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DRAFT ENVIRONMENTAL ASSESSMENT

FINANCE DOCKET NO. 33731

ELLIS COUNTY RURAL RAIL TRANSPORTATION DISTRICT--Construction and Operation Exemption--Ellis County, Texas

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CONCLUSION

This Draft Environmental Assessment (Draft EA) considers the potential environmental impacts of construction and operation of an approximately 5.25-mile rail line by the Ellis County Rural Rail Transportation District (District) in the City of Midlothian, Ellis County, Texas. The proposed rail line would connect the "Railport" business and industrial park with a mainline of the Union Pacific Railroad Company (UP). The purpose of the line is to provide alternative direct rail access to the Railport.

Based on the Section of Environmental Analysis' (SEA) review of all information available to date and its independent analysis of the proposed rail line construction and operation, all the comments and mitigation requested by various federal, state, and local agencies, as well as other concerned parties, and the mitigation offered by the District, SEA preliminarily concludes in this Draft EA that construction and operation of the District's proposed rail line would have no significant environmental impacts if the Surface Transportation Board (Board) imposes and the District implements the mitigation recommended in Section ES.5.

Therefore, SEA preliminarily recommends that the Board impose on any final decision approving the proposed rail line construction and operation conditions requiring the District to implement the mitigation contained in Section ES.5. SEA will consider all comments received in response to the Draft EA in making its final recommendations to the Board. The Board will consider SEA's final recommendations and the environmental comments in making its final decision.

EXECUTIVE SUMMARY

SEA has prepared this Draft EA in response to a petition filed by the District with the Board for an exemption under 49 U.S.C. 10505 from the prior approval requirements of 49 U.S.C. 10901 to permit the construction and operation of a 5.25-mile rail line in the City of Midlothian, Ellis County, Texas.[1]

ES.1 PURPOSE AND NEED FOR AGENCY ACTION

The District proposes to build a rail line between the "Railport" business and industrial park and a mainline of the UP (see Figures A-1 through A-3 in Appendix A). Initially the District expects the proposed line to carry coal, coke, aggregates, scrap metal, finished steel, and cement. The Railport currently has direct rail access by the Burlington Northern Santa Fe Corporation (BNSF); the proposed rail line would provide alternative direct rail access to the site.

The Board conditionally granted the District's petition, subject to its further consideration of the environmental impacts of the proposal. On completion of the environmental review, the Board will issue a further decision addressing those matters and making the exemption effective at that time, if appropriate.

SEA prepared the Draft EA based on its independent analysis of the project, the comments and mitigation requested by various federal, state, and local agencies as well as other concerned parties, and all the information available to date. The Draft EA assesses the potential environmental effects of the proposed action and feasible alternatives, including the "no-build" alternative. SEA has served the Draft EA on the public, which has been invited to submit comments on the document. SEA will consider all the comments received in making its final recommendations to the Board. The Board will consider SEA's final recommendations and the environmental comments in making its final decision.

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[1] The Board was formerly the Interstate Commerce Commission (ICC). The ICC Termination Act of 1995, Pub. L. No. 104-88, 109 Stat. 803, which was enacted on December 29, 1995, and took effect on January 1, 1996, abolished the ICC and transferred certain rail functions and proceedings to the Board.

ES.2 OVERVIEW OF THE AFFECTED ENVIRONMENT (See Chapter 2 for details)

The proposed rail line would be located in north central Texas, in the northwestern corner of Ellis County. Ellis County is located just south of Dallas and Dallas County. The proposed line would be located entirely within the corporate limits of the city of Midlothian.

Land use in the immediate vicinity of the proposed rail route is primarily agricultural, consisting of farming and ranching. Cultivated crops include cotton, grain sorghum, and alfalfa. Other land uses in the area include residential development and cement, brick, and steel manufacturing. Ellis County is part of the 16-county North Central Texas Region; this region is currently undergoing the largest population boom in a decade. The Midlothian area is expected to have a higher growth rate than any other part of Ellis County.

Ellis County is in the Blackland Prairie region of north central Texas. The county is mainly gently sloping to sloping, with elevations ranging from about 300 feet on the lower part of the flood plain of the Trinity River to about 800 feet on the higher part of the Austin escarpment. The immediate project area is nearly level to slightly rolling and varies in elevation from 600 to 650 feet above sea level. The prairie soils of the region are naturally fertile and consequently heavily utilized in the production of row crops.

Ellis County is located in the Trinity River basin; most streams empty into the Trinity River. The project area is located in the Mountain Creek drainage area; this creek flows northeast and drains about 25,000 acres of the northwestern part of the county; it empties into the Trinity River on the western edge of Dallas.

A biological survey of the proposed rail corridor found no endangered, threatened or otherwise protected plant or animal species in the project area.

Midlothian is located at the intersection of U.S. Highways 67 and 287, major routes leading to Dallas and Fort Worth, respectively. It is also located at the intersection of UP’s mainline into Forth Worth and BNSF’s mainline into Dallas.

Ellis County is in attainment of the National Ambient Air Quality Standards (NAAQS) for all six criteria air pollutants. The project

area is primarily agricultural; in most of this area the major noise source is traffic on local roads; however, near the proposed connection with UP, there is also some noise contribution from existing rail traffic, while near the proposed Railport connection, noise levels are also affected by vehicular traffic on U.S. 67, rail traffic on the BNSF, and industrial activities from existing industries in the area.

The District conducted a Phase I cultural resources survey of the proposed rail right-of-way (ROW) and concluded that there are no resources within the survey area which are eligible for the National Register of Historic Places (NRHP). The Texas Historical Commission (Commission) concurred in this finding (Appendix C, Exhibit 12; see also Chapter 4, Section 4.8).

ES.3 DESCRIPTION OF THE PROPOSED ACTION AND ALTERNATIVES (See Chapter 3 for details)

ES.3.1 The District's Proposed Route

Construction

The proposed rail line would begin at the UP mainline and continue in a generally southwesterly direction for approximately 5.25 miles to connect with planned industrial trackage to be built within the Railport site. The proposed construction would also involve construction of a passing siding and two interchange tracks at the UP line.

Operation and Maintenance

The District currently expects the proposed rail line to carry coal, coke, aggregates, scrap metal, finished steel, and cement. In the future, as shippers locate at the Railport, rail shipments may also include other types of materials. The District would own the proposed rail line; it has not yet determined who would provide operations over the line. There are initially expected to be four train movements per day over the proposed line; these would be in the nature of switch movements. Initial operations would involve one locomotive and an average of 5 to 10 cars per train. As the Railport develops, additional train movements may be added.

The District would provide or contract for ROW and track maintenance and would implement a regular program designed to keep the railroad bed free of weeds. This would include use of mechanical measures and herbicides to clear track bed and the ROW adjacent to the track bed.

ES.3.2 Initially Considered Alternatives to the Proposed Route

Non-Rail Transport

The District states that trucking does not offer an economical or practical solution for shipping some types of materials and over some distances. It indicates that without dual rail access the Railport project could not attract a significant number of industries and would not be economically viable. For this reason, use of non-rail transport was not considered a satisfactory substitute for dual-access rail service to the Railport.

Rail Alternatives

The District initially identified three rail alternatives to the proposed rail construction route, shown in Figure A-16 as Alternatives I, II, and III.

Alternative I (Utilizing Existing BNSF Trackage). This alternative would require purchasing or trading trackage with BNSF and would involve the existing BNSF tracks along U.S. Highway 67 from the Railport to the existing UP trackage east of downtown Midlothian.

By utilizing existing trackage, problems related to topography and impacts on existing facilities could be avoided. However, the BNSF connection to UP is located just east of downtown and this would require rail switching to take place near the center of downtown. Although BNSF supported this alternative, the City of Midlothian adamently opposed it due to the potential congestion problems.

Alternative II (Parallel track along BNSF). This would involve construction of a rail line parallel to the BNSF, with a new connection to existing UP tracks east of downtown Midlothian. This alternative would minimize rail traffic along the existing BNSF line and create true competitive rail service; however, it would have negative safety and congestion impacts similar to Alternative I because it would still require switching to the UP near the center of downtown. These impacts could be reduced by the construction of multiple rail sidings somewhat downline of the UP connection. While additional rail sidings would reduce the safety risk during switching operations, they would require additional ROW in downtown Midlothian which would adversely affect existing residences and businesses. Acquisition of ROW for the main line trackage (parallel to BNSF) would also adversely affect existing business and residences. This alternative was rejected due to potential safety and congestion impacts and the potential for displacement of businesses and residences for ROW acquisition.

Alternative III (Southerly Rail Construction Route. This would involve construction of a rail line connecting to the UP southeast of downtown Midlothian and proceeding southwesterly to approach the Railport site from the south. Topographic impacts are the greatest

concern with this route which would require a steep climb up a 140-foot high limestone escarpment in order to reach UP, resulting in a grade of more than nine percent, which would be unacceptable from an operational standpoint. Rerouting the line to skirt the steepest part of the escarpment would bring it through residential areas, while still leaving it with a grade of at least four percent, twice the recommended maximum. Due to the adverse effects of high slope and the possibility of displacement of existing residences, this alternative was rejected.

Alternate Connections between the Proposed Route and the Railport. The District initially identified three alternatives to its preferred connection between the proposed route and the Railport (shown as Alternates 1, 3, and 4 in Figure A-13). The District considered its proposed Railport connection preferable for a number of reasons, including: it would require no ROW from residential areas, would allow a grade-separated BNSF crossing, and would make fewer road crossings.

ES 3.3 Environmentally Preferable Route

SEA preliminarily concludes that the District's proposed route for providing alternate rail access to the Railport is the environmentally preferable route. This route is preferable to Alternatives I and II because it would avoid the necessity of conducting switching activities in the center of downtown Midlothian. It would also avoid displacing businesses and residences in downtown Midlothian for ROW acquisition, as Alternative II would do. The proposed route is preferable to Alternate III because that route would have an operationally unacceptable grade, which could only be reduced by taking the route through a residential area, with resulting displacement of residences.

ES.3.4 No-Build Alternative

If the proposed rail line is not built, environmental impacts associated with that rail construction and operation would not occur. These potential impacts include acquisition of land for ROW and operational impacts such as possible at-grade crossing accidents.

ES.4 SYNOPSIS OF ENVIRONMENTAL IMPACTS OF THE PROPOSED RAIL LINE CONSTRUCTION AND OPERATION (see Chapter 4 for details)

ES.4.1 Land Use

The proposed ROW would require approximately 95 acres of land, including the UP interchange and siding tracks. Most of this land is in agricultural use. The Natural Resources Conservation Service (NRCS) commented that the proposed ROW contains important farmland

subject to the Farmland Protection Policy Act and requested that a Farmland Conversion Impact Rating be prepared for the proposed project. This was done and the results showed that, under the NRCS rating system, the proposed rail route does not warrant further consideration for protection against conversion activities (see Appendix D).

There are no known hazardous waste sites within the proposed ROW. There are no habitable structures within the proposed ROW. The nearest residences (two) are approximately 350 feet from the proposed ROW; two other homes would be within 500 feet of the ROW.

ES.4.2 Socio-economic

The District expects approximately 160 people to be employed during construction of the proposed rail line. To the extent that these people spend their wages locally, there would be a limited,short-term positive impact on the local economy.

The U.S. Environmental Protection Agency (EPA) requested that the Board consider Environmental Justice impacts in its environmental review. SEA conducted an environmental justice analysis (see Appendix E) which indicated that no Environmental Justice Communities of Concern exist in the study area for the proposed rail line. Therefore, no disproportionately high or adverse human health or environmental effects can result from the proposed project.

ES.4.3 Water Resources

The proposed rail line construction and operation would not affect groundwater quantity or quality.

The proposed line would cross seven intermittent or ephemeral drainageways. Construction would temporarily disturb up to 0.32 acres of U.S. Waters, but would not affect any wetlands. The drainageway crossings are subject to Section 404 regulation by the U.S. Army Corps of Engineers (Corps), which has permitted the project under a general nationwide-14 permit. Given the minimal impacts associated with the drainageway crossings, the Corps is not requiring any mitigation.

The District would prepare a Storm Water Pollution Prevention Plan using Texas Department of Transportation (TxDOT) Best Management Practices (BMP’s). Implementation of BMP’s and adherence to the provisions of the Corps permit would minimize surface water resource impacts

ES.4.4 Biological Resources

Implementation of measures noted in the preceding paragraph which

the District would take to minimize erosion of soil into drainageways should minimize soil erosion impacts on aquatic wildlife.

The proposed rail ROW, including the UP interchange, would require around 95 acres of land, most of which is currently in pastureland, cultivated fields, and fallow fields. Rail construction and operation would have minor adverse wildlife impacts, No federal or state-listed endangered or threatened or otherwise protected species would be affected by the proposed action.

ES.4.5 Transportation/Safety

The rail line would cross U.S. Highways 67 and 287 and also the BNSF rail line on grade separations. The five proposed at-grade public road crossings would have limited and insignificant safety and delay impacts. The potential for other safety impacts, such as derailments, is also minimal.

ES.4.6 Air Quality

Rail line construction would not significantly affect local air quality, nor would proposed rail operations, due to the projected low level of traffic over the proposed line.

