or potentially occurring in the vicinity of your project. WHAB Program responses generally take 4 to 6 weeks on average from receipt, depending on the size of your request.

The request should include all the information listed on the next two pages and be sent to the address shown on the last page. The more pertinent information you provide, the more customized our review, and the faster our turnaround. Review requests submitted without adequate project detail may cause a delay in our response as we will need to contact you and wait for supplemental information. The potential for adverse impacts to natural resources from project activities varies based on the type of activity; location; season; vegetation; present physical features (both natural and man-made); degree of disturbance; planned avoidance, minimization, mitigation, enhancement, and restoration measures; species-specific tolerance levels; etc. Current color photographs and aerial photographs of the site greatly facilitate the review process. Complete information allows us to more accurately assess the potential for project impacts, as well as, assists us in narrowing the list of rare, threatened, and endangered species and other natural resources that may need to be addressed further.



WILDLIFE HABITAT ASSESSMENT PROGRAM

Review Requests

(Including Threatened and Endangered Species)

Name: _____ Date: _____

Your Company: _____ Phone: (____) _____

Your Company Address: _____ Fax: (____) _____

City, State, Zip: _____ E-mail: _____

Project Title, Number and Site Location: _____ County(ies): _____

1. Scope of Project:

(a) What regulations will this review help you to comply with? OR, if not regulatory, why is the review being requested? Who is the project sponsor?

(b) What and where is the project site? What activities will be conducted at the site? (Especially activity types, extent, boundaries, length & width, waterways, vegetation disturbance, and total acreage of site and acreage of the site that will be disturbed)

(c) If this request is for a site investigation or risk assessment, why is the site being investigated? If applicable, what contaminant pathways are being evaluated?

(d) Schedule of activities – Approximately when (which calendar months, how many years) will the project be active on the site?

2. **Vegetation:** Species, dominant plants, structure and composition, vegetation layers, height of layers, natural vegetation community types.

3. Other Natural Resources/Physical Features:

(a) Soils, geology, watercourses, aquifers, flood zones, etc.

(b) Habitat, animals, animal assemblages, other sensitive features, etc.

4. **Existing Site Development:** Extent of pavement, gravel, shell, or other cover; buildings, landscaped, xeriscaped, drainage system, etc.

5. **Historic Use/Function of Site:** Pasture, forest, urban, row crops, rangeland, wetland, etc. If the request is for a risk assessment, when was, or for how long, has the site been active, inactive? Are cultural resources present on the site or will the project cross or impact state or federal lands, local parklands?

6. **Has a threatened and endangered species survey or assessment, wetland delineation, or other biological assessment already been performed?** (In general, TPWD recommends an on-site habitat assessment be performed.) Yes No

(a) If yes, provide surveyor name, qualifications, methods or protocols, acreage surveyed, level of effort, weather conditions, time of day, and dates the survey was performed.

WILDLIFE HABITAT ASSESSMENT PROGRAM
Review Requests (Continued)
(Including Threatened and Endangered Species)

6. (b) If yes, please provide results and copy of survey/assessment report.

7. **Could current on-site or adjacent habitat support rare species?** Yes No
Specifically, explain why or why not.

8. **Provide a description of potential negative direct and indirect impacts** from proposed project activities or former and current site activities, such as types of habitat and acreage to be degraded or lost, temporarily and permanently. Also, describe cumulative effects that could be anticipated from the project on the natural environment.

9. **Provide a description of planned beneficial mitigation and enhancements** or restoration efforts. Be sure to note the avoidance, minimization, and compensatory mitigation measures planned to address the threat of negative impacts (e.g. which erosion control measures will be used, what will site restoration activities encompass, etc.).

10. **Include copies of coordination with other agencies** relevant to impacts or enhancements of natural resources for this project, or agency & contact name.

11. **Clearly delineate exact location of site and its boundaries** using an applicable USGS quad (most preferable) as the base layer or best map available. The topographic map citation should include the USGS quad name. The map must contain identifiable features and a scale that allows us to find your site **and** accurately pinpoint your site boundaries. When using internet maps, provide both a location map (zoomed out for highway reference) and a layout map (zoomed in for site features, boundaries, and neighboring street reference)

12. **Originals or color-copy photographs** of site and surrounding area with captions or narratives.

13. **Aerial photographs with pertinent features labeled.** Aerials should show the year photograph was taken.

Send completed form to:

Texas Parks and Wildlife Department
Wildlife Division
Wildlife Habitat Assessment Program
4200 Smith School Road
Austin, Texas 78744-3291
(512) 389-4571 (Phone) (512) 389-4599 (Fax)

Texas Parks and Wildlife Department maintains the information collected through this form. With few exceptions, you are entitled to be informed about the information we collect. Under Sections 552.021 and 552.023 of the Texas Government Code, you are also entitled to receive and review the information. Under Section 559.004, you are also entitled to have this information corrected.

From: [Nicodemus, Amanda](#)
To: whab@tpwd.texas.gov
Cc: [Richard Hanson](#); [Kevin Mote](#)
Subject: RE: LoneStar Railroad project outside Big Spring, TX
Date: Wednesday, April 22, 2015 10:22:00 AM
Attachments: [LoneStarRailroad_pwd_1059_w7000_coordination_and_review.doc](#)
[LSR Project Features Map.pdf](#)

See attached.

From: Richard Hanson [mailto:Richard.Hanson@tpwd.texas.gov]
Sent: Thursday, April 09, 2015 6:38 AM
To: Nicodemus, Amanda; Kevin Mote
Cc: Moelter, Chris
Subject: RE: LoneStar Railroad project outside Big Spring, TX

Amanda,

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Rick Hanson
Wildlife Habitat Assessment Program
Texas Parks and Wildlife Department
1702 Landmark Lane, Suite 3
Lubbock, TX 79415
Office: (806) 761-4936
Richard.Hanson@tpwd.texas.gov

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Again thanks and it was good to talk with you!
Amanda

Amanda Nicodemus
Project Manager/Wildlife Biologist
307.687.4763 office
307.247.2992 cell
amanda.nicodemus@icfi.com

ICF INTERNATIONAL | icfi.com | 405 Boxelder Road, Suite A-5, Gillette, WY 82718



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Project Coordination and Review Requests **(Including Threatened and Endangered Species)**

EARLY PROJECT COORDINATION

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WILDLIFE HABITAT ASSESSMENT (WHAB) PROGRAM REVIEW

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WILDLIFE HABITAT ASSESSMENT PROGRAM Review Requests

(Including Threatened and Endangered Species)

Name: Amanda Nicodemus Date: April 13, 2015
Your Company: ICF International Phone: (307) 687-4763
Your Company Address: 405 West Boxelder Road, Suite A-5 Fax: ()
City, State, Zip: Gillette WY 82718 E-mail: amanda.nicodemus@icfi.com
Project Title, Number and Site Location: LoneStar Railroad, just east of Big Spring, TX County(ies): Howard

1. Scope of Project:

(a) What regulations will this review help you to comply with? OR, if not regulatory, why is the review being requested? Who is the project sponsor?

NEPA - Lone Star Railroad has filed a petition with the Surface Transportin Board requesting authority to construct a new rail line

(b) What and where is the project site? What activities will be conducted at the site? (Especially activity types, extent, boundaries, length & width, waterways, vegetation disturbance, and total acreage of site and acreage of the site that will be disturbed)

The proposed line would be approximately 16,750 feet (3.2 miles) long and would connect to an industrial lead track, planned by Union Pacific Railroad Company, between N. Midway Road and N. Moss Lake Road. The project site is located in an industrail park area approximately 5 miles east of Big Spring, Texas just north of I-20.

(c) If this request is for a site investigation or risk assessment, why is the site being investigated? If applicable, what contaminant pathways are being evaluated?

