FINAL
ENVIRONMENTAL ASSESSMENT

Sioux Falls East Side Corridor
Minnehaha and Lincoln Counties, South Dakota

I-29 (Exit 106) east and north 17 miles to I-90 (Exit 402)
Sioux Falls, South Dakota

Submitted Pursuant to 42 U.S.C. 4332(2)(c) by the
U.S. Department of Transportation
Federal Highway Administration
and
South Dakota Department of Transportation

MARCH 20, 2003 — Dave Graves
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ABSTRACT

The proposed project includes the development of a new regional arterial highway to accommodate forecasted regional travel demand growth in Sioux Falls. The project extends from I-29 (Exit 106) east and north 17 miles to I-90 (Exit 402).

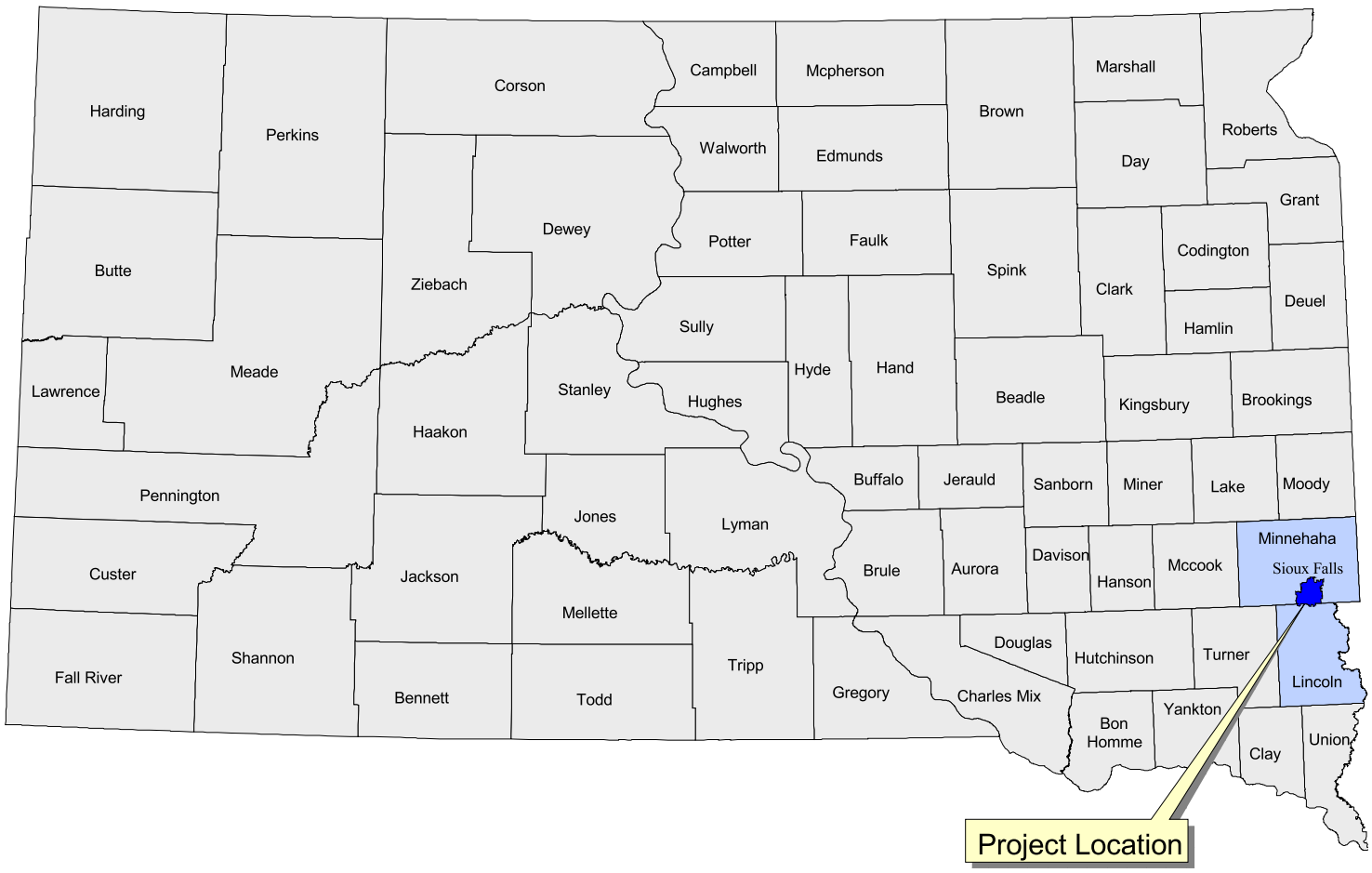

Figure 1
General Location Map
Environmental Assessment
East Corridor Corridor Study Area
Sioux Falls, South Dakota

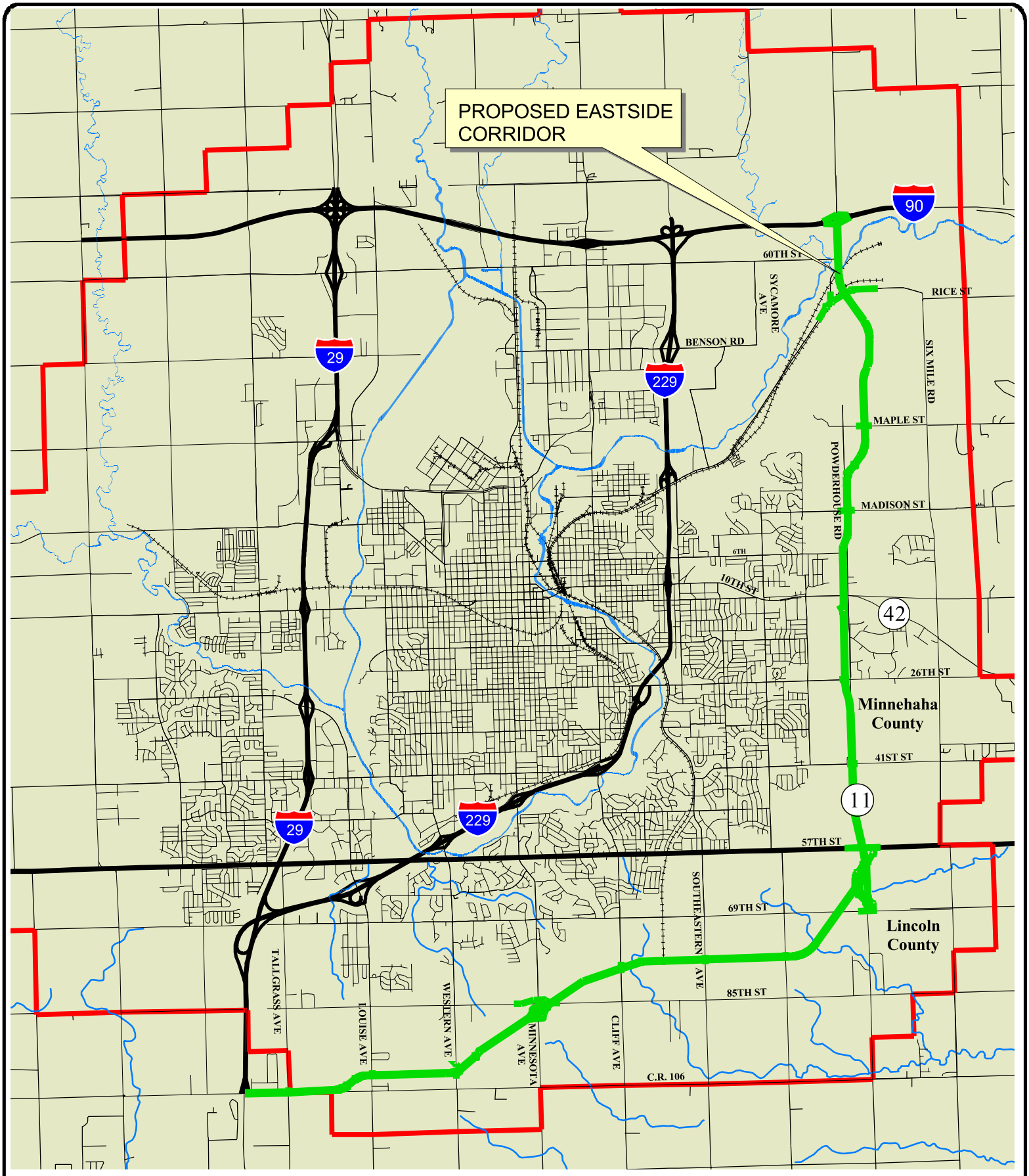

Figure 2
General Location Map
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Sioux Falls, South Dakota

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I. REPORT PURPOSE

This Environmental Assessment (EA) provides background information including:

- Need for the proposed project
- Alternatives considered
- Environmental impacts and mitigation
- Agency coordination and public involvement

This EA was prepared as a part of the National Environmental Policy Act (NEPA) process and state environmental review process to fulfill requirements of both 42 USC 4332 and M.S. 116D. At the federal level, the EA is used to provide sufficient environmental documentation to determine the need for an Environmental Impact Statement (EIS) or that a Finding of No Significant Impact (FONSI) is appropriate. At the state level, the EA is used to provide sufficient environmental documentation to determine the need for a state EIS or that a Negative Declaration is appropriate.

II. PURPOSE AND NEED FOR PROJECT

A. PROPOSED PROJECT

The Sioux Falls East Side Corridor is a proposed new limited access principal arterial roadway being planned to address future transportation system needs. The proposed four-lane, 45 mph roadway will be located within the City of Sioux Falls' 2025 growth area east and south of the current (2002) jurisdictional limits. The East Side Corridor Study location is illustrated on Figure 1. The New Corridor-Preferred Alternative for the East Side Corridor is illustrated on Figure 2.

The proposed 17-mile roadway will be designed within a 200-foot wide corridor with 12-foot minimum travel lane widths, 20-foot medians, 10-foot shoulders, 10-foot berms, and 10-foot wide paved pedestrian/bicycle trails. Grade-separated interchanges have been proposed at intersections with Minnesota Avenue, SD Highway 11, and Rice Street. Grade-separated structures will span existing railroads and other local roads that are not provided with immediate access to the East Side Corridor. Other intersections will be at-grade with traffic controls (turning lanes, traffic signals) and placed with 1-mile access openings, except in future commercial areas, where ½-mile access openings will be permitted. Figure 3 illustrates a typical roadway section of the proposed East Side Corridor.

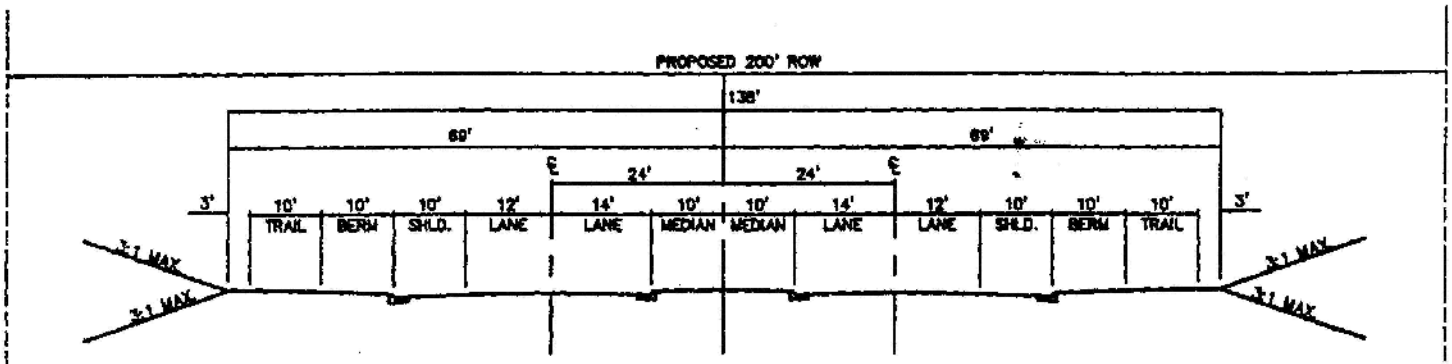
The proposed project's right-of-way acquisition is expected to commence in 2003. Securing and programming funding, detailed design for three major project stages, right-of-way acquisition, and construction is expected to continue for the next 25 years (approximately 2027). The project's three major stages and current timetable are as follows:

<u>57th Street to SD Highway 42</u>
1 to 5 years Right-of-way acquisition
3 to 6 years Funding acquisition and programming
4 to 8 years Design and engineering
5 to 10 years Construction

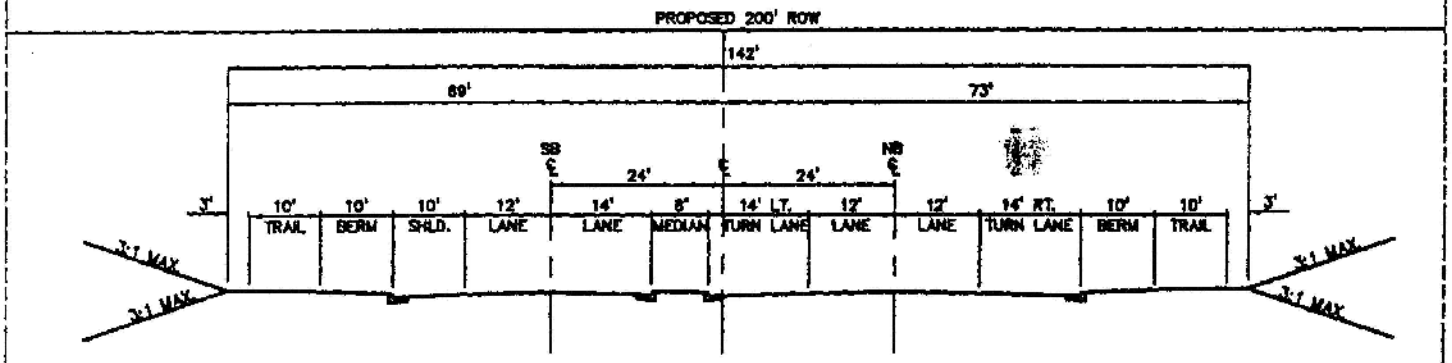
<u>SD Highway 42 to I-90</u>
4 to 10 years Right-of-way acquisition
6 to 12 years Funding acquisition and programming
8 to 13 years Design and engineering
10 to 15 years Construction

<u>57th Street to I-29</u>
5 to 15 years Right-of-way acquisition
10 to 20 years Funding acquisition and programming
13 to 23 years Design and engineering
15 to 25 years Construction

The current estimated cost of the proposed project (2002 dollars), including right-of-way acquisition, funding, design, and construction, is $72.8 million. Preliminary cost estimates will be refined when the project's preliminary design stages are approved.



TYPICAL ROADWAY SECTION



TYPICAL ROADWAY SECTION WITH TURN LANES

Source: SDDOT

Figure 3
Typical Arterial Roadway Section
Environmental Assessment
East Corridor Study Area
Sioux Falls, South Dakota

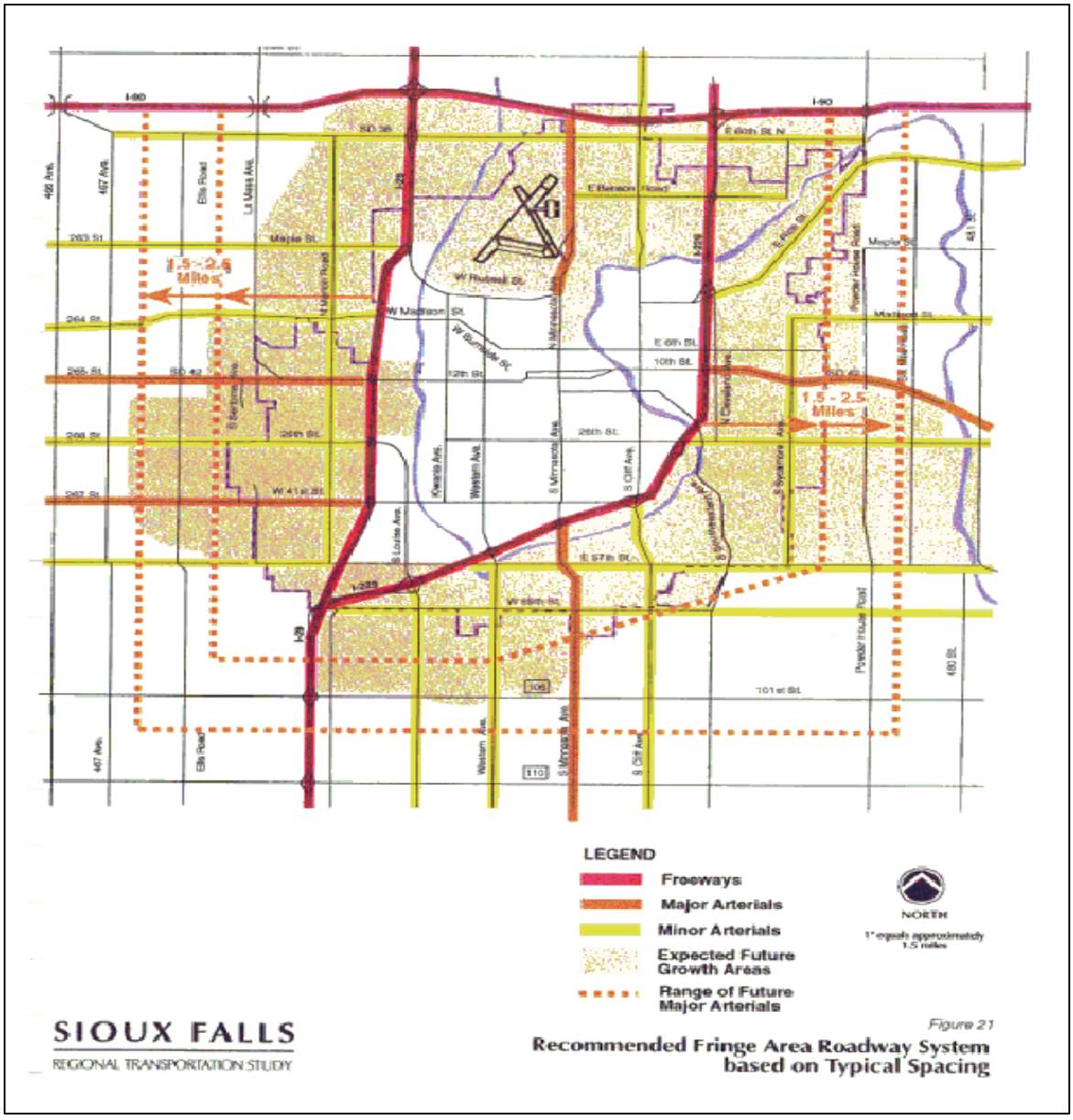
B. BACKGROUND

Much of the background information on the East Side Corridor comes from previous Sioux Falls area comprehensive plans and studies. Since 1995, various transportation system analyses and future land use concepts have pointed to the need for a corridor outside the existing interstate system that would serve the future growth, especially on the east and south sides. The proposal for a limited access roadway is one of the consistent proposals in all of the studies that have been made. The East Side Corridor will preserve the function and working performance of the existing and future minor arterial and collector street systems by removing some of the existing and many of the future regional movements within the Sioux Falls metropolitan area.

The 1995 Sioux Falls Regional Transportation Study made the following recommendation: "Develop a system of high speed, limited access arterial roadways to serve new development outside of the existing interstate corridors similar to the recommended system shown in Figure 21. This will allow the City of Sioux Falls and the affected counties to preserve right-of-way, provide for increased building setbacks and limit access within the subject corridors."

In the text, additional roads shown on Figure 21 of that study are based on the following comment: "A recommended fringe area roadway system was developed based on the typical spacing guidelines and on the existing City of Sioux Falls roadway spacing. This recommended system is shown in Figure 21 and shows the suggested future arterial locations. Collector and local streets are not shown but should be provided at the typical and existing spacing."

"Figure 21 indicates the suggested future location of major arterial roadways approximately 1.5 to 2.5 miles outside of the existing beltway loop. These roadways correspond closely with the innermost beltway location that was modeled (i.e., Ellis Road and Power House Road), except for on the south, where the major arterial roadway may continue along the 101st Street alignment instead of diagonally paralleling I-229." Figure 21 in the report shows a range of future major arterials on both the east and west sides, as well as along the south side of Sioux Falls.



The Sioux Falls 2015 Comprehensive Development Plan also recognized the need for the East Side Corridor roadway. It stated "A complete circumferential roadway system around the City was analyzed as part of a regional transportation needs assessment in 1995. The analysis determined that an interstate designed beltway would not be justified based on growth projections to the year 2015. The report did recognize, however, the need for development of a limited access system of arterial streets to serve the transportation needs of the City's growth areas within the planning period. The analysis also concluded that the City should designate this corridor and develop an access control policy and begin right-of-way acquisition. A system of arterials may eventually need to be expanded into an interstate style beltway as traffic needs warrant, some time beyond the planning horizon." The report also stated "The comprehensive plan provides a connection of future land uses to a regional street system with a supporting network of arterials that will permit movement of intra-city traffic. The plan is based on the identification of transportation needs between intensive employment areas and both established and planned residential growth areas. Of primary importance is the

provision of access to and from the major routes that encourages regional trips and reduces congestion on local streets. The local street network is also important by providing inter-neighborhood connectivity, while preventing congestion on arterials that would occur if they were used for shorter trips."

A Long-Range Transportation Plan for the year 2025 was prepared. The section titled Regional Arterial Corridor, reference to the 1995 plan was made. It also addressed the project status following the December 1997 Sioux Falls Regional Arterial Corridor Analysis – East Side Corridor Study, which was completed in April 1999.

In addition, the plan stated, "The objectives of the Analysis were to develop and evaluate alternative roadway design and location scenarios for further project development consistent with city, state, and federal procedures. The alternatives were evaluated on the consistency with design guidelines, minimizing environmental impacts, minimizing right-of-way impacts and minimum implementation costs. Traffic forecasts were prepared and adjustments made for updated levels of development, the higher expected operating speeds associated with a multi-lane urban arterial and the expected new connections to the regional road system. By conducting the analysis and acquiring right-of-way prior to the development of the area through which the East Corridor would likely be constructed, the right-of-way requirements and cost of acquisition can be minimized."

The Phase I report identified above was approved by the Urbanized Development Commission (UDC) on April 15, 1999, but a recommended alignment for the new East Side Corridor was not selected, and several outstanding issues regarding the corridor's future alignment were raised. In fall 2000, the City of Sioux Falls prepared to restudy these issues with a different process and reactivated the study of the East Side Corridor. A study committee, named the Process Team, was organized in December 2000 and engaged in January 2001. The Process Team developed purpose and need statements in support of its mission for the proposed East Side Corridor. These statements are illustrated in Table 1.

Table 1
Purpose and Need

The Purpose and Need for the East Side Corridor is to:

A. Adequately prepare the City of Sioux Falls for 2025 transportation system needs consistent with planning decisions and future construction of other public and private infrastructure investments. Three actions support this statement:

1. Validate Official Planning Documentation
   - Serve the purpose and need for the project consistent with the recommendations of the following documentation:
     - 1995 Sioux Falls Regional Transportation Study
     - Sioux Falls 2015 Comprehensive Development Plan (2015 Plan)
     - Sioux Falls Regional Arterial Corridor Analysis – East Side Corridor Study
     - Year 2025 Long Range Transportation Plan for the Sioux Falls Metropolitan Planning Area
2. Preserve Options for Future Right-of-Way Acquisition
   - Open space and areas of limited development need to be preserved for future right-of-way to minimize future acquisition and relocation costs and community disruption.
3. Ensure Continuity between Urban Systems Planning and Private Development
   - As developer proposals are received for property annexed into the City of Sioux Falls, East Side Corridor right-of-way needs to be considered in the platting and planning process.
   - Establish the framework necessary to develop a future "vision" for the project area beyond 2025.

B. Prevent study area roadway deficiencies that will occur by the year 2025 if nothing is done. These potential deficiencies include the following:

- Travel trip/street discontinuity in the southeast region (between I-90 and Minnesota Avenue)
- Street design deficiencies – existing and future
- 2025 capacity issues
- 2025 congestion issues
- 2025 safety issues
- 2025 access issues

C. Accommodate the 2025 traffic growth needs of the Study Area

- 2025 traffic volumes
- Complement the 2025 Sioux Falls Street System Plan
- Provide a comprehensive, rather than piecemeal, solution to accommodate future traffic needs

C. EAST SIDE CORRIDOR TRAFFIC ANALYSIS

Traffic forecasts were studied to confirm the appropriate design standards for the project, which were initially developed by the SDDOT in 1997 and documented in the *Sioux Falls Regional Arterial Corridor Analysis – East Side Corridor Study Report (March 1999).*

The environmental review process concentrated on selection of specific alignments through public involvement and evaluation of those alignments. The process for selection looked at year 2015 forecast, but also at long-range planning (visioning) for Sioux Falls in year 2050. The process for environmental review built off previous studies that led to the selection of the preferred alternative.

Projections for year 2015 traffic volumes were used as a base as the City of Sioux Falls is still finalizing its 2025 regional forecast. The City of Sioux Falls updated its general traffic forecast to 2025 for the southeast area. This provided traffic forecasts for both a concept East Side Corridor and the other roadways in the area. The development of residential and other areas in the south and east quadrants of the Sioux Falls growth area were examined and future land uses to 2050, which represents full growth in the area, were reviewed. An estimate of trip generation from that additional development within the future City boundaries and from the general area growth anticipated to 2050 were made. Traffic was studied on the basis of trip origins and destinations by land use types and were assigned in general to the roadway systems anticipated to be in place in 2050, including updated east/west and north/south roadways, as well as the East Side Corridor. Adjustments were also made to add traffic growth entering the area from Iowa and other areas outside the future city limits. Population growth was based on the Overview of Sioux Falls Development Patterns and Future Transportation Corridors prepared by the Sioux Falls Planning Office in March 2000. This documented the past Sioux Falls growth and provided estimates of the area to be developed beyond 2025, as well as increments of growth to 2015 and 2025. Population for the year 2025 was estimated at 185,000. Growth patterns, the potential growth areas, and a consensus of the planning opinions was that an additional 65,000 persons would be added to the Sioux Falls urban area between 2025 and 2050. This would result in a population of approximately 250,000.

The future land use patterns in the City were analyzed to determine where the development of employment and commercial areas would be, as well as the residential growth anticipated to the south and east. The area to the south beyond 2025 is largely residential, but is constrained by utility extensions and capacity. Using this information, the future population in the south was anticipated to be 60,000, with approximately 20,000 dwelling units generating approximately 200,000 vehicle trips per day.

Using future land use (2025 to 2050) as origins and destinations, the residential to employment trips were disbursed throughout the metropolitan area. Similarly, trips for education, entertainment, shopping, and others including medical and residential visits, were all reviewed. These were then compared, as desire lines, to the proposed street system. The new developed south area consists primarily of a grid system of streets including 41st Street, 57th Street, 69th Street, 85th Street, and County Road 106 in the east/west direction and numerous north/south streets connecting to the existing street system, as well as the East Side Corridor.

The 1995 Sioux Falls Regional Transportation Study provided forecasted traffic volumes to the year 2015 and further evaluated them in terms of level of service.[1] For the forecast for the year 2015 without the East Side Corridor, north/south segments of Louise Avenue, Western Avenue, Minnesota Avenue, and Cliff Avenue were all at Level of Service E near the interstate crossings. In addition, segments of Minnesota Avenue to the south of 57th Street showed up as Level of Service E or F. In addition, a number of streets within the interstate circle also showed up at Level of Service E or F. Most of these streets are already at their maximum build-out level.

Roadways on the outside of the freeway circle vary from Level of Service A through F. Many of the roadways have potential for expansion to improve the level of service substantially. In addition, much of the anticipated growth in employment is south of I-90 either side of the airport or in pockets along I-29. Additional commercial development is anticipated on the east side along 10th Street extended. Thus, many of the employment trips would be able to travel from the southeast residential areas along the East Side Corridor to either I-90 or I-29 and travel towards the employment areas. Other options would be to use some of the east/west connections that are anticipated to be built in the future or which will ultimately, and currently, be connected to the interstate system through new interchanges. In addition, some of the traffic coming from outside the metro area from Iowa or to the south also has the opportunity to utilize the East Side Corridor to other streets or the interstate connections as opposed to traveling on the existing grid system across I-229 and through the central area of the City. The primary benefit of the East Side Corridor is the fact that it is a limited access arterial that will reduce travel time over utilizing an in-place grid system even though the streets will be improved to current City standards.

Traffic forecasts for the year 2015, as presented in the Sioux Falls Regional Transportation Study, documented the need for the East Side Corridor. A manual update of the City's 2025 system to show the increment of land use developed in the 10-year 2015 to 2025 period reiterated the need for both a high speed arterial and the local street system to serve the growth area in the south and east. Finally, the calculations of trip generation and estimates of travel trends for the year 2050 showed the need to be able to travel around the heavily developed interstate core of the City to reach those corridors that had capacity or would provide direct access to the ultimate destination.

Through the analysis of traffic, both for the 2015 forecast and the 2050 estimates, the need for an interchange of Minnesota Avenue was identified, partially due to future volumes and partially because of geometrics and intersection spacing.

The 2015 traffic forecast provided detailed calculations of future volumes on street systems with and without an East Side Corridor. As the 2025 traffic forecasts are refined, they can also be utilized to determine the need for and the level of service along both the East Side Corridor and the grid system of arterials. Since a 2050 traffic forecast model is clearly beyond a normal 20-year planning window, it would be difficult to justify the expense of a complete model. The estimate of trips since the area is almost entirely residential should provide a fairly accurate estimate of the additional traffic to be generated from the growth of

[1] "Level of Service" (LOS), as defined by the Institute of Transportation Engineers Highway Capacity Manual, is the measurement of delay in seconds of traffic operating conditions at signalized and unsignalized intersections. Six levels of service are defined for each type of roadway facility and are given letter designations from "A" to "F", with LOS A representing the best operating conditions (i.e., free-flow or very low delay or congestion), and LOS F (i.e., stop and go) the worst.

the period 2025 to 2050. Since it is anticipated that the East Side Corridor will be developed in segments, a more detailed traffic forecast may be available for the various segments as they are proposed and designed.

The proposed East Side Corridor will be built to coincide with area development, but it will be completed prior to full development of the area. Much of the corridor will be built in the next 10 to 15 years and will be completed by the year 2025 or 2030. Thus, the 2050 traffic estimate represents the period 20 years after completion of the East Side Corridor.

The 2050 traffic estimate provided enough information to determine that interchanges would be needed at Minnesota Avenue and at County Road 42 (10^{th} Street East) and possibly Rice Street/Benson Road extended. The 2050 traffic estimate is not adequate to project turning movement volumes at intersections, and thus, a detailed estimate of the level of service. However, the volumes appear to be at a level where the overall level of service of the East Side Corridor in 2050 would be at Level of Service C, an acceptable condition, with some intersections operating higher or lower.

III. ALTERNATIVES

Project alternatives were considered in order to address the current and future transportation needs for the Sioux Falls 2025 eastern and southern growth areas. An intensive scoping process was undertaken in January 2001 by the Process Team to restudy alternatives that had been previously studied in the Phase I Regional Arterial Corridor Study – East Side Corridor analysis from 1999. The reader is referred to the publication entitled *Sioux Falls East Side Corridor Scoping Memorandum* (October 2001) for details of the alternatives scoping analysis prepared for the EA (refer to Appendix E, List of Supporting Technical References, for availability of this document).

The Process Team completed a task to recommend a preferred approach for the proposed East Side Corridor. The Process Team was able to determine that constructing a build alternative was the appropriate action for the East Side Corridor, and that a preferred alignment could be recommended.

With the Process Team's development of a recommended alignment, the process advanced to the Metropolitan Planning Organization (MPO) Transportation Committees for review, comments, and a vote. These committees include the Citizen's Advisory Committee (CAC), the Technical Advisory Committee (TAC), and the UDC. The requested vote was for a decision whether or not to advance the project with the Process Team's recommended Preferred Build Alternative as the build alternative for further study in an EA.

A presentation was given to each of the committees. The CAC reviewed the project on September 19, 2001 and provided feedback and their vote to the TAC. At their meeting on September 20, 2001, the TAC considered feedback received, held a public hearing, and then voted on their preferences. The CAC and TAC comments were forwarded to the UDC for review and comment. The UDC heard audience discussion, discussed the project among themselves, and then voted whether or not the Process Team's recommended alignment should advance to Phase II (EA) as the Preferred Build Alternative for the East Side Corridor.

The results of the vote from those in attendance was as follows:

CAC – Yes	(8)	No	(0)
TAC – Yes	(14)	No	(1)
UDC – Yes	(10)	No	(4)

The No Action Alternative is required to be included in the EA document as a basis for comparison to other alternatives. The No Action Alternative will assume that the East Side Corridor will not be constructed; however, in lieu of "doing nothing", the No Action Alternative will also include an environmental evaluation of existing transportation system improvement practices that have been historically accepted in Sioux Falls. These practices include the following:

- Adding lanes (main line, turning) within the existing roadway right-of-way
- Signalizing intersections for traffic control

These practices will be applied to the 2025 growth area where improvement needs (to accommodate future growth) have been identified using available traffic forecasts and planned land use and development densities. The Process Team decided that improvements for the No Action Alternative will be defined on a "conceptual" basis, recognizing that actual street improvements may yield somewhat different impacts.

Therefore, three alternatives have been considered in the EA:

- No Action
- Widen/Improve Section Line Roads
- New Corridor-Preferred Alternative – Sioux Falls East Side Corridor

These alternatives are further described in the following sections.

A. NO ACTION

The No Action Alternative is required for analysis under the NEPA and associated Federal Highway Administration (FHWA) guidelines. This alternative provides a benchmark for the measurement of impacts associated with the No Action within 2015 and 2025 growth areas development and build alternative, and provides a basis to compare the effects of an action relative to the effects that could result if the action did not occur. Under this alternative, the East Side Corridor will not be constructed, and no improvements would be made to the existing roadway system to accommodate projected increases in traffic. No major construction would be anticipated in the No Action Alternative. The only activities anticipated would be normal maintenance of the existing roadways in the 2015 and 2025 growth areas.