ES.4.7 Noise, Cultural Resources, and Recreation

Construction and operation of the proposed route would not have significant noise impacts. It would not affect any properties listed on or eligible for inclusion in the NRHP. There are no public recreational resources which would be affected by the proposed action.

ES.4.8 Conclusion and Recommendation

Based on the information provided from all sources to date and its independent analysis, SEA preliminarily concludes in this Draft EA that construction and operation of the District's proposed rail line would have no significant environmental impacts if the Board imposes and the District implements the mitigation recommended in Section ES.5. Accordingly, preparation of an Environmental Impact Statement (EIS) is unnecessary.

ES.5 SECTION OF ENVIRONMENTAL ANALYSIS' RECOMMENDATIONS FOR MITIGATION

Recommended Mitigation

Based on SEA's review of all information available to date and

its independent analysis of the proposed rail line construction and operation, all the comments and mitigation requested by various federal, state, and local agencies, as well as other concerned parties, and the mitigation offered by the District, SEA preliminarily recommends that any final decision by the Board approving the proposed rail line construction and operation be subject to the following mitigation measures:

Land Use

1. As agreed to by the Ellis County Rural Rail Transportation District, it shall grant private crossings or construct access roads if necessary to maintain access to property severed by the proposed right-of-way.

2. As agreed to by the Ellis County Rural Rail Transportation District, it shall develop any borrow sites related to the proposed rail construction in accordance with all applicable environmental regulations.

3. As agreed to by the Ellis County Rural Rail Transportation District, it shall require its construction contractor to dispose of all waste material generated during construction in accordance with applicable federal, state, and local regulations.

4. Should hazardous wastes be encountered in the project area during the proposed construction, the Ellis County Rural Rail Transportation District shall handle and dispose of such wastes in accordance with applicable federal, state, and local regulations.

Water Resources

5. As agreed to by the Ellis County Rural Rail Transportation District, all drainageway crossing structures shall be designed to pass a 100-year flood.
6. As agreed to by the Ellis County Rural Rail Transportation District, the rail line shall be constructed in a way to maintain current drainage patterns as much possible.

7. The Ellis County Rural Rail Transportation District shall prepare a Storm Water Pollution Prevention Plan using Texas Department of Transportation Best Management Practices and shall require its construction contractor to abide by its provisions.

8. The Ellis County Rural Rail Transportation District shall adhere to the provisions of the general nationwide-14 permit issued by the U.S. Army Corps of Engineers in conjunction with the proposed rail line construction.

9. As agreed to by the Ellis County Rural Rail Transportation District, it shall require its construction contractor to limit soil disturbance to those areas necessary for the proposed rail line construction, and to promptly reseed or revegetate disturbed areas after earthwork construction activities are completed.

10. For right-of-way maintenance, the Ellis County Rural Rail Transportation District shall use only contractors trained in herbicide application and shall require those contractors to follow label directions in applying herbicides. The Ellis County Rural Rail Transportation District shall also require those contractors to use only herbicides registered for such use with the U.S. Environmental Protection Agency and to follow all applicable state regulations regarding use of those herbicides.

Transportation

11. As agreed to by the Ellis County Rural Rail Transportation District, all of the at-grade crossings on the proposed line will be equipped with flashing lights and gates to minimize the potential for train-vehicular accidents.

12. As agreed to by the Ellis County Rural Rail Transportation District, the Ellis County Rural Rail Transportation District shall construct the grade-separated crossing at U.S.287 and U.S.67 in accordance with Texas Department of Transportation requirements.

13. As agreed to by the Ellis County Rural Rail Transportation District, it shall coordinate at-grade crossing construction with the Texas Department of Transportation, the City of Midlothian, Ellis County, and Emergency Management Services in order to minimize traffic delay during crossing construction.

Air Quality

14. As agreed to by the Ellis County Rural Rail Transportation District, it shall require its construction contractor to water construction areas as necessary to suppress dust.

Cultural Resources

15. In the event intact archaeological deposits are uncovered during the proposed construction, work shall cease in the immediate area and the Texas Historical Commission shall be consulted.

Conclusion and Request for Comments

Based on the information provided from all sources to date and its independent analysis, SEA preliminarily concludes that construction and operation of the proposed rail line would have no significant environmental impacts if the Board imposes and the District implements the mitigation recommended above. Therefore, the EIS process is unnecessary in this proceeding.

SEA specifically invites comments on all aspects of this Draft EA, including suggestions for additional mitigation measures. SEA will consider all comments received in making its final recommendations to the Board. The Board will consider SEA's final recommendations and the environmental comments in making its final decision in this proceeding.

If you wish to file comments regarding this Draft EA, send an original and 10 copies to the Office of the Secretary, Attn: Phillis Johnson-Ball, Environmental Review (FD 33731), Surface Transportation Board, 1925 K St. NW, Washington, D.C. 20423. Comments should refer to the docket number of this proceeding: Finance Docket No. 33731.

Date made available to the public: April 24, 2000

Comment due date: May 24, 2000

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CHAPTER 1.0

1.1 PURPOSE AND NEED FOR AGENCY ACTION

SEA has prepared this Draft EA in response to a petition filed by the District with the Board for an exemption under 49 U.S.C. 10505 from the prior approval requirements of 49 U.S.C. 10901 to permit the construction and operation of a 5.25-mile rail line in Ellis County, Texas.[2] The petition was filed on November 17, 1999, and designated as Finance Docket No. 33731.

The District proposes to build a 5.25-mile long rail line, plus an approximately one-mile long siding, to connect a "Tax Increment Reinvestment Zone" ("TIRZ") development area on the outskirts of Midlothian, Texas, with a nearby rail line operated by the UP. The centerpiece of the Midlothian TIRZ is a new 1,700-acre business and industrial park, known as "Railport". The proposed rail line would serve shippers locating in the Railport and any other shippers capable of reaching it, including Chaparral Steel and TXI Cement. The Railport currently has direct rail access by BNSF; the proposed rail line would provide alternative direct rail access to the site. Figure A-1 in Appendix A shows the project area location within the State of Texas and also within Ellis County. Figures A-2 and A-3 show more detailed views of the proposed rail construction route.

Initially the District expects the proposed line to carry coal, coke, aggregates, scrap metal, finished steel, and cement. In the future, shipments may also include raw materials and finished goods typically found in light manufacturing and distribution processes. On February 8, 2000, the Board conditionally granted the District's petition, subject to its further consideration of the environmental impacts of the proposal. On completion of the environmental review, the Board will issue a further decision addressing those matters and making the exemption effective at that time, if appropriate.

On April 22, 1999, the District submitted a request to SEA for a waiver of the requirement that SEA prepare an EIS on the proposed rail line construction (Appendix B, Exhibit 1). In its response of May 25, 1999, SEA granted the waiver (Appendix B, Exhibit 2). In its letter, SEA found that the proposed construction and operation is unlikely to involve significant environmental impacts and that an EA, rather than an EIS, is appropriate in this proceeding. SEA based its conclusion

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[2]The Board was formerly the Interstate Commerce Commission (ICC). The ICC Termination Act of 1995, Pub. L. No. 104-88, 109 Stat. 803, which was enacted on December 29, 1995, and took effect on January 1, 1996, abolished the ICC and transferred certain rail functions and proceedings to the Board.

on a number of factors, including: (1) consultations with the District and SEA's consultant in this proceeding; (2) a March 31, 1999, site inspection of the project area conducted by SEA's consultant; (3) the projected low level of train traffic; (4) the line's relatively short length and proposed route through a sparsely populated area; (5) the low number of roads to be crossed at-grade; (6) the small amount of wetlands, if any, which would be affected; and (7) preliminary expectations that no sensitive species or cultural resources would be affected.

SEA prepared this Draft EA in accordance with the National Environmental Policy Act (NEPA) and with the Board's regulations implementing NEPA and other environmental laws at 49 CFR 1105. This Draft EA assesses the environmental effects of the proposed action and alternatives. Chapter 2 describes the affected environment in the project area, Chapter 3 describes the proposed action and alternatives, Chapter 4 identifies the potential environmental impacts of the proposed action, Chapter 5 summarizes unavoidable, adverse impacts of the proposed action, Chapter 6 addresses the proposed project's cumulative impacts, and Chapter 7 identifies SEA's preliminary recommendations for mitigation. The Board has served the Draft EA on the public, which has been invited to submit comments on the document.

1.2 FRAMEWORK FOR THE DRAFT EA PREPARATION

In the process of preparing this Draft EA, SEA consulted with a number of governmental organizations to solicit their comments on the proposed project and environmental issues which should be addressed in this document. Appendix C contains the responses to this consultation process. This Draft EA addresses the issues raised by the respondents, as well as requested mitigation.

A "third-party" contractor prepared this document. Third-party contractors work on behalf of the Board, working under SEA's direction to collect the needed environmental information and compile it into a Draft EA or EIS, which is then submitted to SEA for its review, verification, and approval. Petitioner retains these contractors subject to SEA approval. SEA approved the third-party contractor in this proceeding on April 9, 1999.

CHAPTER 2.0 DESCRIPTION OF THE AFFECTED ENVIRONMENT

The purpose of this chapter is to give a brief overview of the affected environment in the project vicinity. Environmental impacts of the proposed action as well as permitting requirements are discussed in Chapter 4.

2.1 LAND USE

As shown in Figure A-1, the proposed rail line would be located in north central Texas, in the northwestern corner of Ellis County. Ellis County is located just south of Dallas and Dallas County and is part of the nine-county Dallas Urban Area.

The project area is located slightly west of downtown Midlothian. The proposed line would be located entirely within the corporate limits of the city of Midlothian. Table 2-1 shows current land use in Midlothian. The table shows that approximately 12,511 acres (80%) of land within the city limits is vacant. Industrial use occupies the next largest land use category (1505 acres), with single family residential the next largest use group (619 acres).

Land use in the immediate vicinity of the proposed rail route is primarily agricultural, consisting of farming and ranching. Cultivated crops include cotton, grain sorghum, and alfalfa. Other land uses in the area include residential development and cement, brick, and steel manufacturing. Current zoning along the proposed rail route from the Railport north to Augur Road is almost totally for residential use. From Augur Road north, current zoning is primarily for heavy industry, with agricultural use in the Gifco Road area. However, the City of Midlothian is currently reviewing but has not yet adopted a Proposed Future Land Use Plan; Figure A-4 shows recommended future land use in the project area. Under the proposed land use plan, the rail line from its beginning at the Railport north to the Old Fort Worth Road would be located in an area recommended for light industrial use. Between Old Fort Worth Road and Augur Road, just south of the wastewater treatment plant, the rail line would pass through an area recommended for residential use, with a proposed retail corridor along a portion of State Highway 287. Between Augur Road and the proposed connection with UP, the line would be located in an area recommended for industrial use. Thus along much of the proposed rail line, recommended future land use calls for a change in allowed land use from residential to industrial.

A Phase I Environmental Site Assessment (ESA) was done to identify sites within one mile of the proposed rail centerline which involve hazardous materials, substances, or wastes. The ESA identified a number of such sites; however, none of these are within the proposed

ROW. Most of the sites located nearest to the proposed ROW are located at either TXI Midlothian Cement, Chaparral Steel, North Texas Cement, or Safe Tire Disposal (see Figure A-3).

2.2 SOCIO-ECONOMIC SETTING

The proposed rail line would be located approximately 23 miles southwest of the city of Dallas, which is the largest city in the state. Ellis County is part of the 16-county North Central Texas Region; this region is currently undergoing the largest population boom in a decade. From 1990 to 1998 the region's population grew by 16.70%, to an estimated 4.8 million people. Most of that growth was concentrated in the Dallas-Fort Worth area, in the big-four counties of Dallas, Tarrant, Collin, and Denton. *The Dallas Morning News* states that the Dallas-Fort Worth area continues to reap the benefits of having a world-class airport, plenty of open space, a booming housing market and relatively easy freeway access. However, new residents in the region are finding rural areas as well; rural subdivisions sprout up regularly in "exurban" counties such as Ellis. Ellis County, which surpassed the 100,000 population mark in 1998, had a population growth rate from 1990 to 1998 of 21.90%, larger than the North Central Texas Region as a whole. The North Central Texas Council of Governments (NCTCOG) expects exurban counties such as Ellis to be the next suburban areas; it forecasts the number of households in Ellis County to increase by 34% from 1995 to 2005 and to double from 1995 to 2025. The county's 1990 population was approximately 81% white, 10% black, and 9% other races. Approximately 13% of the total population was of Hispanic origin.

The Midlothian area is expected to have a higher growth rate than any other part of Ellis County. Midlothian's population increased to 6,850 in 1998, a growth rate of 35.9% since 1990. Midlothian's 1990 population was approximately 89% white, 3% black, and 8% other races. Approximately 11% of the total population was of Hispanic origin. NCTCOG has divided Ellis County into forecast districts; the forecast district centered upon Midlothian (district 701.03) is expected to have a higher growth rate than any other forecast district in the county. The number of households in district 701.03 is predicted to increase by 186% from 1995 to 2025, from 3,793 to 10,842 households.