Site is being investigated to determine the impacts of the proposed project on the human environment

(d) Schedule of activities – Approximately when (which calendar months, how many years) will the project be active on the site?

Construction would begin if/when permit was issued and an active rail line would be present indefinitely

2. Vegetation: Species, dominant plants, structure and composition, vegetation layers, height of layers, natural vegetation community types.

Major habitat types that occurred within the study area included cropland, mixedgrass prairie, and mesquite (Prosopis spp.) shrubland. The dominant crop in the area was cotton and occurred in irrigated fields. Mixedgrass prairies were found throughout the study area, but due to survey timing, vegetation was dormant which made species identification difficult. However, based on limited observations of grass seed heads and the dominant species in this ecoregion grass species probably included blue grama (Bouteloua gracilis), buffalograss (Bouteloua dactyloides), and sideoats grama (Bouteloua curtipendula). Yucca (Yucca spp.) and cactus (Opuntia spp.) were common, but overall species diversity appeared to be low throughout these areas. Vegetation density was moderate with dense leaf litter and average vegetation height was approximately 0.5 meter. Shin oak (Quercus sinuata) was also found intermixed with grasses in these areas, but were taller than the surrounding grasses. Mesquite shrublands occurred primarily in the southwestern portion of the study area, but isolated mesquite stands were scattered in isolated patches throughout much of the study area. Mesquite was mostly uniform in height and averaged approximately 3 meters. In the southwestern portion of the study area, mesquite grew in fairly dense thickets with a dense vegetation understory which was taller than in the surrounding mixedgrass prairies.

3. Other Natural Resources/Physical Features:

(a) Soils, geology, watercourses, aquifers, flood zones, etc.

Soils were sandy in composition. Open water was isolated to the ponds associated with the carbon black refinery plant. No other water was noted; however, a few depression areas that could potentially hold water in wetter years were found in the central portion of the study area.

(b) Habitat, animals, animal assemblages, other sensitive features, etc.

No designated critical habitat or sensitive habitats present in the study area. No known record of any species of concern occurring in the study area. Species that were recorded in the study area during the ground survey included: mule deer (*Odocoileus hemionus*), American kestrel (*Falco sparverius*), eastern meadowlark (*Sturnella magna*), loggerhead shrike (*Lanius ludovicianus*), northern bobwhite (*Colinus virginianus*), pyrrhuloxia (*Cardinalis sinuatus*), song sparrow (*Melospiza melodia*), spotted towhee (*Pipilo maculatus*), white-crowned sparrow (*Zonotrichia leucophrys*), and western ornate box turtle (*Terrapene ornate*). Also, evidence of plains pocket gopher (*Geomys bursarius*) and snakes were recorded in the study area. Sandhill cranes (*Grus canadensis*) were also seen flying over the study area, but were not recorded using habitats within the study area.

4. **Existing Site Development:** Extent of pavement, gravel, shell, or other cover; buildings, landscaped, xeriscaped, drainage system, etc.

Much of the study area is utilized for industrial and agricultural purposes. Several oil rigs were scattered throughout the study area as well as access roads and ancillary facilities. A carbon black refinery plant was located in the southwestern portion and sidetracks for railroad car storage were located along the main rail line as well as associated facilities. Cotton fields were located primarily in the northern portion of the study area, but one small section was noted in the south eastern portion as well. Also, cattle grazing was present in the central portion of the study area.

Other development in the study area included roads and residential areas. Several county roads both paved and gravel occur within the study area as well as I-20 which runs through the southern portion of the study area. Two high voltage power lines bisect the central portion of the study area and several other power lines are located throughout the study area for residential, agricultural, and industrial needs. Several residences also occur throughout the study area.

5. **Historic Use/Function of Site:** Pasture, forest, urban, row crops, rangeland, wetland, etc. If the request is for a risk assessment, when was, or for how long, has the site been active, inactive? Are cultural resources present on the site or will the project cross or impact state or federal lands, local parklands?

Historic use - row crops (cotton) and rangeland (cattle); current use described above.

6. **Has a threatened and endangered species survey or assessment, wetland delineation, or other biological assessment already been performed?** (In general, TPWD recommends an on-site habitat assessment be performed.) Yes No

(a) If yes, provide surveyor name, qualifications, methods or protocols, acreage surveyed, level of effort, weather conditions, time of day, and dates the survey was performed.

Amanda Nicodemus, M.S. in biology/3 yr working as environmental consultant/2 yr as field technician on Fort Hood working with golden-cheeked warbler and black-capped vireo, habitat assessment and standard clearance survey for species of concern, surveyed project site and 1 mile perimeter, weather - overcast mid 60s breezy, time of day 9:00-17:00, March 3, 2015



WILDLIFE HABITAT ASSESSMENT PROGRAM
Review Requests (Continued)
(Including Threatened and Endangered Species)

6. (b) If yes, please provide results and copy of survey/assessment report.

7. **Could current on-site or adjacent habitat support rare species?** Yes No
Specifically, explain why or why not.

Habitats are extremely fragmented, native habitats are completely altered, and level of disturbance is extremely high

8. **Provide a description of potential negative direct and indirect impacts** from proposed project activities or former and current site activities, such as types of habitat and acreage to be degraded or lost, temporarily and permanently. Also, describe cumulative effects that could be anticipated from the project on the natural environment.

9. **Provide a description of planned beneficial mitigation and enhancements** or restoration efforts. Be sure to note the avoidance, minimization, and compensatory mitigation measures planned to address the threat of negative impacts (e.g. which erosion control measures will be used, what will site restoration activities encompass, etc.).

Standard construction timing limitation stipulation will be proposed to avoid vegetation clearing activities during the bird breeding season to avoid destroying ground nesting attempts.

10. **Include copies of coordination with other agencies** relevant to impacts or enhancements of natural resources for this project, or agency & contact name.

11. **Clearly delineate exact location of site and its boundaries** using an applicable USGS quad (most preferable) as the base layer or best map available. The topographic map citation should include the USGS quad name. The map must contain identifiable features and a scale that allows us to find your site **and** accurately pinpoint your site boundaries. When using internet maps, provide both a location map (zoomed out for highway reference) and a layout map (zoomed in for site features, boundaries, and neighboring street reference)

12. **Originals or color-copy photographs** of site and surrounding area with captions or narratives.

13. **Aerial photographs with pertinent features labeled.** Aerials should show the year photograph was taken.

Send completed form to:

Texas Parks and Wildlife Department
Wildlife Division
Wildlife Habitat Assessment Program
4200 Smith School Road
Austin, Texas 78744-3291
(512) 389-4571 (Phone) (512) 389-4599 (Fax)

Texas Parks and Wildlife Department maintains the information collected through this form. With few exceptions, you are entitled to be informed about the information we collect. Under Sections 552.021 and 552.023 of the Texas Government Code, you are also entitled to receive and review the information. Under Section 559.004, you are also entitled to have this information corrected.



May 8, 2015

Life's better outside.®

Commissioners

Dan Allen Hughes, Jr.
Chairman
Beeville

Ralph H. Duggins
Vice-Chairman
Fort Worth

T. Dan Friedkin
Chairman-Emeritus
Houston

Roberto De Hoyos
Austin

Bill Jones
Austin

James H. Lee
Houston

Margaret Martin
Boerne

S. Reed Morian
Houston

Dick Scott
Wimberley

Lee M. Bass
Chairman-Emeritus
Fort Worth

Carter P. Smith
Executive Director

Ms. Amanda Nicodemus
ICF International
405 West Boxelder Road, Suite A-5
Gillette, WY 82718

RE: Lone Star Railroad Project, Big Spring, Howard County, Texas

Dear Ms. Nicodemus:

Texas Parks and Wildlife Department (TPWD) has received the request for comments regarding the above-referenced proposed project located in Big Spring. TPWD staff has reviewed the information provided and offers the following information, comments, and recommendations concerning this project.