B. WIDEN/IMPROVE SECTION LINE ROADS

This alternative assumes the Sioux Falls East Side Corridor will not be constructed, but that the project area within the 2015 and 2025 growth areas will develop. This includes improvements to the following existing roadways and illustrated in Figure 4.

Principal Arterial (100 to 150 feet of future right-of-way)

1. SD 11 and current Powderhouse Road to I-90
2. SD 115 (Minnesota Avenue)
3. SD 42

Minor Arterial (100 feet of future right-of-way)

1. Benson Road
2. Madison Road
3. 26th Street
4. 41st Street
5. 57th Street
6. 69th Street
7. 85th Street
8. Six-Mile Road
9. Sycamore Avenue
10. Southeastern Avenue
11. Cliff Avenue
12. Western Avenue
13. Louise Avenue

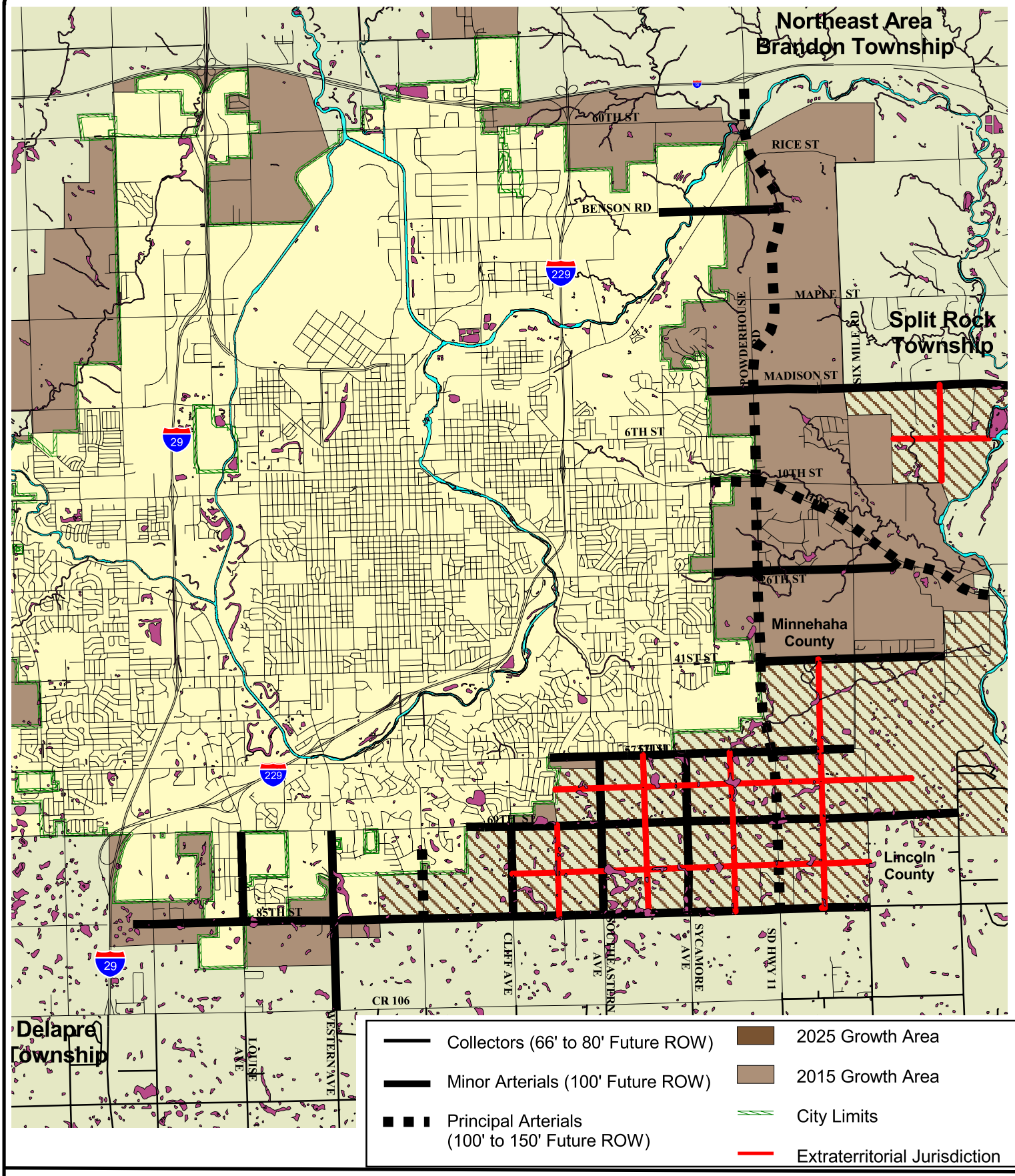


Figure 4
Sioux Falls No Build Alternative
Roads to be Constructed
Environmental Assessment
East Corridor Study Area
Sioux Falls, South Dakota

Collector Roads (66 to 80 feet of future right-of-way)

All half-mile sections within the 2025 Growth Area, except through Harmodon and Great Bear Park areas, have collector roads planned.

As a result of road expansion and urban development within the 2015 and 2025 growth areas in this scenario, it may be necessary to remove existing rural residential dwellings, farmsteads, and rural structures as a result of increased right-of-way needs. Also, potential buffers proposed adjacent to expanded rights-of-way may result in the removal of rural residential dwellings, farmsteads, and other rural structures as developers acquire and assemble parcels into residential and commercial subdivisions.

C. NEW CORRIDOR-PREFERRED ALTERNATIVE

The process of identifying the Sioux Falls East Side Corridor or the New Corridor-Preferred Alternative consisted of re-examining previously identified alternatives identified by the Sioux Falls Regional Arterial Corridor Analysis – East Side Corridor Study, Phase I (1999). (Refer to Appendix E, List of Supporting Technical References for review bcation of this document.) The Process Team studied the problems associated with the previously identified alternatives and, combined with feedback received from the public and reviewing and approving agencies, attempted to isolate issues and find solutions for improving segments of the project alignment.

To respond to the definition of the project's Purpose and Need, the Process Team developed and refined goals and objectives for the project as identified below:

- Provide for safe, efficient travel, and appropriate access
- Provide for orderly future development of public and private infrastructure
- Preserve the quality of life
- Protect the natural environment
- Maximize economic benefits

Objectives were developed to define the goals and provide performance measures for each goal. The objectives are discussed in detail in the Sioux Falls East Side Corridor Scoping Memorandum (October 2001) and are on file at the City of Sioux Falls Planning and Development Department.

The performance of each alternative was given an "order of magnitude" rating based on how well it could be expected to achieve the goal. Ratings were established to assess how well each objective could be achieved toward meeting the goal. The following ratings were used:

(++) = Achieves Objective (i.e., success)
(+) = Somewhat Achieves Objective (i.e., partial success)
(0) = Neutral – no effect or undetermined
(-) = Somewhat Impairs Objective (i.e., partial failure)
(--) = Impairs Objective (i.e., failure)

Ratings were assigned and a sum tally of each rating was prepared for each alternative in the segment. An assumption followed that all goals and objectives would be of equal value, so no weighing techniques were applied. Cumulative scores for each alternative within the segment were then compared, and the highest scoring alternatives were identified. In most cases, the

highest scoring alternatives were considered the best and would provide support for the Process Team's recommendations. The process also allowed the alternatives with more substantial issues to be identified, and identify what, if anything, could be considered to improve a less favorable rating. The New Corridor-Preferred Alternative was selected using this screening process along with data provided by state and federal agencies to be discussed in subsequent sections of this document.

Alternative New Corridors Considered

The Process Team considered all previously examined alternatives from the *Sioux Falls Regional Arterial Corridor Analysis – East Side Corridor Study, Phase I (1999)*, including the following:

Segment 1 Alternatives (CR 106, from Minnesota Avenue to SD Highway 11

- Widen Right
- Widen Left
- Widen Equally
- Hybrid (combination right, left, and equal widening)

Segment 2 Alternatives (SD Highway 11 from CR 106 to SD Highway 42)

- Widen Right
- Widen Left
- Widen Equally
- Hybrid (combination right, left, and equal widening)

Segment 3 Alternatives (SD Highway 42 to I-90)

- Widen Right to first east ravine
- Widen Right to second east ravine
- Widen Left
- Widen Equally
- Hybrid (combination of right, left, equal widening using first east ravine)

Diagonal Connection Alternatives (for North-South, East-West connection of CR 106 and SD Highway 11)

- 49th Street Diagonal Connection
- 69th Street Diagonal Connection
- Channelized Free Right Turn (four-legged intersection with left turn bays and free right turn for southbound to westbound traffic)

These alternatives were again brought before the public for review at a February 2001 Open House. Environmental agencies were also contacted in early 2001 for early review/coordination comments on the existing project alternatives. Using an analysis of traffic growth, future development, and agency/public issues and concerns, a new build alternative was developed that attempted to resolve past concerns and also service the regional transportation facility needs of planned 2015 and 2025 growth areas. These past concerns included the following:

- Land parcel divisions

- Diagonal severance of properties

- Issues related to design and access that a long segment of diagonal arterial roadway would create as it is superimposed on the existing grid pattern of the section line roadways

- Takings of residential properties (due to widening along section line roads); and, ultimately

- A recommended preferred corridor that did not appear to resolve the concerns or receive support from area residents.

Using the "order of magnitude" rating to determine each alternative's ability to achieve the project goals and objectives, the Process Team was able to determine that the new alternative composite between Segments 1, 2, and 3 scored the best to meet the project goals and objectives. Other alternatives that did not rate well included widening on centerlines or shifting off the centerline to the left or right only, as these alternatives would require substantial takings of adjacent residential properties, thereby increasing right-of-way impacts and residential displacements. Segment "0" was added by the Process Team (between I-29 and Minnesota Avenue) to complete a logical regional transportation system linkage to the project. This alternative then became the Process Team's recommended alternative and, after approval in November 2001 by the MPO Transportation Committees, the project's preferred alternative.

The Process Team approached the project by investigating four distinct segments. The New Corridor-Preferred Alternative is described within the boundaries listed below.

- Segment 0 – I-29 to Minnesota Avenue
- Segment 1 – Minnesota Avenue to 57th Street.
- Segment 2 –57th Street to SD 42
- Segment 3 – SD 42 to I-90

The New Corridor-Preferred Alternative is illustrated on Figure 2. Appendix A – Figures 2A through 2L detail a plate-by-plate aerial view of the New Corridor-Preferred Alternative and corridor features, impacts, and issues.

As with the Widen/Improve Section Line Roads Alternative, the existing roadways discussed in the previous section will expand along with the development of the New Corridor-Preferred Alternative. As a result, actions associated with urban development within the 2015 and 2025 growth areas may require the removal of existing rural residential dwellings, farmsteads, and rural structures as a result of increased right-of-way needs. Also, potential buffers proposed adjacent to expanded rights-of-way may result in the removal of rural residential dwellings, farmsteads, and other rural structures as developers acquire and assemble parcels into residential and commercial subdivisions.

IV. SOCIAL, ECONOMIC, AND ENVIRONMENTAL IMPACTS (SEE)

A. SOCIAL AND CULTURAL ENVIRONMENT

1. Land Use

Land Use Description

The project area is primarily engaged in agricultural land uses with pockets of commercial properties and scattered rural residential properties (Figure 5). Presently, the project area is located outside the city limits of Sioux Falls and is in the jurisdiction of Lincoln and Minnehaha Counties.

The City of Sioux Falls continues to experience a steady growth in population, combined with an increase in land use development. As growth continues, commuter demands on existing roadways will increase and will likely continue in the future. The region provides many employment and business opportunities, regional health campuses, education institutions, and cultural and tourist attractions.

Future land uses are generally depicted on comprehensive plans and are achieved through zoning administration. The proposed project is consistent with the City of Sioux Falls 2015 Growth Management Plan and the Metropolitan Area 2025 Long Range Transportation Plan for the Sioux Falls Metropolitan Planning Area. The proposed four-lane, 45 mph roadway will be located within the City of Sioux Falls 2015 and 2025 growth areas, which is currently south and east of the present jurisdictional limits.

Land Use Effects

The City of Sioux Falls, Lincoln and Minnehaha Counties anticipate increased residential and commercial development beyond the present city limits. The East Side Corridor will provide regional transportation access to these new developments.

The Widen/Improve Section Line Roads and New Corridor-Preferred Alternatives are consistent with the land use designations of the City of Sioux Falls 2015 Growth Management Plan and 2000-2025 Long Range Transportation Plan. These designations include planned commercial nodes near the East Side Corridor (the New Corridor-Preferred Alternative), which will provide the highest yet most controlled access for larger volumes of local and regional traffic patronizing new businesses.

The No Action Alternative is not consistent with the land use designations for the City of Sioux Falls 2015 Growth Management Plan and 2000-2025 Long Range Transportation Plan. The 2015 Growth Management Plan and 2000-2025 Long Range Transportation Plan address future development. The City of Sioux Falls has not modeled future land uses with the assumption that no new roads will be constructed to accommodate forecasted growth, and rather, improved roads will be necessary to accommodate the growth.

The No Action Alternative assumes no improvements would be made to the existing roadway system to accommodate projected increased traffic.

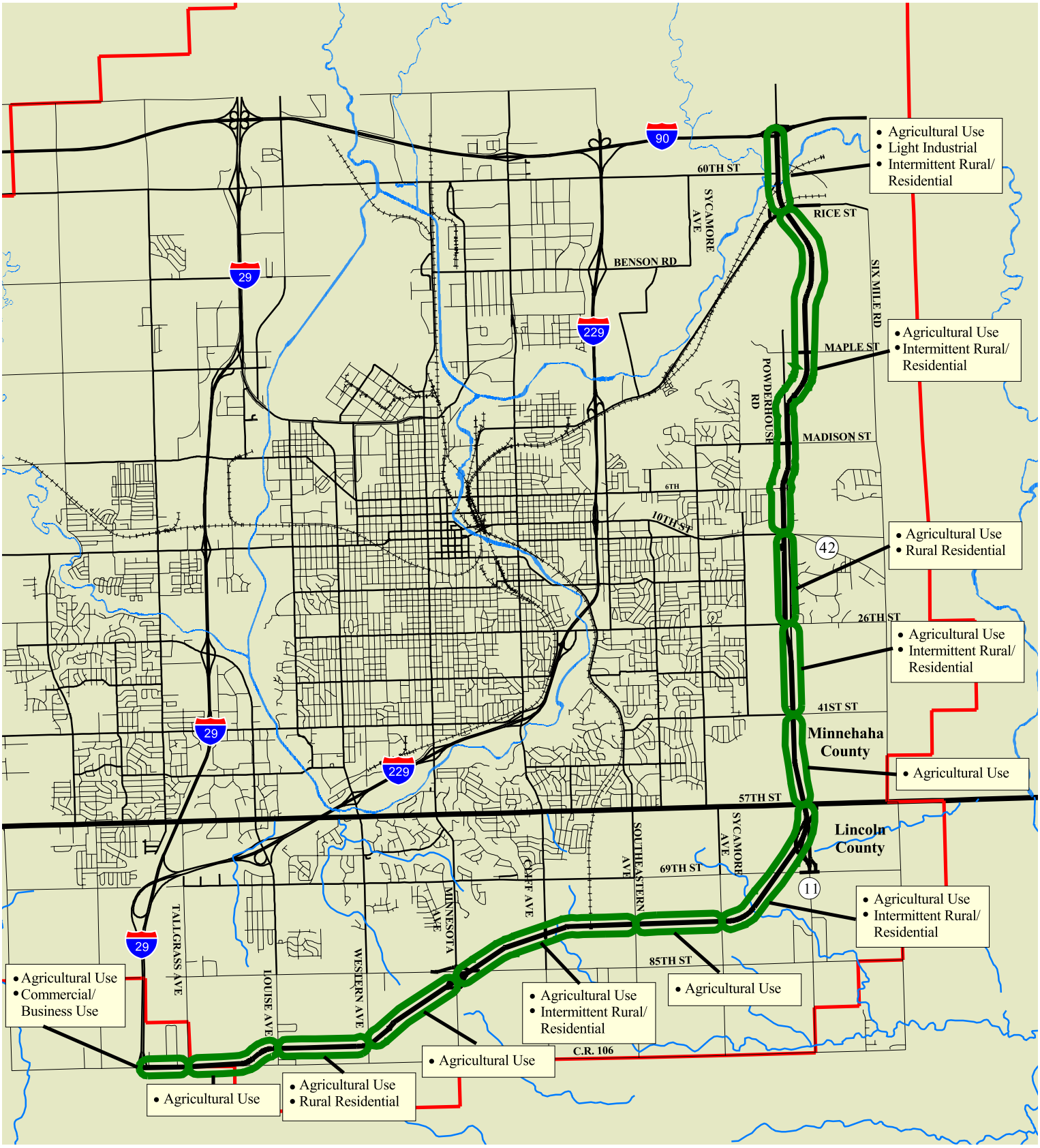


Figure 5
Existing Land Use Segments
Environmental Assessment
East Corridor Study Area
Sioux Falls, South Dakota

The New Corridor-Preferred Alternative will be fully integrated with the City of Sioux Falls' growth management planning and development plat approvals. As development proposals are received by the City of Sioux Falls, they will be reviewed against the future land use map and the New Corridor-Preferred Alternative. Therefore, both items will become part of the approval process when plats are considered.

2. Social Environment

Primary social issues as a result of the New Corridor-Preferred and Widen/Improve Section Line Roads Alternatives will be associated with travel patterns, rural character (expanded urban growth, removal of agricultural land, etc.), social groups, and the need for more schools in the future. The New Corridor-Preferred Alternative is a component of a process first addressed in 1979 by the City of Sioux Falls and Lincoln and Minnehaha Counties with the adoption of the Year 2000 Comprehensive Land Use Plan. That plan provided for continued growth and development of the community by acknowledging that growth is contingent on upon both demands of the private marketplace and fiscal resources of the community. The 2015 Comprehensive Development Plan provides an update of the Year 2000 Plan and suggests a number of continuing, expanded, or new policy initiatives for the management of growth and development in Sioux Falls. The Sioux Falls Metropolitan Area Long Range Transportation Plan is designed to guide multi-modal transportation planning activities through the year 2025.

Urban and Rural Development Issues

Major development issues over the next 10- to 20-year period will continue to be aimed at avoiding conflicts between rural and urban uses and developing an efficient growth pattern for the City. As development pressure expands around the City of Sioux Falls into Lincoln and Minnehaha Counties, the need for a comprehensive plan and joint review of future zoning decisions becomes more critical.

Problems can occur when urban growth takes place in scattered and inappropriate areas next to agricultural and rural residential properties. Conflicts may include increased noise, traffic, flooding, and erosion from storm drainage, road maintenance concerns, odors, and groundwater pollution from septic systems.

Under the provisions of this plan, nine growth areas surrounding Sioux Falls have been outlined as shown on EA Figure 6. These growth areas include lands within the 2015 Growth Area where development is expected to occur, in addition to agricultural land beyond the urban service boundary where the existing rural character is to be maintained. A number of transition areas are also identified. These are characterized by a mix of different land uses. Farming activities continue to operate among rural residential subdivisions, large residential acreages, and vacant parcels too small to support long-term agricultural use. Some of the land within transition areas will be annexed during the planning period and will be provided with public services. Land in other transitional areas will remain in the unincorporated area where there is a general lack of public services. These areas are not projected to support long-term agricultural use nor will intensive farming operations such as large-scale feedlots and confinement facilities be appropriate.

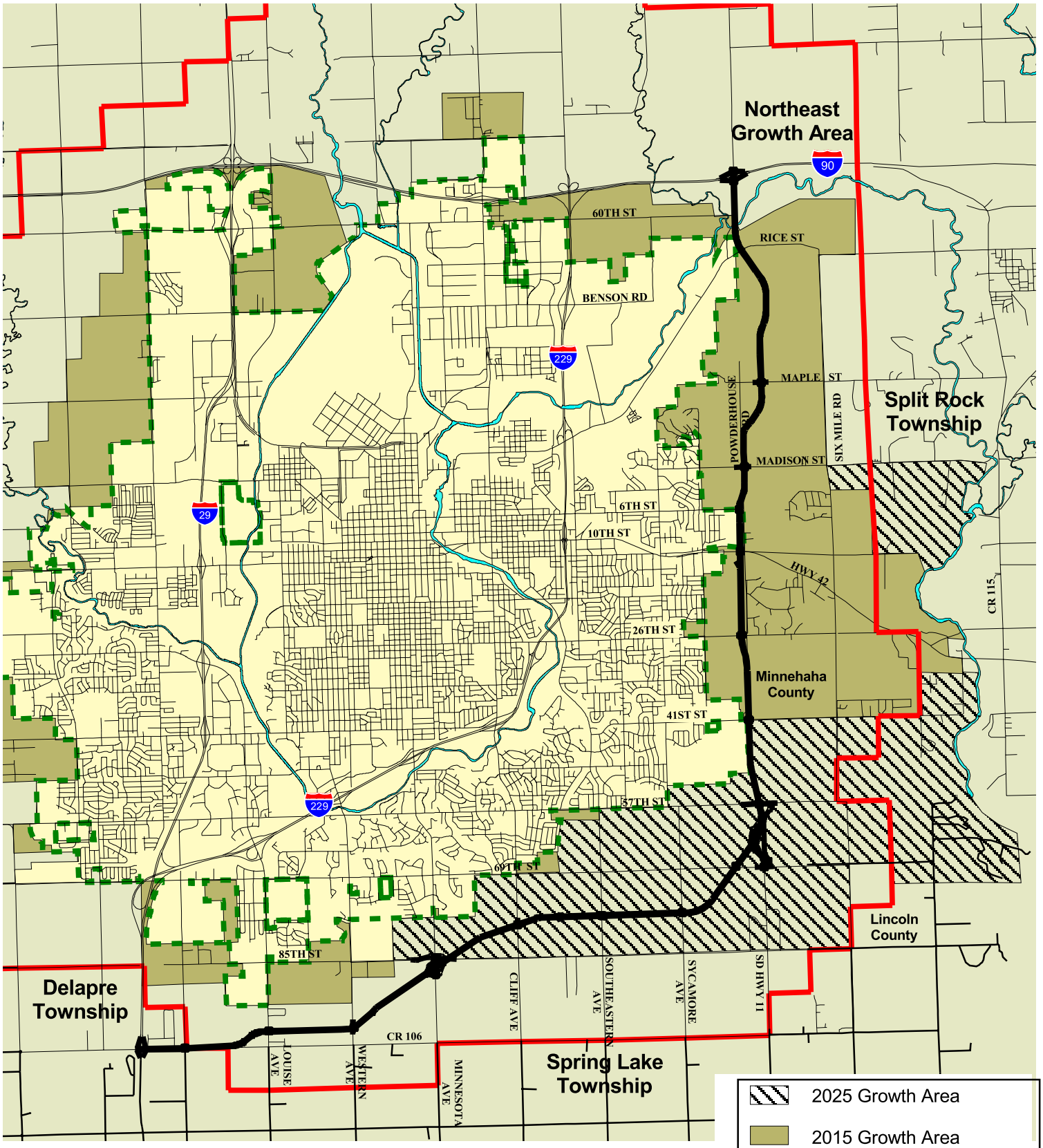


Figure 6
Sioux Falls Growth Areas
Environmental Assessment
East Corridor Study Area
Sioux Falls, South Dakota

Long-range planning and joint decision making which involves both the City and the two counties is necessary to ensure that future urban development makes an orderly transition from the rural area, and to preserve the rural areas beyond the urban service boundary. This promotes orderly growth, helps to minimize conflicts between urban and rural areas, keeps the growth of the City concentrated, and effectively manages the increased costs of providing public services, such as water and sewer mains, road maintenance, storm water drainage, gas lines, and electrical lines.

The Rural Development Plan pertains directly to the special areas of development concern identified by all three planning commissions and governing commissions. The intent of this plan is to provide both Sioux Falls and the two counties with the necessary tools needed to respond to continued growth and change of the physical environment. The development plan has been formulated to guide local officials in their land use decisions and direct the implementation through subdivision regulations and zoning ordinances. It represents the interest of all three jurisdictions to manage future growth in a manner consistent with an overall land use plan, and to develop and maintain a healthy working relationship between commissions to achieve common goals and objectives.

Delapre Township Growth Area

This area is located south of 57th Street and west of Western Avenue. It includes property out to the Tea extraterritorial zoning jurisdiction. Existing land uses are primarily agricultural with scattered farmsteads and nonfarm residential dwellings. There are no major commercial or industrial uses in the area, except at the Tea interchange which includes the Lincoln County Great Plains Airport. Major existing roads include 57th Street to the north, Tea Road along the west, County Highway 106 to the south, and Western Avenue along the east.

The major focus of this growth area will be the Louise Avenue interchange and continued expansion of the Sioux Falls urban boundary. The projected urban service area is all the property between I-29 and Western Avenue from 57th Street south to 93rd Street.

County Highway 106 is the southern link and connects with the Tea-Ellis Road through the Tea interchange. Other potential street improvements will include the 57th Street overpass on I-29 and underpass on I-229, 69th Street, 85th Street, Marion Road, Louise Avenue, and Western Avenue.

Urban development west of I-29 will be restricted due to environmental constraints, such as high water table, poor drainage, and unstable soils. Poor surface drainage causes storm drainage and street maintenance problems, while the high water table creates problems with basement sumps and septic drain fields.

Planning Issues:

- Environmental constraints for development in this area include limitations for septic tank drain fields and dwellings with basements. A portion of Nine-Mile Creek in the northwest area is included within the 100-year floodplain.

- A portion of the Sioux Falls urban service area is within the Lennox and Harrisburg School Districts.

- The Louise Avenue interchange will continue to be a major factor for commercial development and other land uses in the area.

- Continued growth of Sioux Falls will generate additional interest in platting agricultural land for large lot rural residences.

Development Considerations:

- Limit platting of rural subdivisions and scattered residential lots to existing development areas or locations that can be adequately serviced. Also limit nonresidential uses to existing development and service areas.

- Secure proper right-of-way for future major street construction along section lines before development occurs.

- Periodically review the existing agreement with Lincoln County Rural Water System to address rural residential uses and provision for economic expansion in Lincoln County.

- Continue development of drainage plans to address storm water runoff towards the east and south into Lincoln County. Use of natural drainageways and detention ponds could also serve as potential recreation/open space corridors into the City.

- Encourage the eventual development of central sanitary sewer facilities around the Tea Industrial Park.

- The development of the East and West Side Corridors will be based upon the pace of the development within this growth area. Land use considerations should be consistent with access management principles, additional setbacks, and aesthetic landscape design to present a positive image of the community.

Springdale Township Growth Area

This area is located east of Western Avenue and south of 57th Street extending to the Harrisburg joint jurisdictional boundary. Existing land uses are primarily agricultural with several rural subdivisions ranging from 1 to 5 acre lot sizes. Major existing roads include 57th Street, SD Highway 115 (Minnesota Avenue), County Highway 123 (Cliff Avenue), and SD Highway 11 along the east.

Other major streets that will be upgraded as development occurs include 69th Street and 85th Street.

This area has a number of major drainageways including portions of Spring Creek, which is also within the 100-year floodplain. The rest of the growth area is generally level with a ridgeline extending along a northeast to southwest direction that creates a well-defined break in the natural drainage flow towards Sioux Falls.

This ridgeline will limit the potential for future expansion of the City urban service area to the southwest. Prairie Green Golf Course will be a major development focus in this area, and is expected to generate additional demand for residential uses within the City

urban services area. Prairie Green Golf Course will not be affected by the proposed East Side Corridor.

Planning Issues:

- Environmental constraints for rural development in this area include limitations for septic tank drain fields and dwellings with basements due to poor soils and high water table.

- Annexation of residential development land will continue into the urban service area, including portions that are within the Harrisburg School District.

- Continued growth of Sioux Falls will generate additional interest in platting agricultural land for large lot rural residences.

Development Considerations:

- Define and maintain an urban service area boundary for determining future annexation and development requests, and transportation improvements.

- Limit platting of rural subdivisions and scattered residential lots to existing development areas or locations that can be adequately serviced. Also limit nonresidential uses to existing development and service areas.

- Secure proper right-of-way for future major street construction along section lines before development occurs.

- Periodically review the existing agreement with Lincoln County Rural Water System to address rural residential uses and provision for economic expansion in Lincoln County.

- Continue development of drainage plans to address storm water runoff towards the east and south into Lincoln County. Use of natural drainageways and detention ponds could also serve as potential recreation/open space corridors into the City.

- The development of the East Side Corridor will be based upon the pace of the development within this growth area. Land use considerations should be consistent with access management principles, additional setbacks, and aesthetic landscape design to present a positive image of the community.

Split Rock Township Growth Area

This area is located between Sioux Falls and the Big Sioux River and extends south to 57th Street. Residential subdivisions generally extend in a north-south line paralleling the Big Sioux River, attracted by the rolling hills and scenic beauty of the river valley. Scattered housing tracts are also prevalent throughout the area.

State Highway 42 is the major east-west artery, carrying traffic from northwest Iowa into Sioux Falls. Commercial and industrial development is isolated to a 1½-mile segment of highway east of the Sioux Falls city limits. The property along the north side of the highway to the intersection with Highway 11 is commercially zoned, but this area has experienced only limited development. Abandonment of the railroad line to the rear of

these properties had added depth to the lots, which has made them more attractive as building sites.

A salvage yard occupies a highly visible spot along the highway. No effort has been made to screen the property. Across the highway is a developing commercial area offering mainly service-related businesses. At the south end of the growth area, the City of Sioux Falls and Minnehaha County adopted the East Sioux Falls Park and Arboretum Master Plan for preservation of open space along the Big Sioux River.

State Highway 11 is the other major transportation route serving the growth area. This highway funnels traffic into Sioux Falls from the east and south. Its present alignment contributes little to the movement of traffic through the area. An agreement was reached between the county and state to reroute Highway 11 east along Highway 42 to County Highway 115, then north to the present alignment into Brandon. The former segment of Highway 11 from the Sioux Falls city limits to the Big Sioux River (Madison Street) has been reconstructed and is now on the county highway system.

Willow Run Public Golf Course was developed as an 18-hole facility. The course is located along the north side of Highway 42 west of the Big Sioux River. Residential development is planned for several areas within the boundaries of the course. This golf course will not be affected by the proposed East Side Corridor.

The northern portion of the growth area has several broadcast towers due to the high elevation available for transmission facilities. As illustrated on Figure 2J in Appendix A, the broadcast towers are located approximately 700, 1,000, and 2,200 feet west, and 2,100 feet east of either of the proposed East Side Corridor.

Planning Issues:

- Over 500 rural dwellings are located within the growth area. Another 300 units could locate on parcels, which are eligible as building sites under current zoning regulations.

- Existing and future residential development will create pressure for improving several township roads to meet increased traffic demand.

- The pattern of land ownership will make it difficult to maintain viable farming operations. This will create more pressure to convert land to urban-type uses.

- Some agricultural uses could be significantly diminished due to conflicts with residential uses. The siting of special uses will become increasingly difficult because of the population density. More urban-type nuisance complaints can be expected.

- The urban service area boundary of Sioux Falls is expected to expand into the Brandon Valley School District, particularly residential development to the east of Washington High School.

Development Considerations:

- Discourage expansion and further development of residential subdivisions where services are insufficient to meet anticipated demands.

- Encourage infill of vacant subdivision lots and the development of lots of record before allowing other development on agricultural land.

- Promote the use of the planned development zoning district in areas where parcel size, topography, and present development patterns make farming impractical. The density of development will not be allowed to exceed the existing capacity of roads and other support services.

- Limit commercial and industrial development to those areas along Highway 42 presently zoned for such uses.

- The development of the East Side Corridor will be based upon the pace of the development within this growth area. Land use considerations should be consistent with access management principles, additional setbacks, and aesthetic landscape design to present a positive image of the community.

Northeast Growth Area

This area extends from Sioux Falls to Brandon between I-90 and 1-mile south of Rice Street. Future growth of the area will be influenced by three factors. FirstXcel Power Company is a major landowner. This property is zoned for future industrial development.

The second factor is the transportation network available to the study area. Rice Street is a heavily traveled county highway connecting the Cities of Brandon and Sioux Falls. Timberline Avenue terminates at Rice Street and provides a connection to I-90. Rice Street also connects to State Highway 11 in Brandon, which provides an urban route to reach I-90.

Unique to the growth area is the availability of two rail lines. Burlington Northern Santa Fe Railroad maintains a track that runs northeast from Sioux Falls to Garretson where it joins the mainline system. The area is also served by a privately owned Ellis and Eastern line, which extends from Sioux Falls to Brandon.

The third factor is the Big Sioux River and its floodplain. While imposing developmental constraints over a large area, the river also brings a natural beauty to the growth area and potential for expansion of recreation resources.

Rising above the Big Sioux River and its floodplain are a line of wooded hills, which extend along Rice Street. These hills are both a scenic and a natural resource, but steep grades impose development constraints.

Two separate subdivisions are also located in the growth area. North Side Gardens developed initially as a residential subdivision. The area was rezoned from residential to commercial in the latter 1970s to accommodate requests for small businesses in conjunction with residential use.

Highland Park subdivision was platted many years ago before the growth of northeast Sioux Falls. Lots were quite small even though utilities were not available to the site. The layout gives the appearance that the subdivision was intended for residential use, but such development did not occur. Meanwhile, North Cliff Avenue attracted commercial and

industrial uses along its frontage, which altered the general character of the area. Highland Park is now zoned light industrial along with unplatted property east to I-229.

Planning Issues:

- Utilization of the floodplain for open space and recreation uses should be encouraged in conjunction with the river greenway system.

- The development potential of the growth area has been enhanced by completion of the Benson Road interchange and provides a good location for industrial uses.

- Most property is in relatively large parcels, which should assist in the efficient development of the growth area.

- Municipal sewer facilities can be extended economically into a portion of the growth area west of the Big Sioux River.