Table 2-2 lists the major employers in Ellis County; the eight largest were in the manufacturing sector. Chaparrel Steel in Midlothian was the largest employer in the county, with 1,200 employees. Total employment in the county in 1995 was 32,674; NCTCOG expects this figure to increase by 89% by 2025, to 61,670 employees. Employment in Midlothian in 1995 was 3,605 (in addition to Chaparral Steel, TXI Cement has 316 employees, North Texas Cement 138 employees, and Holnam Cement 111 employees). NCTCOG predicts that employment in the forecast district centered on Midlothian will increase by 96%

between 1995 and 2025.

2.3 PHYSIOGRAPHY

Ellis County is in the Blackland Prairie region of north central Texas; this region forms a prominent band that extends from the Oklahoma border at the Red River to near San Antonio (Diggs et al, 1999). The county is bounded on the east by the Trinity River. Ellis has been primarily a cotton-producing county, but now other crops and livestock are produced.

The county is mainly gently sloping to sloping, but many large areas on ridges and on flood plains are nearly level, and many areas are strongly sloping to moderately steep.

The project area and Ellis County are located in the Trinity River basin (see Figure A-5). Ellis County is dissected by numerous well-defined drainage patterns and is well drained. The slope generally is toward the southeast, and most streams empty into the Trinity River (see Figure A-6). Five creeks in the county are fairly large. Chambers, Mill, Red Oak, and Waxahachie Creeks flow southeast and drain most of the county. Figure A-6 shows that the project area is located in the Mountain Creek drainage area; this creek flows northeast and drains about 25,000 acres of the northwestern part of the county; it empties into the Trinity River on the western edge of Dallas. The Austin escarpment, a high chalk ridge, extends in a northeast-southwest direction through the county, southeast of the Mountain Creek watershed, and cuts off drainage to the southeast.

Elevations in Ellis County range from about 300 feet on the lower part of the flood plain of the Trinity River to about 800 feet on the higher part of the Austin escarpment. The average elevation of the blackland prairie is between 400 and 500 feet. The whiterock area on the Austin formation is slightly higher and ranges from 500 to 800 feet. Relief in this area is somewhat more variable than it is in the rest of the county. The immediate project area is nearly level to slightly rolling and varies in elevation from 600 to 650 feet above sea level.

2.3.1 Soils

The project area itself lies on the western edge of the blackland prairie, which is distinguished by waxy black clay soils and tall grass prairie. The prairie soils of the region are naturally fertile and consequently heavily utilized in the production of row crops. Soils along the proposed rail route are olive to gray colored clay soils which developed under tall grasses. They belong to the Ellis, Houston, and Trinity soil series, which are discussed below (based on information obtained from the Soil Survey of Ellis County Texas. 1992. NRCS, United States Department of Agriculture).

Ellis Series

Ellis Soils, consisting of dense very slowly permeable clays, shallowly overlay and grade abruptly into shale of the Eagle Ford Formation. They occur on gently sloping to moderately steep areas and take up water very slowly; consequently surface runoff is very rapid. Ellis soils are highly erodible and require a low growing cover of drought tolerant vegetation. Although generally unsuited for cultivation, these can be utilized for pasture with proper management of grazing. Soil structure varies from weak and blocky to massive. These soils are extremely hard and crack severely when dry and remain extremely firm when wet. Gypsum often forms a white residue in Ellis soils and crystals accumulate on the surface after rains. Slickspots, barren areas where salts concentrate and no plants grow, are frequent on these soils. Ellis soils are thin and gravelly on steep slopes and shale is exposed where erosion is active. These soils are mapped into two units:

Ellis and Houston clays, 3 to 5 percent slope, eroded. In about 50 percent of this map unit, the original dark surface layer of has been removed by erosion. This soil, usually about 18 inches deep, is deeper than 25 inches in a few areas. Small gullies occur in many areas. This soil is suited for pastureland. Proper management is required to suppress invasive mesquite and cactus.

Ellis and Houston clays, 5 to 12 percent slope, severely eroded. This soil is mostly about 14 inches thick. Many areas on this soil map unit are severely eroded and dissected by steep gullies. This soil is best suited to the growth of native grasses and will support only a limited amount of grazing.

Houston Series

Houston Series soils are calcareous deep heavy clays. They are found mostly on gently sloping to sloping land and are thinnest on more sloping areas. Although usually eroded, these soils are productive and well suited for cultivation. Houston Series soils have a well-drained surface layer, a fine textured subsoil, and take up water slowly. These soils are blocky in structure, very hard and crack severely when dry and very firm when wet. This soil series is represented by the Houston and Ellis Clays, 1 to 3 percent slopes.

Houston and Ellis Clays, 1 to 3 percent slopes. This soil is about 18 inches thick. Although erosion is slight on 75 percent of soil areas, many small gullies, large enough to hinder plowing, have formed in some places. Houston and Ellis clays are less productive tan other Houston soils. Ellis soils within this unit contain considerable amounts of gypsum, with crystals occurring throughout the profile. Slickspots are common in many areas.

Houston Black Series

Soils in this series are deep clay and are moderately well drained and productive. These soils, occurring on uplands and terraces, are nearly level to sloping. Houston Black soils have a very dark gray surface layer and are darker, deeper, and less sloping than Houston soils. These soils are thickest where they overlay old alluvium and thinnest over chalky bedrock. Surface soils are granular to blocky, hard when dry and plastic when wet. Subsoils are blocky in structure and, during dry periods, cracks in the surface extend well into this layer. Two map units of the Houston Black Series included in the primary route are:

Houston Black Clay, 0 to 1 percent slope. About 85 inches thick and well drained; this soil is good for cultivated crops such as cotton, corn, sorghum and alfalfa. When managed well, this soil produces high yields, but excessive tillage can cause plowpans to form.

Houston Black Clay, terrace, 1 to 3 percent slopes. When managed to prevent plowpans from forming, this soil also produces good yields. But if unprotected, this terraced soil is erodible.

Trinity Series

Trinity soils, developed from calcareous alluvium, occur in floodplains of streams. These lime-rich deep heavy clays are productive for most crops. Under cultivation, these soils usually develop compacted plowpans just below the plow depth. Trinity Series soils have a fine blocky to granular structure and are hard when dry and plastic when wet. The Trinity Series within the primary route is represented by the:

Trinity Clay, frequently flooded. This soil occurs in the lower part of the floodplain and floods frequently. It is not suited for cultivation and should be kept under permanent grass cover. Classified as a bottomland range site, this soil is suitable for grazing.

Gullied land

These lands are represented by areas so severely eroded and so dissected by steep gullies that they can no longer be farmed. Gullies, which can be 10 to 30 feet deep and 30 to 150 feet wide, cut down into underlying marl and shale. In these areas the original surface soils have eroded away, leaving mainly highly calcareous subsoil and parent material. Vegetation in these eroded areas consists of plants that are adapted to high concentrations of lime. Gullied land is not suited for cultivation or pastureland and is best

used as wildlife habitat. Grade-stabilizing structures are often necessary to control erosion and to prevent gullies from cutting into adjacent higher lying soil.

Based on the types of soils present within the proposed rail ROW, the NRCS has found that the proposed ROW contains important farmland subject to the Farmland Protection Policy Act. The NRCS has requested that a Farmland Conversion Impact Rating be prepared for the proposed rail construction (Appendix C, Exhibit 1); this has been done and the results are discussed in Chapter 4, Section 4.2.1.

The Ellis County climate is subhumid; it is characterized by long, hot summers and short, mild winters. Temperatures are moderate; the mean annual temperature at Waxahachie is 66°. The average minimum temperature for January, the coldest mohth, is around 36°. The average maximum temperature for July, the hottest month, is about 96°.

2.4 WATER RESOURCES

2.4.1 Groundwater

Ellis County is located in the downdip area of the Trinity aquifer, a major aquifer in Texas, and is also in the downdip area of the Woodbine aquifer, classified as a minor aquifer (see Figures A-7 and A-8). The Trinity aquifer consists of early Cretaceous age formations of the Trinity Group where they occur in a band extending through the central part of the state in all or parts of 55 counties. Formations comprising the Trinity Group are (from youngest to oldest): the Paluxy, Glen Rose, and Twin Mountains-Travis Peak. Updip, where the Glen Rose thins or is missing, the Paluxy and Twin Mountains coalesce to form the Antlers Formation. Extensive development of the Trinity aquifer has occurred in the Fort Worth-Dallas region where water levels have historically dropped as much as 550 feet. The Woodbine aquifer extends from McLennan County in North-Central Texas northward to Cooke County and eastward to Red River County. Water from the Woodbine furnishes municipal, industrial, domestic, livestock, and small irrigation supplies throughout its North Texas extent. Groundwater recharge to the Woodbine and Trinity aquifers is primarily through precipitation falling on the outcrop areas shown in Figures A-7 and A-8, with some minor sources of recharge including water seepage from ponds, lakes, and streams cutting the outcrop.

Groundwater in Ellis County from the Trinity and Woodbine aquifers is under artesian conditions. It is estimated that for the period 1955-1976 an almost equal amount of groundwater from these two aquifers was used in the county for public use and industrial purposes: approximately 30,000 acre-feet of water from the Woodbine aquifer and around 29,000 acre-feet from the Trinity aquifer. Most of the water from the Trinity aquifer came from the Twin Mountain

formation, with a small amount from the Paluxy formation. The groundwater database maintained by the Texas Water Development Board (TWDB) represents around 12 percent of the wells drilled in Texas in this century. The majority of wells in the project vicinity contained in this database are drilled into sands of the Woodbine aquifer to depths ranging from 450 to 650 feet.

2.4.2 Surface Water

As noted earlier, the proposed rail line would be located in the Mountain Creek drainage area, which is part of the Trinity River Basin. Mountain Creek flows into the West Fork of the Trinity River; the Trinity flows southeast into Trinity and Galveston Bays and the Gulf of Mexico (see Figures A-5 and A-6).

The proposed rail line would cross several watercourses which are intermittently or emphemerally flowing at the point of crossing: Newton Branch, unnamed tributaries of Newton Branch, Cottonwood Creek, an unnamed tributary of Cottonwood Creek, and an unnamed tributary of Soap Creek (see Figure A-9).[3] As shown in Figures A-6 and A-9, Cottonwood Creek flows into Newton Branch, which empties into Soap Creek, a tributary of Mountain Creek.

In 1997 the Texas Natural Resources Conservation Commission (TNRCC) issued the Trinity River Basin Report which identified water quality issues for various segments of the Trinity River. Watercourses in the project area empty into Trinity River Segment 0841, the Lower West Fork Trinity River (see Figure A-10). The TNRCC report indicated that improvements in wastewater treatment implemented by major dischargers in the area have lead to water quality improvements in the segment. The segment does not support contact recreation use due to elevated levels of fecal coliform bacteria. The Texas Department of Health (TDH) issued a fish consumption ban for the segment because of elevated levels of chlordane found in fish tissue. A fish consumption ban was also issued for Mountain Creek Lake due to elevated levels of selenium and polychlorinated bephenyls (PCBs) in fish tissue.

In its Flood Insurance Rate Maps, the Federal Emergency Management Agency (FEMA) has identified special flood hazard areas inundated by the 100-year flood. Figure A-11 shows the 100-year flood hazard areas in the project vicinity; however, FEMA has not determined base flood elevations for those areas.

Certain sites within the project area are designated as

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[3] The intermittent tributaries typically flow with runoff from upland areas during seasonal high rainfall and dry out as summer approaches; the ephemeral tributaries only have flowing water during and immediately after a rainfall event.

“wetlands”. A wetland is defined as an area that is inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances does support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands are valuable because they provide habitat for a variety of wildlife species and because they filter overland runoff, serve as stormwater storage basins, and stabilize stream banks.

The above wetland definition includes three basic elements for identifying and delineating wetlands: the presence of wetland hydrology, hydrophytic vegetation, and hydric soils. Wetland hydrology is determined by the presence of permanent or periodic inundation, or soil saturation to the surface, during at least a certain portion of the growing season. Hydric soils are those that are saturated, flooded, or ponded long enough during the growing season to develop anaerobic (oxygen-deficient) conditions in the upper part. Hydrophytic vegetation is macrophytic plant life growing in water, soil, or on a substrate that is at least periodically deficient in oxygen as a result of excessive water content. These criteria are developed in detail in the 1987 Corps of Engineers Wetlands Delineation Manual (1987 Manual).

The Board’s subcontractors performed a data search and field survey to identify U.S. Waters, including wetlands, subject to regulation by the Corps under Section 404 of the Clean Water Act. Wetland identification relied on the criteria set out in the 1987 Manual. The study covered a 1,000-foot corridor (500 feet on either side of the proposed rail centerline). The study identified 5.35 acres of watercourses and 1.69 acres of wetlands (subject to Section 404 regulation) within the 1,000-foot corridor.

The study identified two wetland areas within the corridor. The first is a one-acre palustrine emergent wetland north of Augur Road associated with an intermittent tributary of Newton Branch. This wetland was created by a beaver dam and is primarily supported by discharge water from the Midlothian water treatment plant. The second wetland, 0.69 acres, is also a palustrine emergent wetland. It is located east of Wyatt Road and its hydrology is influenced by an associated intermittent tributary of Cottonwood Creek and overflow from an adjacent stock pond during high rainfall events.

Potential impacts of the proposed rail line on the above waterways and wetlands are discussed in Chapter 4, Section 4.3.