TPWD Wildlife Habitat Assessment Program is now accepting projects through electronic submittal. Future project review requests can be submitted to WHAB@tpwd.texas.gov. If submitting requests electronically, please include geographic location files when available (e.g. GIS shape file, .kmz, etc.).

Please be aware that a written response to a TPWD recommendation or informational comment received by a state governmental agency may be required by state law. For further guidance, see the Texas Parks and Wildlife Code, Section 12.0011, which can be found online at <http://www.statutes.legis.state.tx.us/Docs/PW/htm/PW.12.htm#12.0011>. For tracking purposes, please refer to TPWD project number 34558 in any return correspondence regarding this project.

Project Description

Lone Star Railroad has filed a petition with the Surface Transportation Board requesting authority to construct a new rail line. The proposed line would be approximately 16,750-feet long and would connect to an industrial lead track planned by Union Pacific Railroad Company between N. Midway Road and N. Moss Lake Road.

Federal Laws

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) prohibits taking, attempting to take, capturing, killing, selling/purchasing, possessing, transporting, and importing of migratory birds, their eggs, parts and nests, except when specifically authorized by the Department of the Interior. This protection applies to most native bird species, including ground nesting species. The U.S. Fish and Wildlife Service (USFWS) Migratory Bird Office can be contacted at (505) 248-7882 for more information on potential impacts to migratory birds.

Recommendation: If migratory bird species are found nesting on or adjacent to the project area, they must be dealt with in a manner consistent with the MBTA. TPWD recommends excluding vegetation clearing activities during the general bird nesting season, March through August, to avoid adverse impacts to this group. If clearing vegetation during the migratory bird nesting season is unavoidable, TPWD recommends surveying the area proposed for disturbance to ensure that no nests with eggs or young will be disturbed by operations. Any vegetation (trees, shrubs, and grasses) where occupied nests are located should not be disturbed until the eggs have hatched and the young have fledged.

State Laws

Parks and Wildlife Code, Section 68.015

Section 68.015 of the Parks and Wildlife Code regulates state-listed species. Please note that there is no provision for take (incidental or otherwise) of state-listed species. A copy of *TPWD Guidelines for Protection of State-Listed Species*, which includes a list of penalties for take of species, can be found http://www.tpwd.state.tx.us/huntwild/wild/wildlife_diversity/habitat_assessment/media/tpwd_statelisted_species.pdf on-line at http://www.tpwd.state.tx.us/huntwild/wild/wildlife_diversity/habitat_assessment/media/tpwd_statelisted_species.pdf. State-listed species may only be handled by persons with a scientific collection permit obtained through TPWD. For more information on this permit, please contact the Wildlife Permits Office at (512) 389-4647.

Texas horned lizard (*Phrynosoma cornutum*) – State-listed Threatened

The Texas horned lizard can be found in open, arid and semi-arid regions with sparse vegetation, including grass, cactus, scattered brush or scrubby trees.

Based on the information provided and publically available aerial photographs, suitable habitat for the Texas horned lizard may be present at the proposed project site.

If present in the project area, the Texas horned lizard could be impacted by ground disturbing construction activities. Horned lizards may hibernate on-site in the loose soils a few inches below ground during the cool months from September/October to March/April. Construction in these areas could harm hibernating lizards. Horned lizards are active above ground when temperatures exceed 75 degrees Fahrenheit. If horned lizards (nesting, gravid females, newborn young, lethargic from cool temperatures or hibernation) cannot move away from noise and approaching construction equipment in time, they could be affected by construction activities.

Recommendation: TPWD recommends that a pre-construction survey be conducted to determine if horned lizards are present on the project site or directly adjacent to the construction area. A useful indication that the Texas horned lizard may occupy the site is the presence of harvester ant (*Pogonomyrmex barbatus*) nests since harvester ants are the primary food source of horned lizards. The survey should be performed during the warm months of the year when the horned lizards are active. Fact sheets, including survey protocols and photos of Texas horned lizard can be found on-line at http://www.tpwd.state.tx.us/huntwild/wild/wildlife_diversity/texas_nature_trackers/horned_lizard/ and <http://www.tpwd.state.tx.us/huntwild/wild/species/thlizard/>.

If horned lizards are found on site, TPWD recommends contacting this office to develop plans to relocate them, particularly if there is likelihood that they would be harmed by project activities. To minimize impacts to the Texas horned lizard, TPWD recommends the use of the best management practices (BMPs) described in the *Texas Horned Lizard Watch – Management and Monitoring Packet* which can be found on-line at http://www.tpwd.state.tx.us/publications/pwdpubs/media/pwd_bk_w7000_0038.pdf. and *Texas Tortoise Best Management Practices* which can be found on-line at http://www.tpwd.state.tx.us/huntwild/wild/wildlife_diversity/habitat_assessment/media/texas_tortoise_bmps.pdf. Please note that Texas tortoise BMPs are applicable to the Texas horned lizard.

Rare Species

In addition to state and federally-protected species, TPWD tracks special features, natural communities, and rare species that are not listed as threatened or endangered. TPWD actively promotes their conservation and considers it important to evaluate and, if necessary, minimize impacts to rare species and their habitat to reduce the likelihood of endangerment and preclude the need to list. These species and communities are tracked in the Texas Natural Diversity Database (TXNDD). The most current and accurate TXNDD data can be requested at: TexasNatural.DiversityDatabase@tpwd.texas.gov.

No records of rare, threatened, or endangered species have been documented within 1.5 miles of the proposed project area in the TXNDD. However based on the information provided and publically available aerial photographs, suitable habitat may be present for the Spot-tailed earless lizard (*Holbrookia lacerata*) on the proposed project site.

In January 2010, the Spot-tailed earless lizard was petitioned for listing under the Endangered Species Act (ESA). On May 24, 2011, the USFWS issued a 90-day finding on that petition. Based on their review, the USFWS found the petition presents substantial scientific or commercial information indicating that listing the Spot-tailed earless lizard may be warranted. The USFWS has therefore initiated a status review to determine if listing is in fact warranted. Based on this status review, the USFWS will issue a 12-month finding on the petition.

Recommendation: TPWD recommends monitoring the listing status of the Spot-tailed earless lizard throughout project planning and construction and perform required consultation, permitting, and mitigation with the USFWS if this species becomes listed under the ESA. TPWD also recommends surveying for this species in areas proposed for disturbance, and avoid impacts to this species if found on-site.

Please note that the absence of TXNDD 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 presence, 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

Ms. Amanda Nicodemus
Page 5 of 5
May 8, 2015

presence/absence data. This information cannot be substituted for on-the-ground surveys.

Recommendation: Please review the TPWD county list for Howard County, as rare species could be present, depending upon habitat availability. These lists are available online at <http://tpwd.texas.gov/gis/rtest/>. If during construction, the project area is found to contain rare species, natural plant communities, or special features, TPWD recommends that precautions be taken to avoid impacts to them. The USFWS should be contacted for species occurrence data, guidance, permitting, survey protocols, and mitigation for federally-listed species. For the USFWS threatened and endangered species lists by county, please visit <http://ecos.fws.gov/ipac/>.

Determining the actual presence of a species in a given area depends on many variables including daily and seasonal activity cycles, environmental activity cues, preferred habitat, transiency and population density (both wildlife and human). The absence of a species can be demonstrated only with great difficulty and then only with repeated negative observations, taking into account all the variable factors contributing to the lack of detectable presence. If encountered during construction, measures should be taken to avoid impacting wildlife.

TPWD strives to respond to requests for project review within a 45 day comment period. Responses may be delayed due to workload and lack of staff. Failure to meet the 45 day review timeframe does not constitute a concurrence from TPWD that the proposed project will not adversely impact fish and wildlife resources.