- Groundwater protection will become a greater concern if urban sewer facilities are not available, particularly with respect to the Big Sioux River and Split Rock Aquifers.

- A portion of the growth area is within the Brandon Valley School District. While the school district would benefit from an expanded industrial tax base, conflicts could arise over the proper timing of such development if urban utilities are not available.

Development Considerations:

- Restrict future industrial and commercial uses to areas where adequate street and utility improvements can be provided.

- Consider sand and gravel extraction as an appropriate interim use prior to industrial development, particularly in the area east of I-229.

- Reserve floodplain for park and open space purposes and eventual connection with the Big Sioux River greenway system.

- Consider annexation of North Side Gardens and Highland Park subdivisions along with an overall development plan of those areas for streets and utilities.

- Limited residential development may be allowed on the hills in the northeastern portion of the growth area. Use the planned development district in order to maintain a low density consistent with minimal provision of utilities and services.

- Prohibit strip development along Rice Street and control the number of access points from adjoining property through engineering design standards. Future widening of this road to four lanes will be warranted as traffic increases.

- The development of the East Side Corridor will be based upon the pace of the development within this growth area. Land use considerations should be consistent with access management principles, additional setbacks, and aesthetic landscape design to present a positive image of the community.

Schools

The 2015 Growth Management Plan identifies that public school facilities are among the most important of public facilities and that the influence of school location plays a key role in land use and traffic patterns. The basis for determining elementary school facilities is that the elementary school represents a focal point for a neighborhood and can serve as the location for many programs and activities other than school activities. The 2015 Growth Management Plan identified ten potential new elementary school sites, six of which are in close proximity of the New Corridor-Preferred Alternative as illustrated on Figure 7. The potential elementary school sites are based on housing and population projections depicted below in Table 2.

Table 2
Potential Elementary School Site – Housing and Population Projections

Projected Housing and Population	Number of Children
12,000 new single-family units at a rate of .40 children per unit	4,800
7,000 new multiple-family units at a rate of .25 children per unit	1,750
Total	**6,550**

The City of Sioux Falls currently has a wide range and variety of park and open space facilities. However, growth pressures are increased by the use of city parks by non-city residents. The City of Sioux Falls has recognized the need to develop additional park and open space facilities consistent with that of community growth. The 2015 Growth Management Plan identifies a wide array of park and open space facilities as illustrated in Figure 7. A detailed Parks Master Plan will be prepared in response to recommendations that more in-depth study be conducted to identify future park sites and future recreational needs. It is noted that the proposed East Side Corridor alternatives do not affect publicly owned parks, recreation areas, or wildlife/waterfowl management areas, and therefore, no Section 4(f) impacts are expected.

The proposed project is not expected to cause any adverse impact to any community or neighborhood. No categories of people uniquely sensitive to transportation (e.g., children, elderly, minorities, and persons with mobility impairments) would be unduly impacted.

The 2015 Growth Area Management Plan addresses development pressure as it expands around the City of Sioux Falls into Lincoln and Minnehaha Counties. The City of Sioux Falls, Lincoln and Minnehaha Counties anticipate increased residential and commercial development beyond the present city limits.

Social Effects/Mitigation

The Widen/Improve Section Line Roads and New Corridor-Preferred Alternatives are consistent with the land use designations of the City of Sioux Falls 2015 Growth Management Plan and 2000-2025 Long Range Transportation Plan, and are not contrary to existing land use plans.

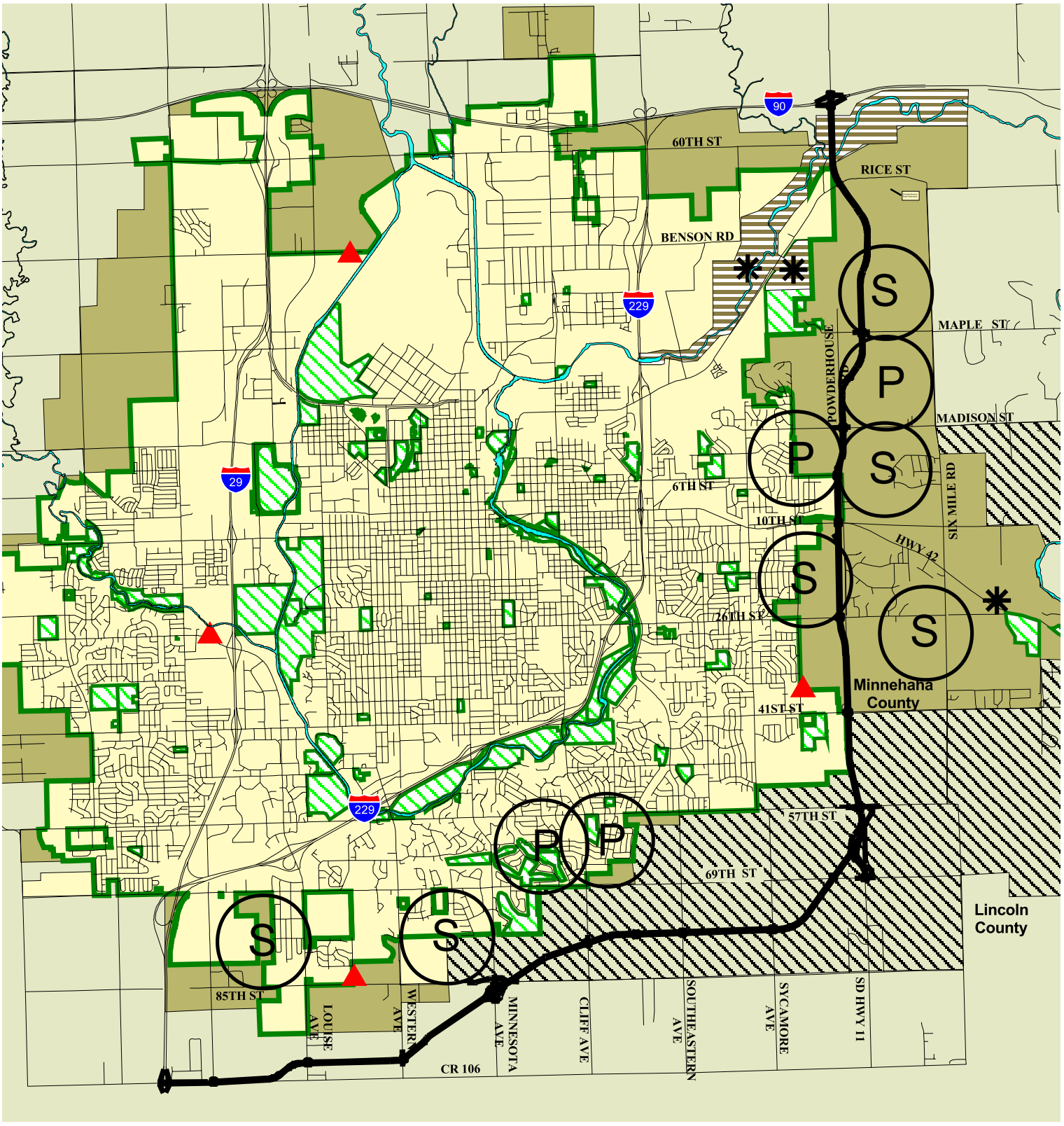


Figure 7
Future School, Parks and Open Space Facilities
Environmental Assessment
East Corridor Study Area
Sioux Falls, South Dakota

The No Action Alternative is not consistent with the land use designations for the City of Sioux Falls 2015 Growth Management Plan and 2000-2025 Long Range Transportation Plan. The 2015 Growth Management Plan and 2000-2025 Long Range Transportation Plan address future development. The No Action Alternative assumes no improvements would be made to the existing roadway system to accommodate projected increased traffic.

3. Environmental Justice

Environmental Justice Background/Directive

Executive Order 12898 (Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations), dated February 1, 1994, directed each federal agency to achieve environmental justice as part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations. The proposed project has federal funding and federal permit requirements and is considered a federal project for purposes of compliance with the Executive Order.

Project Area Demographics

Demographic statistics from the 2000 Census were compiled at the most refined level practical and used to characterize the population in the project area. This information was reviewed and an assessment of the demographics (income levels and racial composition) was made for the project area. The data obtained is presented in Table 3.

Table 3
Census 2000 Data for the Sioux Falls East Side Corridor Project Area

Demographic Group	Delapre Township Lincoln Co.		Springdale Township Lincoln Co.		Split Rock Township Minnehaha County		Brandon Township Minnehaha County		City of Sioux Falls [3]	
	No.	%	No.	%	No.	%	No.	%	No.	%
Total Population	1,660	100.0	1,823	100.0	3,025	100.0	678	100.0	123,975	100.0
White[1]	1,630	98.2	1,805	99.0	2,995	99.0	677	99.9	115,744	93.4
Black or African American[1]	11	0.7	9	0.5	3	0.1	-	-	2,958	2.4
American Indian and Alaska Native[1]	11	0.7	8	0.4	15	0.5	-	-	3,263	2.6
Asian[1]	11	0.7	8	0.4	29	1.0	1	0.1	1,914	1.5
Native Hawaiian and other Pacific Islander[1]	1	0.1	3	0.2	-	-	-	-	126	0.1
Some Other Race[1]	3	0.3	9	0.5	11	0.4	1	0.1	2,203	1.8
Hispanic or Latino Race [2]	6	0.4	14	0.8	16	0.5	1	0.1	3,087	2.5
Number of households	540		657		980		241		49,731	
Median Household Income ($)	$59,006[4]		$61,065[4]		$66,469[4]		$48,611[4]		$41,221[4]	
Persons Below Poverty (%)	0.9[5]		1.9[5]		1.4[5]		10.6[5]		8.4[5]	

Notes: (1) In combination with one or more of the other races listed. The six numbers may add up to more than the total population and the six percentages may add to more than 100 percent because individuals may report more than one race.
(2) Hispanic or Latino identity is considered an ethnic category rather than a racial category; therefore, is a separate category.
(3) The current project limits, with the exception of an approximate 1-mile segment and approximate half-mile segment on the existing alignment of South Dakota Highway 11, are outside the city limits of Sioux Falls. Urban development at the two segments is approximately 1-mile west of the project area.
(4) Census 2000--1999 Income
(5) Census 2000--Poverty Status in 1999

The data presented in Table 3 indicates that the area contains small percentages of minority populations. Though the data does not directly reflect the income and racial characteristics of those individuals immediately affected by the proposed project, it can be concluded that it generally reflects the minority and low-income composition of the affected project area. The conclusion of the data and discussions with City and County staff contacted is that there are no readily identifiable groups of minority populations and low-income populations in the project corridor.

Environmental Justice Findings

There would be no potential impacts to readily identifiable low-income and low-income or minority groups with the No Action Alternative because no improvements to roadways occur in this scenario.

As a result of the analysis and assessment described above, no readily identifiable low-income or minority groups are found with the Widen/Improve Section Line Roads and New Corridor-Preferred Alternatives. Therefore, there would be no disproportionately affected low-income or minority groups.

4. Bicyclists and Pedestrians

Bicyclist and Pedestrian Improvements

Improvements to bicycle and pedestrian movements and safety in coordination with the development of the proposed project have been considered. The New Corridor-Preferred Alternative would provide for 10-foot trail/sidewalk on either side of the roadway and would accommodate bicyclists and pedestrians. The trail along the New Corridor-Preferred Alternative would interconnect bicyclists and pedestrians with other local recreational, transportation, and commercial areas, such as the Big Sioux River Greenway, City Park Network, adjacent communities (Brandon, Tea etc.), existing and proposed commercial establishments. Crosswalks, pavement markings, and signal pedestrian push buttons would be considered for at-grade crossings to further enhance the safety of bicyclists and pedestrians. Grade-separated crossing facilities for bicyclists and pedestrians will also be considered as the project advances through preliminary geometric design. All improvements will be constructed in accordance with the Americans with Disabilities Act.

The No Action Alternative assumes that no bicyclists and pedestrian improvements would occur. The Widen/Improve Section Line Roads Alternative is similar to the New Corridor-Preferred Alternative. As the 2015 and 2025 growth areas develop, trails will be incorporated along existing roadways and will interconnect to the Big Sioux River Greenway and City of Sioux Falls park network.

Bicyclist and Pedestrian Impacts

The Widen/Improve Section Line Roads and the New Corridor-Preferred Alternatives will enhance bicycle and pedestrian movement and safety throughout the East Side Corridor by the measures described above. Therefore, no adverse impacts are anticipated.

5. Visual Quality/Aesthetics

Visual Resources

There are three different landscapes within the project area:

- The approximate 3,000-foot wide Big Sioux River floodplain area
- The narrow bluff area is approximately 2,500 feet wide
- The broad upland area

The floodplain area is flat and immediately joins the bluffs, which provides a buffer between the floodplains and uplands. The land surface of the upland is level to undulating with minor streams flowing to the north and west to the Big Sioux River. This subdued upland topography prevails throughout the majority of the project.

The vegetation in the floodplain and upland is primarily agricultural crops. The wooded and prairie like bluffs provide the proposed East Side Corridor with the most visual diversity (color and form) and best views within the project area. Views of intermittent streams, wetlands, and scattered wooded areas are of average quality of experience.

Visual Impacts

The No Action Alternative would not change visual impacts, because this alternative will include only minor maintenance improvements to existing roadways.

Visual changes are anticipated in the planned 2025 growth area as a result of the proposed project, consistent with the changes that will occur as the viewshed of the area transforms from a rural to urban setting. Development is planned to be contiguous to the rights-of-way of the Widened/Improved Section Line Roads and New Corridor-Preferred Alternatives, except in undevelopable natural areas, such as ravines and floodplains. In these natural areas, all roadway and bridge improvements will be visually distinct as there are currently only minor or no roadway/bridge facilities in place.

For the New Corridor-Preferred Alternative, views from the roadway will offer motorists a variety of natural and planned urban landscape views by the year 2025, including topographic variations and natural vegetation in the New Corridor-Preferred Alternative. Views of the roadway in developed areas will be mitigated by landscaping techniques, including tree plantings, shrubbery, berms, structural or theme artwork, and other context-sensitive design elements, as determined during the preliminary and final design phases of the project. Project lighting will be determined during the project's design and is expected to include (at a minimum) interchange and at-grade intersection lighting.

6. Historic and Archaeological Preservation

Cultural resource surveys, focusing on archaeological sites, historic sites, and historic structures (i.e., extant structures), were initiated within the project corridor in the fall 2001 and completed in spring 2002. Initial investigations included a records search at the South Dakota State Archaeological Research Center. Based on the initial record search, records showed 36 previous surveys and 28 previously recorded sites within 1-mile -- the Area of Potential Effect (APE) -- of the proposed project as shown on Table 4.

Table 4
Previously Recorded Sites Within One Mile (APE) of the Preferred (Build) Alternative

Minnehaha County Site Number	Site Description
39MH95	Lithic scatter
39MH98	Lithic scatter and chert outcrop
39MH99	Lithic scatter
39MH100	Lithic scatter and historic isolate
39MH143	Lithic scatter
39MH144	Lithic scatter and shell scatter
39MH145	Extensive lithic scatter
39MH146	Lithic concentrations
39MH147	Lithic concentrations
39MH148*	Two lithic concentrations, one extensive (A) and one small (B)
39MH149	Lithic scatter
39MH154	Lithic scatter
39MH161*	Extensive lithic scatter
39MH162	Lithic concentrations

Minnehaha County Site Number	Site Description
39MH163	Lithic concentrations
39MH166	Lithic scatter
39MH167	Isolated find
39MH169	Isolated find
39MH170	Isolated find
39MH171	Isolated find
39MH206	Isolated find
39MH207	Lithic scatter
39MH2000*	BN Railroad
39MH2003*	CNW Railroad
39MH2018*	Illinois Central Railroad
Lincoln County Site Number	**Site Description**
39LN62	Sparse lithic scatter
39LN2016	Chicago Rock Island and Pacific Railroad
39LN2007	Chicago Milwaukee St. Paul and Pacific Railroad

* Potential NRHP eligible resource located within the proposed East Side Corridor

Field Surveys

Field survey began on November 16, 2001 and continued until November 19, 2001, and was ceased at that time due to snow cover. The field survey resumed on January 22, 2002 and was completed April 5, 2002. Archaeological sites recorded within the proposed East Side Corridor and described below are shown in Figure 8. The locations of the railroad crossing described below are illustrated on Figure 9.

Site 39MH210

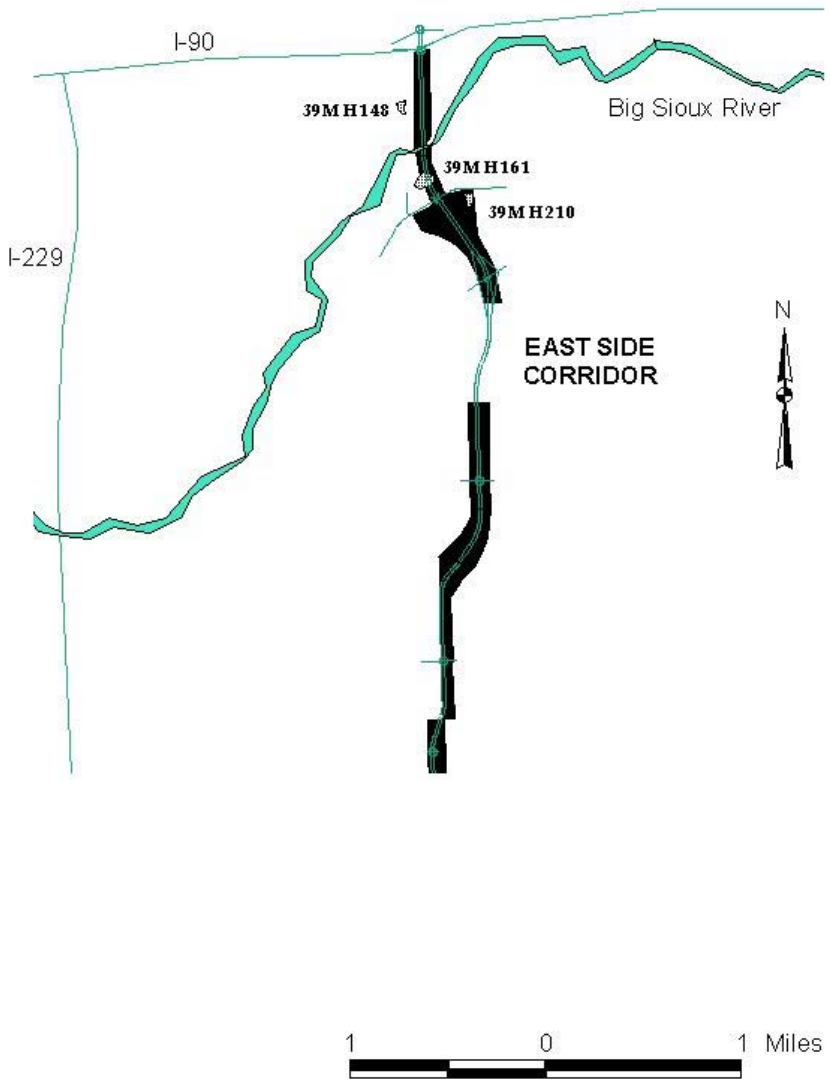
Historic site 39MH210 (Figure 8) is located in an area proposed for an intersection (Existing Rice Street and the New Corridor-Preferred Alternative). The site lays outside of the mainline proposed East Side Corridor, but may be impacted by a potential interchange, if that becomes the preferred traffic control design feature in this location. Items observed associated with the site are as follows:

- Two poured concrete foundations; and
- A capped well.

One concrete foundation was determined to have been most likely a barn structure, and the purpose of the second foundation is undetermined. A shelterbelt lies outside the site area.

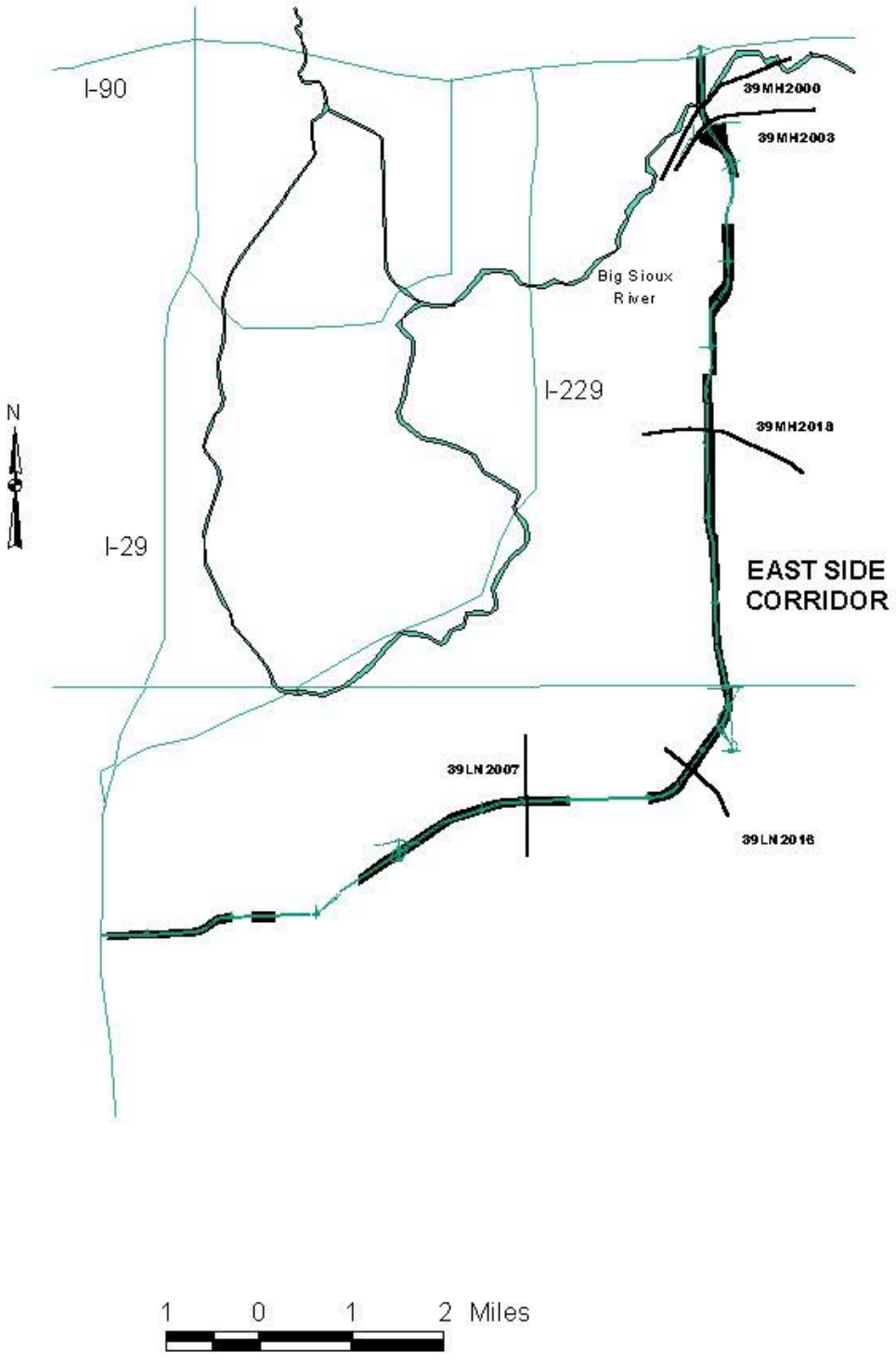
Site 39MH161

Site 39MH161 was previously recorded in 1994 and revisited for this project. The site was originally recorded in 1994 as an exposed scatter of chipped stone on rodent burrows. The field survey in November 2001 observed a fire-cracked rock and a possible groundstone fragment.



Note: Figure provided by Archeology Laboratory, Augustana College

Figure 8
Recorded Archeological Sites
Environmental Assessment
East Corridor Study Area
Sioux Falls, South Dakota



Note: Figure provided by Archeology Laboratory, Augustana College

Figure 9
Railroad Crossings Crossed
by the Proposed East Side Corridor
Environmental Assessment
East Corridor Study Area
Sioux Falls, South Dakota

Site 39MH148

Site 39MH148 (Figure 8) was previously recorded in 1994 and revisited for this project. The 1994 survey was described as two lithic concentrations, one of which was extensive and one that was small. This area has and continues to be heavily farmed, and the portion of the site with the lithic concentrations is presumed destroyed.

Railroads--39MH2000, 39MH2003, 39MH2018, 39LN2016,39LN2007

The proposed East Side Corridor crosses the following railroad grades (Figure 9):

- 39MH2000 – Known formerly the Great Northern Railroad, presently the Burlington Northern Railroad.

- 39MH2003 – Known formerly as the Chicago, St. Paul, Minneapolis, and Omaha, presently known as the Chicago and Northwestern Railroad.

- 39MH2018 – The Illinois Central Railroad was abandoned in 1983 and removed in 1984.

- 39LN2016 – Chicago, Rock Island, and Pacific Railroad was abandoned in 1979, removed and the land returned to cultivation 1980.

  The City of Sioux Falls contacted the property owner in regard to knowledge of the former Chicago, Rock Island, and Pacific Railroad. The landowner and another landowner purchased the right-of-way from the Chicago, Rock Island, and Pacific Railroad and have been farming it since its abandonment.

- 39LN2007 – Chicago, Milwaukee, St. Paul and Pacific Railroad.

Standing Structures

There were two locations (Figure 8) with standing structures observed, or close to, the New Corridor-Preferred Alternative. The standing structures were minimally recorded, primarily through photographs, but were not evaluated.

Two structures are associated with a landing strip and are standard small aircraft hangers. An occupied farmstead (residence and outbuildings) that may be impacted by the New Corridor-Preferred Alternative was noted. This farmstead appears on a 1910 atlas of the area.

Recommendations for Cultural Resources

Site 39MH210

The National Register of Historic Places eligibility status of this property would be considered under Criterion D, which is having yielded, or the potential to yield, information important in history. The site in its current condition is largely destroyed and lacks both integrity and significant cultural deposits. Based on this, the site is not eligible for listing in the National Register of Historic Places (NRHP).

Site 39MH161

A determination of eligibility for nomination to the NRHP could not be made from surface inspection. It is recommended in the event this site is impacted by the proposed East Side Corridor, test excavations be completed to evaluate the research potential for this site.

Site 39MH148

No cultural resources were observed, and no further work is recommended at this location.

Railroads--39MH2000, 39MH2003, 39MH2018, 39LN2016, 39LN2007

The proposed project will have no adverse effect on the five railroads it crosses, and the existing railroad lines will not be disturbed. Crossings of active rail lines will be conducted using grade-separated structures.

Standing Structures

If the proposed project will impact and/or destroy standing structures, and if the state's architectural historian has concerns about the significance of the structures, then additional evaluation is recommended.

Cultural Resource Impacts/Mitigation

The No Action Alternative will not change or impact cultural resources, because improvements for this alternative include only minor maintenance to existing roadways.

Overall, the potential for deeply-buried cultural resources is considered minimal for both the Widen/Improve Section Line Roads and New Corridor-Preferred Alternatives.

Section 106 Project Consultation – Evaluation/Effect

The South Dakota State Historical Society's State Historic Preservation Officer (SHPO) reviewed the proposed project for conformity with Section 106 of the National Historic Preservation Act as amended (36CFR part 800). The South Dakota SHPO concluded that all but one of the identified properties is not eligible for inclusion in the National Register, and that no historic properties will be affected by the proposed project.

Site 39MH161 is unevaluated and considered potentially eligible for listing in the NRHP. This site will need to be avoided until it has been fully tested and evaluated for eligibility for listing in the NRHP. This finding will be considered, and an additional evaluation will be made prior to the project's preliminary design and at the time a determination has been made as to right-of-way requirements for the proposed project.

Cultural resources consultation from the South Dakota SHPO is attached to the EA in Appendix D.

7. Tribal Historic Preservation Office (THPO)

On April 5, 2002, the City of Sioux Falls prepared and sent a memorandum to nine American Indian Sioux Tribes who may have an interest in the proposed development of

the Sioux Falls East Side Corridor. The memorandum further explained the process for development of the proposed project and that a cultural resources reconnaissance survey and analysis were being prepared for the project. If significant findings of interest to the tribal parties were to be uncovered during the investigation, the memorandum explained the tribes would be notified again to participate in a process to identify appropriate mitigation. The tribal parties would also be notified if significant findings of interest were uncovered during the acquisition of properties or construction of the East Side Corridor.

The THPO located at the Standing Rock Indian Reservation was contacted by telephone in early June 2002 to determine whether any comments from the notified tribes had been obtained. The THPO indicated no written or oral comments had been received. Completion of the cultural resource reconnaissance discussed herein did not locate any significant findings that would be of interest to the THPO.

B. ECONOMIC ENVIRONMENT

1. Right-of-Way and Relocation Impacts

Residential and Business Impacts

A right-of-way and relocation evaluation was conducted to assess the potential impacts associated with the project area. A visual inspection of the project area, including a review of the proposed right-of-way and building setbacks, was conducted to determine the potential number of households and businesses that may need to be acquired for right-of-way purposes and to determine the estimated value of properties to be acquired.

The No Action Alternative would not change or cause relocation of existing residences and businesses because improvements in this alternative will include minor maintenance improvements to existing roadways.

The Widen/Improve Section Line Roads Alternative and New Corridor-Preferred Alternative will potentially require acquisition and relocation of residential properties. It is assumed that roadway upgrades will accommodate existing businesses, but there may be cases of acquisition or partial acquisitions, particularly at intersection areas to accommodate traffic control improvements.

The New Corridor-Preferred Alternative will also require potential acquisition or partial acquisition of several commercial businesses. An estimated 100 employees could be affected by displacement of businesses with the New Corridor-Preferred Alternative depending on the final design of the system of access control improvements at the East Side Corridor's intersection with I-29 (interchange and service road accesses). Essentially, all of the New Corridor-Preferred Alternative's potential business and employee impacts are located in the vicinity of the I-29 and County Road 106 interchange at the western terminus of the project. The cost of acquiring right-of-way for the New Corridor-Preferred Alternative is estimated to be approximately $4.0 million.

In addition to the potential acquisition and relocation impacts, the evaluation estimated the project will result in partial right-of-way impacts to approximately 120 parcels throughout the New Corridor-Preferred Alternative and approximately 110 parcels with the Widen/Improve Section Line Roads Alternative.

Appendix A – Figures 2A through 2L, illustrate potential right-of-way impacts of the New Corridor-Preferred Alternative.

Right-of-Way Mitigation

The estimated right-of-way impacts are based on a "worst case" acquisition scenario for the Widen/Improve Section Line Roads and New Corridor-Preferred Alternatives. To the extent practical, attempts will be made to reduce private property impacts through design measures that minimize property acquisition needs. Details regarding right-of-way acquisitions and easement impacts will be further refined during the project's final design. SDDOT will cooperatively work with the City of Sioux Falls, Lincoln and Minnehaha Counties, and affected residents and businesses to minimize impacts and to coordinate relocations. None of the impacted businesses are uniquely situated or dependent on specific locations, and it is anticipated that all affected businesses can be relocated within the vicinity of the proposed East Side Corridor. Right-of-way acquisition will commence immediately following completion of the environmental review process and is estimated to continue over a 20- to 25-year period.

All right-of-way and relocation impacts will be conducted in conformance with the *Uniform Relocation Assistance and Real Property Acquisition Act of 1970*, as amended by the Surface Transportation Assistance Act of 1987 and 49 Code of Federal Regulations, Part 24, effective April 1989. Relocation assistance is available to all business relocates without discrimination.

2. Economics

Economic Characteristics

The City of Sioux Falls has experienced a steady growth of population, combined with an increase in land acquisition and development. As growth continues, commuter demands on existing and new roadway systems will continue in the future. The City's growth can be attributed to a number of reasons. The Sioux Falls Metropolitan Statistical Area (MSA) is the largest and fastest-growing labor market area in the State of South Dakota. Between 1996 and 2000, approximately 15,000 new jobs were created in Sioux Falls. New employment opportunities continue to be created in many industries, including the following growth areas:

- Finance/insurance (including the credit card industry)
- Health care and other services
- Retail/wholesale trade
- Manufacturing

Employment has been projected to increase through population increases and job expansion. The Sioux Falls area growth rate is anticipated to be higher than the national growth rate based on projections made by the U.S. Department of Labor. The projection is based on migration within the state to metropolitan areas and, combined with the state's low tax rates, new businesses are expected to continue to be attracted to the Sioux Falls area.

Major retail areas consist of downtown Sioux Falls, Empire and Empire East Malls, Western Mall, and Meadows on the River. The majority of these developments are located in the southwest portion the existing city limits of Sioux Falls. Smaller

commercial areas are concentrated along arterial streets such as Minnesota Avenue, East 10th Street, and West 12th Street. As the East Side Corridor develops over the next 20 to 25 years, smaller commercial nodes and potential major retail areas will be developed to serve public demands and needs.

Industrial areas are concentrated on the north central portion and northern fringe of downtown Sioux Falls. Those types of land uses utilize the existing transportation of I-29, I-229, I-90, Joe Foss Field, and the Burlington Northern Santa Fe rail lines. As a key component of the regional transportation system, the proposed East Side Corridor will facilitate access to and from existing and proposed industrial land uses in the Sioux Falls vicinity and adjacent communities (i.e., Brandon, Harrisburg, Tea).

Economic Impacts/Mitigation

The No Action Alternative would neither displace businesses nor enhance the potential for business opportunities.

The Widen/Improve Section Line Roads Alternative would not displace any businesses and would potentially enhance business opportunities by improving local, but not necessarily regional, accessibility.

Existing businesses along the New Corridor-Preferred Alternative located directly east of the I-29/Tea intersection and west of Louise Avenue may result in land acquisitions and partial property takings from seven businesses along County Road 106. These seven businesses affected include a gas station/restaurant, used car dealer, trucking company, fireworks distributor, carpet store, plumbing and heating contractor, and an antique merchandise store. The current right-of-way is 66 feet, while the proposed right-of-way is 200 feet with a 100-foot setback. Generally, once an improvement is proposed to the property, the property then must comply with the required 100-foot setback.