2.5 BIOLOGICAL RESOURCES

Ellis County lies within the northern portion of the Blackland Prairie Vegetational Area. Originally, this region consisted of vast

expanses of tallgrass prairie. However, the fertile black clay soils of the area are well suited to agriculture and now little remains of the original tallgrass prairies. Much of the original prairie, native riparian woodlands, and wildlife habitat have been converted to cropland or pastureland. There are no officially designated wildlife refuges or protected areas located within the project area.

The Board's subcontractors, qualified wildlife biologists, conducted a natural resource survey of the proposed rail ROW in September 1999 in order to describe the plant and animal species in the study area, and to determine if any threatened, endangered, or special concern species occur there. The survey results are summarized below. Conclusions regarding the biological resource impacts of the proposed construction and operation are discussed in Chapter 4, Section 4.4.

2.5.1 Flora

Land use within the immediate vicinity of the project area is primarily agricultural, consisting of farming and ranching. Cultivated crops include cotton, grain sorghum, and alfalfa. Over-grazing on steep sloping areas, mainly along Bedford Branch, Newton Branch, and Soap Creek, has resulted in severe erosion of the rich blackland soils. These gravelly eroded gullied areas, devoid of the original native grasses or desirable pasture grasses, often support a dense growth of mesquite and prickly pear cactus (NRCS 1992).

The field survey found that vegetation along the proposed rail ROW consists primarily of grazed pasture and cultivated fields of milo, corn and grain sorghum. Other portions of the route would traverse fallow fields. Vegetation in pasture areas and fallow fields consists of improved pasture grasses such as coastal bermudagrass (*Cynodon dactylon*), King Ranch bluestem (*Bothriochloa ischaemum*), Johnsongrass (*Sorghum halepense*), fescue (*Festuca arundinacea*), and Japanese brome (*Bromus japonicus*). Much of the pastureland along the route is heavily grazed and invaded by (*Prosopsis glandulosa*), pricklypear (*Opuntia* sp.) and widely scattered sugarberry (*Celtis laevegata*) and ashe juniper (*Juniperus ashei*). Dominant herbaceous plants in these pastures include broomweed (*Gutierrezia dracunculoides*), woolly croton (*Croton capitatus*), beebalm (*Monarda* sp.), and western ragweed (*Ambrosia cumanensis*). Other prominent species include giant ragweed (*Ambrosia trifida*), eryngo (*Eryngium levenworthii*), annual sunflower (*Helianthus annua*), Johnsongrass (*Sorghum halpense*), buffalo bur (*Solanum rostratum*), silverleaf nightshade (*S. elaeagnifolium*) and cocklebur (*Xanthium strumarium*). In less heavily grazed areas, prominent native grasses include switchgrass (*Panicum virgatum*), witchgrass (*Panicum capillaris*), wildrye (*Elymus virginicus*) and (*E. canadensis*). Other herbaceous flora in upland areas include gerardia (*Agalinis* sp.), gay feather (*Liatris mucronata*), white aster (*Aster ericoides*), goldenrod

(*Solidago* sp.), Maximilian sunflower (*Helianthus maximiliani*), bluebell gentian (*Eustoma russellianium*) and prairie parsley (*Polytaenia texana*).

Riparian zones along streams in the area consist mainly of hackberry (*Celtis laevagata*). Other trees include honey locust (*Gleditsia triacanthos*), black willow (*Salix nigra*), cedar elm (*Ulmus crassifolia*), Texas ash and cottonwood (*Populus deltoides*). Ponds and low wet areas are vegetated with cattails (*Typa angustifolia*), switchgrass, smartweed (*Polygonium* sp.), marsh fleabane (*Pluchea odorata*), barnyard grass (*Echinochloa crusgalli*), crowfoot sedge (*Carex crus-corvi*), and flatsedge (*Cyperus sp*.).

The U.S. Fish and Wildlife Service (USFWS**)** indicates that no plant species in Ellis County are currently listed as endangered or threatened. The Texas Parks and Wildlife Department (TPWD) searched the Texas Biological and Conservation Data System (BCD), and found that there are no presently known occurrences of special plant species or unique natural communities in the study area.

2.5.2 Fauna

Wildlife resources of Ellis County and the proposed project area are typical of the Blackland Prairies vegetation region of Texas. Much of the original prairie, native riparian woodlands, and wildlife habitat have been converted to cropland or pastureland; however, many of the indigenous animal species still flourish in the area, although in decreased numbers.

Nearly 30 mammalian species can be found in Ellis County.[4] Common species that may be found in the project area include white-tailed deer (*Odocoileus virginianus*), raccoon (*Procyon lotor*), opossum (*Didelphis virginiana*), striped skunk (*Mephitis mephitis*), beaver (*Castor canadensis*), gray fox (*Urocyon cinereoargenteus*), nine-banded armadillo (*Dasypus novemcinctus*), bobcat (*Lynx rufus*), coyote (*Canis latrans*), nutria (Myocastor coypus), feral hog (Sus scrofa), eastern cottontail rabbit (*Sylvilagus floridanus*), eastern gray squirrel (*Sciurus carolinensis*), fox squirrel (*Sciurus niger*), and hispid cotton rat (*Sigmodon hispidus*). Table 2-3 lists the common mammals of Ellis County.

A variety of amphibians and reptiles may also be present in the project area. Common amphibians include the American toad (*Bufo americanus*), spring peeper (*Pseudacris crucifer*), and green treefrog (*Hyla cinerea*). Reptiles expected include snapping turtle (*Chelydra*

[4] Common and scientific names for terrestrial animals were obtained from *The Mammals of Texas* (Davis 1978) and *Eastern Reptiles and Amphibians* (Conant and Collins 1991).

serpentina), eastern box turtle (*Terrapene carolina*), eastern fence lizard (*Sceloporus undulatus*), five-lined skink (*Eumeces fasciatus*), and southern copperhead (*Agkistrodon contortrix*). Table 2-4 lists the common species of amphibians and reptiles recorded in Ellis County.

Common bird species in the project area may include mourning dove (*Zenaida macroura*), wood duck (*Aix sponsa*), turkey vulture (*Cathartes aura*), red-tailed hawk (*Buteo jamaicensis*), red-shouldered hawk (*Buteo lineatus*), great blue heron (*Ardea herodias*), indigo bunting (*Passerina cyanea*), northern bobwhite (*Colinus virginianus*), starling (*Sturnus vulgaris*), and barred owl (*Strix varia*).

Several species of eastern birds reach or approach their western limits in this area. These may include red-shouldered hawk (*Buteo lineatus*), Acadian flycatcher (*Empidonax virescens*), blue jay (*Cyabociiia crista*), indigo bunting (*Passerina cyanea*), brown thrasher (*Toxostoma rufum*), common grackle (*Quiscalus quiscula*), red-bellied woodpecker (*Melanerpes carolinus*), and ruby-throated humming bird (*Archilochus colubris*). Western species occurring in the project area may consist of roadrunners *(Geococcyx californianus),* western kingbird *(Tyrannus verticalis*), Bewick's wren (*Thryomanes bewickii*), and Bell's vireo (*Vireo belli*).

The USFWS and the TPWD provided information on protected species that may occur in Ellis County. Table 2-5 lists the federal and state protected species that may occur in the county. This list includes the Arctic Peregrine Falcon (*Falco peregrinus tundrius*), Bald Eagle (*Haliaetus leucocephalus*), Interior Least Tern (*Sterna antillarum athalassos*), White-faced Ibis (*Plegadis chihi*), Whooping Crane (*Grus americana*), Wood Stork (*Mycteria americana*), Texas Horned Lizard (*Phrynosoma cornutum*), and Timber-Canebreak Rattlesnake (*Crotalus horridus*). The table shows not only listed threatened and endangered species, but also animal species classified as Species of Concern (SOC). These species are monitored by the USFWS because of concern over their future status. Although the above-noted species may be present in Ellis County, a search of the BCD revealed no known sites for protected species in the general project vicinity.

2.6 TRANSPORTATION

Figure A-12 shows major elements of the local and regional transportation system. The figure shows that Midlothian is located at the intersection of U.S. Highways 67 and 287, major routes leading to Dallas and Fort Worth respectively. The UP line to which the proposed rail line would connect is part of UP's mainline into Forth Worth. The proposed rail line cross BNSF's mainline into Dallas. Transportation impacts are discussed in Chapter 4, Section 4.5.

2.7 AIR QUALITY

EPA has established NAAQS for six principal air pollutants, called “criteria” pollutants: ozone, lead, carbon monoxide, sulfur dioxide, nitrogen dioxide, and respirable particulate matter. The standards were established to protect the public from exposure to harmful amounts of pollutants. When the pollutant levels in an area have caused a violation of a particular standard, the area is classified as "nonattainment" for that pollutant. Likewise if emissions do not exceed the maximum allowed levels, the region is an “attainment area” for the specific pollutant. The designations are pollutant-specific, which means that an area may fall into both categories for different pollutants. Ellis County is in attainment of the NAAQS for all six criteria air pollutants.

The TNRCC collects information about air pollutants emitted from industrial point sources in Texas and stores it in its Point Source Database (PSDB). Of the 50,000 plants in the database, only those plants whose emission rates exceed the reporting applicability levels (found in 30 Texas Administrative Code 101.10) are tracked. Currently, there are more than 3,000 industrial point sources being tracked that include summary information; 21 of those are located in Ellis County. Several of those, including Chaparral Steel, TXI, and North Texas Cement, are located in the project vicinity and affect air quality in the area.

The project area is not in or near a Class I area.[5]

2.8 NOISE

The project area is primarily agricultural, consisting of farming and ranching. In most of this area the major noise source is traffic on local roads. However, near the proposed connection with UP, there is also some noise contribution from existing rail traffic. Near the proposed connection with the Railport, noise levels are also affected by vehicular traffic on U.S. 67, rail traffic on the BNSF, and industrial activities from existing industries in the area, including Safe Tire, Chaparral Steel, and TXI Cement. Existing day-night sound levels (L_{dn}) around agricultural crop land are expected to be around 44 dB. However, ambient noise levels along the proposed rail route are probably higher around road crossings, near the proposed UP connection, and near the proposed Railport connection.

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[5] Amendments to the Clean Air Act had the intention of protecting air quality by setting aside “Class I” areas for pristine air quality. Class I air quality areas are generally locations such as national parks and wilderness areas.

2.9 CULTURAL RESOURCES

A cultural history chronology of the region indicates that prehistoric inhabitants first came to the area around 9950 BC (Prikryl 1993). This date represents the start of the Paleoindian period which lasts until 6500 BC. The Paleoindian period consisted of hunter-gatherer peoples utilizing large spear and dart points. The Archaic period begins at this point and continues until AD 700. This period is defined by more generalized hunting and collecting techniques and by more extensive occupational sites. The Archaic period is further divided into the Early Archaic (6500 BC-4000 BC), the Middle Archaic (4000 BC-1500 BC), and the Late Archaic (1500 BC-AD 700). The Late Prehistoric period begins around AD 700, about the time the bow and arrow were introduced to the region. This period is divided into the Late Prehistoric I (AD 700-AD 1200) and the Late Prehistoric II (AD 1200-AD 1700). The Late Prehistoric period is characterized by the advent of ceramics, house structures, and horticulture. Historic Native American occupation of the region by the Wichita, Caddo, Tonkawa, Apache, Comanche, Kitsai, Yojaune, Delaware, and Kickapoo begins around AD 1700. It is unknown whether these groups are native to the region or moved into the region after the arrival of French and Spanish explorers (Prikryl 1993). Anglo settlement of the region began around AD 1840 when Ellis County became a strong presence in the cotton industry (Kent et al. 1998).

The Board contacted the Commission to obtain their comments on the proposed rail line construction. The Commission requested that an archaeological survey be done along the proposed route, with particular emphasis on areas adjacent to streams (Appendix C, Exhibit 11).[6] Accordingly, a Phase I archaeological survey was conducted of the proposed route for the purpose of locating and recording all cultural sites within the project area and assessing their historical significance based on NRHP criteria. The survey procedure and results are described below.

A records search at the Commission and the Texas Archeological Research Laboratory revealed no previously recorded sites within the project area. Three past archaeological investigations touched on parts of the proposed rail study corridor: those conducted by the Texas Department of Highways and Public Transportation (April 1976), the Federal Highway Administration (FHA) (March 1992), and EPA (1992). No archaeological sites were encountered during any of these projects.

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[6] The Commission's letter in Exhibit 11 requests an archaeological survey of Alternative A, which is the proposed route. The letter states that an archaeological survey is not necessary for Alternative B, which is shown in Figure A-16 as Alternative III.

There have been several other past cultural resource investigations in the general project vicinity, including surveys by the Corps' Forth Worth office (1979), the Soil Conservation Service (November 1984), FHA (March 1994), FHA and TxDOT (February 1995), and Antiquities Planning & Consulting (May 1998). However, none of these surveys identified new cultural resources within the immediate project vicinity.