TPWD advises review and implementation of these recommendations. If you have any questions, please contact me at (806) 761-4936 or Richard.Hanson@tpwd.texas.gov.

Sincerely,



Rick Hanson
Wildlife Habitat Assessment Program
Wildlife Division

RH:gg.ERCS-10860

Exhibit 7

Correspondence with U.S. Fish and Wildlife Service

Nicodemus, Amanda

From: LeBlanc, Darren <darren_leblanc@fws.gov>
Sent: Friday, February 27, 2015 2:18 PM
To: Nicodemus, Amanda
Subject: Re: Lone Star Railroad EA project - Big Spring TX

Thanks Amanda. The Service doesnt have any additional trust resource concerns for the mapped area other than what was provided by iPAC.

On Fri, Feb 27, 2015 at 3:01 PM, Nicodemus, Amanda <Amanda.Nicodemus@icfi.com> wrote:

Darren:

Thank you for taking the time to talk with me this afternoon. As discussed, please find attached the proposed project footprint. This is preliminary at this point, but the final footprint will be similar to what is shown. Also, if you determine if there is a contact person in the Austin Field Office that I also need to coordinate with, please let me know.

Again thanks and it was good to talk with you!

Amanda

Amanda Nicodemus

Project Manager/Wildlife Biologist

307.687.4763 office

307.247.2992 cell

amanda.nicodemus@icfi.com

ICF INTERNATIONAL | icfi.com | 405 Boxelder Road, Suite A-5, Gillette, WY 82718



Please consider the environment before printing this e-mail.

Exhibit 8

Correspondence with Texas Historical Commission

TEXAS HISTORICAL COMMISSION

EI-20929

real places telling real stories

January 30, 2015

Kenneth Blodgett
Surface Transportation Board
395 E Street, SW
Washington DC, 20423-001
Attn: STB Finance Docket No. 35874

Re: Project review under the National Historic Preservation Act: STB Docket No. FD 35874, Lone Star Railroad, Inc. and Southwestern Switching Company, Proposed Operation and Construction, Howard County (Surface Transportation Board; Track #201504494)

Dear Mr. Blodgett:

Thank you for your correspondence describing the above referenced project. This letter serves as comment on the proposed undertaking from the State Historic Preservation Officer, the Executive Director of the Texas Historical Commission.

The review staff, led by Tiffany Osburn, has examined our records. According to our maps, the tract proposed for development is in an area that has the potential for cultural resources. Several archeological sites have been previously recorded in the immediate vicinity and adjacent to the project site, as shown on the map you provided. We recommend that a professional archeologist survey the proposed project area. This work should meet the minimum archeological survey standards posted on-line at www.thc.state.tx.us. A report of investigations should be produced in conformance with the Secretary of the Interior's Guidelines for Archaeology and Historic Preservation, and submitted to this office for review. You may obtain lists of most professional archeologists in Texas on-line at: www.counciloftexasarcheologists.org or www.rpanet.org. Please note that other potentially qualified archeologists not included on these lists may be used.

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 Tiffany Osburn at 512/463-8883 or tiffany.osburn@thc.state.tx.us.**

Sincerely,



for
Mark Wolfe, State Historic Preservation Officer

MW/to





SURFACE TRANSPORTATION BOARD
Washington, DC 20423

Office of Environmental Analysis

August 5, 2015

Marc Wolfe
State Historic Preservation Officer
Texas Historical Commission
108 W. 16th Street
Austin, TX 78701

Attn: Tiffany Osburn

Re: Project review under the National Historic Preservation Act:
STB Docket No. FD 35874, Lone Star Railroad, Inc. and Southwestern Switching
Company, Proposed Operation and Construction, Howard County (Surface
Transportation Board; Track #201504494)

Dear Mr. Wolfe:

Thank you for your letter dated January 30, 2015, regarding the above referenced proposed rail line construction near Big Spring in Howard County, Texas. The Surface Transportation Board is the federal agency that will decide whether to approve, approve with conditions, or deny Lone Star Railroad, Inc.'s and Southern Switching Company's (the Applicants) request for a license to construct and operate the proposed rail line, which makes it an undertaking subject to review under Section 106 of the National Historic Preservation Act. In your letter, you recommended that a professional archaeologist survey the proposed project area and that a report of those investigations be submitted to your office for review. The Board's Office of Environmental Analysis (OEA) conducted a professional archeological survey and is attaching the report to this letter. The results of the investigation are summarized below.

In May of 2015, Moore Archeological Consulting, Inc. of Houston, Texas conducted the archaeological investigation under Texas Antiquities Permit Number 7258. The pedestrian cultural resources survey covered 100% of the proposed right-of-way (ROW), which is also the area of potential effects (APE) of the undertaking. The proposed ROW width is roughly 15.25 meters (50 feet) for the bulk of the alignment, and in no place will be wider than 30 meters (100 feet). The precise depth of impact is not known, however, the rail line construction is likely to result in significantly deep (as far as archeology is concerned) excavations.

A total of 96 shovel tests were excavated for the archaeological investigation, and these revealed three historic/prehistoric sites and one isolated object. The sites were delineated by a combination of shovel testing and examination of surface expression. These sites were initially designated Temporary Sites 1-4 (Temporary 2 being the isolate), but the sites have since been given the state of Texas issued trinomials 41HW134, 41HW135, and 41HW136.

Based on the shovel tests excavated and the surface examinations of the sites, the archaeological investigation recommended that, should the Board grant authority for Applicants to construct and operate the proposed line, construction of the rail line should be allowed to proceed

without further archeological investigations. This is based on the accessible portions of the sites (i.e., within the project APE) being determined to have no potential for the National Register of Historic Places and having no further research value. However, because the sites extend beyond the boundaries of the current proposed construction, the investigation also recommended that should any future work that is subject to state, federal, or local governmental jurisdiction or oversight be proposed adjacent to, but outside the rail line ROW within the vicinity of the newly recorded sites, additional archeological investigations should be conducted prior to any ground disturbance to determine the extent, integrity, and potential significance of the sites.

Based on the results of the archaeological investigation, the Board's OEA is requesting your concurrence at this time with a Section 106 finding of "no historic properties affected." In the unlikely event that future rail line construction activities would take place outside the proposed ROW close to these sites, OEA will recommend a mitigation measure on any decision granting the construction and operation authority requiring that the Applicants shall, prior to construction, consult with OEA and the SHPO about the scope of additional archaeological investigations that may be necessary. In addition, OEA will also recommend a mitigation measure requiring that in the event that any unanticipated archaeological sites, human remains, funerary items or associated artifacts are discovered during rail line construction activities, Applicants shall immediately cease all work and notify OEA and the SHPO.

If you have any questions concerning agency coordination and responses, the Board's environmental review process, or need specific information about the proposed project, please feel free to contact Kenneth Blodgett, OEA's Environmental Project Manager, by phone at (202) 245-0305 or by email at Kenneth.Blodgett@stb.dot.gov. We look forward to your comments and appreciate your assistance.

Very truly yours,

A handwritten signature in black ink, appearing to read "Victoria Rutson". The signature is fluid and cursive, with a large initial "V" and "R".

Victoria Rutson
Director
Office of Environmental Analysis

Enclosure:

- An Archeological Investigation of the Proposed Lone Star Railroad Project in Howard County, Texas



SURFACE TRANSPORTATION BOARD
Washington, DC 20423

AUG 07 2015

Office of Environmental Analysis

August 5, 2015

Marc Wolfe
State Historic Preservation Officer
Texas Historical Commission
108 W. 16th Street
Austin, TX 78701

Attn: Tiffany Osburn

Re: Project review under the National Historic Preservation Act:
STB Docket No. FD 35874, Lone Star Railroad, Inc. and Southwestern Switching
Company, Proposed Operation and Construction, Howard County (Surface
Transportation Board; Track #201504494)

Dear Mr. Wolfe:

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without further archeological investigations. This is based on the accessible portions of the sites (i.e., within the project APE) being determined to have no potential for the National Register of Historic Places and having no further research value. However, because the sites extend beyond the boundaries of the current proposed construction, the investigation also recommended that should any future work that is subject to state, federal, or local governmental jurisdiction or oversight be proposed adjacent to, but outside the rail line ROW within the vicinity of the newly recorded sites, additional archeological investigations should be conducted prior to any ground disturbance to determine the extent, integrity, and potential significance of the sites.