3. Construction Impacts

There will be minimal noise and dust from construction associated with the No Action Alternative because only minor improvements to existing roadways would occur with this alternative.

There will be noise and dust associated with construction activities of the Widen/Improve Section Line Roads Alternative and New Corridor-Preferred Alternative. No unique concerns have been identified. Contractors will be required to comply with standard noise and dust specifications. Disposal of excess material will be in compliance with the guidelines listed in standard specifications and will not occur in wetlands, floodplains, or other sensitive areas. Erosion and sedimentation will be controlled in accordance with an Erosion Control Plan and SDDOT standard specifications. The proposed project will have minor impacts to traffic traveling on County Road 106, South Dakota Highway 11 and intersecting roadways. A Traffic Staging Plan will be developed during the design phase that will address necessary and temporary road closures and construction detours. The overall traffic flow will be maintained during the construction period.

C. NATURAL ENVIRONMENT

1. Air Quality

The Environmental Protection Agency (EPA) has defined regulated air pollutants as those set in the National Ambient Air Quality Standards for particulate matter, ozone (ground level), lead, sulfur dioxide, nitrogen dioxide, and carbon dioxide. Air pollution levels that exceed the established primary standards can cause a public health hazard. The secondary standards for air pollution set levels that if exceeded may cause damage to buildings, property, animals, plants, forests, crops, exposed metals, or otherwise interfere with the enjoyment of life or property.

The EPA delegated the protection of the ambient air quality in South Dakota to the Department of Environment and Natural Resources in 1972. The department adopted the federal air pollution control regulations by reference, and as part of the state's program, operates a network of air monitoring samplers. The samplers define the concentrations of regulated pollutants for areas in the state.

Sampling activities do not include all of the EPA regulated pollutants because the potential to exceed either the primary or the secondary standard for that pollutant is very low. In past sampling years, the department has collected air pollution data on particulate matter, ozone, lead, sulfur dioxide, and nitrogen dioxide. In the last 3 years, the department is monitoring only for levels of particulate matter and ozone in the Sioux Falls area.

At the end of the 2001 sampling year, the Sioux Falls area was in attainment of the primary and secondary standards for the air pollution control standards. Therefore, no conformity standard will be affected by the proposed project, and no conformity demonstration will be needed.

Sampling results show the air quality in general is some of the cleanest in the nation. Recorded concentrations for particulate matter are less than 50 percent of the standards, and ozone concentrations are less than 75 percent of the standard.

2. Noise

Measurement of Noise Impacts

Traffic noise consists of vehicular engine noise and tire noise from contact with the roadway surface. These traffic-generated sound waves can be described by two basic parameters: frequency and amplitude. *Frequency* refers to the number of sound waves produced within a given time period, expressed in units of cycles per second. *Amplitude* is the energy level or "loudness" of a sound wave, expressed in units called decibels (dB). When analyzing traffic-generated noise, the units of sound measurement are modified because the human ear is efficient at blocking out very low and very high frequency sound. As a result, sound frequencies are weighted according to the "A" scale, and the resulting sound levels are reported as "A-weighted decibels" or dB(A). (A-weighting accounts for the human response to varying sound frequencies.) All noise levels referred to in this EA are "A-weighted" decibels.

Sound energy, or "loudness", is measured on a logarithmic scale. This means that a doubling of sound energy (e.g., doubling the traffic volume) raises the measured noise

level by approximately 3 decibels; a tenfold increase in sound energy raises the noise level by approximately 10 decibels, which would seem twice as loud.

Traffic noise can vary considerably over short time periods. Traffic noise is, therefore, expressed as the percent of time a sound is exceeded, denoted by the letter "L" with a subscript. For example, L_{10} = 60 decibels means that 10 percent of the time noise levels are higher than 60 decibels, and 90 percent of the time noise levels are lower than 60 decibels. Noise levels of L_{50} represent the median of the measurement or modeling time period. The measurement period for noise is usually 1-hour.

Noise Measurement Standards

Federal noise abatement criteria require considering noise mitigation when the post-construction worst hour noise level exceeds 60 dBA or exceed existing levels. The following Table 5 illustrates current FHWA noise abatement criteria for different types of land uses.

Table 5
FHWA Noise Abatement Criteria

Category	L_{10} dBA	Land Use
A	60	Special areas requiring serenity
B	70	Residential and recreational areas
C	75	Commercial and industrial uses
D	N/A	Undeveloped areas
E	55*	Residential, hospitals, libraries, etc.*

* Applies to interior noise levels. All other land uses are exterior levels.

Under the FHWA and SDDOT-approved protocol developed for this project, existing noise levels for the project area receptors were assumed to be 45 dBA. The State of South Dakota's noise policy states that "…a traffic noise impact occurs when predicted levels approach or exceed the NAC, or when predicted traffic noise levels substantially exceed the existing noise levels…" "Substantially exceed the existing noise levels" is defined in the state policy as an increase of 15 dBA. Since the existing noise levels were assumed as 45dBA, the level necessary to achieve the "substantial" increase is 60 dBA.

Noise abatement measures are considered when predicted traffic noise levels approach or exceed the FHWA noise abatement criteria, or when the predicted traffic noise levels substantially exceed the existing noise levels. In predicting noise levels and assessing noise impacts, traffic characteristics that will yield the worst hourly traffic noise impact on a regular basis for the design year must be used.

Coordination

The impact analysis was prepared according to a protocol consistent with the SDDOT's publication entitled *South Dakota Department of Transportation Noise Analysis and Abatement Guideline/Policy.* The protocol was reviewed and approved by SDDOT and the FHWA.

Study Methods

Using the FHWA Stamina computer with City of Sioux Falls traffic projections for 2025, peak hour, post-development noise levels were predicted to exceed the L_{eq} = 60 dBA level at distances of 300 to 600 feet out from the project right-of-way, depending upon the predicted traffic volumes for the particular location. Table 6 presents the results of this analysis for each roadway segment. Northbound and southbound car, heavy truck, and medium truck traffic volumes were estimated for 11 sections of the New Corridor-Preferred Alternative. The traffic estimates assume 7 percent of the traffic is heavy trucks, and 2 percent is medium trucks.

Noise level predictions were based on the following data and assumptions:

- Traffic noise levels were predicted based on constant operating speeds of 50 miles per hour.
- Peak-hour traffic data and vehicle mix was taken from information provided by the City.
- The analysis assumed acoustically soft ground cover between the roadway and all receiver locations (alpha = 0.5).
- Noise levels were predicted at 20 receiver locations starting at the right-of-way and outward to 600 feet from the right-of-way.

The feasibility and reasonableness of mitigating the noise impact in the two existing neighborhoods within this zone with 10 or 20 foot noise barriers was evaluated. The analysis is demonstrated in the following section.

Potential Effects/Mitigation Analysis

Table 7 presents the results a modeling analysis of the potential benefits of a 3,000-foot noise wall along the right-of-way between the New Corridor-Preferred and the neighborhood (Split Rock Heights) near SD Highway 42.

10-Foot Wall Reasonableness

Under the SDDOT policy, the cost of a noise wall is feasible if a 7 dBA reduction is achieved, and the cost per benefited house is less than $15,000.00. A benefited house is defined as a house that receives a 5 dBA or greater noise reduction. For a 10-foot high wall, the 7 dBA requirement is not met, so the wall is not feasible.

20-Foot Wall Reasonableness

For a 20-foot high wall, and assuming a 3,000-foot wall and a cost of $15.00 per square foot, there must be 60 houses within 600 feet of the right-of-way for the wall to be reasonable. The Split Rock Heights neighborhood would require 60 residences within 600 feet to justify a 20-foot noise wall. There are only 20 residences within 600 feet of the right-of-way at this location.

Table 6
Modeled Noise Level (L_{eq})

Road Segment	Distance From Right-of-Way (Feet)																			
	0	25	50	75	100	125	150	175	200	225	250	275	300	325	350	375	400	450	500	600
I-90 to 60th	72.3	70.7	69.5	68.5	67.6	66.8	66.1	65.4	64.8	64.3	63.8	63.3	62.9	62.4	62.1	61.7	61.3	60.7	60.0	58.9
60th to Rice	72.3	70.7	69.5	68.5	67.6	66.8	66.1	65.4	64.8	64.3	63.8	63.3	62.9	62.4	62.1	61.7	61.3	60.7	60.0	58.9
Rice to Highway 42	69.3	67.8	66.6	65.6	64.7	64.0	63.3	62.7	62.1	61.6	61.1	60.6	60.2	59.8	59.4	59.0	58.6	58.0	57.4	56.3
Highway 42 to 26th	70.7	69.1	67.9	66.8	65.9	65.1	64.4	63.8	63.2	62.7	62.1	61.7	61.2	60.8	60.4	60.0	59.7	59.0	58.4	57.3
26th to 41st	69.0	67.5	66.3	65.3	64.5	63.7	63.0	62.4	61.8	61.3	60.8	60.3	59.9	59.5	59.1	58.7	58.4	57.7	57.1	56.0
41st to 57th North	75.1	73.5	72.2	71.1	70.2	69.4	68.7	68.0	67.4	66.8	66.3	65.9	65.4	65.0	64.6	64.2	63.8	63.2	62.5	61.4
41st to 57th south	71.8	70.1	68.9	67.8	66.9	66.1	65.4	64.7	64.1	63.6	63.0	62.6	62.1	61.7	61.3	60.9	60.6	59.9	59.3	58.2
57th to 69th	71.9	70.3	69.1	68.0	67.1	66.3	65.6	64.9	64.3	63.8	63.3	62.8	62.3	61.9	61.5	61.1	60.8	60.1	59.5	58.4
69th to 85th	72.5	70.9	69.6	68.5	67.6	66.8	66.0	65.4	64.8	64.2	63.7	63.3	62.8	62.4	62.0	61.6	61.2	60.6	60.0	58.8
85th to Highway 106	69.8	68.2	66.9	65.9	65.0	64.1	63.4	62.8	62.2	61.6	61.1	60.6	60.2	59.8	59.4	59.0	58.6	58.0	57.3	56.2
Highway 106	71.1	69.5	68.2	67.1	66.2	65.4	64.7	64.1	63.5	62.9	62.4	61.9	61.5	61.1	60.7	60.3	59.9	59.3	58.7	57.5

Table 8 presents the results a modeling analysis of the potential benefits of a 1,000-foot noise wall along the right-of-way between the New Corridor-Preferred Alternative and a neighborhood near the intersection of the proposed project with Louise Avenue.

10-Foot Wall Reasonableness

Under the SDDOT policy, the cost of a noise wall is feasible and reasonable if a 7 dBA reduction is achieved and the cost per benefited house is less than $15,000.00. A benefited house is defined as a house that receives a 5 dBA or greater noise reduction. For a 10-foot high wall, the 7 dBA requirement is not met, so the wall is not reasonable.

20-Foot Wall Reasonableness

For a 20-foot high wall, and assuming a 1,000-foot wall, and a cost of $15.00 per square foot, there must be 20 houses within 300 feet of the right-of-way for the wall to be reasonable. This residential neighborhood would require 20 residences within 300 feet of the future right-of-way to justify a 20-foot noise wall. There are only 2 residences in this location within 300 feet of the right-of-way.

It is, therefore, concluded that neither the 10- or 20-foot high walls for the residential areas near the proposed project and Louise Avenue and SD 42 are reasonable. County and local City officials may consider zoning ordinances to control residential construction within the noise zone that exceeds or approaches the noise abatement criteria to minimize noise impacts to future residents.

3. Farmland

Coordination

Coordination with the Natural Resource Conservation Service (NRCS) for the proposed project included the completion the Farmland Conversion Impact Rating (Form AD 1006), located in EA Appendix B and associated letter correspondence. Estimated acreage to be converted directly or indirectly from farmland to roadway use is 475 acres. According to the NRCS, the proposed project will impact approximately 282 acres of prime farmland and 46 acres of statewide important farmland.

Operations

The project corridor is currently characterized predominantly by agriculture. Agriculture is an important component of the Lincoln and Minnehaha County economies. Farming revenue is derived from crops and livestock. Farming activities in Lincoln and Minnehaha Counties occur on 1,931 farms comprising 765,775 acres. The average farm size is 378 acres. Farmable land represents approximately 86 percent of the total land engaged in agriculture. Primary crops are corn and soybeans.

Table 7
Noise Level Reduction (L_{eq}) Due to 10 and 20 Foot Noise Walls
Residential Area Near SD Highway 42 and the Proposed East Side Corridor

	Distance From Right-of-Way (Feet)																		
	25	**50**	**75**	**100**	**125**	**150**	**175**	**200**	**225**	**250**	**275**	**300**	**325**	**350**	**375**	**400**	**450**	**500**	**600**
Noise Level - No Barrier	69.1	67.9	66.8	65.9	65.1	64.4	63.8	63.2	62.7	62.1	61.7	61.2	60.8	60.4	60.0	59.7	59.0	58.4	57.3
Noise Level - 10’ Barrier	63.0	63.3	63.1	62.7	62.3	61.9	61.5	61.1	60.8	60.4	60.1	59.8	59.4	59.1	58.9	58.6	58.0	57.5	56.5
Noise Reduction-10’ Barrier	6.1	4.6	3.7	3.2	2.8	2.5	2.3	2.1	1.9	1.7	1.6	1.4	1.4	1.3	1.1	1.1	1	0.9	0.8
20’ Barrier	55.7	56.6	56.7	56.6	56.4	56.2	55.9	55.7	55.4	55.1	54.9	54.6	54.4	54.1	53.9	53.7	53.3	52.9	52.2
Noise Reduction-20’ Barrier	13.4	11.3	10.1	9.3	8.7	8.2	7.9	7.5	7.3	7	6.8	6.6	6.4	6.3	6.1	6	5.7	5.5	5.1

Table 8
Noise Level Reduction (L_{eq}) Due to 10 and 20 Foot Noise Walls
Residential Area Near Louise Avenue and Proposed East Corridor

	Distance From Right-of-Way (Feet)																		
	25	**50**	**75**	**100**	**125**	**150**	**175**	**200**	**225**	**250**	**275**	**300**	**325**	**350**	**375**	**400**	**450**	**500**	**600**
Noise Level - No Barrier	68.2	66.9	65.9	65.0	64.1	63.4	62.8	62.2	61.6	61.1	60.6	60.2	59.8	59.4	59.0	58.6	58	57.3	56.2
Noise Level - 10’ Barrier	62.0	62.3	62.1	61.7	61.3	60.9	60.5	60.1	59.8	59.4	59.1	58.8	58.5	58.2	57.9	57.6	57.1	56.6	55.6
Noise Reduction-10’ Barrier	6.2	4.6	3.8	3.3	2.8	2.5	2.3	2.1	1.8	1.7	1.5	1.4	1.3	1.2	1.1	1.0	0.9	0.7	0.6
20’ Barrier	54.7	55.7	56.0	56.1	56.0	55.9	55.8	55.7	55.6	55.4	55.3	55.1	55.0	54.8	54.7	54.5	54.2	53.9	53.3
Noise Reduction-20’ Barrier	13.5	11.2	9.9	8.9	8.1	7.5	7.0	6.5	6.0	5.7	5.3	5.1	4.8	4.6	4.3	4.1	3.8	3.4	2.9

Affected Farm Operations

When a proposed roadway crosses existing farmland, agricultural land and operations are affected. Potential impacts include agricultural land conversion to highway right-of-way, severed farm operations, landlocked parcels, farm resident and farm building displacements, uneconomical remnants, and agricultural income loss. Farmlands taken for public transportation purposes are considered by the NRCS to be impacted and are noted in Form AD 1006 (Appendix B). It is noted, however, that farmland impact scores on AD-1006 do not exceed the severe impact threshold of 160 points. The magnitude of impact in this analysis considers the amount of farmland taken from a landowner relative to the farmland owned in the vicinity of the project area. Table 9 summarizes affected farm operations.

Impacts to farmland operations will not occur to all farmland operations immediately. The proposed right-of-way, to be located in current farmlands, is expected to be fully converted to urban land uses (residential, commercial-businesses, industrial, parklands, etc.) by 2025. This process will occur incrementally as development of the New Corridor-Preferred Alternative will occur as urban land uses expand from the existing city limits over the next 20 to 25 years.

Table 9
Summary of Affected Farm Operations*

	Lincoln County		Minnehaha County	
Farmland Impact	**Widen/Improve Along Existing Alignment**	**New Corridor-Preferred Alternative**	**Widen/Improve Section Line Roads**	**New Corridor-Preferred Alternative**
Number of Severed Farm Operations (by tract)	12	32	4	8
Total Number of Affected Farms	50	55	25	25
Farmstead Displacement Total Affected	19	0	1	1
Houses Displaced	7	0	1	1
Other Buildings Displaced**	11	1	1	1

* Values are based on review of aerial photographs and available parcel information. The total number of affected farms will not equal the sum of the severed farm operations by tract, and otherwise affected farm operations by tract, as many farming operations consist of multiple property tracts.

** Garages, barns, sheds.

Measures to Minimize Impacts to Agriculture

There would be no impacts to agricultural with the No Action Alternative because only minor roadway improvements will occur with this alternative.

The Widen/Improve Along Section Line Road Alternative (2015 and 2025 growth areas) will require approximately 900 acres of farmland to be acquired. The Widen/Improve Along Section Line Road Alternative assumes growth will occur in the 2015 and 2025 growth areas, and current farmland operations are anticipated to be converted to urban use by 2025.

The New Corridor-Preferred Alternative will require approximately 1,200 acres of farmland to be acquired (475 acres within the East Corridor Alignment and 741 acres for road improvements in the 2015 and 2025 growth areas).

The project corridor is currently engaged in primarily agricultural uses. By 2025, the corridor will be nearly fully converted from agricultural to urban service land uses, including farmlands to be used by the Widen/Improve Section Line Road and New Corridor-Preferred Alternatives. However, for farms that remain active through 2025 adjacent to the proposed project, management and design practices will be considered when construction occurs to minimize disruptions to agricultural activities and limit adverse affects to soils. These management and design practices may include minimizing property severances, field access points and at-grade crossings (where deemed practical), of maintenance surface/subsurface drainage, and sedimentation and erosion control.

4. Water Quality

Water resources within the project area include ditches, intermittent streams, perennial streams, and wetlands. The largest hydrological feature within the project area and directly impacted by the project is the Big Sioux River. Various pollutants are commonly encountered in roadway runoff generated during storm events. Some of the pollutants include eroded soil, nutrients, metals, and oil. No systematic runoff treatment currently exists. The potential affect of roadway runoff on water quality is very important in this corridor because of the water resources (numerous wetland, Big Sioux River) located in close proximity to the roadway.

Minimization of Impacts on Water Quality

There will be no impacts to water quality with the No Action Alternative because improvements to roadways would be limited to maintenance and minor repairs.

Mitigation measures will be developed during construction planning and staging to avoid erosion into waters including stream and wetland areas. Under the South Dakota Surface Water Discharge (SWD) program's storm water permit for the project, Best Management Practices (BMPs) will be used to avoid erosion from all disturbed land. An Erosion Control Plan will be developed to include BMPs to be installed, staging, temporary storage of excess material, inspection, and maintenance schedule of BMPs, and temporary seeding measures.

As either the New Corridor-Preferred or the Widen/Improve Section Line Roads Alternatives develop and are constructed, land uses in the area will transform from agricultural to urban uses. As urban land uses expand, storm sewers and storm water ponding will become prevalent and will be designed to trap the majority of sediment prior to discharging to adjacent wetlands and streams. Non-storm sewered areas will be designed to meet site specific needs to trap pollutants.

5. Storm Water Runoff

No impacts to storm water runoff are expected with the No Action Alternative because improvements to roadways would be limited to maintenance and minor repairs.

In response to water quality concerns and in accordance with the requirements of the SWD program, the New Corridor-Preferred and the Widen/Improve Section Line Roads

Alternatives would include substantial water ponding provisions to assist in attaining the goal of not increasing pollutant loading.

As either the New Corridor-Preferred and the Widen/Improve Section Line Roads Alternatives develop and are constructed, coordination with the affected agencies would continue through the design and permitting process to ensure that storm water provisions conform to all regulations and standards.

Erosion and Sedimentation

As either the New Corridor-Preferred and the Widen/Improve Section Line Roads Alternatives develop and are constructed, the potential for erosion and sedimentation will increase without proper controls. A state-issued storm water permit will be required for either alternative. Erosion prevention and sediment control BMPs would be followed in accordance with the General Permit for Storm Water Discharges Associated with Construction Activity, which would include an Erosion Control Plan. Temporary and permanent control features include, but are limited to, timely revegetation of disturbed areas, hay bales, silt fences, flotation silt curtains, and sediment ponds.

Erosion and sediment control measures will be implemented to protect all drainage leading to wetlands, streams and rivers.

Steep slopes within the project area are primarily in Segment 3 at the north end of the project. The steep slopes in this area are located within the approximate bluff location located between the Big Sioux River floodplain and upland area. Steep slope control measures would be installed in drainage ravines to protect wetlands and the Big Sioux River from sedimentation.

6. Wetlands

Coordination

Wetlands are typically regulated under Sections 404 and 401 of the federal Clean Water Act (CWA). In addition, federal agencies, including projects that are funded through the FHWA, are required to implement "no net loss" measures for wetlands through Executive Order 11990. These no net loss measures include wetland impact avoidance, minimization, and mitigation. No additional state or local wetland regulations exist or apply in the area of the proposed project.

The U.S. Army Corps of Engineers (USACE) is the permitting authority under the CWA. In some states, the USACE has delegated portions of the permit review and approval responsibilities to the appropriate state agencies. The South Dakota Department of Game, Fish and Parks (SDDGFP) provides some regulatory oversight for wetland review under the CWA. Compliance and oversight with additional federal environmental regulatory reviews related to other issues in NEPA are also required for wetland permit approval. One example is compliance with the federal Endangered Species Act, a necessary review process that must occur before the USACE issues wetland permit approval on a particular project.

Study Methods

At this stage of the EA, a mapping and confirmation field reconnaissance (field confirmation took place with the New Corridor-Preferred Alternative only) was completed to identify wetland resources in the project area. Prior to the field review, existing data and maps (e.g., National Wetlands Inventory, USDA Soils Maps, NRCS Wetland Delineation Maps) were reviewed to identify potential wetlands. A field review was completed where the wetlands within the vicinity of the New Corridor-Preferred Alternative were identified and mapped. The mapped wetlands will be utilized for avoidance, minimization, and selection of the New Corridor-Preferred or Widen/Improve Section Line Roads Alternatives. Following the selection of either the New Corridor-Preferred Alternative or Widen/Improve Section Line Roads Alternative, the wetlands would be assessed and delineated following the methodology of the USACE 1987 Manual on wetland delineation. Assessed and delineated wetlands would be mapped for further refinement (minimization, avoidance) of the Preferred Alternative alignment. Potential wetland impacts would then be calculated for permitting and mitigation purposes.

Additional studies were completed on the wetland habitats that occur in the Cactus Hills ravines near the northern end of the project. The regulating agencies were concerned that these ravines could potentially harbor wetland fen species. A supplemental study for threatened and endangered flora was conducted during July of 2002 and included surveys in the ravines for detecting wetland fen species. July is the optimal month for detecting wetland fen species. The Minnesota Board of Water and Soil Resources (BWSR)/USACE "List of Species that Occur in Wetland Fens" was the reference source for the study.

Potential Effects

Several wetland types occur in the project area. Table 10 provides a summary of these wetland types.

Table 10
Summary of Wetland Types in the Project Area

Type*	Description
PEMA – Seasonally Flooded Basin or Flat	Soil is intermittently waterlogged during the growing season. Most Type 1** wetlands in the project area are found in swales or are adjacent to deeper wetland basins.
PEMB – Wet Meadow	Soil is usually without standing water during growing season, but is waterlogged within a few inches of the surface. Often vegetated with sedges, grasses, and forbs. In the project area, many of the farmed wetlands described below were historically wet meadows, or a existing deeper basin may have been wet meadows before land use impacts altered hydrology or basin conditions. Intact/undisturbed wet meadows are not common in the project area.
PEMC, PUBA – Shallow Marsh	Soil is waterlogged during the growing season and may often be covered with up to 6 inches of standing water. This is the most common wetland type encountered in the project area. Most are vegetated with cattail, reed canary grass, and other herbaceous species.
L2ABF, L2EMF, PUBF – Deep Marsh	Soil is covered with 6 inches to 3 feet of standing water during growing season. Less common then Type 3 marshes in the project area. Dominated with herbaceous vegetative cover.
L1 – Shallow Open Water	Standing water less then 10 feet during growing season. Most project area Type 5 wetlands are excavated basins (ponds).
PFOC – Wooded Swamps	Forest vegetation is present. In the project area, Type 7 wetland is intermixed with other wetland types within the Big Sioux River floodplain.
FW – Farmed Wetland	Were one of the above wetland types in prior to agricultural conversion. Currently cultivated, but not effectively drained basins. Equally as common, or possibly more common than Type 3 wetlands are in the project area
Groundwater discharge wetlands	Groundwater discharge saturated soils. Often located in rugged topography. Restricted to Cactus Hills in the project area. Some fen qualities may exist.

* Adapted from: Classification of Wetlands and Deepwater Habitats of the United States, Cowardin et. al., FWS/OBS 79/31

** *Type 1 Wetlands*-Seasonally flooded basins or flats in which the soil is covered with water or is waterlogged during variable seasonal periods but usually well-drained during much of the growing season.
Type 2 Wetlands-Inland meadows in which soil is usually without standing water during most of the growing season but is waterlogged within at least a few inches of the surface.
Type 3 Wetlands-Inland shallow fresh marshes in which soil is usually waterlogged early during a growing season and often covered with as much as six inches or more of water.
Type 4 Wetlands-Inland deep fresh marshes in which soil is usually covered with six inches to three feet or more of water during the growing season.
Type 5 Wetlands-Inland open freshwater, shallow ponds, and reservoirs in which water is usually less than 10 feet deep.
Type 6 Wetlands-Shrub swamps in which soil is waterlogged during the growing season and is often covered with as much as six inches of water.
Type 7 Wetlands-Wooded swamps in which soil is waterlogged at least to within a few inches of the surface during the growing season and is often covered with as much as one foot of water.
Type 8 Wetlands-Bogs in which the soil is usually waterlogged and supports a spongy covering of mosses.

Segment O, I-29 to Minnesota Avenue

Wetlands increase in density towards the eastern end of Segment O near Minnesota Avenue. Most of these are farmed wetlands and PEMC basins. Basin topography is

primarily depresssional (potholes) and larger wetland complexes. Several elongated drainageways, most of which are farmed, also occur immediately east of the I-29 corridor. Excavated ponds are widely scattered. No floodplain wetlands were observed in the Segment O vicinity. These wetlands have been impacted by agriculture, drainage, and/or stormwater runoff, and the majority of the wetlands contain extensive stands of cattail or reed canary grass. Mapped wetlands in Segment O are shown in Appendix A – Figures 2A and 2B.

Segment 1 and 2 – Minnesota Avenue to State Highway 42

This entire segment has the highest density of wetlands for this project. These wetlands are also dispersed relatively evenly throughout the area. Wetland types are mostly farmed wetlands, PEMC depressional basins, and drainageways. Some larger wetland complexes also exist. The majority of the wetlands have been impacted by agriculture, drainage, and storm water runoff with extensive stands of cattail and reed canary grass. Occasionally, higher quality wetland indicators were encountered, including intact sedge communities, undisturbed basin soils or hydrology. Mapped wetlands in Segment 1 are shown in Appendix A – Figures 2C through 2H.

Segment 3 – State Highway 42 to I-90

Wetlands change in density and geomorphology in Segment 3. The southern half of Segment 3 has fewer pothole, drainageway, and farmed wetlands than were found in the previous two segments. Wetlands in the northern half of Segment 3 occur in a much different geomorphological setting compared to elsewhere in the project vicinity. The topography is more rugged and rolling (Cactus Hills) with fewer potholes and farmed wetlands. Seepage slope wetlands were found in the ravines of the Cactus Hills, and drainageways dominate the farmland surrounding the uncultivated portions of the Cactus Hills. No wetland fen species were detected in the ravines of the Cactus Hills during the plant survey. These ravine wetlands are best classified as wet meadow habitats that are primarily fed by groundwater. Approaching from the south, the project corridor descends from the Cactus Hills into the Big Sioux River floodplain. Wetlands were intermittently scattered throughout the entire floodplain, and increased in density near the main river channel. Mapped wetlands are shown in Appendix A – Figures 2H through 2L.

Wetland Sequencing and Mitigation

There would be no impacts to wetlands with the No Action Alternative because only minor improvements to roadways would occur.

Approximately 59.19 acres of wetland will be impacted by the New Corridor-Preferred Alternative, and 44.33 acres of wetland will be impacted by the Widen/Along Section Line Roads Alternative. The City of Sioux Falls is currently involved with the development of an area wetland bank site that would provide available wetland credits for the New Corridor-Preferred Alternative and Widen/Along Section Line Roads Alternatives. Wetland bank credit withdrawals would occur concurrently with each phase of construction for the project. The City of Sioux Falls may prefer early dedication of these credits in anticipation of impacts that could occur over a 25-year period as each phase is constructed.

Wetland sequencing will be implemented to the greatest extent possible during the design and construction phase of the project. Wetland sequencing includes wetland avoidance

and minimization measures. Avoidance and minimization measures may include the application of side slope reductions, urban design standards, culvert and bridge crossings, and storm water treatment to reduce the scope of wetland impact. These may be implemented when safety and design features are not significantly compromised.

The appropriate federal wetland permit applications would be submitted for each phase of the project prior to project letting. Each impacted wetland area will be delineated following the criteria of the 1987 USACE Manual. All completed wetland permit applications will include delineations, design plans with impacts, sequencing determinations, and replacement plans.

A Wetland Finding, prepared in conformance with Executive Order 11990, is attached to the EA as Appendix G.

7. Water Body Modification and Wildlife Impacts

Water body modifications to surface waters include impoundment, relocation, channel deepening, filling, etc., and how such actions may impact fish and wildlife resulting from loss, degradation, or modification of aquatic or terrestrial habitat. Primary water bodies identified that have the potential to incur impacts as a result of the proposed East Side Corridor are the Big Sioux River and the numerous wetlands located throughout the project area.

There will no impacts pertaining to water body modification with the No Action alternative because no improvements to roadways would occur.

The New Corridor-Preferred Alternative would cross the Big Sioux River. A bridge is proposed to be constructed rather than placement of a culvert system. Bridge construction versus a culvert system minimizes modification to stream and instream habitats. Mitigation measures, such as erosion control and minimal construction limits, will be considered during the construction, and erosion control measures will be inplace during post-construction phases of the proposed East Side Corridor in the vicinity of the Big Sioux River.

As discussed in the previous section, there would be wetland impacts with the New Corridor-Preferred Alternative and No-Build (development of existing roadways within 2015 and 2025 growth areas) Alternative. All wetlands that cannot be avoided will be mitigated to the extent practical to replace or improve fish and wildlife habitat that utilize these areas for breeding and feeding.

8. Floodplains

Coordination

Potential encroachments on floodplains are coordinated under Executive Order 11988 on Floodplain Management. The Executive Order requires floodplain impact assessment and coordination for all federally funded projects. The floodplain is defined as the area adjoining a watercourse that is within the 100-year flood, or regional flood zone, as mapped by the Federal Emergency Management Agency (FEMA).

Potential Effects

The Big Sioux River 100-year floodplain is identified in the project area. This was determined using the City of Sioux Falls 100-year floodplain map, which is based on the FEMA flood insurance rate maps (Appendix A – Figures 2K and 2L).

There would be no impacts to floodplains with the No Action Alternative because only minor improvements to existing roadways would occur with this alternative.

The New Corridor-Preferred and Widen/Improve Section Line Roads Alternatives would introduce a transverse encroachment of the Big Sioux River 100-year floodplain of 2,640 feet (0.5 miles). This would likely occur at or near the existing transverse crossing location for County Road 121. The alignment and crossing location would replace the existing bridge and roadway grade. The existing County Road 121 bridge and alignment is below the 100-year flood elevation and is frequently overtopped during flood events (as recently as 1997 and 2001). The proposed bridge and roadway grade would be above the 100-year flood elevation to provide continuous service for emergency vehicles, evacuation routes, and a major access point to the northeast side of Sioux Falls. A grade-separated crossing is proposed for the Burlington Northern Railroad that occurs within the floodplain and parallels the south bank of the river channel. This separated grade would extend over the river course above the 100-year flood elevation. The separated grade would also minimize fill within the floodplain and reduce the amount of cut into the steep valley slopes on both sides of the floodplain. Activities to encroach on the floodplain that raise the water surface of the 100 year flood 1-foot or less in accordance with FEMA regulations are limited.

No significant impacts on natural and beneficial floodplain values are anticipated. The New Corridor-Preferred and Widen/Improve Section Line Roads Alternatives would occur within and/or replace an existing transverse encroachment, provide updated storm water management treatment benefits that currently do not exist, and would not incur significant impacts on fish, wildlife, boat passage, or any other floodplain values. Impacts to fish spawning and the Topeka shiner (see EA Section IV.C.10, Threatened and Endangered Species) would be minimized by implementing the USFWS guidance and policy that limits work activities in the channel during spawning and promotes habitat impact minimization. These include measures for erosion control and slope stabilization that are above and beyond standard practices.

9. Vegetation, Fish & Wildlife

Coordination

Several state and federal regulations on fish and wildlife coordination for environmental review have implications for this project. In addition, designated state or federally managed fish or wildlife lands/facilities were reviewed in the project area for potential impacts. At the federal level, NEPA provides transportation project guidance and direction for coordination under the policies of the federal Fish and Wildlife Coordination Act (1958) and the Migratory Bird Treaty Act for projects involving federal funding. Federal actions under both acts require U.S. Fish and Wildlife Services (USFWS) review. Furthermore, NEPA provides guidance for addressing fish and wildlife habitat impacts, including fish and wildlife impacts in cumulative impact studies. At the state level, the SDDGFP regulates and manages certain fish and wildlife species including game, nongame, and state threatened or endangered species. Both state and federally managed

wildlife lands are found in South Dakota, including federal Waterfowl Production Areas (WPAs) and Wildlife Refuges, and state game refuges and hunting areas.