Trained archaeologists conducted a field survey of the proposed alignment in September and October, 1999. The survey corridor was 1000 feet wide and around 6.8 miles long, covering approximately 824 acres.[7] The majority of the project area is in plowed fields or pastures, which tend to have good surface visibility because of heavy erosion caused by overgrazing. Wooded areas were rare and were concentrated around streams. All of the streams encountered were dry. A pedestrian survey was conducted in areas of high surface visibility (>30%). Transects were walked at 25 meter intervals. In areas of low surface visibility (<30%) shovel tests were excavated at 25 meter intervals in an attempt to identify cultural resources. The backdirt from the shovel tests was screened through mesh hardware cloth.

The only cultural resource site identified in the survey of the proposed rail corridor was a historic, rather than prehistoric, site. The site is a farmstead dating to the late 19th/early 20th century and consists of a light trash scatter of glass and ceramics. A small concentration of bricks and the remains of a well were identified. Shovel testing of the site found no evidence of significant subsurface deposits. This site does not exhibit potential for inclusion in the NRHP. The Commission has reviewed the archaeological survey report and concurred in its finding that there are no significant cultural resources within the proposed rail corridor (Appendix C, Exhibits 12, 14, and 15).[8]

2.10 RECREATION

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[7] Approximately 0.75 miles of the archaeological survey corridor would not be affected by the proposed construction.

[8] The Commission's letter in Exhibit 12 states that the cultural resource investigator should have applied for an Antiquities Permit prior to performing the archaeological survey. The Commission was under the impression that the proposed rail corridor was owned by the District. However, in a subsequent telephone conversation, the Commission agreed that, as the proposed rail corridor was not owned by the District but is instead privately owned, an Antiquities Permit was not in fact needed (Appendix C, Exhibit 13).

There are no public recreational areas or wildlife refuges in the project vicinity.

CHAPTER 3.0 DESCRIPTION OF THE PROPOSED ACTION AND ALTERNATIVES

3.1 THE DISTRICT'S PROPOSED ROUTE

3.1.1 Construction

The District proposes to build a rail line to connect the Railport with the UP mainline. The proposed rail line would begin at the UP mainline and continue in a generally southwesterly direction for approximately 5.25 miles to connect with planned industrial trackage to be built within the Railport site (see Figure A-13). In addition to the 5.25 miles of main track, the proposed rail construction would involve construction of a passing siding at the UP line (minimum length of 8,500 feet) and two 4,000-foot interchange tracks at the UP line (see Figure A-14).

As shown in Figure A-3, the passing siding and interchange tracks would connect to the UP north of Gifco Road (at UP milepost 25.8). At the southern end of the interchange tracks the line would turn west and proceed to a point a little east of Midlothian's wastewater treatment plant. It would then turn southwest to cross Augur Road, U.S. 287, and Old Fort Worth Road. At that point the rail line would turn due south to cross Ward Road. It would then turn southwesterly again to cross Wyatt Road, proceeding to a point on the east side of Weatherford Road, at which point the proposed rail line would turn slightly southeast to cross U.S. 67 and the BNSF rail line (on the same bridge structure) before entering the Railport site.[9] The BNSF crossing would be at BNSF milepost 22.8. The proposed line would end at the northern boundary of the Railport property. The proposed crossings of U.S. 287, U.S. 67, and BNSF would be grade-separated.

Related to the proposed construction but not part of this proceeding before the Board is construction of rail trackage within the Railport site as well as trackage connecting the Railport to the BNSF.

Basic steps in the construction process would be as follows:

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[9] The District is trying to reach agreement with BNSF on construction of the crossing, failing which it intends to file a supplemental crossing application with the Board seeking the necessary authorization.

- Clear and grub the portions of the proposed ROW to be occupied by track roadbed
- Relocate or protect existing utilities crossing the proposed rail line
- Excavate topsoil and stockpile for later use. Excavate cut areas and construct embankment. Embankment construction would include placing, compacting and grading fill material obtained from excavation or from borrow sources. A borrow site consisting of excess material from Railport construction would be provided on the Railport site. Additional borrow sites have not yet been identified; however, the District states that borrow areas would be developed in accordance with all applicable environmental regulations.
- Construct drainage structures such as culverts during the embankment construction
- Seed all disturbed areas other than pavement or track structure to prevent erosion
- Stabilize the top six inches of embankment with lime. The percentage of lime required would be determined by soils testing conducted prior to construction.
- Construct a prestressed concrete bridge over U.S. 287.
- Construct a steel through-plate girder bridge over U.S. 67 and the BNSF.
- Place and compact a minimum depth of twelve inches of subballast following embankment construction
- The initial lifts of ballast would be placed either prior to or during track construction.
- Track construction would consist of placing and spacing ties, placing continuous rail sections, installing other track materials including tie plates, spikes or fasteners, rail anchors, track bolts, etc.
- The final ballast would be placed in conjunction with tamping, surfacing, and lining the track.
- Switches, turnouts, grade crossings, signal devices and other components would be constructed as track construction proceeds.
- Construction completion would include testing of highway crossing warning devices, final track inspection and cleanup.

The proposed interchange yard site at the UP would be used as a construction staging area for the rail construction. Additional staging areas would probably be needed for construction of the U.S. 287 and U.S. 67 and BNSF grade separation structures. Hauling of construction material would be confined to the proposed ROW to the maximum extent possible.

The minimum and typical ROW width would be 100 feet, although portions may be wider than 100 feet as required to accommodate fills, cuts, drainage structures, and access roads. Maximum ROW width at fills, cuts, and drainage structures would be approximately 200 feet. No structures other than bridge structures, drainage culverts, crossing warning signals, and signal cabinets are anticipated within the proposed ROW. Figure A-15 shows a typical track section for the proposed rail line. Table 3-1 at the end of this chapter shows the design specifications for the proposed line.

The proposed rail line construction is expected to take around 15 months, with the major construction activities sequenced as follows:

- Clearing & grubbing; ROW preparation — Months 1 & 2
- Excavation and embankment — Months 2 – 10
- Drainage structures — Months 4 & 5
- Bridge structures — Months 4 – 12
- Track construction — Months 12 - 15

3.1.2 Operation and Maintenance

Operations

The proposed rail line is expected to serve an existing steel plant - Chaparral Steel, an existing cement plant - TXI Cement, and a newly developed business & industrial park - RailPort.[10] RailPort, when fully developed, will contain approximately 1,600 gross acres of developed land. The current zoning of Railport's master planned development provides for 171 acres of commercial development, 181 acres of light industrial development, 719 acres of medium industrial use, and 492 acres of heavy industrial development.

The land along the proposed rail alignment is currently in agricultural use and there are no other potential shippers located along the proposed route. Any potential shippers which might locate along the proposed line in the future would have to install extensive utility and road infrastructure to their sites.

[10] Both Chaparral Steel and TXI Cement would be served via connections to be built at their expense between their existing plant trackage configurations and the trackage to be built within the Railport site.

The District currently expects the proposed rail line to carry coal, coke, aggregates, scrap metal, finished steel, and cement. In the future, as shippers locate at the Railport, rail shipments may also include raw materials and finished goods typically found in light manufacturing and distribution processes.

The origin or destination of goods to be shipped would be very diversified: some would be regional and some national. The majority of all inbound & outbound shipments would be routed through Ft. Worth, Texas. Goods shipped to Chaparral Steel and TXI Cement are currently transported by rail over BNSF. UP-originated cars and BNSF cars are switched in Ft. Worth and are sent on the BNSF south to Cleburne, Texas, then east through Alvarado, Texas, to Midlothian.

The District does not currently expect the proposed line to carry hazardous materials, as existing industries do not currently receive or ship such materials. However, it is possible that shippers which might locate at Railport in the future might ship hazardous materials over the line.

The District would own the proposed rail line. It has not yet determined who would provide operations over the line; however, options for this include a short line operator, UP, or BNSF.

There are initially expected to be two round trips, or four train movements, per day (except holidays) over the proposed line. This would be approximately 1,440 yearly train movements. Initial operations would involve one locomotive and an average of 5 to 10 cars per train. The two daily round trips would be in the nature of switch movements, with outbound cars moving from Railport over the line to the planned siding to be built adjacent to the UP (see Figure A-14. Inbound cars would be dropped off by UP at the siding and then moved from there to Railport (and/or TXI Cement or Chaparral Steel) in one of the twice-daily switch movements. The District does not expect any through train movements over the UP-Railport connection.

As the Railport develops, additional train movements may be added to the proposed line. Ultimate annual railcar volume for Railport is expected to be 32,000 railcars per year, with rail operations expected to involve one to two locomotives and an average of 25 to 50 cars per train. Rail shipments are cyclical in nature and possible unit train shipments could result in variations in train lengths from very short trains to trains of 50 to 100 cars.

Based on a locomotive length of 60 feet and average car lengths of 65 feet, a 25-car train with two locomotives would be 1745 feet long and a 50-car train with two locomotives would be 3370 feet long.

Normal operating speed, including the expected speed at grade crossings, would be 20 to 25 miles per hour. The expected time of day of train operations has not been determined.

Maintenance

The District would provide or contract for ROW and track maintenance. Track inspections would be performed in accordance with Federal Railroad Administration (FRA) requirements provided in CFR Part 213, Track Safety Standards.

FRA requirements specify weekly inspections with at least three calendar days between inspections. Items to be inspected include roadbed, track geometry, track structure, and track appliances.

The expected 20 to 25 mph operating speed over the proposed rail would require the track to be maintained to at least FRA Class 2 Standards; the District plans to maintain the track at Class 3 Standards.

Vegetation control is required to satisfy the FRA Track Safety Standards. Vegetation control procedures would consist of brush and weed cutting and weed spraying with herbicides registered with EPA.

3.2 INITIALLY CONSIDERED ALTERNATIVES TO THE PROPOSED ROUTE

3.2.1 Non-Rail Transport

The District states that the Railport project grew out of the local community's desire to create economic development in the area. The community's decision to invest in the entire project (the District, the TIRZ, and Railport) was based on the strategy of attracting rail-dependent shippers to the Railport.[11]

[11] The City of Midlothian created the TIRZ in 1998. The City of Midlothian, Ellis County, the Midlothian Independent School District, and the Midlothian Development Authority are all providing tax and/or infrastructure support for the Railport project.

The District indicates that without dual rail access the Railport project could not attract a significant number of industries and would not be economically viable. The District states that availability of dual rail access would expand the market for raw materials and customers beyond what can be provided by truck - single rail access. Trucking does not offer an economical or practical solution for shipping some types of materials and over some distances. The District states that dual rail would open up a significant number of other markets and would be the attraction needed for the success of the project. Therefore, use of non-rail transport was not considered a satisfactory substitute for dual-access rail service to the Railport.

3.2.2 Rail Alternatives

The District used a number of criteria to identify and evaluate means of providing alternate rail access to the Railport. These criteria include the following:

- Passenger and rail vehicular safety was considered the most important criterion. Therefore, the District wanted to minimize the number of at-grade rail crossings. It also wanted those crossings which would be at-grade to occur at a ninety-degree angle in order to maximize sight distance for both rail and passenger vehicles.
- Another important criteria was to minimize drainageway crossings: in addition to increasing the overall project cost, waterway crossings also present a higher likelihood of wetland disturbance.
- General land slope was another important factor: generally accepted railroad design criteria states that slope along a rail line should not exceed two percent for diesel powered engines. While a two percent slope can be accommodated in areas where the natural ground slope is greater, this requires excess cut or fill. This increased earthwork could possibly increase the impact on existing wetlands or areas of cultural significance.
- The presence of lot lines and existing building structures was also considered important. The District indicates that, whenever possible, it tried to avoid jeopardizing the integrity of existing residences or businesses in its route selection.
- Another criterion was to minimize property severance.
- In locating the connection to the UP, the connection should be at a place where there is sufficient level ground for the rail line to parallel the existing UP (to allow construction of the passing siding and interchange tracks).
- The connection to the UP should also be in an area where

switching activities would not create problems with surrounding land use.

The District applied the above criteria in identifying and evaluating its proposed route and the following rail transportation alternatives.

Utilizing Existing BNSF Trackage

The first rail alternative to the proposed route which the District considered would require purchasing or trading trackage with BNSF. This purchase would involve the existing BNSF tracks along U.S. Highway 67 from the Railport to the existing UP trackage east of downtown Midlothian (see Alternative I in Figure A-16).

By utilizing existing trackage, problems related to topography and impacts on existing facilities could be avoided. However, the BN connection to UP is located just east of downtown while the Railport development is located three miles west of downtown (see Figure A-16). This would require rail switching to take place near the center of downtown. As a typical unit train contains one hundred rail cars, the switching from track to track would require these cars to occupy existing at-grade crossings for extended periods of time. The risk of at-grade crossing accidents is directly related to the frequency of both rail and passenger vehicles through the crossing. Therefore, this alternative was considered unacceptable due to the potential for accidents. In addition, switching in the downtown would limit community access to important municipal facilities, businesses and residences.

Although BNSF supported this alternative, the City of Midlothian adamently opposed it due to the potential congestion problems.

Parallel track along BNSF

The second rail alternative to the proposed route was construction of a rail line parallel to the BNSF, with a new connection to existing UP tracks east of downtown Midlothian (Alternative II in Figure A-16). While this alternative would minimize rail traffic along the existing BNSF line and create true competitive rail service, it would have negative safety impacts similar to Alternative I because it would still require switching to the UP near the center of downtown. These impacts could be reduced by the construction of multiple rail sidings somewhat downline of the UP connection. While additional rail sidings would reduce the safety risk during switching operations, they would require additional ROW in downtown Midlothian; this would adversely affect existing residences and businesses.