Based on the results of the archaeological investigation, the Board's OEA is requesting your concurrence at this time with a Section 106 finding of "no historic properties affected." In the unlikely event that future rail line construction activities would take place outside the proposed ROW close to these sites, OEA will recommend a mitigation measure on any decision granting the construction and operation authority requiring that the Applicants shall, prior to construction, consult with OEA and the SHPO about the scope of additional archaeological investigations that may be necessary. In addition, OEA will also recommend a mitigation measure requiring that in the event that any unanticipated archaeological sites, human remains, funerary items or associated artifacts are discovered during rail line construction activities, Applicants shall immediately cease all work and notify OEA and the SHPO.

If you have any questions concerning agency coordination and responses, the Board's environmental review process, or need specific information about the proposed project, please feel free to contact Kenneth Blodgett, OEA's Environmental Project Manager, by phone at (202) 245-0305 or by email at Kenneth.Blodgett@stb.dot.gov. We look forward to your comments and appreciate your assistance.

Very truly yours,



Victoria Rutson
Director
Office of Environmental Analysis



Enclosure:

- An Archeological Investigation of the Proposed Lone Star Railroad Project in Howard County, Texas

APPENDIX B

Board and Petitioner's Correspondence

Appendix B

Board and Petitioner's Correspondence

- Exhibit 1 Applicants' Request for Waiver of Six Month Pre-filing Notice
- Exhibit 2 Applicants' Request for Retention of ICF as the Third-Party Consultant
- Exhibit 3 Board's Response to Applicants' Waiver of the Six Month Pre-filing Notice
- Exhibit 4 Board's Response to Applicants' Request for Retention of ICF as the Third-Party Consultant
- Exhibit 5 Applicants' Request for Waiver of EIS Requirements
- Exhibit 6 Board's Response to Applicants' Request for Waiver of EIS Requirements
- Exhibit 7 Applicants' Proposed Voluntary Mitigation Measures

Exhibit 1

Applicants' Request for Waiver of Six Month Pre-filing Notice

LAW OFFICE
THOMAS F. MCFARLAND, P.C.
208 SOUTH LASALLE STREET - SUITE 1890
CHICAGO, ILLINOIS 60604-1112
TELEPHONE (312) 236-0204
FAX (312) 201-9695
mcfarland@aol.com

EI-20579

THOMAS F. MCFARLAND

November 13, 2014

By e-mail to kenneth.blodgett@stb.dot.gov

Mr. Ken Blodgett
Office of Environmental Analysis
Surface Transportation Board
395 E Street, S.W.
Washington, DC 20423

Re: Finance Docket No. 35874, *Lone Star Railroad, Inc. and Southern Switching Company -- Track Construction and Operation Exemption -- in Howard County, TX*

Dear Ken:

Lone Star Railroad, Inc. (LSR), a Class III rail carrier, proposes to construct approximately 9,000 feet of track (approximately 1.7 miles) near Big Spring, Howard County, TX. An affiliate of LSR, Southern Switching Company (SSC), also a Class III rail carrier, proposes to operate on that newly-constructed track. LSR and SSC intend to file a Petition for Exemption from 49 U.S.C. § 10901(a)(1) for LSR's construction of the track, and from 49 U.S.C. § 10902(a) for SSC's operation on that track. LSR and SSC are referred to collectively as Petitioners.

The newly-constructed track would connect with an existing main line track of Union Pacific Railroad Company (UP). The track would serve an industrial park (Big Spring Industrial Park) at which it is likely that initially the principal shippers and receivers would be related to the burgeoning crude-oil production in the nearby Permian Basin (e.g., frac sand, pipe, etc.). However, it is expected that shippers and receivers of commodities unrelated to crude oil production will also locate in the Industrial Park. The new rail line would also enable rail service to be provided to an existing shipper of crude oil and related commodities located adjacent to the Industrial Park on its west.

Pursuant to 49 C.F.R. § 1105.10(a), Petitioner LSR hereby respectfully requests a waiver of the requirement that a person filing a petition for an exemption for track construction consult with the Office of Environmental Analysis (OEA) at least six months prior to filing the Petition for Exemption. Such pre-notification is not needed nor appropriate in regard to LSR's proposed track construction. LSR is continuing to prepare substantial engineering and environmental data

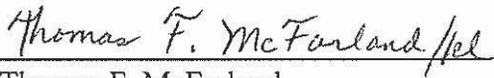
THOMAS F. MCFARLAND

Mr. Ken Blodgett
November 13, 2014
Page 2

for presentation to OEA in regard to the proposed track construction. In accordance with Board procedures, an independent third-party consultant to be selected by the Board will prepare environmental documentation in regard to the Project. A delay of six months would jeopardize development of the industrial park in light of the fast-moving demand for crude oil and related commodities in the territory.

WHEREFORE, the six-month pre-notification requirement should be waived.

Respectfully submitted,


Thomas F. McFarland
*Attorney for Petitioners Lone Star
Railroad, Inc. and Southern
Switching Company*

TMcF:kl:1656ltrKB2

cc: Ms. Victoria Rutson, vicki.rutson@stb.dot.gov

Exhibit 2

Applicants' Request for Retention of ICF as the Third-Party Consultant

LAW OFFICE
THOMAS F. MCFARLAND, P.C.
208 SOUTH LASALLE STREET - SUITE 1890
CHICAGO, ILLINOIS 60604-1112
TELEPHONE (312) 236-0204
FAX (312) 201-9695
mcfarland@aol.com

EI-20580

THOMAS F. MCFARLAND

November 13, 2014

By e-mail to kenneth.blodgett@stb.dot.gov

Mr. Ken Blodgett
Office of Environmental Analysis
Surface Transportation Board
395 E Street, S.W.
Washington, DC 20423

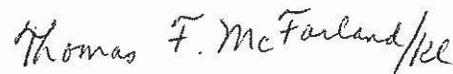
Re: Finance Docket No. 35874, *Lone Star Railroad, Inc. and Southern Switching Company -- Track Construction and Operation Exemption -- in Howard County, TX*

Dear Ken:

In accordance with 49 C.F.R. § 1105.10(d), Lone Star Railroad, Inc. and Southern Switching Company (Petitioners) respectfully request that the Office of Environmental Analysis ("OEA") approve the use of a third-party consultant, to be selected by OEA, to work under the supervision of OEA in the preparation of the environmental documentation required under 49 C.F.R. Part 1105 in connection with the above-captioned matter.

Petitioners wish to inform OEA that they would have no objection if OEA were to select ICF International (ICF) as the third-party consultant. ICF is among the third-party consultants pre-approved by OEA for use in environmental studies. Since 1969, ICF has been a leader in environmental matters.

Very truly yours,



Thomas F. McFarland
Attorney for Petitioners

TMcF:kl:1656\trKBI

cc: Ms. Victoria Rutson, vicki.rutson@stb.dot.gov

Exhibit 3

Board's Response to Applicants' Waiver of the Six Month Pre-filing Notice



SURFACE TRANSPORTATION BOARD
Washington, DC 20423

EO-2401

Office of Economics, Environmental Analysis and Administration

November 20, 2014

Mr. Thomas F. McFarland, P.C.
208 South LaSalle Street
Suite 1890
Chicago, IL 60604-1112

Re: Finance Docket No. 35874, Lone Star Railroad, Inc. and Southern Switching Company - Construction and Operation Exemption - Howard County, Texas; Waiver of Six-Month Prefiling Notice

Dear Mr. McFarland:

Pursuant to 49 CFR 1105.10(c), we are granting your request of November 13, 2014, for waiver of the six-month prefiling notice generally required for construction projects under 49 CFR 1105.10 (a)(1).