Vegetation, Potential Effects

There would be no impacts to the vegetation with the No Action Alternative because no improvements to the roadway would occur in this scenario.

Both the USFWS and the SDGF&P have referenced the occurrence of native prairie habitat in the immediate vicinity of the project along the east side of the Cactus Hills. These remnant grasslands harbor several rare native prairie species that receive some special protective designations by both agencies. Both agencies recommend avoidance of the remnant prairies and the oak forest habitats within and around the Cactus Hills. It is recommended that a buffer area be established between any new road alignment, which would include the New Corridor-Preferred and Widen/Improve Section Line Roads Alternatives and those habitats to reduce disturbances and impacts. (The reader is referred to the discussion in EA Section IV.C.10, Threatened and Endangered Species, for additional information and avoidance/minimization measures.)

Fisheries, Potential Effects

There would be no impacts to the fisheries with the No Action Alternative because only minor improvements to existing roadways would occur.

The USFWS has classified the Big Sioux River as a Class III – Substantial Fishery Resource. In their comment letter (located in EA Appendix C), the USFWS has provided methods that would be implemented during construction of either the New Corridor-Preferred or the Widen/Improve Section Line Roads Alternatives for impact minimization. The methods include limiting instream work activities to dates outside of the spawning season, and measures to minimize and restore any potential impacts. Instream work or work within Big Sioux River floodplain wetlands may require a permit(s) from the USACE. No other fisheries or fish habitats are known to exist beyond those associated with the Big Sioux River or its tributaries.

Wildlife, Potential Effects

There would be no impacts to wildlife with the No Action Alternative because only minor improvements to existing roadways would occur.

Farmland, shelterbelts, rights-of-way, wetlands, and urban lands are the predominant wildlife habitats within the project area. Excluding the Cactus Hills and Big Sioux River floodplain, no known unique or special wildlife habitats (i.e., deer yards, migration routes, and critical breeding areas) are found in the project vicinity. No federal, state, local government-owned, or private wildlife management areas, refuges, conservation easements, or hunting camps occur in the project area. Potential impacts to bird nesting colonies (swallow colonies on bridges) are limited to the existing roadway bridges over the Big Sioux River channel. No heron/egret nest colonies or other concentrations breeding vertebrates are known to occur in the project area.

The Cactus Hills and the Big Sioux River floodplain encompass some of the highest quality wildlife habitat found in the project area. Numerous common wildlife species are expected to occur in addition to several rare or listed species. Several habitats in these

areas are rare or absent in other areas of southeastern South Dakota. (Details on the rare species and habitat types in these areas are discussed in greater detail in the following EA Section IV.C.10, Threatened and Endangered Species).

10. Threatened and Endangered Species

State Threatened and Endangered Species, Coordination

There would be no impacts to state threatened and endangered species with the No Action Alternative because only minor improvements to existing roadways would occur.

State Threatened or Endangered (T & E) species and Species of Management Concern are codified under South Dakota Statutes 34A-8 and 34A-8A, respectively. For state T & E species, the SDGF&P is authorized to prepare a list of wildlife species that are determined to be endangered or threatened within the state. South Dakota Statute 34A-8-6 designates the SDGF&P and the South Dakota Department of Agriculture to perform conservation, management, protection, and restoration of the state's T & E species and nongame species of wildlife. Enforcement and authority of the provisions of the threatened and endangered species statutes are established by the South Dakota Secretary of Agriculture and the Secretary of the SDDGFP.

A Species of Management Concern (South Dakota Statute 34A-8A) is a species designated by the Secretary of Agriculture and the SDDGFP as a species that shares the dual status of requiring both control and protection. Under South Dakota Rules (Chapter 1-26), the Secretary and Commission shall establish and maintain a list of Species of Management Concern (e.g., prairie dogs).

State Threatened and Endangered Species, Potential Effects

The SDGF&P Commission completed a requested review of the South Dakota Natural Heritage Database for this project (response letter included in Appendix C). SDGF&P staff also provided information for numerous Process Team meetings and in the project's Scoping Memorandum comment letter. These contacts all expressed concern for potential effects on the lined snake (*Tropidoclonion lineatum*), a state endangered species. SDGF&P comments focused on the lined snake habitats, native prairie, oak forest, and unique character associated with an area referred as the Cactus Hills located at the northern terminus of the project corridor as illustrated in Appendix A – Figure 2I. Several rare plant species were identified in the Cactus Hills prairie habitats. In addition, the occurrence of several champion tree specimens in the Big Sioux River floodplain were also identified. The SDGF&P comments were limited to this portion of the project; no other state T & E species occurrences were referenced elsewhere in the project corridor. All of these areas are privately owned.

Lined Snake Surveys and Coordination

Field reconnaissance confirmed the presence of the lined snake and its habitat. A live specimen was documented during a lined snake survey performed by Doug Backlund of the SDGF&P Natural Heritage Program in July of 2000. This was the first recorded sighting in the area since a 1964 survey for this species. Mr. Backlund also observed native prairie, woodlands with deep rich soils, and riparian areas, all considered preferred lined snake habitat in southeast South Dakota. The Cactus Hills, Palisades State Park, Dells of the Sioux, and native grasslands protected from cultivation by Sioux quartzite

outcrops are considered the best locations to find lined snake populations in the eastern portion of the state. SEH biologists did a field reconnaissance of the Cactus Hills area in early November of 2001. All of the habitat features documented by Mr. Backlund were observed and identified during the field study and recorded on aerial photographs.

Lined Snake

SEH biologists conducted surveys for the lined snake in the remnant prairie and grassland habitats of the Cactus Hills. These surveys were conducted during optimal conditions during the months of July, August, and September 2002. In late July, a neighboring landowner incidentally killed an adult lined snake, verified by the SDGF&P. With this and previous documentations in hand, it was concluded that there is a lined snake population throughout the Cactus Hills area, including within the survey area of remnant prairie and grassland. In spite of the surveys, detecting this secretive snake is very difficult and more often relies on incidental takes such as this. The remnant prairie and grasslands are considered optimal habitats for the lined snake.

Other fauna considered rare by the SDGF&P was encountered in the remnant prairie habitats during the surveys. This includes two adult American woodcock (*Scolopax minor*), numerous regal fritillaries (*Speyeria idalia*), and an eastern damselfly species. These were all collected or observed in the presence of Doug Backlund from the Natural Heritage Program of the SDGF&P. These species are not on SDGF&P Endangered Species List, but they are considered rare and indicators of the high habitat value of the Cactus Hills area.

Plant Surveys

SEH biologists also conducted a supplemental study that included surveys of flora completed throughout the remnant prairie habitat (listed as a supplemental technical report in Appendix E). Floral surveys followed the "timed meander survey method" to detect federal and state listed prairie species, wetland fen species, and determine the overall habitat quality of the remnant prairie habitats. The survey was conducted and completed during the month of July 2002, the most optimal time for detecting the target species of flora (e.g., western prairie fringed orchid, Federal Status – Endangered). The surveys were coordinated with peer review from staff at the SDGF&P Natural Heritage Program. Details and findings of the survey are included in the supplemental study report referenced in Appendix E.

No federally listed threatened or endangered plants were encountered. Several plants considered rare by the SDGF&P, but are not included on the Endangered Species List, were documented. These and other species encountered indicate that the survey area is a remnant prairie. The remnant prairies has been heavily impacted by past grazing and extensive invasion by noxious species, in particular smooth bromegrass and leafy spurge. Most of the patches of prairie occur on the steep side slopes. Extensive stands of noxious species occur elsewhere. Overall, biological quality declines towards the east, and it appears that the easternmost portion of the study area has been tilled. No prairie species occur in the historically tilled parcels. In spite of the noxious species and grazing history, the entire study area is very much a restorable prairie. The SDGF&P state botanist grew up on a neighboring farm and observed substantial prairie re-establishment after periodical fires invaded the study area (Greg Ode – pers. communication). This implies that there is a viable seed bank and restoration potential for this area with some

management implementation. The study report referenced in Appendix E contains more details and results of the plant surveys.

Federal Threatened and Endangered Species Coordination

Federal threatened and endangered species coordination occurs under the provisions of the Federal Endangered Species Act of 1973 (ESA) as amended (16 USC 1531, 1544). The USFWS is responsible for review and authorization of actions related to federal threatened and endangered species. The FHWA, through the NEPA process, requires USFWS federal T & E species review and concurrence on all federally funded transportation projects. In addition, federal ESA Section 7 consultation guidance has been established and is utilized when potential federal T & E species impacts may occur on a federally funded transportation project. The USFWS may require preparation of a Biological Assessment to determine the project's scope of effect on the subject T & E species, and the subsequent avoidance or mitigation solutions. Lastly, the USFWS issues guidance and thresholds for determining avoidance or mitigation strategies for particular federal T & E species (e.g., bald eagle nest protection zones, Topeka shiner construction guidance).

Federal Threatened and Endangered Species, Potential Effects

There would be no impacts to federal threatened and endangered species with the No Action Alternative because only minor improvements to the roadway would occur.

The USFWS provided a correspondence for determining project impacts on federal T & E species (Appendix C). Three federal T & E species could potentially occur in the project area. The western prairie fringed orchid (*Platanthera praeclara* – status, Threatened) has not been documented in the state since 1916 (pers. communic., Doug Backlund – SDGF&P), but potential habitat occurs in the native prairie found in and around the Cactus Hills. No western prairie fringed orchid individuals nor evidence was detected during the plant surveys that were completed in the remnant prairie habitats in the Cactus Hills. In addition, no other federally listed plant species were encountered during the surveys.

The bald eagle (*Haliaeetus leucocephalus* – status, Threatened) is found throughout the state. Suitable bald eagle wintering and nesting habitats are found along the Big Sioux River corridor. On-site surveys conducted in May 2002 confirmed the presence of bald eagle nest within 1-mile of the proposed project. The habitat areas will be inspected periodically for new nests, and the USFWS will be notified for additional coordination if nest(s) are located within a 1-mile radius of the project. The USFWS has policy, criteria, and guidance regarding construction activities within a 1-mile, ½-mile, and ¼-mile distance of the nest site. Nest locations can vary within the 1-mile radius from year to year, and the USFWS will make the determination if the nest to project distance is within the ½-mile or ¼-mile threshold. This is especially important considering the long-term construction schedule for this project, and new eagle nests may be constructed within the threshold radii or areas directly impacted by this project well after the publication of this document. Instruction and agency contact sources should be provided to the construction contractor(s) the year before construction begins to include these considerations in the project specifications.

The Topeka shiner (*Notropis topeka* – status, Endangered) is the third T & E species and is known to occur in the project area. This species is a resident of the Big Sioux River

and its tributaries in the project area. The USFWS with the assistance of an interagency work group, prepared guidance on BMPs that minimize effects on Topeka shiner habitats during construction within stream channels. Details on the BMPs are included in the USFWS comment letter in Appendix C. Topeka shiner BMPs will be implemented if/when construction occurs within the Big Sioux River channel or any of its tributaries.

Avoidance and Minimization of the Cactus Hills Habitats and Native Prairie

Through interagency coordination and review, the USFWS and the SDGF&P have established a position that any project should avoid and minimize impacts to the Cactus Hills area habitats and the adjacent remnant prairie.

Avoidance and minimization alternatives were studied. In spring 2002, an attempt to modify the project's proposed design (the New Corridor-Preferred Alternative) was considered by shifting the alignment eastward from the sensitive habitats toward cultivated land. Complete avoidance would not be possible, but impacts would have been restricted to the edge and corners of the sensitive habitat (prairie) parcel. While this attempt would avoid and minimize impacts to the sensitive habitats, the impacts to the social environment were found to be considerable. Several operational problems and safety concerns for the proposed design of the East Side Corridor would also have resulted from this alignment shift.

It was determined to be extremely difficult to provide safe road curvature and a connection, either at-grade or by interchange, with Rice Street and follow an alignment shift across the Big Sioux River and the railroad tracks. The horizontal curves on such an alignment would be inconsistent with design speeds and would be further complicated by the necessary vertical curvature. Traffic engineers that studied the alignment shift determined that the proposed design could potentially lead to significant problems with runaway vehicles leaving the road, especially in wet weather or snow since the downslope of the alignment shift is north-facing. Trying to introduce an intersection or interchange ramps would be virtually impossible with the curvature.

An additional avoidance alternative to connect the proposed project between Rice Street and I-90 was also considered to reduce the previously described engineering issues. This alignment would have been located east of the Xcel Energy substation and would have crossed the river east of the existing north/south roadway. A major problem with this alternative is the numerous transmission towers in the area that would dictate the horizontal alignment and lead to a substandard design speed. There was also a concern that the vertical clearance beneath the proposed roadway, which would be significantly elevated in some spots, would be too close to the high voltage power lines.

In addition, there were concerns with the curvature of the new alignment near I-90 and the ability to provide safe connections to the frontage roads, both to the east and west of the interchange road. The introduction of the intersection in a tight horizontal curve would result in a hazardous condition. There were also concerns with the river crossing location and the need for additional bridges, which would be necessary to provide crossings of the railroads in addition to the Big Sioux River.

The proposed attempts to shift the alignment of the New Corridor-Preferred Alternative were also found to be inconsistent with local land use planning. The City of Sioux Falls' adopted 2015 Growth Management Plan calls for environmental consideration in growth

controls, with a strategy requiring the analysis of environmental constraints, drainage basins, utility feasibilities, and cost efficiencies. The City of Sioux Falls, through its planning and future land use controls, has to prepare to guide future development of the privately owned properties in the vicinity of the sensitive habitats. The City's Growth Management Plan shows sanitary sewer being extended into the northern alignment area of the proposed project (Basin 19D), and sewer lines will extend into Basin 19D within the next 6 years (2008). This is not only meant to consider the East Side Corridor, but also to consider the City's overall growth management strategy and eliminate urban sprawl.

The City of Sioux Falls has prepared to address future annexation petitions and land use development applications in this area after 2008, in conformance with its 2015 Growth Management Plan. If the alignment moves out of the Xcel property area, the East Side Corridor would be located too far east to service developing areas with transportation facilities. The City determined it also needed to consider additional impacts including additional roadway construction costs, decreased use of the roadway, ability to cross the Big Sioux River, and servicing additional land for sanitary sewer. The City also has future plans to allow for a mix of land uses in the area including multi-family, single-family, and industrial land uses. The City of Sioux Falls' future street plan shows a major east/west arterial roadway connecting Sioux Falls to the community of Brandon to the east and future north/south roadways between Brandon and the East Side Corridor.

With consideration of the projected growth pattern within the northern alignment area and the City of Sioux Falls' responsibility to provide transportation facilities to service this growth, it was determined that the New Corridor-Preferred Alternative best avoids and minimizes harm to sensitive environmental receptors. Alignment shifts to completely avoid the areas containing the sensitive habitats were found to be inconsistent with engineering standards and the City's 2015 Growth Management Plan and are assumed to prevent adequate utility servicing for planned development.

The City of Sioux Falls has encouraged environmental dialogues with affected local, state, and federal agencies since the project began and its desire is to continue to address environmental issues and concerns. Therefore, the following mitigation measures to avoid and minimize impacts to the sensitive habitats will be further explored, and appropriate mitigation agreements will be reached prior to the approval of the project's final design.

Lined Snake Mitigation

Mitigation for the lined snake will explore two options that are linked to one another, mortality reduction, and habitat protection/management. Mortality reduction includes the design and implementation of a dry culvert fence system to effectively allow safe passage of small vertebrates under the roadway. The design should include placement of several dry culverts under the highway grade as it transects the lined snake habitat. A very fine mesh length of fence or metal flashing should be placed and installed at the base of the entire right-of-way fence and designed to funnel small vertebrate movements towards the dry culvert. The fine mesh fencing or flashing should be excavated into the ground to prevent "crawl unders". These types of wildlife mortality reduction designs have been successfully implemented worldwide, especially in Europe. The FHWA has a publication and web site titled "*Critter Crossings, Linking Habitats and Reducing Roadkill*" providing an introduction to the topic, issues, and design solutions for reducing

transportation related wildlife mortality. The FHWA and Florida Department of Transportation also sponsor a yearly symposium on the subject and have compiled a substantial literature, database, and protocol for the subject. Interested individuals should refer to the FHWA web page for additional information on this relatively new application.

Construction of these unique design solutions should be coupled with the second option, habitat protection and management. It would be pointless to construct an underpass system when there will be no adjacent intact habitat 20 years later. The project will explore habitat protection and management options with the affected landowners and utility companies. Habitat protection could include, at a minimum, the establishment of a conservation easement over the lined snake habitat adjacent to the proposed road. This easement should be in perpetuity and should also include a Habitat Management Plan that targets prairie restoration through the use of prescribed fire. Other protective measures could involve outright purchase of the habitats for use as an open space or conservation parcel.

11. Invasive Species

Coordination

Invasive species coordination occurs under the FHWA guidance that followed the implementation of Executive Order 13112 that calls on Executive Branch agencies to work to prevent and control the introduction and spread of invasive species. FHWA guidance for NEPA analysis states that the study should address the likelihood of introducing or spreading invasive species and a description of measures being taken to minimize potential harm.

Potential Effects

There would be no impacts to federal threatened and endangered species with the No Action Alternative because only minor improvements to study area roadways would occur.

The U.S. Department of Agriculture (USDA) South Dakota state-listed noxious weeds list was consulted to identify potential noxious species in the project area. A local noxious weed authority at the South Dakota Extension Service – Lincoln County Office was contacted for an expert opinion. Currently, noxious weeds are being effectively controlled through the management efforts of the South Dakota Weed and Pest Board. This effective control is expected to continue, and there is a low potential that the New Corridor-Preferred or the Widen/Improve Section Line Roads Alternatives will be detrimental to these efforts, and will likely not result in the net increase or spread of noxious weeds.

Through the efforts of the Weed and Pest Board, the South Dakota Department of Transportation (SDDOT) and the City of Sioux Falls, it is expected that combined roadside management actions will include effective noxious weed control. This includes installation of weed free and approved plant materials, chemical and biological control, and Extension Service education and coordination efforts.

12. Hazardous Waste Sites/Contaminated Properties

The presence of potentially contaminated properties (defined as properties where soil and/or groundwater is impacted with pollutants, contaminants, or hazardous wastes) is a concern in the development of highway projects because of potential liabilities associated with ownership of such properties, potential cleanup costs, and safety concerns associated with construction personnel encountering unexpected wastes or contaminated soil or groundwater. Contaminated materials encountered during highway construction projects must be properly handled and treated in accordance with state and federal regulations. Improper handling of contaminated materials can worsen their impact on the environment. Contaminated materials also cause adverse impacts to highway projects by increasing construction costs and causing construction delays, which also can increase project costs.

With the exception of the I-29/Tea exit, where fueling and light industrial activities occur, the project area is located in a rural location and the likelihood of encountering contamination is considered to be minimal. A limited file search was conducted as part of this EA. The limited file search included a review of reasonable ascertainable databases of properties in the vicinity of study area that are recorded in federal and/or state databases. Information obtained from the limited file search may indicate whether there has been a release or threatened release of hazardous substance, pollutant, contaminate, or regulated chemical on or near the New Corridor-Preferred Alternative.

National Priority List Sites

The National Priority List (NPL) is a list of the nation's most dangerous sites of uncontrolled or hazardous wastes that require clean up. These sites are also known as Superfund sites and are scored according to the hazardous ranking system. No such sites listed on the NPL were identified in the vicinity of the proposed project.

CERCLIS/NFRAP Sites

The active Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) maintains information on sites nationally identified as hazardous or potentially hazardous that may require action. These sites are currently being investigated or an investigation is being completed regarding the release of hazardous substances. The most serious of this list are transferred to the NPL. No active CERCLIS sites were identified in the vicinity of the New Corridor-Preferred Alternative.

The CERCLIS South Dakota No Further Remedial Action Planned (SD NFRAP) site list is maintained by the EPA. Former CERCLIS sites, also known as the CERCLIS Archive, have been delisted because a lack of significant contamination was found. No archived CERCLIS sites were identified in the vicinity of the New Corridor-Preferred Alternative.

Underground Storage Tank and Aboveground Storage Tank Sites

The South Dakota Department of Environment and Natural Resources Ground Water Quality Program maintains a database of registered underground and aboveground storage tanks in South Dakota. A total of six properties with underground or aboveground storage in the vicinity of I-29/Tea Exit #73 were identified and are depicted below in Table 11.

Table 11
Registered Aboveground and Underground Storage Tanks

Site Name	ID	Site Location	Aboveground and Underground Storage Tanks
Howard's Corvettes, Inc.	44-00006	I-29 and Tea Exit #73	Aboveground
Larry's I-29 Truck Plaza	44-00031	I-29 and Tea Exit #73	Underground
Great Plains Airport-FBO #1	44-00014	RR 3, PO Box 151	Aboveground
Great Plains Airport	44-00053	I-29 and Tea Exit #73	Underground
Laboratory of Clinical Medicine	44-00028	I-29 and Tea Exit #73	Underground
Automated Fuel Systems	44-00023	Great Plains Airport	Underground

One of the underground storage tanks listed in Table 11 is located east of I-29 Exit #73 (Larry's I-29 Truck Plaza). This business may be impacted by the build alternatives, depending on the final design. If further investigation is determined to be necessary as the project progresses into right-of-way acquisition, a Phase I Environmental Site Assessment may be completed to provide a more in depth environmental analysis.

V. PUBLIC AND AGENCY INVOLVEMENT

A. PUBLIC INVOLVEMENT

Members of the public and interested persons have been provided with continuous opportunities to stay informed of and participate in the project's development process.

Activities of the Project's Process and Mitigation Teams are posted on the City of Sioux Falls' Internet site at the following address:

http://www.sioux.falls.org/planning/Eastside/index.asp

Meeting minutes of the Process and Mitigation Teams are also posted at this Internet site, as well as project-related reports for downloading by interested persons. Persons with questions or comments are encouraged to contact a Process Team member or members of the project's management team.

Outreach activities included official meetings on the proposed project with the Lincoln and Minnehaha County Commissioners, City of Sioux Falls, the Business Transportation Committee of Sioux Falls, bi-monthly Metropolitan Transportation Planning meetings, and meetings with individual property owners.

As an update to landowner interests since 1999, informational letters were sent to all property owners in the Segment 1 new alignment area (Lincoln County). Owners were advised that their property would likely be affected by the new alignment (if this alignment was selected as the New Corridor-Preferred Alternative), and that there would be a number of opportunities to view the proposal and provide input should the facility be designed and ultimately constructed. Advance notice was given to these property owners as they were not directly affected by an alignment alternative developed from the 1999 study.

Formal public involvement activities, including press coverage, were also completed for the project. An open house was held on February 22, 2001 to reacquaint the public with the East Side Corridor project (from previous 1995-1999 public involvement activities), and to receive feedback on the revised process and alternatives that had been previously studied. The open house was also used to present updated land use planning and public works information since the corridor was last studied in 1999. An August 2001 public meeting and hearing opportunity were made available to present a new alignment concept through Lincoln County and the Process Team's recommended alignment for each segment of the corridor. Open houses for the EA were held in March 2002 and November 2002. Summarized comments received from persons attending the 2001 public meetings are included in Appendix D of the Sioux Falls East Side Corridor Scoping Memorandum, dated October 2001. This document is available from and may be reviewed at the City of Sioux Falls Planning and Building Department.

B. PROCESS TEAM

A steering committee named the Process Team was established in December of 2000. The first meeting was held in January 2001 and met monthly through November 2001. The Process Team represents the following interests:

- Area resident(s)
- City of Sioux Falls

- Lincoln County
- Minnehaha County
- South Dakota Department of Transportation
- Federal Highway Administration (FHWA)

The Process Team guided the alternative development process including the definition of issues, project goals and objectives, and alternatives. After an intensive alternative scoping process, the Process Team was ultimately responsible for recommending the preferred course of action for future of the East Side Corridor. This course of action was to continue the project development process with the New Corridor-Preferred Alternative for consideration and approval to the UDC.

C. URBANIZED DEVELOPMENT COMMISSION (UDC)

The designated MPO for the Sioux Falls Area is the UDC of the Southeastern Council of Governments. The UDC directs and oversees all transportation planning and programming activities, which includes the City of Sioux Falls and portions of 20 townships in both Lincoln and Minnehaha Counties.

The UDC functions as the policy board of local transportation process works in conjunction with the following:

- Two other advisory committees (Citizens Advisory Committee, Technical Advisory Committee)
- Staff from three participating units of local government
- Staff from state and federal transportation and transit agencies
- The general public in carrying out its transportation planning and programming responsibilities

The UDC approved the Scoping Phase of the proposed project and the recommendation of the New Corridor-Preferred Alternative for advancement to environmental review in the EA.

D. PRESS RELEASES

A series of press releases were submitted to local newspapers. The press releases were prepared with intent of notifying the public of upcoming Process Team, MPO, and UDC meetings, and open house meetings.

E. SUMMARY OF EARLY COORDINATION COMMENTS

As a result of early coordination efforts outlined above, many comments and concerns about the proposed project were received, both verbally and in writing. Those substantive comments and concerns included, but were not limited to, the following:

- Environmental concerns and comments regarding potential wetland impacts, state-threatened species, air quality, groundwater impacts, and potential archaeological impacts. Programs within the DENR, in part, cover air quality, groundwater impacts, and solid waste/hazardous waste. Their early coordination comments are located in Appendix F.

- Comments and requests were received about design details of the proposed roadway. Alignment revisions were requested and completed to avoid certain properties and to minimize impacts to residential and business properties.

- Concerns regarding the future of farms and preservation of farmland in the vicinity of the proposed roadway following construction were received.

- Several comments were received stating the need for expanded roadway systems, but overall impacts should be kept to a minimum.

- Several comments and concern, both pro and con, regarding the proposed diagonal alternatives.

- Several comments were received that the existing alignments of County 106 and SD 11 should be used rather than using farmland for the East Side Corridor's future right-of-way.

- Numerous comments, both pro and con, regarding moving forward with the recommended alignment.

- Overall positive comments on the East Side Corridor planning process.

The early coordination process' extensive public involvement effort provided the opportunity for interested individuals to express their ideas and concerns. Numerous changes to the ultimate recommended alternative were a direct result of comments and concerns received. The City of Sioux Falls will continue to cooperatively work with the public and other agencies to address concerns.

F. PERMITS AND APPROVALS

Table 12 lists agency approvals and permits needed before the proposed project can advance to final design and construction.

Table 12
Agency Approval and Permits

Government Agency	Type of Approval or Permit	Status
Federal		
Federal Highway Administration	EA Approval EIS Need Decision	Pending Pending
U.S. Army Corps of Engineers	Section 404 Permit	Not Submitted
State		
SD Department of Transportation	EA Approval EIS Need Decision Layout Approval	Pending Pending Pending
State Historic Preservation Office	Section 106 Concurrence	Received
SD Department of Environment and Natural Resources	Section 401 Certification	Not Submitted
Local		
Urbanized Development Commission (Sioux Falls, Minnehaha County, Lincoln County)	Layout Approval and Continued Review of Plans	Ongoing

G. PUBLIC HEARING

An EA public hearing was held on November 14, 2002, at the Metropolitan Transportation Planning Organization's Technical Advisory Committee (TAC) meeting. The public hearing was preceded by a brief presentation of the EA, including a summary of EA findings and public open house comments. There were no attendees at the formal hearing; however, a formal public testimony period of 30 days was observed and comments on the EA were received. These comments, and prepared responses to the comments, appear in EA Appendix H.

H. PROCESS BEYOND THE HEARING

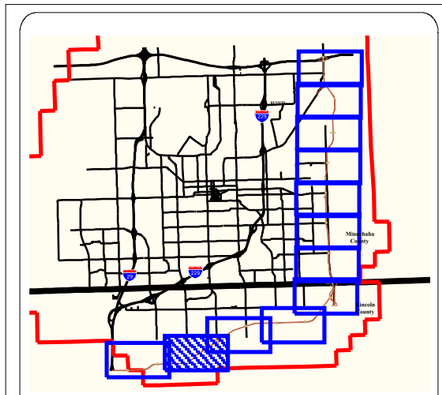
Following the 30-day comment period, SDDOT and the FHWA will make a determination as to the adequacy of the environmental documentation. If further documentation is necessary, it could be accomplished by preparing an EIS or by revising the EA, whichever is appropriate.

If the environmental review process finds the project will not result in any significant environmental impacts, SDDOT will prepare a "Negative Declaration" finding. SDDOT will then prepare a request for a Finding of No Significant Impact (FONSI) that will be submitted to the FHWA. If the FHWA agrees that the FONSI is appropriate, it will issue a FONSI.

Appendix A

Preferred Alternative (Figures 2A – 2L)

Figure 2A
Environmental Assessment
East Side Corridor Study Area
Sioux Falls, South Dakota



Index Layout

Legend

- NWI (Wetlands)
- 100 yr Floodplain
- Slope Restraints
- Cultural Impact
- Preferred Alternative Corridor
- Potential Interchange Search Area
- NWI Impacted
- 0.22 Acres of NWI Impact

City Limits Sioux Falls

85th ST

WESTERN AVE

MINNESOTA AVE

C.R. 106

Segment 0

Segment 1

0.50

2.65

PEMA

PEMAd

PEMC

PABFx

PEMCd

700 0 700 Feet

Figure 2B
Environmental Assessment
East Side Corridor Study Area
Sioux Falls, South Dakota

City Limits
Sioux Falls

PRAIRIE GREEN
GOLF COURSE

MINNESOTA AVE

PEMF
PEMC
PEMCd
PEMA
PEMAd

0.25
0.34
0.28
0.09

Segment 1

85th ST

0.50

Segment 0

CLIFF AVE

REVLO

REYNO

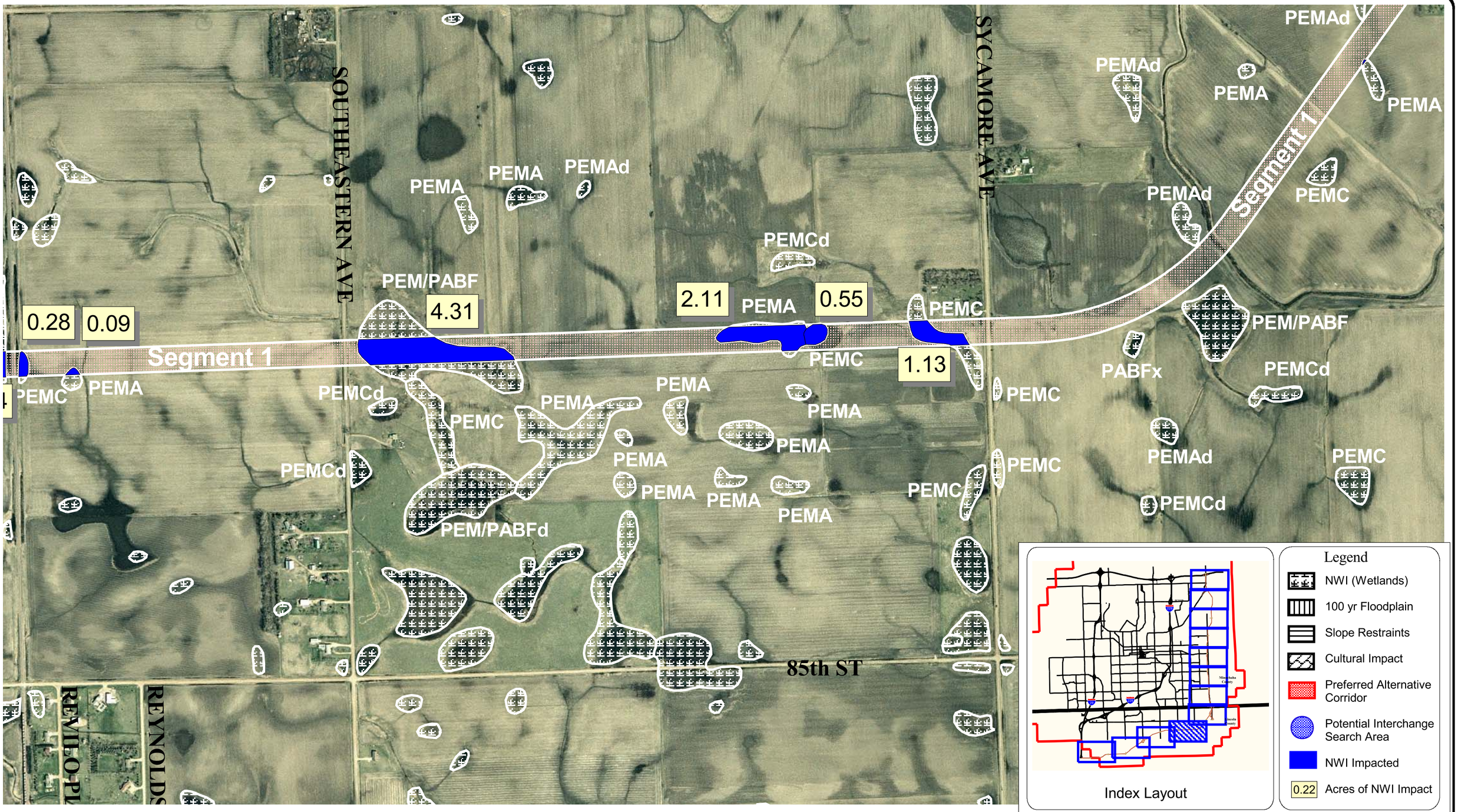
Index Layout

Legend

- NWI (Wetlands)
- 100 yr Floodplain
- Slope Restraints
- Cultural Impact
- Preferred Alternative Corridor
- Potential Interchange Search Area
- NWI Impacted
- 0.22 Acres of NWI Impact

700 0 700 Feet

Figure 2C
Environmental Assessment
East Side Corridor Study Area
Sioux Falls, South Dakota