Acquisition of ROW for the main line trackage (parallel to BNSF) would also adversely affect existing business and residences. This alternative was rejected due to potential safety and congestion impacts and the potential for displacement of businesses and residences for ROW acquisition.

Southerly Route

The third rail alternative to the proposed route was a line connecting to the UP southeast of downtown Midlothian and proceeding southwesterly to approach the Railport site from the south (Alternative III in Figure A-16). Topographic impacts are the greatest concern with this route. The route would have required a steep climb up a 140-foot high limestone escarpment in order to reach UP, resulting in a grade of more than nine percent, which would be unacceptable from an operational standpoint. Rerouting the line to skirt the steepest part of the escarpment would have brought it through residential areas, while still leaving it with a grade of at least four percent, twice the recommended maximum. Due to the adverse effects of high slope and the possibility of displacement of existing residences, this alternative was rejected.

Alternate Connections Between the Proposed Route and the Railport

The District initially identified three alternatives to its preferred connection between the proposed route and the Railport (shown as Alternates 1, 3, and 4 in Figure A-13). However, the District considered its proposed Railport connection preferable to the others for the following reasons: (1) no ROW would be required from residential areas; (2) the BNSF crossing would be grade-separated; (3) this connection would not cross the U.S. 67 access road, Weatherford Road, or Miller Road; (4) the connection would enter Railport along its perimeter, thus maximizing Railport's usable area; (5) initial rail access would not require reconstruction of U.S. 67; and (6) the Railport Parkway interchange could be built at a later date.

3.3 ENVIRONMENTALLY PREFERABLE ROUTE

SEA preliminarily concludes that the District's proposed route for providing alternate rail access to the Railport is the environmentally preferable route. This route is clearly preferable to Alternates I and II because it would avoid the necessity of conducting switching activities in the center of downtown Midlothian, with the attendant safety and congestion problems. It would also avoid displacing businesses and residences in downtown Midlothian for ROW acquisition, as Alternate II would do. The proposed route is preferable to Alternate III because that route would have an operationally

unacceptable grade, which could only be reduced by taking the route through a residential area with resulting displacement of residences. Even in that area, the grade would be four percent, still considered unacceptable. To bring the grade down to two percent would require cuts which would require a wider ROW, displacing an even greater number of residences.

In a letter dated July 12, 1999, the District requested that SEA include in this Draft EA an in-depth environmental analysis of the proposed route and a less detailed analysis of the alternatives (Appendix B, Exhibit 3). In its response of August 24, 1999, SEA indicated that this approach would be appropriate (Appendix B, Exhibit 4). SEA based its determination on the results of consultations with its third-party consultant and other governmental agencies and on a review of environmental analysis data available up to that time.

3.4 THE NO-BUILD ALTERNATIVE

SEA also considered the “no-build” alternative. If the proposed rail line is not built, environmental impacts associated with that rail construction and operation would not occur. These potential impacts include acquisition of land for ROW and operational impacts such as possible at-grade crossing accidents. However, failure to gain competitive access to more than one rail carrier for transporting material to and from the Railport could make it more difficult for Railport to attract industry.

CHAPTER 4.0 ENVIRONMENTAL IMPACTS OF CONSTRUCTION AND OPERATION OF THE PROPOSED RAIL LINE

4.1 INTRODUCTION

This chapter addresses environmental impacts of constructing and operating over the proposed rail line. The issues raised by the various respondents to the consultation process are discussed in the appropriate sections of this chapter. Chapter 7 presents SEA's recommended mitigation.

4.2 LAND USE/SOCIOECONOMICS

4.2.1 Land Use

The potential for land use impacts from construction of a rail line generally arises from acquisition of land for the ROW and associated uses, as well as from effects on property adjacent to the ROW due to such things as restriction of access. The extent to which such impacts actually occur depends on the circumstances of the particular case.

Land use in the immediate vicinity of the proposed rail route is primarily agricultural, consisting of farming and ranching. As noted in Chapter 2, most of the area in which the proposed rail line would be located is being proposed by the City of Midlothian for industrial use, while the central portion of the line would be in an area recommended for residential use, with some retail (see Figure A-4).[12] The City of Midlothian was invited to comment on potential impacts of the proposed construction but did not do so.

Approximately 95 acres of land would be required for the proposed rail ROW, including the UP connection and interchange tracks, the U.S. 287 grade separation and the U.S. 67/BNSF grade separation. The District has not yet acquired this property; it would be acquired from sixteen private property owners.[13] The

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[12] The City of Midlothian is in the process of reviewing the Proposed Future Land Use Plan. The recommendations embodied in the map shown in Figure A-4 are still subject to change. Once the land use plan is adopted by the city, it would be implemented through the city's zoning ordinance.

[13] The District has the power of eminent domain and thus could acquire the needed land in this manner; however, it prefers not to do so and believes that it could reach agreement with the

District would grant private crossings or construct access roads if necessary to maintain access to property severed by the proposed ROW. The ROW would be fenced on both sides when crossing property which is currently fenced.

The proposed ROW would be located approximately 350 feet from the nearest residence; two other homes would be within 500 feet of the ROW.

Although borrow sites may be needed in addition to the borrow site to be provided at the Railport, such sites have not yet been identified; however, they would be developed in accordance with all applicable environmental regulations.

The District states that all materials and debris generated by the construction process would become the property of the construction contractor and that the contractor would remove such materials from the ROW and dispose of them in a satisfactory manner. As noted in Chapter 2, the environmental site assessment prepared for the proposed project found no hazardous waste sites within the proposed ROW.

As noted in Chapter 2, the NRCS commented that the proposed ROW contains important farmland subject to the Farmland Protection Policy Act and requested that a Farmland Conversion Impact Rating (Form AD 1006) be prepared for the proposed project.

The Farmland Conversion Impact Rating measures the quality of farmland and the need for protection based on two criteria: (1) The Land Evaluation Criterion rates soil quality from several sources, including soil surveys, NRCS technical guides, land capability classifications, soil productivity ratings, and important farmland determinations. Based on this information, soils within the proposed rail ROW were evaluated and assigned a score from 0 to 100. This score represents the relative value of the farmland to be converted by the proposed ROW compared to other farmland in the same local government jurisdiction. (2) The Corridor Assessment Criteria rates other factors that affect the farm's viability by examining the proposed ROW and the surrounding area, along with programs and policies of the State or local unit of government where the proposed ROW is located. There are a total of 12 questions that are scored on a scale of 0 to the maximum points shown on Form AD 1006.

The score from the corridor assessment was added to the land evaluations to get a total score. In general, the higher the

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various property owners without having to utilize this power.

rating, the more appropriate the land is for protection. If the total score from Part VII of Form AD 1006 is less than 160 points, the proposed ROW needs no further consideration for protection.
Based on scoring decisions by the NRCS and the Board's representatives, the proposed route was assigned a rating of 142 points. Because this rating is less than 160 points, the proposed rail alignment does not warrant further consideration for protection against conversion activities. In a subsequent telephone conversation with the Board's subcontractor, the NRCS indicated that it concurs in this finding. The Farmland Conversion Impact Rating prepared for this project is shown in Appendix D.

4.2.2 Socioeconomics

The District expects approximately 160 people to be employed during construction of the proposed rail line, over a period of around 235 days. The average salary would be about $8 per hour. To the extent that the wages these employees would receive are spent within the local area, the construction phase of the proposed action would positively affect the local economy. However, this would represent a minimal effect due to the relatively limited number of construction employees and the limited duration of employment.

Environmental Justice

In its comments on the proposed rail construction, EPA requested that the Board consider Environmental Justice impacts in its environmental review (Appendix C, Exhibit 5).

Presidential Executive Order No. 12898, "Federal Actions to Address Environmental Justice in Minority and Low-Income Populations" directs individual federal agencies to develop approaches that address environmental justice concerns in their programs, policies, and procedures. SEA conducted an environmental justice analysis to: (1) determine the presence or absence of Environmental Justice Communities of Concern surrounding the proposed rail line;[14] and (2) if such a community

[14] EPA's criteria for identifying Environmental Justice Communities of Concern include the following:

- At least one-half of the census block being analyzed is minority status or
- At least one-half of the census block being analyzed is low-income status or
- The percentage minority of the census block being

is present, to determine the presence or absence of disproportionately high and adverse human health or environmental effects on the citizens of that community.

The analysis was based on census information and norms compiled from the U.S. Census Bureau, the Social Security Administration, and the Department of Health and Human Services. Such norms included percent of minorities and percent of low-income population in Ellis County, and were used as the point of reference for comparison to actual block data using the criteria set forth by EPA. SEA's analysis indicated that no Environmental Justice Communities of Concern exist in the study area for the proposed rail line. Therefore, no disproportionately high or adverse human health or environmental effects can result from the proposed project. The full text of the environmental justice analysis is shown in Appendix E.

4.3 WATER RESOURCES

4.3.1 Groundwater

Rail line construction could theoretically affect groundwater *quantity* in two ways: (1) if placement of the line were in some way to interfere with infiltration of water through the earth's surface into the aquifers where groundwater is stored, or (2) if movement of water through the aquifer were to be interfered with due to severance of the aquifer by excavation for the rail line. However, the proposed action is not expected to have either of these effects. The major sources of groundwater in the county are the Trinity and Woodbine aquifers. The TWDB groundwater database indicates that most groundwater in the project vicinity comes from the Woodbine aquifer, at a depth of 450 to 650 feet. Recharge to the Trinity and Woodbine aquifers occurs in the outcrop area of these aquifers, located to the west of Ellis County (see Figures A-7 and A-8). Furthermore, the District states that it does not anticipate cutting into any aquifers in the areas of excavation for the proposed rail line.

Groundwater *quality* could be affected if a spill or release of contaminants were to occur during rail line construction or

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analyzed is more than 10 percentage points higher than the percent minority status for the entire county in which the block is located or

- The percentage low-income status of the census block being analyzed is more than 10 percent higher than the percentage of low-income for the entire county in which the block is located.

operation and penetrate the aquifer, thereby contaminating it. The likelihood of such a release is extremely small due to the fact that fuels and oils, the items most frequently associated with spills, would not be present in large quantities. In addition, as noted above, the project area is not located in the recharge zone of the Trinity and Woodbine aquifers.

4.3.2 Surface Water

A rail line does not have to actually cross a waterway to affect it; however, generally speaking, the surface water resources of most concern are those a rail line would actually cross. The following discussion of impacts deals first with potential impacts of building the proposed rail line, and then with impacts of operating and maintaining it.

Construction

The actual process of constructing a rail line could affect drainageways and wetlands in the following ways:

- **Soil/Debris Deposition**. Soil or debris could be deposited into a waterway or wetland while rail construction activities are taking place in or near the waterway or wetland. Disturbance of the streambed by instream construction activities could also increase siltation. In addition, soil could erode into the waterway/wetland over time after completion of construction activities as a result of steep cut or fill slopes or as a result of inadequate revegetation procedures. Soil or debris deposition could adversely affect water quality.
- **Interference with Surface Drainage**. This could occur if placement of fill material were to block surface drainageways or if bridge or culvert openings were not large enough to accommodate waterflow, causing the drainageway to overflow its channel. This is a particular concern if any part of the proposed rail construction is to be located in a floodway, in which case the concern is that the railway structure not block movement of floodwaters to the extent that floodwater heights and velocities would be increased.
- **Wetland Impacts**. Wetland vegetation could be destroyed by work occurring in the wetland and also by adverse effects on water quality due to soil or debris deposition. Placement of fill material in a wetland to serve as support for the track structure removes a portion of the wetland from use and could alter the hydrology of that portion of the wetland which is not covered with fill.

Table 4-1 lists the drainageway crossings to be made by the proposed rail line. Figure A-9 shows the approximate location of those crossings. All crossing structures have been designed to pass a 100-year flood. The drainage structures were estimated based on U.S. Geological Survey (USGS) contour information. Each drainage structure would be designed based on actual survey data obtained for each stream crossing; some of the drainage structures may be revised to bridges during final design. Current drainage patterns would be maintained as much as possible. Property lines and/or drainage divides were followed where practical to minimize interference with surface drainage patterns for adjacent farmlands.

Culvert construction would consist of: channel excavation, structural excavation, reinforced concrete construction of the culvert structure, erosion control such as rock or concrete riprap and erosion control measures such as seeding, sodding, or erosion control blankets. Soil disturbance would be limited to areas necessary for construction. Construction areas would be watered as necessary to suppress dust. Disturbed areas would be promptly reseeded or revegetated after earthwork construction activities have been completed.

The District would prepare a Storm Water Pollution Prevention Plan using TxDOT BMP's. The primary soil disturbing activities would consist of roadway and channel excavation, embankment construction, and structural excavation. Soil stabilization practices would consist of temporary and permanent seeding, sodding and/or mulching. Structural practices would consist of silt fences, hay bales, rock bedding at construction exits, filter dams and channel lining or riprap.

As noted in Chapter 2, the Board's subcontractors performed a survey to identify U.S. Waters, including wetlands, subject to regulation by the Corps under Section 404 of the Clean Water Act. The study identified 5.35 acres of watercourses and 1.69 acres of wetlands (subject to Section 404 regulation) within the 1,000-foot corridor. The wetlands are a one-acre area north of Augur Road and a 0.69 acre area east of Wyatt Road.