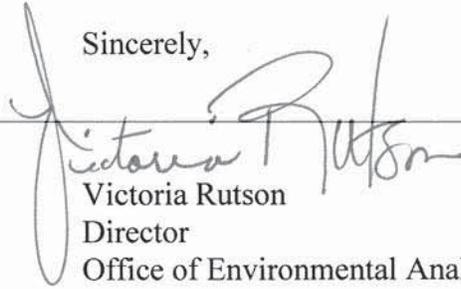
The Surface Transportation Board's Office of Environmental Analysis (OEA) has met and consulted with Lone Star Railroad, Inc. (LSR) representatives regarding the proposed environmental impacts associated with the construction and operation of a new rail line in Howard County, Texas. At a meeting on November 5, 2014, LSR's representatives provided OEA with an overview of the project.

LSR proposes to construct approximately 9,000 feet of track (approximately 1.7 miles) near Big Spring. An affiliate of LSR, Southern Switching Company, proposes to operate on the newly-constructed track, which would connect with an existing main line track of Union Pacific Railroad Company. The track would serve an industrial park (Big Spring Industrial Park). The principal shippers and receivers would initially be related to the burgeoning crude-oil production in the nearby Permian Basin. It is expected that shippers and receivers of commodities unrelated to crude oil production would also locate in the Industrial Park.

The information provided by LSR and the fact that OEA has explained in detail the Surface Transportation Board's environmental review process to LSR's representatives lead OEA to believe that it has adequate information, and that LSR is sufficiently aware of the environmental review process, to grant this request.

If we can be of further assistance, please contact me or Kenneth Blodgett of my staff at (202) 245-0305.

Sincerely,



Victoria Rutson
Director
Office of Environmental Analysis

Exhibit 4

Board's Response to Applicants' Request for Retention of ICF as Third-Party Consultant



EO-2402

SURFACE TRANSPORTATION BOARD
Washington, DC 20423

Office of Economics, Environmental Analysis and Administration

November 21, 2014

Mr. Thomas F. McFarland, P.C.
208 South LaSalle Street
Suite 1890
Chicago, IL 60604-1112

Re: Finance Docket No. 35874, Lone Star Railroad, Inc. and Southern Switching Company - Construction and Operation Exemption - Howard County, Texas; Approval of Third-Party Consultant

Dear Mr. McFarland:

Your request for approval under 49 CFR 1105.10(d) and 40 CFR 1506.5 for retention of ICF International (ICF) as an independent third-party consultant for the above referenced project is approved. ICF will prepare the appropriate environmental document on behalf of the Board in connection with a proposed project by Lone Star Railroad, Inc. (LSR). LSR proposes to construct approximately 9,000 feet of track (approximately 1.7 miles) near Big Spring in Howard County, Texas. An affiliate of LSR, Southern Switching Company, proposes to operate on the newly-constructed track, which would connect with an existing main line track of Union Pacific Railroad Company. The track would serve an industrial park (Big Spring Industrial Park). The principal shippers and receivers would initially be related to the burgeoning crude-oil production in the nearby Permian Basin. It is expected that shippers and receivers of commodities unrelated to crude oil production would also locate in the Industrial Park.

We have attached a disclosure statement that we ask you to forward to ICF to complete. Once the statement is signed by ICF, we request that ICF send it directly to us. As we discussed in our meeting on November 5, 2014, the Board's Office of Environmental Analysis will directly supervise, review, and approve all environmental documents prepared by the independent third-party contractor.

If we can be of further assistance, please do not hesitate to contact me or Kenneth Blodgett of my staff at (202) 245-0305.

Sincerely,

A handwritten signature in black ink, appearing to read "Victoria Rutson". The signature is written in a cursive style with a large initial "V".

Victoria Rutson
Director
Office of Environmental Analysis

Enclosure

Exhibit 5

Applicants' Request for Waiver of EIS Requirements

LAW OFFICE
THOMAS F. MCFARLAND, P.C.
208 SOUTH LASALLE STREET - SUITE 1890
CHICAGO, ILLINOIS 60604-1112
TELEPHONE (312) 236-0204
FAX (312) 201-9695
mcfarland@aol.com

EI-20951

THOMAS F. MCFARLAND

March 13, 2015

By UPS overnight mail

Ms. Victoria Rutson, Director
Office of Environmental Analysis
Surface Transportation Board
395 E Street, S.W.
Washington, DC 20024

Re: Finance Docket No. 35874, *Lone Star Railroad, Inc. and Southern Switching Company -- Track Construction and Operation Exemption -- in Howard County, TX*

Dear Ms. Rutson:

Petitioners Lone Star Railroad, Inc. (LSR) and Southern Switching Company (SSC) hereby respectfully request that in regard to the track construction proposal in the above proceeding, the Board waive the provision at 49 C.F.R. § 1105.6(a) that an Environmental Impact Statement (EIS) will normally be prepared for such a proposal. In accordance with 49 C.F.R. § 1105.6(d), LSR and SSC here seek to demonstrate, by means of supporting information set out below, that an Environmental Assessment (EA), rather than an EIS, will be sufficient because the particular proposal is not likely to have a significant environmental impact.

JUSTIFICATION FOR WAIVER

The proposed track construction is relatively short (no more than 3.18 miles). The track to be constructed would enable rail service to be provided at a new industrial park in a remote location in West Texas. The closest municipality to the proposed track construction is Big Spring, TX a mile or so to the west. Big Spring has a population of approximately 25,000. The proposed track construction would not cross any body of water. It would not cross any public road. It would not cross the tracks of another railroad. As a result of a recent on-site visit by Mr. Ken Blodgett, OEA is in a position to know first-hand that the proposal should not be environmentally or historically significant. Additional information about the proposed track construction is contained in a Petition for Exemption of the proposed track construction and operation filed by LSR and SSC on February 25, 2015 (*see* especially the Verified Statement of Matthew Cundiff and his Appendix MC-1).

THOMAS F. MCFARLAND

Ms. Victoria Rutson
March 13, 2015
Page 2

In view of those characteristics, the proposed track construction is unlikely to have a significant environmental effect on the subject matter covered by the Board's environmental and historic regulations at 49 C.F.R. § 1105.7 and 1105.8. The limited track construction in a remote area is likely to have little or no effect on environmental considerations such as air, noise, safety and the like. That is particularly the case as to the environmental regulations at 49 C.F.R. § 1105.7(e)(11) that are directly applicable to track construction. For example, the proposed track construction is unlikely to have a significant effect on essential public services, public roads, and adjoining properties because the track would not traverse Big Spring, TX or any other concentrated population center. *See* 49 C.F.R. § 1105.7(e)(11)(vi).

In light of the foregoing, LSR and SSC submit that the environmental and historic effects of the proposed track construction can be adequately evaluated by means of an EA.

WHEREFORE, the Board should waive compliance by LSR and SSC with 49 C.F.R. § 1105.6(a) that normally requires an EIS for track constructions.