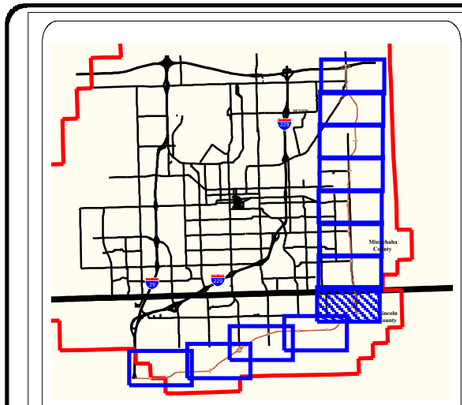


Legend

- NWI (Wetlands)
- 100 yr Floodplain
- Slope Restraints
- Cultural Impact
- Preferred Alternative Corridor
- Potential Interchange Search Area
- NWI Impacted
- 0.22 Acres of NWI Impact

700 0 700 Feet

Figure 2D
Environmental Assessment
East Side Corridor Study Area
Sioux Falls, South Dakota



Index Layout

Legend

- NWI (Wetlands)
- 100 yr Floodplain
- Slope Restraints
- Cultural Impact
- Preferred Alternative Corridor
- Potential Interchange Search Area
- NWI Impacted
- 0.22 Acres of NWI Impact

Minnehaha County

Lincoln County

Segment 2

Segment 1

57TH

69TH ST

SYCAMORE AVE

0.16

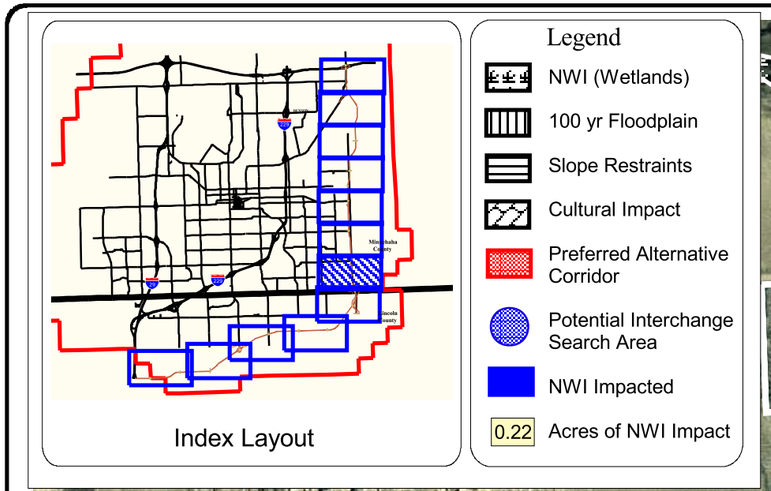
0.32

PEMCd PABFx PEMC PEMA PEMAd PSSCd PABGh PEMCd PEMAd PEMA PEMAd PEMCd PEMAd PEMA PEMCd PEMAd PEMA PEMCd PEMC PEMA PEMC PEMCd PEMAd PEMA PEMC PEMC PEMCd PEMAd PEMA PEMA PEMCd PEMAd PEMAd

11

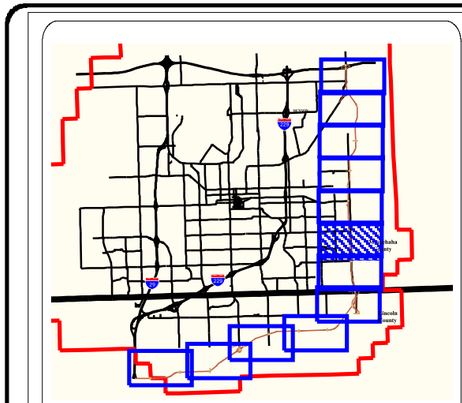
700 0 700 Feet

Figure 2E
Environmental Assessment
East Side Corridor Study Area
Sioux Falls, South Dakota



700 0 700 Feet

Figure 2F
Environmental Assessment
East Side Corridor Study Area
Sioux Falls, South Dakota



Index Layout

Legend

- NWI (Wetlands)
- 100 yr Floodplain
- Slope Restraints
- Cultural Impact
- Preferred Alternative Corridor
- Potential Interchange Search Area
- NWI Impacted
- 0.22 Acres of NWI Impact

26TH ST

POWDERHOUSE RD

23RD

City Limits
Sioux Falls

PEMA

PEMCd

PEMAd

PEMAd

PEMC

PABFx

PABFx

PEMC

DUBUQUE

Segment 2

11

700 0 700 Feet

Figure 2G
Environmental Assessment
East Side Corridor Study Area
Sioux Falls, South Dakota

700 0 700 Feet

Figure 2H
Environmental Assessment
East Side Corridor Study Area
Sioux Falls, South Dakota

Figure 2I
Environmental Assessment
East Side Corridor Study Area
Sioux Falls, South Dakota

City Limits
Sioux Falls

Broadcast Towers

MAPLE ST

Segment 3

264

PEMA

Broadcast Tower

PABFh

POWDERHOUSE RD

PABFh

CACTUS

PEM/FOCh

Index Layout

Legend

- NWI (Wetlands)
- 100 yr Floodplain
- Slope Restraints
- Cultural Impact
- Preferred Alternative Corridor
- Potential Interchange Search Area
- NWI Impacted
- 0.22 Acres of NWI Impact

700 0 700 Feet

Figure 2J
Environmental Assessment
East Side Corridor Study Area
Sioux Falls, South Dakota

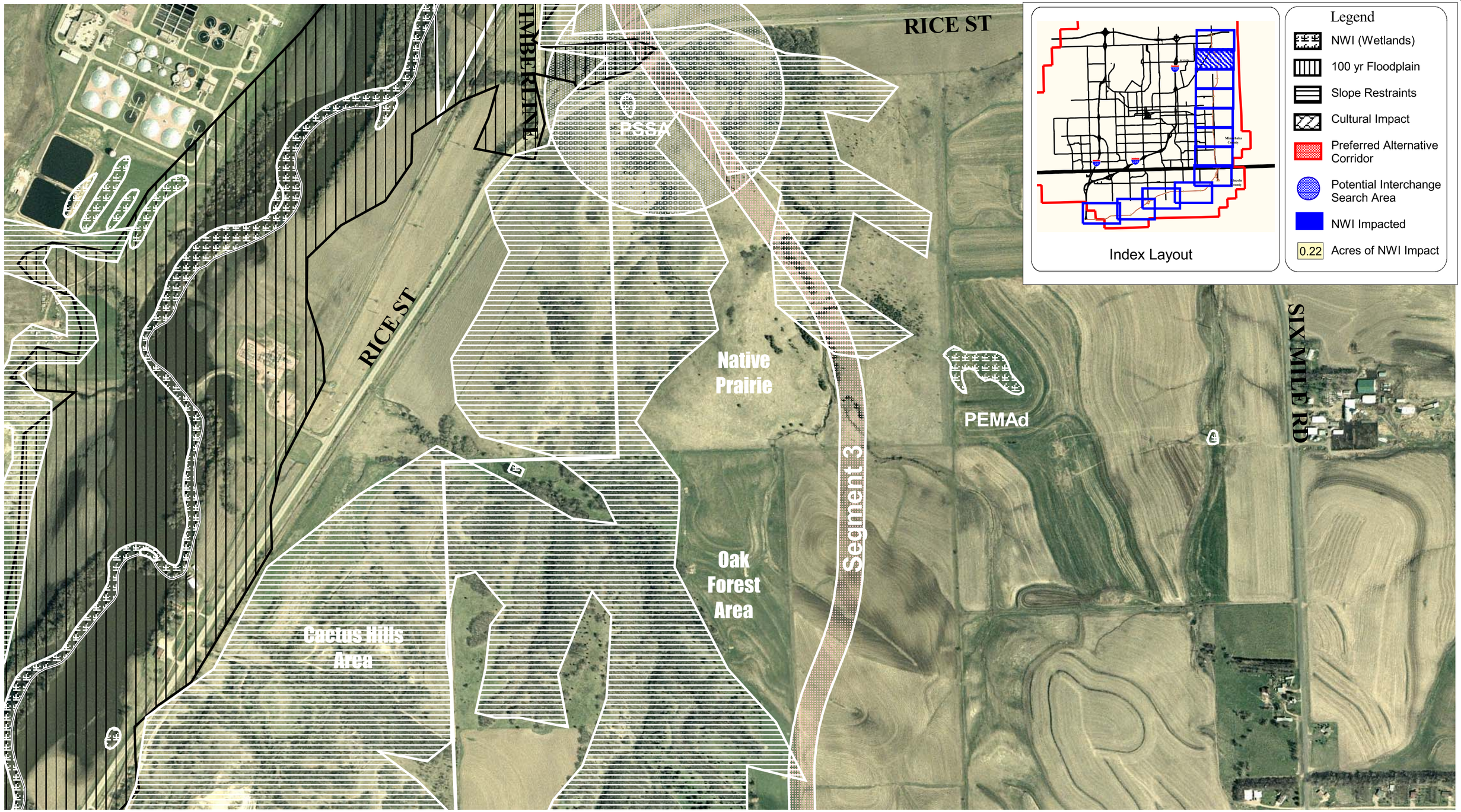


Figure 2K
Environmental Assessment
East Side Corridor Study Area
Sioux Falls, South Dakota

121

90

TIMBERLINE RD

Segment 3

60TH ST

RICE ST

0.14

0.13

Index Layout

Legend

- NWI (Wetlands)
- 100 yr Floodplain
- Slope Restraints
- Cultural Impact
- Preferred Alternative Corridor
- Potential Interchange Search Area
- NWI Impacted
- 0.22 Acres of NWI Impact

700 0 700 Feet

Figure 2L
Environmental Assessment
East Side Corridor Study Area
Sioux Falls, South Dakota

Appendix B

Farmlands

Response Letter and AD 1006 Form

Natural Resource Conservation Service

United States Department of Agriculture

NRCS

Natural Resources Conservation Service
Federal Building, 200 Fourth St. SW
Huron, South Dakota 57350

Phone: (605) 352-1200
Fax: (605) 352-1261

May 30, 2002, 2002

Mr. Jeff Lutz, AICP
Short Elliot Hendrickson, Inc.
10901 Red Circle Drive, Suite 200
Minnetonka, Minnesota 55343-9301

RE: City of Sioux Falls East Corridor Study Area - Environmental Review

Dear Mr. Lutz:

As per our phone conversation, South Dakota does not have a state or local farmland protection program. Consequently, we have not given points for that assessment criteria for farmland conversion impact ratings. In light of this, I have recalculated the assessment that you sent us.

Enclosed is the recalculated Farmland Conversion Impact Rating. The Total Points score is less than 160, therefore, the proposed project will not have a significant impact on the prime and important farmland in Minnehaha and Lincoln Counties.

The impact on wetlands and endangered species was not part of this review. Please refer that to the Corps of Engineers and the US Fish and Wildlife Service.

Sincerely,

FOR

JEROME M. SCHAAR
State Soil Scientist

Enclosure

cc: Brian Top, DC, NRCS, Sioux Falls

U.S. DEPARTMENT OF AGRICULTURE
Soil Conservation Service

SCS-CPA-106
01-91

FARMLAND CONVERSION IMPACT RATING FOR CORRIDOR TYPE PROJECTS

PART I (To be completed by Federal Agency)		
1. Name of Project: SIOUX FALLS EAST SIDE CORRIDOR	3. Date of Land Evaluation Request: 4/15/02	4. Sheet 1 of ____
2. Type of Project: ROADWAY CORRIDOR	5. Federal Agency Involved: FHWA	
	6. County and State: LINCOLN/MINNEHAHA Co. SD	

PART II (To be completed by SCS)		
1. Date Request Received By SCS: 4/15/02	2. Person Completing Form: Lee Swanson	
3. Does the corridor contain prime, unique, statewide or local important farmland? (If no, the FPPA does not apply - Do not complete additional parts of this form): Yes [X] No [ ]	4. Acres Irrigated: ____ Average Farm Size: 978	
5. Major Crop(s): CORN	6. Farmable Land In Government Jurisdiction: Acres: 765,775 % 85	7. Amount Of Farmland As Defined in FPPA: Acres: 161,340 % 33
8. Name Of Land Evaluation System Used: SD Dept. Of Revenue	9. Name Of Local Site Assessment System: None	10. Date Land Evaluation Returned By SCS: 5/23/02

PART III (To be completed by Federal Agency)	Alternative Corridor For Segment			
	Corridor A	Corridor B	Corridor C	Corridor D
A. Total Acres To Be Converted Directly	305			
B. Total Acres To Be Converted Indirectly, Or To Receive Services	170			
C. Total Acres In Corridor	475			
PART IV (To be completed by SCS) Land Evaluation Information				
A. Total Acres Prime And Unique Farmland	282			
B. Total Acres Statewide And Local Important Farmland	40			
C. Percentage Of Farmland In County Or Local Govt. Unit To Be Converted	0.1			
D. Percentage Of Farmland In Govt. Jurisdiction With Same Or Higher Relative Value	85			
PART V (To be completed by SCS) Land Evaluation Criterion Relative Value of Farmland To Be Serviced or Converted. (Scale of 0 - 100 Points)	70			

PART VI (To be completed by Federal Agency) Corridor Assessment Criteria (These criteria are explained in 7 CFR 658.5(c))	Maximum Points				
1. Area In Nonurban Use	15	13			
2. Perimeter In Nonurban Use	10	7			
3. Percent Of Corridor Being Farmed	20	20			
4. Protection Provided By State And Local Government	20	0			
5. Size Of Present Farm Unit Compared To Average	10	10			
6. Creation Of Nonfarmable Farmland	25	10			
7. Availability Of Farm Support Services	5	5			
8. On-Farm Investments	20	8			
9. Effects Of Conversion On Farm Support Services	25	5			
10. Compatibility With Existing Agricultural Use	10	5			
TOTAL CORRIDOR ASSESSMENT POINTS	160	83			
PART VII (To be completed by Federal Agency)					
Relative Value Of Farmland (From Part V)	100	70			
Total Corridor Assessment (From Part VI above or a local site assessment)	160	83			
TOTAL POINTS (Total of above 2 lines)	260	153			

1. Corridor Selected:	2. Total Acres of Farmlands to be Converted by Project:	3. Date Of Selection:	4. Was A Local Site Assessment Used?
			YES [ ] NO [ ]

5. Reason For Selection:

Signature of Person Completing This Part: | DATE

NOTE: Complete a form for each segment with more than one Alternative Corridor.

Appendix C

Federal and State-Listed Threatened and Endangered Species Written Correspondence

U.S. Fish & Wildlife Service

South Dakota Department of Game, Fish, and Parks

DEPARTMENT OF GAME, FISH AND PARKS
Foss Building
523 East Capitol
Pierre, South Dakota 57501-3182

RE: City of Sioux Falls
Sioux Falls East Side Corridor
SEH No. ASIOUX0104.00

November 21, 2001

Brad Kovach, Biologist
SEH
3535 Vadnais Center Drive
St. Paul, MN 55110-5196

Mr. Kovach:

As you requested in your letter of November 13, I have searched the South Dakota Natural Heritage Database for records of rare, threatened or endangered species in or near the proposed transportation corridor east of Sioux Falls. The enclosed report list the species that are documented within one mile of the corridor. Although there are a number of records listed, all of the records are from the Big Sioux River bottoms and the hills and bluffs along the Big Sioux River and the Cactus Hills area. There are no records directly on the route of the proposed corridor as shown on the map you provided. However, it is unlikely that most of the route has ever been surveyed for rare or T&E species. If suitable habitat exists on the route these species could be present, too.

The federally threatened prairie fringed orchid was collected from wet meadows along the Big Sioux River near Brandon in 1916. This orchid has not been reported in South Dakota since 1916 and is thought to be extirpated from the state.

Bald eagles are federally listed as threatened. Bald eagles can be expected to occur in migration along the Big Sioux River and may occasionally winter in the area. In recent years new bald eagle nests are appearing across the state. Bald eagle nests are not currently documented from this area.

Whooping cranes are listed as federally endangered. Although whooping cranes are sometimes seen in eastern SD during migration, they are very rare and are not likely to occur in this type of habitat. The main migration route is further west, generally along and near the Missouri River.

A state endangered species, the lined snake, is known to occur in the Cactus Hills area. Very little is actually know about the abundance and actual distribution of this species, but this is the only location in SD where it has been reported in recent years.

The champion trees listed are all located along the Big Sioux River. For more information about champion trees contact the SD Dept. of Forestry, (605) 773-3623.

The fee for this report is as follows:

One computer search @ $30.00 per search	$30.00
One hour of staff time @ $30.00 per hour	$30.00
	$60.00

I've included a key to the codes used in this report. If you have any questions or need more information on any of the database records, just let me know.

Sincerely,

Doug Backlund
Resource Biologist

RARE, THREATENED, AND ENDANGERED SPECIES AND CHAMPION TREES IN OR NEAR THE PROPOSED TRANSPORTATION CORRIDOR, EAST SIDE OF SIOUX FALLS

SOUTH DAKOTA NATURAL HERITAGE DATABASE

NOVEMBER 21, 2001

NAME	TOWNSHIP RANGE & SECTION	COUNTY	LAST OBSERVED	FEDERAL STATUS	STATE STATUS	STATE RANK	GLOBAL RANK	ECODATA
WOOD THRUSH HYLOCICHLA MUSTELINA	101N049W 1	Minnehaha	2000-07-14			S2B,SZN	G5	THREE SINGING MALES HEARD ABOUT 300 YDS NORTH OF THE IKE'S CLUBHOUSE
RINGNECK SNAKE DIADOPHIS PUNCTATUS	101N049W	Minnehaha	1963-09			S2	G5	MUS#2519, COLLECTED BY S.HINES.
NORTHERN REDBELLY SNAKE STORERIA OCCIPITOMACULATA	101N049W 4	Minnehaha	2000-10-21			S3	G5T5	ONE SNAKE SEEN, ABOUT 10" LENGTH, SOLID BLACKISH GREEN DORSALLY AND ORANGE-RED BELLY.
LINED SNAKE TROPIDOCLONION LINEATUM	101N049W 01	Minnehaha	2000-07-14		SE	S1	G5	1964 SPECIMEN FOUND BENEATH ROCK. 2000-ONE LINED SNAKE FOUND UNDER BOARDS ON GREAT BEAR SKI HILL. PHOTOS TAKEN AND RELEASED ON SITE. ONLY LINED SNAKE FOUND IN 6 HOURS OF SEARCHING IN THE CACTUS HILLS AREA.
REGAL FRITILLARY SPEYERIA IDALIA	101N049W 1	Minnehaha	2000-07-14			S3	G3	MANY REGALS SEEN ON GRASSLAND RIDGES IN CACTUS HILLS. EIGHT SEEN AT ONE TIME FROM A STAND ON THE HILL BEHIND GREAT BEAR SKI LIFT. ABUNDANT IN AREA.
BIOLOGICAL CHAMPION BOXELDER TREE	101N049W 01	Minnehaha	1982-05-27			C		185 AFA POINTS. CIRCUMFERENCE= 11 FT 7 IN. HEIGHT= 38 FT. AVE CROWN SPREAD= 32 FT. 3RD LARGEST BOXELDER TREE IN SD.
BIOLOGICAL CHAMPION HACKBERRY TREE	101N048W 10	Minnehaha	1982-06-21			C		227 AFA POINTS. CIRCUMFERENCE= 12 FT 3 IN. HEIGHT= 65 FT. AVE CROWN SPREAD= 60 FT. TIED FOR 1ST LARGEST HACKBERRY TREEIN SD WITH SPECIMEN NEAR GARY; THIS TREE IS SHORTER BUT HAS GREATER CIRCIMFERENCE AND CROWN SPREAD.
BIOLOGICAL CHAMPION GREEN ASH TREE	101N048W 09	Minnehaha	1981-06-03			C		224 AFA POINTS. CIRCUMFERENCE= 12 FT 9 IN. HEIGHT= 55 FT. AVE CROWN SPREAD= 62 FT. FAIR CONDITION. 4TH LARGEST GREEN ASH TREE IN SD.
BIOLOGICAL CHAMPION EASTERN COTTONWOOD	101N048W 09	Minnehaha	1981-06-03			C		388 AFA POINTS. CIRCUMFERENCE= 21 FT 5 IN. HEIGHT= 115 FT. AVE CROWN SPREAD= 64 FT. 8TH LARGEST EASTERN COTTONWOOD TREEIN SD.
BIOLOGICAL CHAMPION EASTERN COTTONWOOD	101N049W 04	Minnehaha	1981-06-17			C		375 AFA POINTS. CIRCUMFERENCE= 22 FT 6 IN. HEIGHT= 90 FT. AVE CROWN SPREAD= 60 FT. 9TH LARGEST EASTERN COTTONWOOD TREEIN SD.

NAME	TOWNSHIP RANGE & SECTION	COUNTY	LAST OBSERVED	FEDERAL STATUS	STATE STATUS	STATE RANK	GLOBAL RANK	ECODATA
BIOLOGICAL CHAMPION BUR OAK TREE	101N048W 04	Minnehaha	1981-06-17			C		217 AFA POINTS. CIRCUMFERENCE= 11 FT 3 IN. HEIGHT= 70 FT. AVE CROWN SPREAD= 50 FT. SECOND LARGEST BUR OAK TREE IN SD, 1ST IN RURAL AREA NEAR HERMOSA.
FINGER COREOPSIS COREOPSIS PALMATA		Minnehaha	1951-08-04			S3	G5	
FINGER COREOPSIS COREOPSIS PALMATA	102N049W 36	Minnehaha	1983-09-22			S3	G5	SEVERAL THOUSAND PLANTS OBSERVED ON MIXED PRAIRIE SLOPES. OCCURRING WITH SORGHASTRUM AVENACEUM, ANDROPOGON SCOPARIUS, SOLIDAGO SPECIOSA, ASTER ERICOIDES AND ASTER SERICEUS.
FINGER COREOPSIS COREOPSIS PALMATA	101N049W 01	Minnehaha	1985-01-05			S3	G5	SEVERAL LARGE CLONES ASSOC. WITH SORGHASTRUM, ANDROPOGON, POA, SYMPHORICARPOS.
FINGER COREOPSIS COREOPSIS PALMATA	102N048W 34	Minnehaha	1984-07-06			S3	G5	LOCALLY COMMON AS CLONES ON HILLSIDES OF PRIAIRE AND R.R. EMBANKMENT. ASSOC. WITH ANDROPOGON SPP., SORGHASTRUM, SILPHIUM LACINIATUM, AMORPHA CANESCENS, CEANOTHUS HERBACEOUS.
COMPASS PLANT SILPHIUM LACINIATUM	101N049W	Minnehaha	1951-09-02			S3	G5	3 SPECIMENS COLLECTED.
COMPASS PLANT SILPHIUM LACINIATUM	101N049W 01	Minnehaha	1966-10-10			S3	G5	1 SPECIMEN COLLECTED.
COMPASS PLANT SILPHIUM LACINIATUM	101N049W 01	Minnehaha	1988-07-01			S3	G5	
BUSH CLOVER LESPEDEZA CAPITATA	101N049W 01	Minnehaha	1985-01-05			S2	G5	COUPLE HUNDRED STEMS COUNTED IN 3 MAIN COLONIES. ASSOC. WITHSORGHASTRUM, ANDROPOGON, POA, SYMPHORICARPOS. MOSTLY ON CITYSIDE OF FENCE.
DOWNY GENTIAN GENTIANA PUBERULENTA	101N049W 01	Minnehaha	1985-01-05			S4?	G4G5	SEVERAL DOZEN PLANTS OBSERVED. PROBABLY SCATTERED THROUGHOUT CACTUS HILLS PRAIRIES.
DOWNY GENTIAN GENTIANA PUBERULENTA	102N049W 36	Minnehaha	1983-09-22			S4?	G4G5	FOUR PLANTS OBSERVED AT EDGE AND OPENNINGS IN SWALE AND ON LOWER PORTION OF N-FACING SLOPE AT EAST END OF PRAIRIE. OCCURRING WITH BIG BLUESTEM, INDIAN GRASS, LEADPLANT, AND SHOWY GOLDENROD.
WHITE WATER-LILY NYMPHAEA ODORATA	101N049W 28	Minnehaha				SH	G5	
PRAIRIE WILLOW SALIX HUMILIS	101N049W	Minnehaha	1923-09-07			S1	G5	
WESTERN PRAIRIE FRINGED ORCHID PLATANTHERA PRAECLARA		Minnehaha	1916-07-14	LT		SH	G2	
ROCK POLYPODY POLYPODIUM VIRGINIANUM		Minnehaha	1968-05-27			S2	G5	

KEY TO CODES USED IN NATURAL HERITAGE DATABASE REPORTS

FEDERAL STATUS
- LE = Listed endangered
- LT = Listed threatened
- LELT = Listed endangered in part of range, threatened in part of range
- PE = Proposed endangered
- PT = Proposed threatened
- C = Candidate for federal listing, information indicates that listing is justified.

STATE STATUS
- SE = State Endangered
- ST = State Threatened

An endangered species is a species in danger of extinction throughout all or a significant portion of its range. (applied rangewide for federal status and statewide for state status)

A threatened species is a species likely to become endangered in the foreseeable future.

Global Rank	State Rank	Definition (applied rangewide for global rank and statewide for state rank)
G1	S1	Critically imperiled because of extreme rarity (5 or fewer occurrences or very few remaining individuals or acres) or because of some factor(s) making it especially vulnerable to extinction.
G2	S2	Imperiled because of rarity (6 to 20 occurrences or few remaining individuals or acres) or because of some factor(s) making it very vulnerable to extinction throughout its range.
G3	S3	Either very rare and local throughout its range, or found locally (even abundantly at some of its locations)in a restricted range,or vulnerable to extinction throughout its range because of other factors; in the range of 21 of 100 occurrences.
G4	S4	Apparently secure, though it may be quite rare in parts of its range, especially at the periphery. Cause for long term concern.
G5	S5	Demonstrably secure, though it may be quite rare in parts of its range, especially at the periphery.
GU	SU	Possibly in peril, but status uncertain, more information needed.
GH	SH	Historically known, may be rediscovered.
GX	SX	Believed extinct, historical records only.
G?	S?	Not yet ranked
_?	_?	Inexact rank
_T		Rank of subspecies or variety
_Q		Taxonomic status is questionable, rank may change with taxonomy
	SZ	No definable occurrences for conservation purposes, usually assigned to migrants
	SP	Potential exists for occurrence in the state, but no occurrences
	SR	Element reported for the state but no persuasive documentation
	SA	Accidental or casual

Bird species may have two state ranks, one for breeding (S#B) and one for nonbreeding seasons (S#N). Example: Ferruginous Hawk (S3B,SZN) indicates an S3 rank in breeding season and SZ in nonbreeding season.

DEPARTMENT OF GAME, FISH AND PARKS
Foss Building
523 East Capitol
Pierre, South Dakota 57501-3182

May 20, 2002

Jeff Schmitt
Assistant Planning Director
City of Sioux Falls
224 W. Ninth St.
Sioux Falls, SD 57104-6407

Jeff:

I am writing in response to your memorandum of April 11 in reference to the Eastside Corridor Northern Alignment. As far as wildlife related concerns for the northern segment, the alternative route to the east, which impacts mostly cultivated ground, is by far the best alternative. We support this alternative. By switching to the more westerly alternative shown in your memorandum, the alignment will bisect the native prairie, which is potential habitat for the state endangered lined snake. I inspected this prairie habitat on May 10 and found suitable habitat for the lined snake, which has been documented in the Cactus Hills area as recently as 2001. In addition, there is potential habitat for the federally threatened western prairie fringed orchid. The potential habitat is located in the spring-fed linear wetlands in the two ravines located in the native prairie. Western prairie fringed orchids were last reported in South Dakota in wet meadows near Brandon and could occur in the native prairie wetlands. A bald eagle nest was observed along the Big Sioux River, just east of the Xcel power plant. Native prairie probably provides important hunting areas for nesting bald eagles. This area is also important for many other species of wildlife due to the contiguousness with the adjacent undeveloped lands of the Cactus Hills. Wild turkeys, pheasants, and white-tailed deer were observed on my field trip, as was a woodcock, a species of bird considered rare in South Dakota.

The easterly alignment shown also would have less impact on riparian habitats of the Big Sioux River, since the highway would cross the river at a narrow point with very little riparian forest habitat.

After consulting with John Kirk, chief of Environmental Review and Management, our recommendation is to move the alignment to the east. As to future development of this area, the City of Sioux Falls would be consistent with the Sioux Falls 2015 Growth Management Plan by designating the native prairie an open space park development as an extension of the existing adjacent areas zoned as parks and open space.

If the alignment is not moved to the east, surveys for lined snakes and western prairie fringed orchids will need to be conducted. A mitigation plan for the loss of wildlife habitat and unique habitats will need to be developed.

If you have any questions please contact me at 773-4345.

Sincerely,

Doug Backlund
Wildlife Biologist

cc: Secretary, SDDENR; Pierre, SD
(Attention: John Miller)
Corps of Engineers/Regulatory; Pierre, SD
(Attention: Steve Naylor)
Short Elliott Hendrickson, Inc.; St. Paul, MN
(Attention: Brad Kovach)
U.S. Fish and Wildlife Service Ecological Services
(Attention: Natalie Gates)

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Ecological Services
420 South Garfield Avenue, Suite 400
Pierre, South Dakota 57501-5408

January 3, 2002

Mr. Brad R. Kovach
Short Elliott Hendrickson, Inc.
3535 Vadnais Center Drive
St. Paul, Minnesota 55110-5196

Re: City of Sioux Falls, East Side Corridor,
SEH No. A-Sioux0104.00

Dear Mr. Kovach:

This letter is in response to your request dated November 19, 2001, for environmental comments regarding the above referenced project involving the construction of a new transportation corridor on the east and south sides of the City of Sioux Falls in Minnehaha and Lincoln Counties in South Dakota.

According to National Wetlands Inventory maps, numerous wetlands exist within the proposed construction corridor. If a project may impact wetlands or other important fish and wildlife habitats, the Fish and Wildlife Service (Service), in accordance with the National Environmental Policy Act of 1969 (42 U.S.C. 4321-4347) and other environmental laws and rules, recommends complete avoidance of these areas, if possible; then minimization of any adverse impacts;, and finally replacement of any lost acres; in that order. Alternatives should be examined and the least damaging practical alternative selected in order to minimize wetland impacts. We recommend utilizing existing roadways as much as possible for this project rather than constructing new alignments. If wetland impacts are unavoidable, a mitigation plan addressing the number and types of wetland acres to be impacted and the methods of replacement should be prepared and submitted to the resource agencies for review.

Additionally, if crossing of the Big Sioux River is necessary, we recommend construction of a bridge rather than a culvert to minimize modification of streamflow and instream habitat. Placement of the crossing should occur perpendicular to flow and in an area where the least possible impacts would occur to existing riparian habitat. Riparian habitat is an important natural resource in South Dakota that serves a critical role in conservation of fish and wildlife. Impacts to this type of habitat should be avoided if possible or mitigated if impacts are unavoidable.

The Big Sioux River is also classified by the Service as a Class III - Substantial Fishery Resource in the proposed construction area. We recommend that the following methods be implemented to minimize environmental impacts:

1. Instream work should not be undertaken during fish spawning periods. Most spawning occurs in April, May, June, and July.

2. Stream bottoms and wetlands impacted by construction activities should be restored to pre-project elevations.

3. Removal of vegetation and soil should be accomplished in a manner to reduce soil erosion and to disturb as little vegetation as possible.

4. Grading operations and reseeding of native species should begin immediately following construction.

5. If trees or brush will be impacted by the project, a ratio of at least 2:1 acres planted versus acres impacted should be incorporated into mitigation plans for the project.

Work requiring the alteration or disturbance of wetlands or streams may require a permit from the U.S. Army Corps of Engineers (Corps) according to the regulations set forth in section 10 of The Rivers and Harbors Act or section 404 of The Clean Water Act. You may contact the Corps' Regulatory Office at 28563 Powerhouse Road, Room 120, Pierre, South Dakota 57501, Telephone (605) 224-8531.

The Cactus Hills Conservation Area was described in your letter as native prairie and oak forest with groundwater fed wetlands. You stated that the Cactus Hills Conservation Area will be avoided if the preferred alternative is chosen as the route for the proposed road. Based on the map included with your letter, it appears that the habitat of the Cactus Hills Conservation Area also exists on adjacent property to the east of the site within the proposed construction corridor. We commend the City of Sioux Falls on its plans to avoid the Cactus Hills Conservation Area and also recommend avoidance of the native grasslands and oak habitats found adjacent to the Cactus Hills Conservation Area with establishment of a buffer between the proposed new road and this habitat to reduce disturbances to wildlife at the site. This may also help reduce wildlife/vehicle collisions that may occur with establishment of the new roadway.

In accordance with section 7(c) of the Endangered Species Act, as amended, 16 U.S.C. 1531 et seq., we have determined that the following federally listed species may occur in the project area (this list is considered valid for 90 days):

Species	Status	Expected Occurrence
Bald eagle (Haliaeetus leucocephalus)	Threatened	Migration, Winter Resident, Possible Nesting.
Western prairie fringed orchid (Platanthera praeclara)	Threatened	Possible habitat, no recent specimens
Topeka shiner (Notropis topeka)	Endangered	Known Resident, Big Sioux River.

Bald eagles occur throughout South Dakota, and new nests are appearing each year. The species generally prefers to utilize large trees located close to water bodies, and this type of habitat may occur in areas along the Big Sioux River. No construction should occur within one-quarter (1/4) of a mile of any known active bald eagle nest. The species' nesting season is January to August. Any nests found should be reported to this office.

There are no recent records of the Western prairie fringed orchid in South Dakota; however, this plant is often difficult to detect due to the erratic timing and short duration of its bloom. Specimens could potentially still exist on remaining native prairies in South Dakota. Native tallgrass prairie is one of the most endangered ecosystems in the world with less than one percent of historic amounts remaining. We recommend avoidance of this habitat.