With a 100-foot ROW, construction of the proposed drainageway crossings listed in Table 4-1 would temporarily disturb up to 0.32 acres of U.S. waters, but would not affect the wetlands noted above. These drainageway crossings are subject to Section 404 regulation by the Corps. The Corps has reviewed the waterway/wetland survey report and has indicated to the District that the proposed construction is authorized under the general nationwide-14 (NWP-14) permit. Given the minimal impacts associated with the drainageway crossings, the Corps is not requiring any mitigation.

Both EPA and the TNRCC requested that the Draft EA address surface water impacts and take steps to prevent surface and groundwater contamination (Appendix C, Exhibits 5 and 7, respectively). The steps noted above should minimize water resource impacts.

Operation and Maintenance

An accident during train operations over the proposed line could result in a spill of contaminant (such as diesel fuel) into a waterway or wetland. However, the likelihood of a train accident is thought to be minimal due to the projected low traffic level on the line and also to the planned maintenance program for the rail line. In addition, diesel fuel for the locomotives, which is the primary potential contaminant to be carried for the foreseeable future, would only be present in limited quantities.

Maintenance of the proposed rail line could cause toxic materials to be deposited in a waterway if herbicides applied to the ROW to control vegetation were to run off into adjacent drainageways or wetlands. The typical pattern for herbicide application would be a strip along the length of the rail bed and bounded on either side by drainage ditches. Nevertheless, at least a limited potential exists for a certain amount of the applied herbicide to run or wash off from the part of the ROW on which it is sprayed into adjacent drainageways. However, the District's proposed maintenance policy would minimize the potential for such run-off.

4.4 BIOLOGICAL RESOURCES

Project area biological resources are described in Chapter 2, Section 2.5.

Aquatic wildlife is directly affected by water quality and quantity; therefore, the aspects of rail construction and operation which affect aquatic wildlife are essentially the same as those which affect surface water resources. As noted in Section 4.3, these activities are:

- construction activity in or adjacent to drainageways/wetlands could cause increased siltation of the water resource, with possible effects on vegetation and fish spawning
- removal of stream/riparian vegetation, including large trees overhanging streams, could affect water quality and, thus, aquatic wildlife
- construction activity in wetlands could uproot and

destroy aquatic vegetation

- material or structures used to support the rail line as it crosses the drainageway or wetland could permanently remove portions of the resource as habitat
- herbicides used in the ROW vegetation control program could wash into waterways, with a possibly toxic effect on aquatic flora and fauna
- operations over the proposed rail line could at some point result in accidents with a potential for contaminant spills into waterways.

Terrestrial wildlife could be affected by construction and operation of a rail line in the following ways:

- conversion of land within the ROW from its current habitat use
- the track and supporting structure could act as a barrier to animal movement
- operations over the line could sporadically disturb animals in the vicinity, perhaps during critical breeding/nesting periods

Impacts of the proposed rail line construction and operation on aquatic wildlife would be minimal. Construction would not affect wetlands. Section 4.3 described the measures the District would take to minimize erosion of soil into waterways. Implementation of these measures, including BMP's, should prevent significant soil erosion impacts on aquatic wildlife. Should herbicides applied to the ROW during ROW maintenance wash into drainageways, there could be an adverse effect on aquatic wildlife. Likewise, an accident during train operations over the proposed line could result in a spill of contaminant into a waterway; however, the chances of this are fairly minimal due to the low likelihood of a train accident.

The proposed rail ROW, including the UP interchange, would require around 95 acres of land, most of which is currently in pastureland, cultivated fields, and fallow fields. Rail construction and operation would have minor adverse wildlife impacts, including habitat loss, increased human presence associated with construction and maintenance activities, noise, train-wildlife collisions, and the possibility of contaminants being introduced into the environment.

The primary impact would be the loss of approximately one acre of forested habitat along riparian zones at watercourse crossings. The removal of existing trees and brush would directly affect those species that are currently utilizing this habitat for food, cover, and nesting sites. However, this would increase the amount of habitat available for species that utilize

more open habitat. This vegetation loss should not be significant because similar vegetation is available within the project area and portions of the ROW would be allowed to revegetate.

Based on available information for the study area, the USFWS does not expect the proposed line to adversely affect the whooping crane, bald eagle, or any other federally listed threatened or endangered species (Appendix C, Exhibit 3). A search of the TPWD BCD revealed no known sites for protected species in the general vicinity of the study area.

4.5 TRANSPORTATION

Construction and operation of the proposed rail line could affect transportation in the following ways:

- Construction of the rail line could affect local transportation infrastructure
- Operations over the proposed rail line could cause delays of vehicular traffic at grade crossings
- Operations over the proposed rail line could cause train-vehicular accidents at grade crossings
- Operations over the proposed rail line could cause train derailments
- There could be a reduction in transportation-related impacts on rail routes or other transportation modes which might incur a reduction in traffic as a result of the proposed action

4.5.1 Construction

Table 4-2 lists the road and railway crossings which the proposed rail line would make; the crossing locations are shown in Figures A-3 and A-13. The table shows that the rail line would make five at-grade crossings of public roads: Gifgo, Augur, Old Fort Worth, Ward, and Wyatt Roads. The Texas Railroad Commission requested that all at-grade crossings with substantial vehicular traffic be protected with crossing gates and warning lights (Appendix C, Exhibit 9). The District states that all at-grade crossings on the proposed line would have such protection. The crossing surface for all at-grade public crossings would be pre-cast concrete panels. The District would coordinate at-grade crossing construction with TxDOT, the City of Midlothian, Ellis County and Emergency Management Services in order to minimize traffic delay during crossing construction. The District would need to reach a crossing agreement with the applicable authority as shown in Table 4-2 prior to constructing the crossings.

The District would construct the grade-separated crossings at U.S.287 and U.S.67 in accordance with TxDOT requirements. U.S.287 would be lowered to accommodate the proposed rail line. TxDOT is preparing to widen U.S.287 from two to four lanes. Concurrent construction of the rail line and the widening project would minimize traffic impacts as well as construction costs.

The U.S.67 and BNSF crossings would be grade-separated, with the proposed rail line crossing both on the same bridge structure. TxDOT is currently widening U.S.67 from two to four lanes at the proposed crossing location. The proposed bridge design would accommodate the widened roadway. No grade adjustments would be required for U.S.67.

The proposed rail line would cross the following major utility lines:

- Two Texas Utilities electric transmission lines
- Tarrant Regional Water District 72″ and 90″ high pressure water lines
- Mobil Gas pipelines

Additional utility crossings are located within each local, county, TxDOT, and railroad ROW. The District would need to obtain agreements with the individual utility companies prior to constructing the particular crossing.

The Texas Utilities electric transmission lines would be surveyed during project design to determine if they need to be raised. The Tarrant Regional Water District 72″ and 90″ water lines would be protected by constructing a concrete protection structure over the water lines. The Mobil Gas pipelines would be protected with casing pipe in accordance with American Railway Engineering and Maintenance Association (AREMA) Recommended Practices.

Underground telephone cables would be protected in casing pipes per AREMA Recommended practices. Overhead electric transmission and distribution lines would be raised as required to meet National Electrical Code requirements.

Based on the above information, the proposed rail line construction would not adversely affect existing transportation infrastructure.

4.5.2 Operations

There would be approximately 1,440 total annual train movements (loaded and empty) over the proposed rail line, which would equate to around 4 train movements per day. Over the near term, trains would probably consist of one locomotive and 5 to 10

cars per train; over the longer term trains may consist of one to two locomotives and an average of 25 to 50 cars per train. For the foreseeable future, the proposed line is not expected to carry hazardous materials, although this could occur at some point in the future. Normal operating speed over the line would be 20 to 25 miles per hour. Expected time of day of train operations is not known at this time.

Train movement through an at-grade crossing involves the potential for delay of vehicular traffic. The time during which a roadway would be blocked by a train passing through an at-grade rail crossing depends on how long the train takes to clear the crossing, as well as how far in advance of the train's actual arrival at the crossing vehicular traffic begins to stop and wait for the train to pass. A 50-car train with two locomotives would be 3370 feet long. A 3370-foot train travelling at 25 mph would take approximately 92 seconds to clear a crossing. If vehicular traffic began to stop at the crossing to wait for the train to pass 30 seconds in advance of the train's arrival at the crossing, the train's approach and passby would block the crossing for approximately two minutes. Four train movements per day would block the crossing for a total of approximately eight minutes per day.

The number of vehicles which might be delayed at each passby of a train through at-grade crossings on the proposed rail line would depend on the amount of vehicular traffic on that road at the time of the train passby. The amount of time that any particular vehicle would be delayed would depend on when, during the train passby, the vehicle arrived at the crossing, and also on the vehicle's position in the queue of vehicles waiting at the crossing. Due to the small amount of time daily during which the at-grade crossings on the proposed line would be blocked, operations over the line should not have significant grade crossing delay impacts.

All of the at-grade crossings on the proposed line would be equipped with flashing lights and gates; this should minimize the potential for train-vehicular accidents.

Any instance of train operation over a rail line involves at least a limited potential for derailment. However, track safety inspections would be conducted according to FRA standards contained in 49 CFR Part 213. The inspection program should detect any potential problems with the physical condition of the line at an early stage, minimizing derailment potential.

4.6 AIR QUALITY

4.6.1 Construction

The NRCS requested that soil disturbance during construction be done in a manner to minimize erosion and dust (Appendix C, Exhibit 2). The District states that soil disturbance during construction would be limited to areas necessary for construction and that construction areas would be watered as necessary to suppress dust. Disturbed areas would be promptly reseeded or revegetated after earthwork construction activities have been completed. TNRCC indicates that dust and particulate emissions which might occur during the proposed construction should not significantly affect local air quality (Appendix C, Exhibit 7).

4.6.2 Operation

Rail operations can affect air quality through emission of air pollutants from locomotive diesel fuel combustion.

The Board typically applies a threshold level of rail traffic increase for determining whether to quantify the air pollution which would be generated by rail traffic over a new rail line proposed for construction. This threshold is contained in 49 CFR 1105.7(e)(5).[15] If the line proposed for construction is not located in either a Class I or a nonattainment area, pollutant emissions from rail traffic will be quantified only if the proposed action would add eight or more trains per day to the line to be constructed.

The project area is not in a Class I area. Ellis County is in attainment for all six criteria air pollutants. Substantially fewer than eight train movements per day are expected to be added to the proposed line (four daily train movements are expected). Because of this, expected air pollutant emissions from rail

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[15] It should be noted, however, that this threshold is applied with flexibility; SEA finds it a useful guide in a preliminary assessment of the need for more detailed analysis. When circumstances warrant, SEA will examine air quality impacts of a proposed rail line construction even though proposed traffic levels do not exceed the threshold noted here. Precedence for use of such thresholds was established in Finance Docket (F.D.) 30400, Santa Fe Southern Pacific Corporation-Control-Southern Pacific Transportation Company; Merger the Atchison, Topeka and Santa Fe Railway Company and Southern Pacific Transportation Company Environmental Assessment served November 1, 1985, at 32,33,and 44, and F.D. No. 3200, et al., Rio Grande Industries, Inc.; SPTC Holding, Inc.; The Denver Rio Grande and Western Railroad Company-Control-Southern Pacific Transportation Company. Environmental Assessment, served May, 1988, page 2.

operations over the proposed line have not been quantified. However, they are expected to be insignificant.

4.7 NOISE

4.7.1 Construction

Noise levels in the area would rise during construction of the rail line. Vehicles and machinery used for land clearing, road bed construction, and bridge construction would generate temporary increases in noise levels. However, construction noise emissions would be of short term duration and would be confined to the fifteen-month construction period. In addition, the line would be constructed in a largely rural area which is sparsely populated, thus limiting the number of people potentially affected by such noise.

4.7.2 Operations

Train operations over the proposed rail line would raise ambient noise levels in the immediate vicinity of the line.

The Board applies a threshold level of rail traffic increase for determining whether to quantify noise which would be generated by rail traffic over a new rail line proposed for construction. This threshold is contained in 49 CFR 1105.7(e)(6).[16] If the proposed action would add eight or more trains per day to the line to be constructed, noise to be generated by operations over the line must be quantified and sensitive receptors may have to be identified. As projected train operations over the proposed line fall substantially short of this threshold, SEA has not quantified the potential increase in noise levels due to such operations. However, it can be said that the potential increase in noise would be fairly minimal due to the low rail traffic level; also, the number of noise receptors would be relatively few, as the line would pass through a primarily rural area, with relatively few receptors located nearby.

4.8 CULTURAL RESOURCES

The cultural resource survey conducted for the proposed

[16] It should be noted, however, that SEA applies this threshold with flexibility, finding it a useful guide in a preliminary assessment of the need for more detailed analysis. When circumstances warrant, SEA will examine noise impacts of a proposed rail line construction even though proposed traffic levels do not exceed the threshold noted here.

action and described in Chapter 2, Section 2.9, indicated no sites on or eligible for the NRHP along the proposed ROW. The Commission concurred in this finding and indicates that the proposed rail line construction may proceed without further consultation with that agency (Appendix C, Exhibits 12, 14, and 15). However, the Commission did request that, in the event intact deposits are uncovered during the proposed construction, work should cease in the immediate area and the Commission should be consulted.