Respectfully submitted,



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Exhibit 6

Board's Response to Applicants' Request for Waiver of EIS Requirements



EO-2524

SURFACE TRANSPORTATION BOARD
Washington, DC 20423

Office of Environmental Analysis

March 25, 2015

Mr. Thomas F. McFarland, P.C.
208 South LaSalle Street
Suite 1890
Chicago, IL 60604-1112

Re: Finance Docket No. 35874, Lone Star Railroad, Inc. and Southern Switching Company – Construction and Operation Exemption – Howard County, Texas; EIS Waiver

Dear Mr. McFarland:

Pursuant to 49 CFR 1105.6(d), the Surface Transportation Board's (Board) Office of Environmental Analysis (OEA) is granting your request of March 13, 2015, for a waiver of 49 CFR 1105.6(a), which generally provides for the preparation of an Environmental Impact Statement (EIS) for a rail line construction and operation proposal. OEA is granting the waiver based on available information gathered to date, including materials filed by the applicants, OEA's consultation with federal, state and local agencies, and a site visit to the project area on March 3, 2015.

On February 25, 2015, Lone Star Railroad, Inc. (LSR) and Southern Switching Company (together, Applicants) filed a petition for exemption under 49 U.S.C. 10502 from the prior approval requirements of 49 U.S.C. 10901 for authority from the Board to construct and operate a rail line in Howard County, Texas. LSR proposes to construct approximately 3.18 miles of track near Big Spring. An affiliate of LSR, Southern Switching Company, proposes to operate on the newly-constructed track, which would connect with an existing main line track of Union Pacific Railroad Company. The track would serve a new industrial park. The principal shippers and receivers would initially be related to crude-oil production in the nearby Permian Basin. Applicants expect that shippers and receivers of commodities unrelated to crude oil production would also locate in the industrial park.

Based on the information available to date, we believe that the proposed action would not result in significant environmental impacts and that any impacts could most likely be addressed through appropriate mitigation measures. The proposed track is short in length and would not

cross any public roads or the tracks of another railroad. The area is not heavily populated, and therefore safety impacts are not expected to be significant. There would be no diversion of existing freight traffic to or from other transportation systems or modes. The proposed action is not expected to adversely affect or conflict with existing land use plans. No significant impact to local or regional air quality is expected. It does not appear that the proposed action would have a lasting, adverse impact on surface or groundwater resources. There are no wildlife sanctuaries, refuges, or national or state parks or forests that would be affected by the proposed action. No historic structures or other potential historic or archaeological resources were observed during the site visit. Therefore, OEA believes that the preparation of an Environmental Assessment (EA) is the appropriate level of environmental documentation.

After the EA is prepared, OEA will make the document available for public review and comment. Once the comment period concludes, OEA will prepare a Final EA responding to the comments received and including any additional analysis or appropriate modifications that may be needed to its existing analysis. The Final EA will also set forth OEA's final recommended mitigation measures for the Board. The Board will then consider the EA, the public comments, and OEA's Final EA recommendations before making its final decision in this proceeding.

Please be aware that should the environmental process disclose unanticipated impacts that are significant, we will require the preparation of an EIS at that time. If you have any questions, please do not hesitate to contact me or Kenneth Blodgett of my staff at (202) 245-0305.

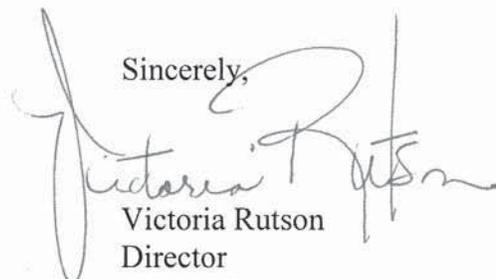
Sincerely,

Victoria Rutson
Director
Office of Environmental Analysis

Exhibit 7

Applicants' Proposed Voluntary Mitigation Measures

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June 2, 2015

By e-mail to rutsonv@stb.dot.gov

Ms. Victoria Rutson, Director
Office of Environmental Analysis
Surface Transportation Board
395 E Street, S.W.
Washington, DC 20423

Re: Finance Docket No. 35874, *Lone Star Railroad, Inc. and Southern Switching Company -- Track Construction and Operation Exemption -- in Howard County, TX*

Dear Ms. Rutson:

In conjunction with the Environmental Assessment in the above proceeding, please be advised that Lone Star Railroad, Inc. proposes the following as voluntary mitigation of the environmental effects of the proposed track construction:

- (1) LSR shall consult with Howard County, Texas regarding curb cut and road planning in the vicinity of the proposed track construction.
- (2) LSR shall use industry best practices in order to minimize noise in the residential area to the south of the proposed track construction.

Very truly yours,



Thomas F. McFarland
Attorney for Lone Star Railroad, Inc.

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APPENDIX C

Lone Star Railroad Emissions Estimates

C.1 Emission Estimates

Table 1. Truck Emissions (tons per year)

Pollutant	General Conformity Threshold (tons/year) ¹	Proposed Truck Emission Levels (tons/year) ²
CO	100	15.47
NO _x	100	48.54
PM ₁₀	100	2.69
PM _{2.5}	100	2.71
SO ₂	100	0.10
VOCs	100	2.21

Notes:

¹ General Conformity threshold is used to demonstrate that an action would not contribute to a violation of the NAAQS.

² Emission factors were based on the California Air Resource Board's (CARB) heavy duty reports. These are conservative estimates due to CARB's stricter AAQS.

Table 2. Locomotive Emissions (tons per year)

Pollutant	General Conformity Threshold (tons/year) ²	Proposed Project Emission Levels (tons/year) ¹
CO	100	0.13
NO _x	100	0.86
PM ₁₀	100	0.03
PM _{2.5}	100	0.03
SO ₂	100	0.00
VOCs	100	0.05

Notes:

¹ Emission rates conservatively based on use of Tier 0 locomotives generating 3000 horsepower each. Tier 0 includes locomotives manufactured from 1973-2001.

² General Conformity threshold is used to demonstrate that an action would not contribute to a violation of the NAAQS.

Source: EPA. 2009. Emission Factors for Locomotives. Available at: <http://www.epa.gov/nonroad/locomotv/420f09025.pdf>. Accessed: April 14, 2015.

C.2 Inputs

Table 3. Train Activity Calculations

Train (Moving)	train miles/day	ton-miles/day	fuel consumption (gal/day)	work (bhp-hr/day)
Loaded	1.14	16659	20.0	415.5
Unloaded	1.14	3257	3.9	81.2

Table 4. Truck Emission Factors

Emission Factors (g/mile)					
CO	NO _x	PM ₁₀	PM _{2.5}	SO ₂	VOCs
2.24	7.03	0.39	0.39	0.02	0.32

Notes:

Source: California Air Resources Board. 2013. Section 10.0 Heavy Duty Trucks Emission Factors Development. Available at: http://www.arb.ca.gov/msei/onroad/downloads/tsd/HDT_Emissions_New.pdf. Accessed: September 17, 2015.

Table 5. Locomotive Emission Factors

Pollutants	Tier 0	Tier 0+	Tier 1	Tier 1+	Tier 2	Tier 2+	Tier 3	Tier 4
Criteria Pollutants (g/bhp-hr)								
CO	1.28	1.28	1.28	1.28	1.28	1.28	1.28	1.28
NO _x	8.6	7.2	6.7	6.7	5.0	5.0	5.0	1.0
PM ₁₀	0.32	0.20	0.32	0.20	0.18	0.08	0.08	0.02
PM _{2.5}	0.31	0.19	0.31	0.19	0.17	0.08	0.08	0.01
SO ₂	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005
VOCs	0.51	0.32	0.49	0.31	0.27	0.14	0.14	0.04

Notes:

Source: EPA. 2009. Emission Factors for Locomotives (EPA-420-F-09-025). Table 1. Available at: <http://www3.epa.gov/nonroad/locomotiv/420f09025.pdf>. Accessed: September 17, 201

Table 6. General Inputs

Description	Value	Unit
Weights		
Cars per train	100	cars
Coal payload per car	118	tons/car
Max gross weight of car	286,000	lb/car
	or	143
		tons
Avg. weight of locomotive	368,000	lb/loco
	or	184
		tons/loco
No. of locomotives per train	2	locomotives/train
Gross weight of loaded train	14,668	tons/train
Empty weight of car	25	tons/car
Gross weight of unloaded train	2,868	tons/train
Number of train trips	2	one-way trips
Fuel		
Fuel efficiency	834	gross ton-mi/gal diesel
Fuel energy content conversion factor	20.8	bhp-hr/gal diesel
Time		
Weeks in a year	52	weeks
Days in a year	365	days
Days in a week	7	days
Conversion Factors		
One ton =	907184.7	grams
1 lb =	453.59	grams
1 million tons =	1000000	tons
Track Mileage		
Mileage	3.18	miles
Truck Mileage		
Total vehicle miles travelled (VMT)	60	miles
Number of Truck Trips	286	Per day
Operational Days	365	Days per year

APPENDIX D

Noise Impact Assessment Methods

D.1 Wayside Noise Models

Wayside noise refers to all noise generated by rail cars and locomotives (but not including horn noise). OEA used noise measurements from past noise studies (Surface Transportation Board 1998a, 1998b) as the basis for the wayside noise level projections for the proposed rail line.