Topeka shiners are known to occupy numerous small streams within eastern South Dakota, and most are concentrated within the Big Sioux, Vermillion, and James River watersheds. Survey efforts continue to reveal additional inhabited streams. The proposed construction corridor for this project encompasses the Big Sioux River as well as some of its tributaries which may represent Topeka shiner habitat. Thus, in addition to the above list of recommendations for fisheries resources, we recommend that the proposed project implement the following Best Management Practices (BMP) when crossing these sites to minimize potential impacts specifically to Topeka shiners.

- Avoid construction activities from May 15 to July 31.
- Minimize work area at stream locations. The majority of the work (including heavy equipment and storage sites) should occur above the high bank line.
- Implement comprehensive and effective erosion and sediment controls. These methods should be implemented and maintained for the duration of the project and considered at all stages of project planning and design. Close attention is warranted for the placement and maintenance of temporary erosion control measures at the construction site to minimize sediment loading. These erosion/sediment control techniques should keep sediments from entering the stream and remain in place until work areas become revegetated and stable. Such erosion control measures may include properly placed sediment/silt screens or curtains and hay bales. Proper techniques are important to the placement of these types of structures and include trenching, staking, and backfilling as well as using the appropriate number of bales. These techniques are best used in combination with each other rather than separately.
- Erosion and sediment controls should be monitored daily during construction to ensure effectiveness, particularly after storm events, and only the most effective techniques should be utilized.
- Methods that block a stream should not be constructed for extended periods of time. If temporary blocks are necessary, flexible water barriers should be used.
- Exposed stream banks must be stabilized immediately after construction activity. Eroded surfaces should not be left exposed for greater than one day. If rain is predicted, no construction should commence unless eroded surfaces are immediately treated with geotextile fabric, mulch, seeding, or some techniques that would stabilize the bank or exposed areas from eroding.
- Erosion repair and stream bank restoration should use appropriate bioengineering solutions.

- No in-water dredging and substrate disturbance should occur in Topeka shiner inhabited streams. This includes no removal of stream bottom substrates for construction material. If modifications to the stream substrate cannot be avoided, formal section 7 consultation under the Endangered Species Act may be necessary. Although this process is a regulatory necessity, projects will likely continue with restoration of those physical habitat features that were disturbed during construction activities.

- Develop and implement a hazardous materials safety protocol. This would include that all temporary storage facilities for petroleum products, other fuels, and chemicals must be located and protected to prevent accidental spills from entering streams within the project area.

If these BMP's are implemented effectively, potential adverse impacts to Topeka shiners and their habitats should be minimized.

If the Federal Highway Administration, or their designated representative, determines that the project "may adversely affect" listed species, that agency should request formal consultation from this office. If a "no effect" determination is made, further consultation may not be necessary. However, a copy of the "no effect" determination for this project should be sent to this office.

If changes are made in the project plans or operating criteria, or if additional information becomes available, the Service should be informed so that the above determinations can be reconsidered.

The Service appreciates the opportunity to provide comments. If you have any questions on these comments, please contact Natalie Gates of this office at (605) 224-8693, Extension 25.

Sincerely,

Pete Gober
Field Supervisor
South Dakota Field Office

cc: Secretary, SDDGFP; Pierre, SD
(Attention: Leslie Peterson)
Corps/Regulatory; Pierre, SD
(Attention: Steve Naylor)

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Ecological Services
420 South Garfield Avenue, Suite 400
Pierre, South Dakota 57501-5408

May 20, 2002

Mr. Jeffrey Schmitt, Assistant Director of Planning
City of Sioux Falls
224 West 9th Street
Sioux Falls, South Dakota 57104

Re: Sioux Falls Eastside Corridor

Dear Mr. Schmitt:

This letter is in response to your letter dated April 11, 2002, regarding the above referenced project which involves construction of a road along the south and east side of Sioux Falls, South Dakota. The road is planned to accommodate future development of the area. Specifically, your letter addressed a northeastern portion of the road that, if constructed as originally designed, would impact an environmentally sensitive area called Cactus Hills. Per an earlier meeting with resource agencies, a realignment of this segment of road allowing further avoidance of this natural area was suggested; however, the realignment has apparently been rejected for operational and safety concerns presented in your letter.

Our original response letter regarding this proposed project dated January 3, 2002, was sent to Mr. Brad Kovach of Short Elliott Hendrickson, Inc. Our primary concerns as stated in that letter are the significant impacts to numerous wetlands associated with construction of this road and impacts to the environmentally sensitive Cactus Hills area. Despite early consultation with the resource agencies, these issues have not been adequately addressed. We recommend further consultation prior to finalization of the Environmental Assessment (EA) for this project in order to streamline processing of the document.

In our January letter, we recommended establishment of a buffer zone between the proposed road and the undisturbed areas of Cactus Hills to preclude unnecessary disturbance of area habitats and wildlife. Your letter presents an easterly realignment of the road which would reduce disturbance to the area as we suggested, although problems apparently exist with this realignment. Regardless of the exact position of this road, however, maps included with your letter indicate that the portion of Cactus Hills on the west side of the road is targeted for installation of sewage lines and development in the form of industry and houses. This negates the purpose of the easterly realignment. The development of Cactus Hills would likely not occur but for establishment of the proposed road; thus, development impacts should also be considered during the proposal stage of the Eastside Corridor road. Native prairie, wet meadows, and numerous deciduous tree species, shrubs, and forbs occurring within riparian and forested habitats of Cactus Hills house a wide variety of wildlife during all seasons. Of particular interest to us are numerous species of migratory birds which are a Fish and Wildlife Service trust issue. We still recommend that the Cactus Hills area be avoided due to its valuable and rare habitats and that development be limited to areas outside this area. Additionally, connectivity between the Cactus Hills area and the Big Sioux River corridor should be maintained and/or enhanced to reduce habitat fragmentation and edge effect which can have effects on wildlife.

An active bald eagle nest has recently been located near Cactus Hills, and the area is likely utilized by these birds for hunting and loafing. The bald eagle is a federally listed threatened species. Increased development within the vicinity of the nest could potentially cause the birds to abandon the site in the future. Topeka shiner best management practices were provided in our letter to minimize impacts to this endangered species. Additionally, Minnehaha County has historic records of the Western prairie fringed orchid - also a federally threatened species. Historic records exist in the Big Sioux River Valley in the southeast part of South Dakota and specifically in moist meadows near Brandon. Although the Western prairie fringed orchid has not been located in South Dakota in recent years, extant populations exist in neighboring states, including a site in the extreme southeast corner of Minnesota near the South Dakota/Minnesota border. The flower of the Western prairie fringed orchid is very ephemeral, making it difficult to find. These factors suggest that populations could still be found in South Dakota, and native tallgrass prairie with sedge/wet meadow habitats which exist within and/or near the Cactus Hills area represent potential habitat. Development would obviously destroy any potential remnant populations of the species as well as eliminate any future occurrence. Surveys for this species should be completed prior to construction. Per previous visits and correspondence, we understand that you are aware of the lined snake, a state listed species that is found in this area. Development in the area will eliminate much of the habitat for this snake, and roadways through the area would increase the risk of mortality due to vehicles.

We also suggested avoidance and minimization of impacts to wetlands in our January letter per the National Environmental Policy Act of 1969 (42 U.S.C. 4321-4347). We have enclosed copies of Executive Orders 11988 and 11990 regarding conservation of wetlands and floodplains of the United States for your reference. If it is necessary to cross the Big Sioux River, we recommend it be done perpendicular to the river (as shown in the more easterly alignment proposal) and any riparian habitat impact be included in a mitigation plan with a replacement and/or enhancement ratio of 2:1 acres. Your letter did not address impacts to the high number of wetlands that exist within the remaining proposed road corridor and the surrounding areas proposed for future development. We recommend avoidance wherever possible. Based on habitat descriptions of the Cactus Hills area, fens (which are considered habitats of national importance - Federal Resource Category 1) may exist on the site. These wetland types are irreplaceable due to their composition and groundwater connectivity and other characteristics. Occurrence of these habitats in the area should be determined prior to establishing development plans, and avoidance of direct and indirect impacts to fen habitats that might occur in the Cactus Hills area should be presented in the EA. We reiterate that several existing roads occur within the vicinity of the proposed new road and suggest utilizing these old roads wherever possible, upgrading them if necessary to accommodate future traffic volumes. This alternative should also be included in the EA as a means to reduce environmental impacts. Our office has been involved in mitigation bank review team meetings to assist the City of Sioux Falls in establishing a mitigation bank for future developments; however, the specifics of the bank have not yet been established, and we are unaware of any recent action on the plan. Thus, a mitigation plan for any wetlands that cannot be avoided should be submitted to the resource agencies for review.

In summary, we suggest further collaboration with the resource agencies before establishing the design and location of the Eastside Corridor road. Discussions should include evaluation of impacts of future developments that may occur as a result of this road. Impacts to Cactus Hills and adjacent habitats should be avoided to preclude negative effects to resident and migratory wildlife. Wetland impacts should be avoided to the maximum extent possible; however, if avoidance is not possible, a mitigation plan should be submitted on impacts to the resources as a result of the road and future developments. Additional habitat evaluation should be performed to identify any fens and/or western prairie fringed orchids that may occur in the area.

Regarding the portion of the road discussed in your letter with its proposed easterly realignment and associated problems, one alternative may include a more westerly shift of this roadway to a location between your original design and the route proposed in your letter. A buffer might still be established between the habitat and the road, while the curvature and power line issues of the more easterly alignment might be alleviated. Development should be limited to the eastern side of the road, thereby leaving the Cactus Hills and surrounding habitats intact. Or perhaps the corridor might follow Six Mile Road, avoiding the natural area by an even greater amount and perhaps creating some additional allowances. Another meeting may be the best way to exchange ideas and details on this issue.

If changes are made in the project plans or operating criteria, or if additional information becomes available, the Fish and Wildlife Service should be informed so that the above determinations can be reconsidered.

The Fish and Wildlife Service appreciates the opportunity to provide comments. If you have any questions on these comments, please contact Natalie Gates of this office at (605) 224-8693, Extension 25.

Sincerely,

Pete Gober
Field Supervisor
South Dakota Field Office

Enclosures

cc: Secretary, SDDGFP; Pierre, SD
(Attention: Leslie Peterson/Doug Backlund)
Secretary, SDDENR; Pierre, SD
(Attention: John Miller)
Corps of Engineers/Regulatory; Pierre, SD
(Attention: Steve Naylor)
Short Elliott Hendrickson, Inc.; St. Paul, MN
(Attention: Brad Kovach)

Appendix D

Cultural Resources – Section 106 Consultation Letters

South Dakota State Historic Preservation Office

SOUTH DAKOTA STATE HISTORICAL SOCIETY
Department of Education and Cultural Affairs

Cultural Heritage Center
900 Governors Drive
Pierre, SD 57501-2217
(605)773-3458 fax (605)773-6041
www.sdhistory.org

July 1, 2002

JEFFREY SCHMITT
PLANNING AND BUILDING SERVICES
CITY OF SIOUX FALLS
224 WEST NINTH STREET
SIOUX FALLS SD 57104

SECTION 106 PROJECT CONSULTATION – EVALUATION/EFFECT
Project: 020528002F – Sioux Falls East Side Corridor
Location: Multiple County
(FHWA/DOT)

Dear Ms. Massey:

Thank you for the opportunity to comment on the above referenced project pursuant to Section 106 of the National Historic Preservation Act of 1966 (as amended). The South Dakota SHPO has made the following determination concerning the effect of your proposed undertaking on the non-renewable cultural resources of South Dakota.

Based upon the information provided in the report, "Cultural Resource Survey of the Proposed Sioux Falls East Side Corridor in Minnehaha and Lincoln Counties, within the Lower Big Sioux Archaeological Region, South Dakota," prepared by Archeology Laboratory, Augustana College, received on May 27, 2002, the State Historic Preservation Officer has made the following consensus determination. Sites 39MH148, 39MH210, 39MH2016 are not eligible, site 39MH161 is unevaluated and should be considered eligible and avoided until such time as it has been fully tested and evaluated for eligibility for listing in the National Register of Historic Places (NRHP). Also, according to "South Dakota's Railroads," prepared by Renewable Technologies, Inc., sites 39MH2000, 39MH2003, 39MH2018, 39MH2007 are eligible for listing in the NRHP. Construction of the proposed corridor will have an ADVERSE EFFECT on the railroad properties.

Please notify the Advisory Council on Historic Preservation, pursuant to 36 CFR part 800.6, of the adverse effect finding by providing the documentation specified in 800.11(e).

Should you require any additional information, please do not hesitate to contact Paige Hoskinson, Review & Compliance Coordinator, at (605) 773-6004. Your concern for the non-renewable cultural heritage of our state is appreciated.

Sincerely,

Jay D. Vogt

Jay D. Vogt
State Historic Preservation Officer

SOUTH DAKOTA STATE HISTORICAL SOCIETY
Department of Education and Cultural Affairs

Cultural Heritage Center
900 Governors Drive
Pierre, SD 57501-2217
(605)773-3458 fax (605)773-6041
www.sdhistory.org

August 13, 2002

JEFFREY SCHMITT
PLANNING AND BUILDING SERVICES
CITY OF SIOUX FALLS
224 WEST NINTH STREET
SIOUX FALLS SD 57104

SECTION 106 PROJECT CONSULTATION – EVALUATION/EFFECT
Project: 020528002F – Sioux Falls East Side Corridor
Location: Multiple County
(FHWA/DOT)

Dear Mr. Schmitt:

Thank you for the opportunity to comment on the above referenced project pursuant to Section 106 of the National Historic Preservation Act of 1966 (as amended). The South Dakota SHPO has made the following determination regarding the likelihood that historic properties (whether recorded, unrecorded or undiscovered) exist within the project's area of potential effects (APE).

Based on the additional information received on August 5, 2002, the State Historic Preservation Officer has made the following consensus determination. In concurrence with the recommendations in the report, the SHPO has determined that sites 39MH148 and 39MH210 are NOT ELIGIBLE for listing in the National Register of Historic Places (NRHP). Site 39MH161 is unevaluated and should be considered POTENTIALLY ELIGIBLE and avoided until such time as it has been fully tested and evaluated for eligibility for listing in the NRHP.

Given the above, it has been determined that provided construction activities will not effect rail line sites 39MH2000, 39MH2003 and 39LN2007 and given that there are no visible traces of abandoned rail line sites 39MN2018 and 39LN2016, the SHPO concurs with the determination NO HISTORIC PROPERTIES AFFECTED for this undertaking. Should this project change substantially (i.e., new locations of impacts) from that presented in your letter, our office would like the opportunity to review these changes.

If during the course of any ground disturbance related to this project, any bones, artifacts, foundations, or other indications of past human occupation of the area are uncovered, the project should be temporarily stopped until the State Historic Preservation Officer has been notified and had chance to comment.

Should you require any additional information, please do not hesitate to contact Paige Hoskinson, Review & Compliance Coordinator, at (605) 773-6004. Your concern for the non-renewable cultural heritage of our state is appreciated.

Sincerely,

Jay D. Vogt
State Historic Preservation Officer

P. Hoskinson

Paige Hoskinson
Review and Compliance Coordinator

Cc: Ross Harris

Appendix E

List of Supporting Technical References

The following technical documents were prepared in support of the East Side Corridor Environmental Assessment. These documents are available for review at the City of Sioux Falls, Planning and Building Services, 224 West 9th Street, Sioux Falls, SD, 57104-6407, (605) 367-8888. Documents are also available for review in portable format (pdf) at http://siouxfalls.org/planning/Eastside/index.asp

1. Sioux Falls Regional Arterial Corridor Analysis – East Side Corridor Study, Phase I (1999)
2. Sioux Falls East Side Corridor Scoping Memorandum (October 2001)
3. Sioux Falls East Side Corridor Cultural Resources Report (May 2002) and Addendum (July 29, 2002)
4. Sioux Falls East Side Corridor Noise Analysis (July 2002)
5. Sioux Falls East Side Corridor Threatened and Endangered Species Studies – Botanical and Animal Surveys (September 2002)

Appendix F

Department of Environment and Natural Resources Early Coordination Responses

PLANNING AND BUILDING SERVICES

CITY OF SIOUX FALLS

Planning—Second Floor
Building Services—Ground Floor
224 West Ninth Street, Sioux Falls, SD 57104-6407
Planning FAX (605) 367-7801
Building Services FAX (605) 367-6045
Hearing Impaired (605) 367-7039
Web Site: www.sioux-falls.org

TO: Distribution List
FROM: Jeffrey Schmitt, Assistant Director of Planning
DATE: January 31, 2001
RE: Sioux Falls East Corridor

The City of Sioux Falls, in cooperation with Minnehaha and Lincoln Counties, the South Dakota Department of Transportation, and the Federal Highway Administration, are jointly completing project scoping that will lead to the completion of an Environmental Assessment (EA) for a new major arterial roadway in the Sioux Falls area. A proposed arterial roadway is planned for rapidly developing areas east and south of the city and is needed to accommodate forecasted 2025 growth and local travel demands. If the preferred alternative is to build the roadway, right of way preservation must begin shortly to minimize acquisition costs and built-environment disruption.

An East Corridor Process Team comprised of citizens, city and county staff, and state and federal agency officials is currently studying several different corridor alignment alternatives, illustrated on the attached Figures 1, 10, 6, and 7. The proposed project will accommodate a 50 mph facility using a 200 ft. corridor with at-grade channelized intersections (signalized and unsignalized) between I-90 on the north to Minnesota Avenue on the south and west. Figure 3 illustrates a typical cross-section of the proposed roadway.

We would appreciate your agency's early review comments on the alignments shown so that impacts can be avoided to the extent possible, issues and concerns can be addressed, and mitigation options can be developed. It is also requested that permits and approvals required by your agency for the implementation of this project be identified. In addition, if there are other agencies who you believe may be interested in this project that are not included on the distribution list, please identify them.

It would be appreciated if you could provide written comments to me by February 15, 2001, so that issues and concerns can be brought before the public at an open house the following week. For more information on this transportation project, you can review the Phase I study online at:
http://www.sioux-falls.org/city_departments/planning_and_building_services/planning/SFRACA.pdf
If you have any questions, please contact me at (605) 367-8891.
Thanks for your response.

Attachments: Figures 1, 10, 6, 7 Alignment Alternatives
Figure 3 Typical Section

Distribution:
U.S. Army Corps of Engineers
U.S. Fish & Wildlife Service
U.S.D.A. – Natural Resource Conservation Service
South Dakota State Historic Preservation Office
South Dakota Dept. of Environment & Natural Resources
South Dakota Dept. of Game, Fish, & Parks
Minnehaha County Board of Preservation
Minnehaha County Historical Society
Lincoln County Historical Society

AIR QUALITY DETERMINATION
It appears, based on the information, that the project will have little or no impact on the air quality in this area. This project is approved.
Approved By: Brad Schultz
Date: 2-13-01
(605) 773-6038 Fax: (605) 773-5286
South Dakota Department of Environment
And Natural Resources

DEPARTMENT of ENVIRONMENT and NATURAL RESOURCES
JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3182
www.state.sd.us/denr

February 13, 2001

Jeffrey Schmitt
City of Sioux Falls
224 West Ninth Street
Sioux Falls SD 57104-6407

Dear Mr. Schmitt:

The South Dakota Department of Environment and Natural Resources (DENR) has reviewed the proposed project concerning an arterial roadway. The DENR finds that this construction, using conventional construction techniques, should not cause violation of any statutes or regulations administered by the DENR based on the following recommendations:

1. Best Management Practices (BMP) for sediment and erosion control should be incorporated into the planning, design, and construction of this project. Copies of the BMP Guide are available upon request from this office.

2. A Surface Water Discharge (SWD) permit may be required if any construction dewatering should occur as a result of this project. Please contact this office for more information.

3. A General Storm Water Permit for Construction Activities may be required. If you have any questions, please contact Stacy Reed at 1-800-SDSTORM (1-800-737-8676).

4. The Big Sioux River is classified by the South Dakota Surface Water Quality Standards and Uses Assigned to Streams for the following beneficial uses:

   (5) Warmwater semipermanent fish life propagation waters;
   (7) Immersion recreation waters;
   (8) Limited contact recreation waters;
   (9) Fish and wildlife propagation, recreation, and stock watering waters; and
   (10) Irrigation waters.

Because of these beneficial uses, special construction measures may have to be taken to ensure that the total suspended solids standard of 90 mg/L is not violated.

5. Wetlands and tributaries may be impacted by this project. These water bodies are considered waters of the state and are protected under the South Dakota Surface Water Quality Standards. The discharge of pollutants from any source, including indiscriminate use of fill material, may not cause destruction or impairment except where authorized under Sections 402 or 404 of the Federal Water Pollution Control Act. Please contact the U.S. Army Corps of Engineers concerning these permits.

If you have any questions concerning these comments, please contact me at the number listed below.

Sincerely,

John Miller
Environmental Program Scientist
Surface Water Quality Program
(605) 773-3351

DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES
JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3182
www.state.sd.us/denr

February 22, 2001

Jeffrey Schmitt
Assistant Director of Planning
Planning and Building Services
City of Sioux Falls
224 West Ninth Street
Sioux Falls, S.D. 57104-6407

Subject: City of Sioux Falls - East Corridor

Dear Mr. Schmitt;

The Ground Water Quality Program of the South Dakota Department of Environment and Natural Resources has reviewed the information submitted pertaining to the project listed above.

The department does not anticipate any adverse impacts to ground water by this project. Therefore, the City of Sioux Falls will not need any permits from the Ground Water Quality Program to build a new major arterial roadway in the Sioux Falls vicinity.

However, as the department has indicated on other projects within the Sioux Falls area, there have been petroleum and other contaminant spills throughout the state. Primarily, these spills have occurred within communities where petroleum stations, agricultural, chemical, and other such storage facilities exist. Attached, please find the most up-to-date list of the releases in the Sioux Falls and Lincoln County vicinities that have been reported to the department.

You can compare this list to the areas that will be affected by the project to anticipate any encounters with contamination. In addition, there may be releases in the project areas that have not been reported to the department, yet.

If any contamination is encountered during construction activities, the City of Sioux Falls, Minnehaha County, Lincoln County, the South Dakota Department of Transportation, or the Federal Highway Administration must report the contamination to the department at (605) 773-3296. Any contaminated soil encountered must be temporarily stockpiled and sampled to determine disposal requirements.

In addition, in the future, the City of Sioux Falls may want to consider sending separate environmental assessment requests to the following programs within the department: Air Quality, Surface Water Quality, Ground Water Quality, Waste Management, and Drinking Water. This is especially important if the city wants information back in a shorter turn around period. Also, depending on the project, you may want to consider sending copies to the Minerals and Mining, and Water Rights programs in the department.

Once again, thank you for the City of Sioux Falls' concern in protecting South Dakota's environment. If you have any further questions about the potential for this project to affect the quality of ground water in the area, please contact our office.

Sincerely,

Sheldon Hamann
Senior Hydrologist
Ground Water Quality Program
Phone: (605) 773-3296

Attachment

PLANNING AND BUILDING SERVICES
CITY OF SIOUX FALLS
Planning—Second Floor
Building Services—Ground Floor
224 West Ninth Street, Sioux Falls, SD 57104-6407
Planning FAX (605) 367-7801
Building Services FAX (605) 367-6045
Hearing Impaired (605) 367-7039
Web Site: www.sioux-falls.org

TO: Distribution List
FROM: Jeffrey Schmitt, Assistant Director of Planning
DATE: January 31, 2001
RE: Sioux Falls East Corridor

The City of Sioux Falls, in cooperation with Minnehaha and Lincoln Counties, the South Dakota Department of Transportation, and the Federal Highway Administration, are jointly completing project scoping that will lead to the completion of an Environmental Assessment (EA) for a new major arterial roadway in the Sioux Falls area. A proposed arterial roadway is planned for rapidly developing areas east and south of the city and is needed to accommodate forecasted 2025 growth and local travel demands. If the preferred alternative is to build the roadway, right of way preservation must begin shortly to minimize acquisition costs and built-environment disruption.

An East Corridor Process Team comprised of citizens, city and county staff, and state and federal agency officials is currently studying several different corridor alignment alternatives, illustrated on the attached Figures 1, 10, 6, and 7. The proposed project will accommodate a 50 mph facility using a 200 ft. corridor with at-grade channelized intersections (signalized and unsignalized) between I-90 on the north to Minnesota Avenue on the south and west. Figure 3 illustrates a typical cross-section of the proposed roadway.

We would appreciate your agency's early review comments on the alignments shown so that impacts can be avoided to the extent possible, issues and concerns can be addressed, and mitigation options can be developed. It is also requested that permits and approvals required by your agency for the implementation of this project be identified. In addition, if there are other agencies who you believe may be interested in this project that are not included on the distribution list, please identify them.

It would be appreciated if you could provide written comments to me by February 15, 2001, so that issues and concerns can be brought before the public at an open house the following week. For more information on this transportation project, you can review the Phase I study online at:
http://www.sioux-falls.org/city_departments/planning_and_building_services/planning/SFRACA.pdf
If you have any questions, please contact me at (605) 367-8891.
Thanks for your response.

Attachments: Figures 1, 10, 6, 7 Alignment Alternatives
Figure 3 Typical Section

Distribution:
U.S. Army Corps of Engineers
U.S. Fish & Wildlife Service
U.S.D.A. – Natural Resource Conservation Service
South Dakota State Historic Preservation Office
South Dakota Dept. of Environment & Natural Resources
South Dakota Dept. of Game, Fish, & Parks
Minnehaha County Board of Preservation
Minnehaha County Historical Society
Lincoln County Historical Society

SOLID WASTE/HAZARDOUS WASTE
It appears, based on the information provided, that this project will have
no impact on solid waste and hazardous waste management in the
Reviewed By: Joni Kallaway
Date: 2-14-01
Phone: (605) 773-3153 Fax: (605) 773-
South Dakota Department of Environment
and Natural Resources

Appendix G

Wetland Finding

Federal Highway Administration
South Dakota Department of Transportation
City of Sioux Falls

Sioux Falls East Side Corridor
Executive Order 11990 Wetland Finding

This action complies with Executive Order 11990, Protection of Wetlands

Approved Ginger Massie
FHWA Environmental Engineer

03/20/2003
Date

Approved Dave Graves
SDDOT Environmental Engineer

MARCH 20, 2003
Date

Federal Highway Administration
South Dakota Department of Transportation
City of Sioux Falls

Sioux Falls East Side Corridor Environmental Assessment
Executive Order 11990 Wetland Finding

This statement sets forth the basis for a preliminary finding that there is no practical, prudent or economical alternative to the placing of fill for highway construction in certain wetlands within the future right-of-way of the proposed East Side Corridor. The City of Sioux Falls East Side Corridor Environmental Assessment has satisfactorily addressed project effects on wetlands in accordance with Executive Order 11990 on "No Net Loss" of wetlands.

Projected effects and impacts on wetlands were determined by following Federal Highway Administration (FHWA) guidance and policies, and the wetland sequencing and permitting requirements of the U.S Army Corps of Engineers (USACE), Environmental Protection Agency (EPA), the U.S. Fish and Wildlife Service (USFWS), and state agencies responsible for wetland impact review.

Project Description

The proposed project is a limited access principal arterial roadway being planned to address future transportation system needs. The proposed four-lane, 45 mph roadway will be located within the City of Sioux Falls' 2025 growth area east and south of the current (2002) jurisdictional limits. The East Side Corridor Study location is illustrated on Figure 1 of the project's Environmental Assessment (EA). The New Corridor-Preferred Alternative for the East Side Corridor is illustrated on Figure 2 of the EA.

The proposed 17-mile roadway will be designed within a 200-foot wide corridor with 12-foot minimum travel lane widths, 20-foot medians, 10-foot shoulders, 10-foot berms, and 10-foot wide paved pedestrian/bicycle trails. Grade-separated interchanges have been proposed at intersections with Minnesota Avenue, SD Highway 11, and Rice Street. Grade-separated structures will span existing railroads and other local roads that are not provided with immediate access to the East Side Corridor. Other intersections will be at-grade with traffic controls (turning lanes, traffic signals) and placed with one-mile access openings, except in future commercial areas, where one-half mile access openings will be permitted. Figure 3 of the EA illustrates a typical roadway section of the proposed East Side Corridor. The East Side Corridor is expected to be constructed in segments over the course of a 30-year schedule.

Alternatives Considered

Two design alternatives of the preferred alternative of the East Side Corridor, the "New Corridor" and "Widen Along Section Lines" alternatives, are expected to potentially affect 59.19 acres and 44.33 acres of wetlands respectively. The "New Corridor" alternative is the preferred alternative which best satisfies the project's Purpose and Need *(The reader is referred to the EA discussion for additional details on project effects and proposed avoidance / minimization and mitigation measures.)*

Basis for Determining the Proposed Action Includes All Practicable Measures to Minimize Harm to Wetlands

During the preliminary design phase for each project segment, all affected wetlands will be delineated following the methods of the USACE 1987 Manual on *Identifying Wetlands in the United States* and field typed in accordance with the methods of USFWS "Classification of Wetlands and Deepwater Habitats of the United States (Cowardin et al. 1979), to provide accurate and up-to-date wetland determinations and impact acreages resulting from the project. Wetland impact sequencing measures will also be implemented during the preliminary design phase after the completion of the wetland delineations and field typing. Sequencing implementation includes the following in order; 1) wetland avoidance; 2) wetland impact minimization; and 3) wetland mitigation. Wetland mitigation opportunities will be developed prior to or concurrent with construction of each segment of the East Side Corridor.

Mitigation

Wetlands which cannot be avoided will be mitigated in kind to the extent possible. A wetland mitigation plan will also be prepared for each segment. Mitigation plans will be reviewed and approved/concurred by USFWS as well as other resource agencies. The wetland delineations and field typing, sequencing consideration based preliminary design plans, and the wetland mitigation plan will be included in a wetland permit application prepared for each segment of the East Side Corridor.

Coordination

This project has been and will continue to be coordinated with the following agencies:

- US Fish & Wildlife Service
- SD Dept. of Game Fish & Parks
- SD Dept. of Environment and Natural Resources

The wetland permit applications will be submitted to the responsible permitting agencies for review and approval prior to construction of each segment of the East Side Corridor in anticipation of issuance of a Section 404/401 Individual Permit under the federal Clean Water Act. The USACE and/or the FHWA will act as the lead approval agency of the wetland permit application for each segment of the East Side corridor.

Finding

In accordance with Executive Order 11990, NEPA and the Federal Highway Act, it has been determined that there is no feasible or practical alternative to the proposed construction. All practical measures to minimize harm have been considered and initiated. Should it become necessary to modify or otherwise revise this preliminary finding with the completion of wetland delineation associated with the project's design phases, an updated Wetland Finding will be prepared and circulated for review and concurrence.

DEPARTMENT OF GAME, FISH AND PARKS
Foss Building
523 East Capitol
Pierre, South Dakota 57501-3182

January 13, 2003

Mr. Jeffery Schmitt
Assistant Director of Planning
City of Sioux Falls Planning and Building Services
224 West Ninth Street
Sioux Falls, SD 57104-6407

Re: Sioux Falls East Side Corridor Wetland Finding

Dear Mr. Schmitt:

This letter is in response to the Wetland Finding Document for the East Side Transportation Corridor proposed for the City of Sioux Falls in Minnehaha County, South Dakota.

As stated in the Finding Document, in accordance with Executive Order 11990, NEPA and the Federal Highway Act, it has been determined that there is no feasible or practical alternative to the proposed construction and all practical measures to minimize harm have been considered and initiated. We also understand that should it become necessary to modify or otherwise revise this preliminary finding with the completion of wetland delineation associated with the project's design phases, an updated Wetland Finding will be prepared and circulated for review and concurrence.

Taking into consideration comments made through previous letters regarding this project and its proposed route and alternative routes, at this time we agree with the preliminary wetland finding for the above referenced project. If you have any questions or if I can be of further assistance, please contact me at (605) 773-6208.

Sincerely,

Leslie Petersen

Leslie Petersen
Aquatic Resource Coordinator
South Dakota Department of Game, Fish and Parks

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Ecological Services
420 South Garfield Avenue, Suite 400
Pierre, South Dakota 57501-5408

January 31, 2003

OPTIONAL FORM 99 (7-90)

FAX TRANSMITTAL # of pages ►

To Brad Ik	From Natalie Gates
Dept./Agency SEH - St Paul MN	Phone # 605 224-8693 X25
Fax # 651-490-2150	Fax # 605 224-9974

NSN 7540-01-317-7368 5099-101 GENERAL SERVICES ADMINISTRATION

Mr. Jeffrey Schmitt
Assistant Director of Planning
City of Sioux Falls Planning and Building Services
224 West Ninth Street
Sioux Falls, South Dakota 57104-6407

Re: Wetland Finding, Sioux Falls East Side Corridor

Dear Mr. Schmitt:

We have received an electronic transmission of the Wetland Finding for the Sioux Falls East Side Corridor Project from the environmental consultant on this project (Short Elliott Hendrickson, Inc. of St. Paul, Minnesota). The explanation accompanying the electronic transmission requested that the Fish and Wildlife Service (Service) concur with the Wetland Finding.

The Wetland Finding indicates that wetlands will be field typed in accordance with a Service publication called Circular 39 "Wetlands of the United States" issued in 1956. The Service developed a different classification system in 1979 entitled "Classification of Wetlands and Deepwater Habitats of the United States" (Cowardin et al. 1979). The National Wetlands Inventory is also based on the Cowardin et al. (1979) system and has been used extensively by the Federal Highway Administration (FHWA) and State counterparts to ascertain wetland impacts from highway activities since 1979. The Service recommends continued use of the Cowardin et al. (1979) Wetland Classification System rather than use of the outdated Circular 39 system from 1956.

The Wetland Finding and Environmental Assessment (EA) indicates the U.S. Army Corps of Engineers (Corps) as the lead approval agency for wetland issues. On January 9, 2001, the U.S. Supreme Court issued a decision, Solid Waste Agency of Northern Cook County versus the Corps that altered the kinds of wetlands that the Corps would have jurisdiction on. It should be recognized that many, if not most, of the wetlands that may be impacted by this project may not be under the jurisdiction of the Corps. Therefore, the FHWA may be the primary arbiter of wetland mitigation plans for this project.