4.9 RECREATION

There are no public recreation sites in the project area, and the proposed construction would not affect access to recreational areas. Therefore, no impacts on recreational resources are expected.

CHAPTER 5.0UNAVOIDABLE ADVERSE ENVIRONMENTAL IMPACTS

The proposed rail line construction would result in conversion of approximately 95 acres of land to rail use for the ROW. This acreage includes land considered by the NRCS to be important farmland.

The proposed construction would temporarily disturb up to 0.32 acres of U.S. Waters during construction of the drainageway crossings (but would affect no wetlands). Rail construction and operation would have minor adverse wildlife impacts, including habitat loss, increased human presence associated with construction and maintenance activities, noise, train-wildlife collisions, and the possibility of contaminants being introduced into the environment.

The five proposed at-grade public road crossings would have limited safety and delay impacts. Proposed rail line operations would have localized, but insignificant, air and noise impacts.

CHAPTER 6.0 CUMULATIVE ENVIRONMENTAL IMPACTS

Cumulative environmental impacts result when the effects of an action on a particular resource, ecosystem, or human community are added to or interact with other effects in a particular place and within a particular time. Cumulative impacts of the proposed rail line construction would include those which may result from the Railport development itself and from any population growth which might result from increased employment opportunities at the Railport. Environmental impacts from the proposed rail line construction itself are not expected to be significant; however,they would add somewhat to the total of impacts in the Midlothian area on conversion of important farmland to other uses, on disturbance of land classified as “waters of the U.S., on removal of land from use as wildlife habitat, and on increased air pollutant emissions, and increased localized noise levels.

CHAPTER 7.0 SECTION OF ENVIRONMENTAL ANALYSIS' RECOMMENDATIONS FOR MITIGATION

Based on SEA's review of all information available to date and its independent analysis of the proposed rail line construction and operation, all the comments and mitigation requested by various federal, state, and local agencies, as well as other concerned parties, and the mitigation offered by the District, SEA preliminarily recommends that any final decision by the Board approving the proposed rail line construction and operation be subject to the following mitigation measures:

Land Use

1. As agreed to by the Ellis County Rural Rail Transportation District, it shall grant private crossings or construct access roads if necessary to maintain access to property severed by the proposed right-of-way.

2. As agreed to by the Ellis County Rural Rail Transportation District, it shall develop any borrow sites related to the proposed rail construction in accordance with all applicable environmental regulations.

3. As agreed to by the Ellis County Rural Rail Transportation District, it shall require its construction contractor to dispose of all waste material generated during construction in accordance with applicable federal, state, and local regulations.

4. Should hazardous wastes be encountered in the project area during the proposed construction, the Ellis County Rural Rail Transportation District shall handle and dispose of such wastes in accordance with applicable federal, state, and local regulations.

Water Resources

5. As agreed to by the Ellis County Rural Rail Transportation District, all drainageway crossing structures shall be designed to pass a 100-year flood.

6. As agreed to by the Ellis County Rural Rail Transportation District, the rail line shall be constructed in a way to maintain current drainage patterns as much possible.

7. The Ellis County Rural Rail Transportation District shall

prepare a Storm Water Pollution Prevention Plan using Texas Department of Transportation Best Management Practices and shall require its construction contractor to abide by its provisions.

8. The Ellis County Rural Rail Transportation District shall adhere to the provisions of the general nationwide-14 permit issued by the U.S. Army Corps of Engineers in conjunction with the proposed rail line construction.

9. As agreed to by the Ellis County Rural Rail Transportation District, it shall require its construction contractor to limit soil disturbance to those areas necessary for the proposed rail line construction, and to promptly reseed or revegetate disturbed areas after earthwork construction activities are completed.

10. For right-of-way maintenance, the Ellis County Rural Rail Transportation District shall use only contractors trained in herbicide application and shall require those contractors to follow label directions in applying herbicides. The Ellis County Rural Rail Transportation District shall also require those contractors to use only herbicides registered for such use with the U.S. Environmental Protection Agency and to follow all applicable state regulations regarding use of those herbicides.

Transportation

11. As agreed to by the Ellis County Rural Rail Transportation District, all of the at-grade crossings on the proposed line will be equipped with flashing lights and gates to minimize the potential for train-vehicular accidents.

12. As agreed to by the Ellis County Rural Rail Transportation District, the Ellis County Rural Rail Transportation District shall construct the grade-separated crossing at U.S.287 and U.S.67 in accordance with Texas Department of Transportation requirements.

13. As agreed to by the Ellis County Rural Rail Transportation District, it shall coordinate at-grade crossing construction with the Texas Department of Transportation, the City of Midlothian, Ellis County, and Emergency Management Services in order to minimize traffic delay during crossing construction.

Air Quality

14. As agreed to by the Ellis County Rural Rail Transportation District, it shall require its construction contractor to

water construction areas as necessary to suppress dust.

Cultural Resources

15. In the event intact archaeological deposits are uncovered during the proposed construction, work shall cease in the immediate area and the Texas Historical Commission shall be consulted.

Conclusion and Request for Comments

Based on the information provided from all sources to date and its independent analysis, SEA preliminarily concludes that construction and operation of the proposed rail line would have no significant environmental impacts if the Board imposes and the District implements the mitigation recommended above. Therefore, the EIS process is unnecessary in this proceeding.

SEA specifically invites comments on all aspects of this Draft EA, including suggestions for additional mitigation measures. SEA will consider all comments received in making its final recommendations to the Board. The Board will consider SEA's final recommendations and the environmental comments in making its final decision in this proceeding.

If you wish to file comments regarding this Draft EA, send an original and 10 copies to the Office of the Secretary, Attn: Phillis Johnson-Ball, Environmental Review (FD 33731), Surface Transportation Board, 1925 K St. NW, Washington, D.C. 20423. Comments should refer to the docket number of this proceeding: Finance Docket No. 33731.

Date made available to the public: April 24, 2000

Comment due date:
May 24, 2000

TABLE 2-1
LAND USE IN MIDLOTHIAN

Total Acres	15,611
Percent Vacant	80.1%
Single Family	619
Multi Family	17
Mobile Homes/Group Quarters	56
Industrial	1,505
Commercial	114
Institutional	88
Infrastructure	283
Parks and Flood Plain	47
Water	185
Under Construction	187
Vacant	12,511

Source: NCTCOG

TABLE 2-2
MAJOR EMPLOYERS IN ELLIS COUNTY

Employer	Employees	Class
Chaparral Steel Co.	1200	Mfg.
Tyler Refrigeration Corp.	550	Mfg.
Ennis Automotive Inc.	550	Mfg.
Atlas Soundolier	450	Mfg.
Owens-Corning Fiberglas Corp.	450	Mfg.
Leggett & Platt	400	Mfg.
Ennis Business Forms	400	Mfg.
Dart Container Corp.	400	Mfg.

Source: NCTCOG

TABLE 2-3
MAMMALS COMMONLY FOUND IN ELLIS COUNTY, TEXAS

Common Name	Scientific Name
Nine-banded Armadillo	*Dasypus novemcinctus*
Eastern Red Bat	*Lasiurus borealis*
Hoary Bat	*Lasiurus cinereus*
Brazilian Free-tailed Bat	*Tadarida brasiliensis*
Eastern Cottontail	*Sylvilagus floridanus*
Eastern Gray Squirrel	*Sciurus carolinensis*
Eastern Fox Squirrel	*Sciurus niger*
Eastern Flying Squirrel	*Glaucomys volans*
Hispid Pocket Mouse	*Chaetodipus hispidus*
Eastern Woodrat	*Neotoma floridana*
American Beaver	*Castor canadensis*
Fulvous Harvest Mouse	*Reithrodontomys fulvescens*
White-footed Mouse	*Peromyscus leucopus*
Deer Mouse	*Peromyscus maniculatus*
Hispid Cotton Rat	*Sigmodon hispidus*
Nutria	*Myocaster coypus*
Coyote	*Canis latrans*
Common Gray Fox	*Urocyon cinereoargenteus*
Red Fox	*Vulpes vulpes*
Common Raccoon	*Procyon lotor*
Ringtail	*Bassariscus astutus*
Long-tailed Weasel	*Mustela frenata*
Mink	*Mustela vison*
Eastern Spotted Skunk	*Spilogale putorius*
Striped Skunk	*Mephitis mephitis*
River Otter	*Lutra canadensis*

Bobcat	*Lynx rufus*
White-tailed Deer	*Odocoileus virginianus*
Feral hog	*Sus scrofa*
Opossum	*Didelphis virginiana*

TABLE 2-4

AMPHIBIANS AND REPTILES COMMONLY FOUND IN ELLIS COUNTY, TEXAS

Common Name	***Scientific Name***
Amphibians	
Smallmouth Salamander	*Ambystoma texanum*
Cricket Frog	*Acris crepitans*
Gulf Coast Toad	*Bufo valliceps*
Woodhouse's Toad	*Bufo woodhousii*
Great Plains Narrowmouth Toad	*Gastrophryne olivacea*
Green Treefrog	*Hyla cinerea*
Gray Treefrog	*Hyla versicolor*
Spotted Chorus Frog	*Pseudacris clarkii*
Strecker's Chorus Frog	*Pseudacris streckeri*
Striped Chorus Frog	*Pseudacris triseriata*
Crawfish Frog	*Rana areolata*
Rio Grande Leopard Frog	*Rana berlandieri*
Bullfrog	*Rana catesbeiana*
Southern Leopard Frog	*Rana utricularia*
Couch's Spadefoot toad	*Scaphiopus couchii*
Reptiles	
American Alligator	*Alligator mississippiensis*
Snapping Turtle	*Chelydra serpentina*
Yellow Mud Turtle	*Kinosternon flavescens*
Eastern Mud Turtle	*Kinosternon subrubrum*
Eastern Box Turtle	*Terrapene carolina*
Ornate Box Turtle	*Terrapene ornata*
Slider	*Trachemys scripta*
Green Anole	*Anolis carolinensis*
Texas Spotted Whiptail	*Cnemidophorus gularis*

Six-lined Racerunner	*Cnemidophorus sexlineatus*
Five-lined Skink	*Eumeces fasciatus*
Timber Rattlesnake	*Crotalus horridus*
Corn Snake	*Elaphe guttata*
Eastern Rat Snake	*Elaphe obsoleta*
Eastern Hognose	*Heterodon platirhinos*
Prairie Kingsnake	*Lampropeltis calligaster*
Common Kingsnake	*Lampropeltis getula*
Milk Snake	*Lampropeltis triangulum*
Texas Blind Snake	*Leptotyphlops dulcis*
Eastern Coral Snake	*Micrurus fulvius*
Yellowbelly Water Snake	*Nerodia erythrogaster*
Diamondback Water Snake	*Nerodia rhombifer*
Rough Green Snake	*Opheodry aestivus*
Bullsnake	*Pituophis melanoleucus*
Brown Snake	*Storeria dekayi*
Flathead Snake	*Tantilla gracilis*
Western Ribbon Snake	*Thamnophis proximus*
Common Garter Snake	*Thamnophis sirtalis*
Lined Snake	*Tropidoclonion lineatum*
Rough Earth Snake	*Virginia striatul*

TABLE 2-5

FEDERAL AND STATE PROTECTED SPECIES FOR ELLIS COUNTY, TEXAS

Common Name	*Scientific Name*	*Federal Status*	*State Status*
Arctic Peregrine Falcon	*Falco peregrinus tundrius*	E	T
Bald Eagle	*Haliaetus leucocephalus*	T	T
Interior Least Tern	*Sterna antillarum athalassos*	E	E
White-faced Ibis	*Plegadis chihi*	NL	T
Whooping Crane	*Grus americana*	E	E
Wood Stork	*Mycteria americana*	NL	T
Texas Horned Lizard	*Phrynosoma cornutum*	SOC	T
Timber/Canebreak Rattlesnake	*Crotalus horridus*	NL	T
Alligator Snapping Turtle	*Macroclemys temmincki*	SOC	NL
Texas Garter Snake	*Thamnophis sirtalis annectans*	SOC	NL
Loggerhead Shrike	*Lanius ludovicianus migrans*	SOC	NL
Mountain Plover	*Charadrius montanus*	SOC	NL

•E = Endangered
•T = Threatened
•SOC = Species of Concern
•NL = Not Listed

TABLE 3-1
Proposed Ellis County Rural Rail Transportation District
Rail Line Design Specifications

Maximum curvature	8.0 degrees
Maximum grade	1.5 percent
Minimum weight of rail	115 lb.RE new or relay CWR
Tie length	8 feet 6 inches
Tie size	7″ x 9″
Grade of ties	New
Tie spacing	19″
Minimum top ballast depth	1′-3″ (8″ minimum below tie)
Minimum subballast depth	12 inches
Subgrade width	24 feet
Minimum Depth of Subgrade Stabilization	6″
Minimum depth of drainage ditch	2′
Minimum distance to ditch from C_L	17′
Cut and fill slopes	2:1 maximum
Depth of maximum cut	10 feet
Height of maximum fill	30 feet