The basic equation used for the wayside noise model is as follows.

$$SEL_{cars} = L_{eqref} + 10\log(T_{passby}) + 30\log(S/S_{ref})$$

For locomotives, which can be modeled as moving monopole point sources, the corresponding equation is as follows.

$$SEL_{locos} = SEL_{ref} + 10\log(N_{locos}) - 10\log(S/S_{ref})$$

The total train sound exposure level is computed by logarithmically adding SEL_{locos} and SEL_{cars} .

$$DNL_{100'} = SEL + 10\log(N_d + 10*N_n) - 49.4$$

$$DNL = DNL_{100'} + 15\log(100/D)$$

The following parameters apply to the equations above.

SEL_{cars} = Sound exposure level of railcars (A-weighted decibels [dBA])

L_{eqref} = Level equivalent of railcar

T_{passby} = Train passby time, in seconds

S = Train speed, in miles per hour

S_{ref} = Reference train speed

SEL_{locos} = Sound exposure level of locomotive

SEL_{ref} = Reference sound exposure level of locomotive

DNL = Day-night average noise level

N_{locos} = Number of locomotives

N_d = Number of trains during daytime

N_n = Number of trains during nighttime

D = Distance from tracks, in feet

Table D-1 shows the reference wayside noise levels used in this study and Figure X-1 shows the wayside noise frequency spectrum used in the calculations.

Table D-1. Reference Wayside Noise Levels

Description	Average Level (dBA)
Locomotive SEL (40 miles per hour at 100 feet)	95
Railcar L_{eq}	82

Source: Surface Transportation Board 1998a, 1998b
dBA = A-weighted decibels; SEL = sound exposure level; L_{eq} = level equivalent

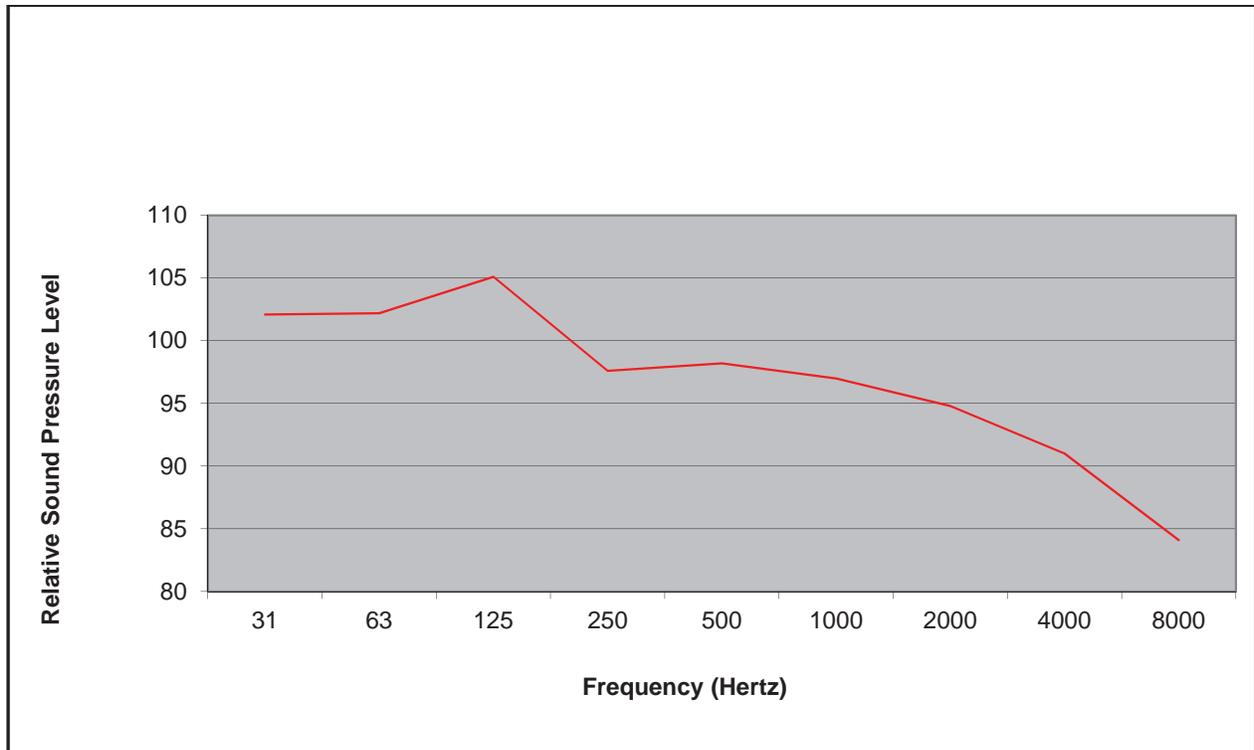


Figure D-1. Wayside Noise Spectrum (Surface Transportation Board 2002)

D.2 References

- Federal Transit Administration. 2006. *Transit Noise and Vibration Impact Assessment*. May. (FTA-VA-90-1003-06.) Available: http://www.fta.dot.gov/documents/FTA_Noise_and_Vibration_Manual.pdf.
- Surface Transportation Board. 1998a. *Final Environmental Impact Statement No. 980194, Conrail Acquisition (Finance Docket No. 33388) by CSX Corporation and CSX Transportation Inc., and Norfolk Southern Corporation and Norfolk Southern Railway Company (NS)*.
- Surface Transportation Board. 1998b. *Draft Environmental Assessment Canadian National/Illinois Central Railroad Acquisition*.
- Surface Transportation Board. 2002. *Draft Environmental Impact Statement, Construction and Operation of a Rail Line from the Bayport Loop in Harris County, Texas*. December.
- Surface Transportation Board. 2003. *Final Environmental Impact Statement, Construction and Operation of a Rail Line from the Bayport Loop in Harris County, Texas*. May.

D.3 Glossary

Term	Definition
Ambient noise	The sum of all noise (from human and naturally occurring sources) at a specific location over a specific time is called ambient noise.
Day-night average sound level	The energy average of A-weighted decibel sound levels over 24 hours, which includes a 10-decibel adjustment factor for noise between 10 p.m. and 7 a.m. to account for the greater sensitivity of most people to noise during the night. The effect of nighttime adjustment is that 1 nighttime event, such as a train passing by between 10 p.m. and 7 a.m., is equivalent to 10 similar events during the daytime.
Decibel (dB)	A standard unit for measuring sound pressure levels based on a reference sound pressure of 0.0002 dyne per square centimeter. This is nominally the lowest sound pressure that people can hear.
Decibel, A-weighted (dBA)	A measure of noise level used to compare noise from various sources. A-weighting approximates the frequency response of the human ear.
Hertz (Hz)	A unit of frequency equal to one cycle per second.