The Service has worked with the FHWA and the South Dakota Department of Transportation for many years to replace wetland functions that are impacted by highway projects. The Service recognizes this particular project is a long-term endeavor and may take 25 years to accomplish. However, this particular Wetland Finding does not include specifics of how replacement of wetland functions will occur or what the impacts of the project are. Instead, the Wetland Finding indicates wetland mitigation plans will be developed in the future for each segment and

references the EA for further information . However, examination of the EA reveals sparse information on wetland impacts or measures to be implemented to offset those impacts. Given this approach (minimal identification of the wetland impacts - no identification of offsetting measures), the Service will evaluate the individual wetland mitigation plans as they are developed and will provide input at that time. Accordingly, it would be inappropriate for us to concur with this Wetland Finding which does not identify wetland impacts or the mitigation measures.

The Service appreciates the opportunity to provide comments on this Wetland Finding. If you have any questions on these comments, please contact Natalie Gates of this office at (605) 224-8693, Extension 25.

Sincerely,

Pete Gober
Field Supervisor
South Dakota Field Office

cc: Secretary, SDDGFP; Pierre, SD
(Attention: John Kirk and Doug Backlund)
FWHA; Pierre, SD
(Attention: Ginger Massie)
SEH; St. Paul, MN
(Attention: Brad Kovach)

Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. Classification of wetlands and deepwater habitats of the United States. U.S. Fish and Wildlife Service Publication FWS/OBS - 79/31.

DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES
JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3182
www.state.sd.us/denr

February 3, 2003

Jeffrey Schmitt
Assistant Director of Planning
City of Sioux Falls
224 W. Ninth Street
Sioux Falls SD 57104-6407

Dear Mr. Schmitt:

The South Dakota Department of Environment and Natural Resources (DENR) has reviewed the Sioux Falls East Side Corridor Environmental Assessment for possible impacts to surface waters of the state. The DENR finds that this construction, using conventional construction techniques, should not cause violation of any statutes or regulations administered by the DENR based on the following recommendations:

1. Best Management Practices (BMP) for sediment and erosion control should be incorporated into the planning, design, and construction of this project. Copies of the BMP Guide are available upon request from this office.

2. A Surface Water Discharge (SWD) permit may be required if any construction dewatering should occur as a result of this project. Please contact this office for more information.

3. A General Storm Water Permit for Construction Activities may be required. If you have any questions, please contact Stacy Reed at 1-800-SDSTORM (1-800-737-8676).

4. Wetlands and tributaries may be impacted by this project. These water bodies are considered waters of the state and are protected under the South Dakota Surface Water Quality Standards. The discharge of pollutants from any source, including indiscriminate use of fill material, may not cause destruction or impairment except where authorized under Sections 402 or 404 of the Federal Water Pollution Control Act. Please contact the U.S. Army Corps of Engineers concerning these permits.

5. The Big Sioux River is classified by the South Dakota Surface Water Quality Standards and Uses Assigned to Streams for the following beneficial uses:

(5) Warmwater semipermanent fish life propagation waters;
(7) Immersion recreation waters;
(8) Limited contact recreation waters;
(9) Fish and wildlife propagation, recreation, and stock watering waters; and
(10) Irrigation waters.

Because of these beneficial uses, special construction measures may have to be taken to ensure that the total suspended solids standard of 90 mg/L is not violated.

If you have any questions concerning these comments, please contact me at the number listed below.

Sincerely,

John Miller
Environmental Program Scientist
Surface Water Quality Program
(605) 773-3351

cc: Ross Harris, AICP
Project Manager
Short Elliott Hendrickson, Inc.
10901 Red Circle Drive, Suite 200
Minnetonka, MN 55343

Appendix H

Comments Received on the Environmental Assessment and Responses

Comment Form
East Side Corridor Environmental Assessment
November 7 Open House

The purpose of this public meeting is to receive comments from citizens regarding the East Side Corridor and the Environmental Assessment. Comments will be received at the open house and by mail, email, fax and phone. Please submit your comments by December 14 to:

Jeffrey Schmitt, City of Sioux Falls
224 W. 9th Street
Sioux Falls, SD 57104

phone 367-8891
fax 367-8863
email: Jschmitt@siouxfalls.org

Name Roger Munce Munce

Address _____

_____

email Roger Munce @ Hotmail.com

A. Comments on Social and Cultural Environment; Land Use, Social Environment, Environmental Justice, Bicyclists and Pedestrians, Visual Quality / Aesthetics, Historic and Archaeological Preservation, Tribal Historic Preservation:

_____

_____

_____

B. Comments on Economic Environment; Right-of-Way and Relocation Impacts, Economics, Construction Impacts:

_____

_____

_____

C. Comments on Natural Environment; Air Quality, Noise, Farmland, Water Quality, Storm Water Runoff, Wetlands, Water Body Modification, Floodplains, Vegetation, Fish & Wildlife, Threatened & Endangered Species, Invasive Species, Hazardous Waste Sites:

_____

_____

_____

General Comments:

_____

I represent Prairie Hills Covenant Church and want to be sure that there is an entrance into Prairie Hills Covenant Church Property Approx ½-¾ ~~East~~ South of 26th & Hwy 11. We wish to have an entrance there.

Comment received from Roger Munce, Prairie Hills Covenant Church, at November 7, 2002 EA Open House:

Comment: The future home of Prairie Hills Covenant Church desires access from the East Side Corridor.

Response: The East Side Corridor will be constructed to engineering design standards and as a roadway whose primary purpose is to move traffic and connect regional roadways (and trips), access management techniques must become a major part of the design. Access must be limited to 1 mile spacing along the corridor, except in commercial areas, where ½ mile spacing will be allowed. Likely points of access in this segment of the highway will be at East 26th Street and East 41st Street; however, the exact locations of these points of access will be determined during the next (design) stages of the project. Direct access to the Prairie Hills Covenant Church will not be permitted; however, service roads (either frontage or backage) will be used to provide access to the church's property. The advantage of the service road's slower posted speed will ensure a safer approach for church traffic ingress/egress movements to and from the church property. Traffic conflicts on the East Side Corridor will also be reduced by controlling access and by separating higher speed traffic on the corridor from slower speed traffic on the service road.

Corridor EA Comment
>
> 12/09/2002
> 06:59 AM
>
>
>
>
>
>
> Second comment
>
> -----Original Message-----
> From: Gregg Johnson [mailto:greggjohnson@worldnet.att.net]
> Sent: Sunday, December 08, 2002 9:23 AM
> To: Schmitt, Jeff (Planning)
> Subject: East Side Corridor EA Comment
>
>
> Jeff:
>
> Please include the following comment into the East Side Corridor
> Environmental Assessment documentation.
>
> Thanks!
>
> Gregg Johnson
>
> Comment on East Side Corridor Environmental Assessment:
>
> This comment concerns the impacts of the East Side Corridor on the Split
> Rock Heights neighborhood. The impact of increased traffic volume and
> noise
> on the Split Rock Heights residences immediately to the east of the
> corridor
> will be significant. To a degree, highway planners have accounted for
this
> by locating the road a slight distance to the west. However, the
> preliminary design and road location does not do enough to mitigate the
> impact of the accompanying noise. The cross-sectional diagram displayed
at
> the November 7th Open House indicated only a 10 foot wide berm where
> landscaping would be planting. The planned berm is a good idea and highly
> preferred over a noise wall, but needs to be enlarged and designed
properly
> to mitigate the visual and noise impact of the road on the existing
> neighborhood, especially considering the volume of traffic the road is
> expected to carry. The space allowed for the berm should be widened to
> allow for a minimum berm height equal to the vertical dimension of most
> vehicles using the road. Landscape designers should design a series of
> natural appearing overlapping mounds rather than a straight berm shaped
> like
> a river levee. Both deciduous and conifer trees should be planned for the
> berm to provide yearlong noise abatement.
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Comment received from Gregg Johnson, December 9, 2002

This comment concerns the impacts of the East Side Corridor on the Split Rock Heights neighborhood. The impact of increased traffic volume and noise on the Split Rock Heights residences immediately to the east of the corridor will be significant. To a degree, highway planners have accounted for this by locating the road a slight distance to the west. However, the preliminary design and road location does not do enough to mitigate the impact of the accompanying noise. The cross-sectional diagram displayed at the November 7th Open House indicated only a 10 foot wide berm where landscaping would be planting. The planned berm is a good idea and highly preferred over a noise wall, but needs to be enlarged and designed properly to mitigate the visual and noise impact of the road on the existing neighborhood, especially considering the volume of traffic the road is expected to carry. The space allowed for the berm should be widened to allow for a minimum berm height equal to the vertical dimension of most vehicles using the road. Landscape designers should design a series of natural appearing overlapping mounds rather than a straight berm shaped like a river levee. Both deciduous and conifer trees should be planned for the berm to provide yearlong noise abatement.

Response:

The Environmental Assessment (EA) describes potential noise impacts on p.p. 43-48. Federal and State standards are applied to measure and determine the effect of roadway noise and the need for potential mitigation. Federal noise abatement criteria require considering noise mitigation when the post-construction worst hour noise level exceeds 60 dBA or exceed existing levels. The State of South Dakota's noise policy states that "…a traffic noise impact occurs when predicted levels approach or exceed the noise abatement criteria, or when predicted traffic noise levels substantially exceed the existing noise levels."

The protocol for assessing noise levels in accordance with Federal and State standards was reviewed and approved by the SDDOT and Federal Highway Administration. Existing noise levels adjacent to the Split Rock Heights neighborhood were assumed to be 45 dBA (maximum for residential areas is 55 dBA). Therefore, the level necessary to achieve the "substantial" increase is 60 dBA.

Noise abatement measures are considered when predicted noise levels approach or exceed the FHWA noise abatement criteria or when the predicted traffic noise levels substantially exceed the existing noise levels.

The benefits of a 3,000 ft. noise wall along the corridor were examined for Split Rock Heights. Reasonableness for 10 ft. and 20 ft. walls were considered. Under the SDDOT policy, the cost of a noise wall is feasible if a 7 dBA reduction is achieved, and the cost per benefited house is less than $15,000. A benefited house is defined as a house that receives a 5 dBA or greater noise reduction. For a 10 ft. high wall, the 7 dBA requirement is not met, so the wall is not feasible. For a 20 ft. wall, at a cost of $15.00

per square foot, there must be 60 houses within 600 ft. of the right-of-way for the wall to be reasonable. The Split Rock Heights neighborhood would require 60 residences within 600 ft. of the right-of-way to justify a 20 ft. noise wall. There are only 20 residences within 600 ft. of the right-of-way, and therefore, the wall is not feasible. Therefore, the Split Rock Heights neighborhood does not qualify for noise mitigation as defined by the federal and state government agencies who are responsible for approving the EA.

The cross-sectional diagram presented at the November 7, 2002 EA Open House illustrating a 10 ft. berm is considered to be typical of the majority of the corridor. In locations where noise mitigation standards have not been exceeded, techniques can be used with landscape materials to lessen the effects of unwanted sound and add an aesthetic feature with planting materials. However, trees do not reduce noise unless they are densely planted (100 ft. of them) between the road and the receiver. For roads with limited truck traffic, a barrier or berm just high enough to block the view of the road surface can be effective as most of the noise comes from vehicle tires and brakes. To effectively block truck noise, the barrier must be high enough to block the engine exhaust.

The project's landscape plan will consider additional materials in this area to help screen the neighborhood from the roadway given that federal and state mitigation standards to qualify for a cost-effective noise barrier could not be attained.

Comment Form
East Side Corridor Environmental Assessment
November 7 Open House

The purpose of this public meeting is to receive comments from citizens regarding the East Side Corridor and the Environmental Assessment. Comments will be received at the open house and by mail, email, fax and phone. Please submit your comments by December 14 to:

Jeffrey Schmitt, City of Sioux Falls
224 W. 9th Street
Sioux Falls, SD 57104

phone 367-8891
fax 367-8863
email: Jschmitt@siouxfalls.org

Name: Kevin Gallo
Address: 6910 E. Split Rock Cir. Sioux Falls, SD 57110
email : kevin.gallo@att.net

A. Comments on Social and Cultural Environment; Land Use, Social Environment, Environmental Justice, Bicyclists and Pedestrians, Visual Quality /Aesthetics, Historic and Archaeological Preservation, Tribal Historic Preservation:

The East Side Corridor, while conceptually a good idea, is now being used as a justification for placement of commercial development where it is not appropriate due to existence of single family residential immediately East and West of where the commercial/multifamily/office development is now being proposed. The planned development is adjacent to and West of the planned path of the Corridor next to the current SD Hwy 11 between 22nd St. on the South and 10th St. on the North. Thus, the planned Corridor is already making an impact on the social/cultural environment of two residential neighborhoods. If not for the planned Corridor it is highly likely that the Commercial interest in this location would never have occurred. The residents of these neighborhoods have expressed their desire to the City of Sioux Falls Planning Division, and local City and County Elected Officials, that the region of planned commercial/multifamily/office development remain single family residential as depicted in the original 2015 Growth Plan of the City of Sioux Falls.

B. Comments on Economic Environment; Right-of-Way and Relocation Impacts, Economics, Construction Impacts:

One of the concerns of the neighborhoods to the East and West of the commercial/multifamily/office development described above is the anticipated economic impact as a result of decreased value of property due to the increased traffic in the area associated with the proposed expansion of commercial/multifamily/office development.

An additional concern is related to the physical construction of the Corridor. Several of the Split Rock Hts. neighborhoods between 28th St. and 10th St. exit onto the current Hwy 11. The residents of these neighborhoods depend on Hwy 11 for access to other roads that provide routes to and from locations of employment, groceries, and other retail necessities. Hwy 11 should remain open during construction of the Corridor to meet the transportation requirements of the residents of the Split Rock Hts. Area.

C. Comments on Natural Environment; Air Quality, Noise, Farmland, Water Quality, Storm Water Runoff, Wetlands, Water Body Modification, Floodplains, Vegetation, Fish & Wildlife, Threatened & Endangered Species, Invasive Species, Hazardous Waste Sites:

To provide minimal mitigation for the intrusion on the natural environment by the Corridor, berms should be placed on the East side of the Corridor as it routes through Split Rock Hts., from 26ths St. on the South to 10th St. on the North. The berm should be constructed to a height that would block the view of the roof of semi-trailers on the Corridor from individuals standing 200-500 feet from the berm.

General Comments: There is a sentence in the Sioux Falls East Side Corridor Environmental Assessment (page 30) that states "The proposed project is not expected to cause any adverse impact to any community or neighborhood." Based on the example Social/Cultural/Land Use, Construction, and Natural Environment impacts provided in the comments above it would seem that the Sioux Falls East Side Corridor will potentially have several adverse impacts on the Split Rock Hts. community. Residents of this community/neighborhood would hope that these impacts would be given more consideration than they seem to have been given to this point in time.

Comment Form
Eastside Commercial

The purpose of this information is to elicit comments from citizens regarding planning for eastside commercial. Comments will be received at the public meeting and by mail, email, fax and phone. Please address your comments to:

Jeffrey Schmitt, Planning Office
224 W. 9th Street
Sioux Falls, SD 57104

phone (605) 367-8891
fax (605) 367-8863
email: jschmitt@siouxfalls.org

Your association with the corridor:
Commuter using Hwy 11 X
Residential property owner X
Commuter using Hwy 42 X
Business property owner

Optional Information
Name: Kevin Gallo
Address: 6910 E. Split Rock Cir, Sioux Falls, SD 57110
email : kevin.gallo@att.net

Comments:

General: The City of Sioux Falls would seem to be responding to commercial development desires and current location of sewer hook-up capabilities rather than the wishes of the residents in the area of East Acres and Split Rock Hts. The location of a major commercial/multifamily/office development such as proposed between these two neighborhoods would be more appropriate adjacent to an interstate highway, similar to other developments of this size within Sioux Falls.

Specific: The changes in the 2015 Comprehensive Development Plan for the area near the intersection of SD Highways 11 and 42 (E. 10th St.) are inappropriate. The area South of E. 10th St., bordered at present by single family residential homes on the East (Split Rock Hts.) and West (East Acres), and portrayed in the 1996 version of the 2015 Plan to eventually also be single family residential homes, is now proposed to be a combination of commercial, office, and multi-family homes as far South as beyond the present 18th Street on the West and Split Rock Rd. on the East. Many of the residents in the area East of SD 11 reviewed the 1996 version of the 2015 Plan prior to locating to this area with expectation that the area South of E. 10th, as portrayed in the Plan at that time, would eventually be commercial adjacent to E. 10th with single family homes through the remainder of the area. The limit of commercial, office, and multi-family homes (not apartment complexes) in this area should not be beyond the South border of the present Wal-Mart complex (approximately 15th St.). With proper landscaping, single family homes could back up to (rear of homes facing) the existing or new commercial, office, or multi-family to the North of this boundary.

When a land use plan is approved, individual plans will need additional hearings to address commercial development issues regarding: size, height, setback, lighting, parking, etc. What issues do you want addressed in your area? When placing any commercial retail establishments in the vicinity of neighborhoods that include single family residential property the impact on the single family residential should be minimized to the maximum extent possible. Generous setbacks, lighting that minimizes light entering adjacent neighborhoods, landscaping that includes berms and trees would all be potential methods to minimize the impact of commercial development. Building height should be no greater than that of the residential in the vicinity.

Comments on the 2015 Growth Management Plan: e.g. population, utilities, parks schools, roads, fire stations, ...

Comments received from Kevin Gallo, December 12, 2002

Responses

A. The 2015 Growth Management Plan prepared in 1996 illustrates future land uses as commercial north and south of 10th Street (SD 42), and north and west of the Split Rock Heights neighborhood. The updated 2015 Growth Management Plan, prepared in 2002, illustrates a larger area of commercial land use south of 10th Street and west of SD 11. A comparison of land use acreages in the east side of Sioux Falls was prepared in December, 2002, as a response to public comments received on the 2015 Growth Management Plan Update. Land use acreages, from the original 2015 plan in comparison to the updated plan (proposed in November 2002 and modified with public input and in final draft form in January 2003) are illustrated in the following table.

Acres of Commercial / Industrial Land in East Side Area

	2015 Plan (Approved in 1996)	Updated 2015 Plan (Proposed Update)	
		(Nov. 2002)	(Jan. 2003)
Total in Basin 18*	190 / 80	270 / 0	235/0
Total at intersection of SD 11 and SD 42	60	180	125
Total on Dawley land*	60	100	75

** see attached graphic for identification of land area*

The City of Sioux Falls has held meetings to inform the public of proposed land use amendments to the 2015 Growth Management Plan and explain why the changes are needed (see City of Sioux Falls Web site: http://www.siouxfalls.org/neighborhoods/).

Commercial development is typically attracted to the intersection of state highways and the City of Sioux Falls has responded by designating commercial land uses in these areas as they generally offer the greatest accessibility and the ability to channel traffic on appropriate higher service corridors. It is therefore highly likely that commercial interest in this location would occur, with or without the East Side Corridor.

The East Side Corridor will generally follow the SD 11 alignment, but it was shifted west to provide a greater buffer for the Split Rock Heights neighborhood, thus decreasing the land set aside in the 1996 version of 2015 Plan for commercial development. With this shift in the corridor, the City of Sioux Falls has determined that an appropriate response to accommodate future development has been to also shift the commercial development farther south and west. In addition, primary access to the proposed commercial development will be limited to 10th Street and driveways will be prohibited except at a controlled intersection one-half mile to the south with an access point to the East Side Corridor. This

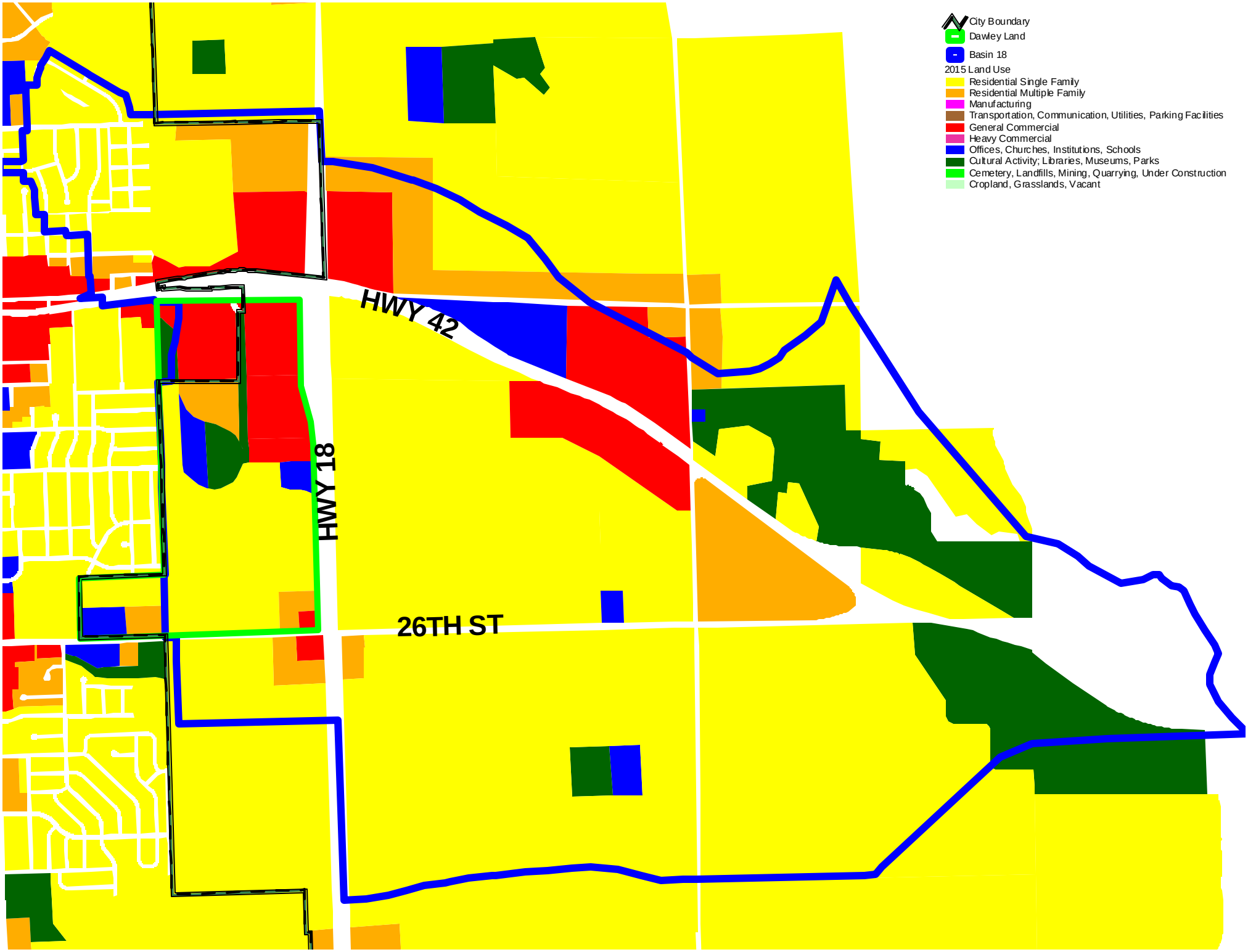
will reduce the potential ingress/egress conflict sources with the Split Rock Heights neighborhood.

B. The comment addresses the appropriateness of the proposed land use and not the East Side Corridor. The East Side Corridor will facilitate appropriate traffic movement for trips destined to and from the commercial area. The East Side Corridor itself is not a cause of the additional traffic that is referenced.

Construction on the roadway will be staged to allow access and meet the transportation needs of the area's residents and motorists (see EA page 42, last two sentences).

C. The first comment pertains to noise and visual screening. (*See response to Gregg Johnson comments.)*

The proposed project is not expected to cause adverse impacts to any community or neighborhood. The corridor was shifted westward specifically to buffer the Split Rock Heights neighborhood. There are no residential takings. The neighborhood does not qualify under the federal or state standards for assistance to construct noise walls; however, additional landscape treatments will be considered to help mitigate visual concerns and will provide minimal noise benefit. Access management will reduce the number of driveways and entrances/exits from the Split Rock Heights neighborhood and the proposed commercial area to the west, which will improve safety and reduce noise from accelerating and decelerating vehicles over the present conditions. Concerns about land use changes are not induced or created by the East Side Corridor as the proposed commercial developments can occur independently of the roadway.


City Boundary
Dawley Land
Basin 18
2015 Land Use
Residential Single Family
Residential Multiple Family
Manufacturing
Transportation, Communication, Utilities, Parking Facilities
General Commercial
Heavy Commercial
Offices, Churches, Institutions, Schools
Cultural Activity; Libraries, Museums, Parks
Cemetery, Landfills, Mining, Quarrying, Under Construction
Cropland, Grasslands, Vacant
HWY 42
HWY 18
26TH ST

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Ecological Services
420 South Garfield Avenue, Suite 400
Pierre, South Dakota 57501-5408

December 13, 2002

Mr. Jeffrey Schmitt, Assistant Director of Planning
City of Sioux Falls Planning and Building Services
224 West Ninth Street
Sioux Falls, South Dakota 57104-6407

Re: Sioux Falls East Side Corridor
Environmental Assessment

Dear Mr. Schmitt:

This letter provides the U.S. Fish and Wildlife Service's (Service) comments on the Environmental Assessment (EA) for the East Side (transportation) Corridor proposed for the City of Sioux Falls (City) in Minnehaha County, South Dakota.

As stated in earlier correspondence from this office and in the EA for this project, numerous wetlands would be impacted as a result of the construction of the East Side Corridor and the associated development expected to occur after its establishment. The type and number of wetland acres to be impacted has not yet been quantified and was not included in the EA. The Service recommends that this become a priority. As previously mentioned in our January 3, 2002, and May 20, 2002, letters, a mitigation plan addressing the number and types of wetland acres to be impacted and the methods of replacement should be prepared and submitted to the resource agencies for review. Generally, once all measures to avoid and minimize impacts to the maximum extent possible have been taken, the Service recommends mitigation in the form of restoration of drained wetlands at a ratio of 1:1. If creation of new wetlands is deemed necessary to mitigate for wetland losses, a 2:1 ratio (restored:impacted) is recommended. Created wetlands may have a lower rate of establishment success, result in a temporal delay in achieving value to wildlife, or may not contain the degree of biological diversity typically found in a natural wetland basin, thus are not preferred when considering mitigation options. Preservation of existing wetlands is also not recommended as a means of mitigation as this is not consistent with the "no net loss" of wetlands as outlined in Executive Order #11990.

Additionally, the City has recently been proposing storm water detention ponds as wetland mitigation for the City's urban development projects. While the Service encourages the use of storm water detention ponds in urban areas to act as filters for runoff, thereby preventing direct discharge of polluted water into lakes, streams, and groundwater, we do not recommend that ponds designed for collection of contaminants be developed for the purpose of wetland mitigation. While such ponds may perform some of the positive ecological functions of wetlands, they do not represent adequate wetland mitigation in biological terms. Pollutants, pets, vehicles, and other human-related disturbances detract from the value of these ponds for wildlife. Although we typically recommend on-site mitigation for most projects, in the case of large-scale proposed development like the expansion of Sioux Falls, we recommend creation of storm water detention ponds in addition to development of off-site wetland mitigation projects.

Much of the discussion in the EA relates to the development that will occur with the establishment of this transportation corridor; however, the environmental impacts of said development are not addressed. At risk due to this development are the Cactus Hills and Big Sioux River floodplain. The EA called these sites ". . . some of the highest quality wildlife habitat found in the project area." According to two additional documents included with the EA, a botanical survey and a faunal survey within the Cactus Hills area and associated native prairie prepared by SEH of St. Paul, Minnesota, several rare or uncommon species are located within this area. Each of these documents indicates the relatively high value of the native prairie and wooded habitats and their importance to wildlife. Conclusions in these documents include the following: "Preservation and management of remnant prairie, even those of areas of seemingly 'low quality,' should be considered fully, particularly where the threat of future land conversion could be to the detriment of the habitat," and "Together this complex of habitats provides an important refuge for fauna amid a region of the state that have predominantly agricultural or urban land uses." The EA mentions the possibility of conservation easements or outright purchases of properties for habitat protection as related to the lined snake, but there is no further discussion as to the viability of this as an alternative to development. Additionally, limited statements in the EA regarding preservation of the floodplain area centered on recreational opportunities and connection to an existing greenway. This may be interpreted as another form of development in form of cleared trees, picnic sites, seeded and mowed lawns, and paved pathways that would reduce the existing values of these habitats.

The Service acknowledges that the growth of the City is inevitable and expansion will become necessary. While some effort has been made in the planning stages of the East Side Corridor to minimize impacts to environmentally sensitive areas, complete avoidance was deemed impossible due to inconsistency with the City's growth plans. We submit that expansion of the City in other directions may represent more environmentally sensitive alternatives, and perhaps the growth plans should be revisited. One of the goals and objectives of the project listed in the EA is to protect the natural environment. It appears that establishment of the East Side Corridor and subsequent development in the proposed project area would do exactly the opposite.

Avoidance of potential impacts to the Cactus Hills area and Big Sioux River floodplain would maintain the natural beauty of these areas, their value for South Dakota resident wildlife and migratory species, and their high aesthetic values for the enjoyment of the residents of Sioux Falls and the surrounding area. The City may not have direct control of future development of these sites; however, as stated previously, development will be facilitated by the establishment of the East Side Corridor, thus future development can be projected and efforts to minimize or avoid environmental impacts can be made now.

Additionally, although impacts to State and federally listed species were described, discussion of means to avoid these impacts were limited. Construction of the East Side Corridor itself may not impact the nesting pair of bald eagles; however, resulting future development may. Depletion of the Big Sioux River and Split Rock Creek aquifers were mentioned as a concern with new development. Please note that groundwater input within Topeka shiner streams has been identified as an important habitat component and lowered aquifers may reduce instream water supplies in known occupied Topeka shiner streams. The lined snake (State listed) appears to have been given considerable consideration in the EA with safe passage corridors beneath the road included as efforts to minimize mortality. However, it appears at this point that, although conservation easements and property purchases were mentioned in the EA as a possibility, as stated above, protection of the lined snake habitat at this point is questionable.

The Federal action agency for this project, the Federal Highway Administration (FHWA), has not consulted with our office directly. If the FHWA or their designated representative, the South Dakota Department of Transportation, determines that the project "may adversely affect" federally listed species in South Dakota, it should request formal consultation from this office. If a "may affect - not likely to adversely affect" determination is made for this project, it should be submitted to this office for concurrence. If a "no effect" determination is made, further consultation may not be necessary. However, a copy of the determination should be sent to this office.

If changes are made in the project plans or operating criteria, or if additional information becomes available, the Service should be informed so that the above determinations can be reconsidered.

The Service appreciates the opportunity to provide comments. If you have any questions on these comments, please contact Natalie Gates of this office at (605) 224-8693, Extension 25.

Sincerely,

Nell McPhillips

for Pete Gober
Field Supervisor
South Dakota Field Office

cc: Secretary, SDDGFP; Pierre, SD
(Attention: Doug Backlund)
Secretary, SDDOT; Pierre, SD
(Attention: Dave Graves)
FHWA; Pierre, SD
(Attention: Ginger Massie)
SEH; St. Paul, MN
(Attention: Brad Kovach)

City of Sioux Falls, East Side Corridor Final Environmental Assessment Responses to Agency Comments

U.S. Fish and Wildlife Service Comment Letter, December 13, 2002

"the type and number of wetland acres to be impacted has not yet been quantified and was not included in the EA"

Response: Total estimated wetland impacts for the entire project are included in the first sentence of the last paragraph on page 55 of the EA. Considering that the project will be constructed during a 30-year schedule, wetland delineation and field typing will occur during the preliminary design phase prior to the construction of each project segment. During this 30-year schedule, wetland boundaries and types are expected to change in some cases. Measures taken during the preliminary design phase to avoid and minimize wetlands will also result in variations in the number, type, and total wetland impact acreage. Exact wetland impact acreages, wetland types, and sequencing efforts will be included in the wetland permit application submitted for each segment. Wetland types that were present during a field reconnaissance of the project corridor are referenced in Table 10, page 54 of the EA.

"a mitigation plan addressing the number and types of wetland acres to be impacted and the methods of replacement should be prepared and submitted to the resource agencies for review"

Response: Wetland delineation, impact determinations, and a mitigation plan will be provided to the resource agencies in the wetland permit application prepared for each project segment over the course of the 30 year schedule.

"the Service recommends mitigation in the form of restoration of drained wetlands at a ration of 1:1. If creation of new wetlands is deemed necessary to mitigate for wetland losses, a 2:1 ratio is recommended"

Response: A 1:1 wetland replacement ratio will be utilized for restored wetland credit. A 2:1 ratio will be utilized for created wetland credit.

"we [USFWS] do not recommend that [storm water detention] ponds be developed for the purpose of wetland mitigation"

Response: Wetland mitigation will be accomplished through on-site and off-site restored or created wetland mitigation sites.

"future development will be facilitated by the establishment of the East Side Corridor, thus re development can be project and efforts to minimize or avoid environmental impacts can be made now" "Construction of the East Side Corridor may not impact a nesting pair of bald eagles; however; resulting future development may'

Response: According to the City of Sioux Falls Comprehensive Growth Management Plan, growth in the project area is occurring regardless of the establishment of the East Side Corridor. The bald eagle nest is currently located within a developed area of the floodplain. The bald eagle nest is located amid the Excel Energy substation facility. Issues and concerns related to future developed should be addressed through correspondence and coordination under the Growth Management Plan, which is currently under revision.

[paraphrased]
[formal consultation with the USFWS on state and federally listed species should occur if the FHWA and SDOT makes a "may adversely affect" determination. A "may affect" or "not likely to adversely affect" determination should be submitted to the USFWS for concurrence. A "no effect" determination requires no further consultation with the USFWS"]

Response: The FHWA and SDOT are aware of and will follow this protocol for state and federally listed species findings on this project.

DEPARTMENT OF GAME, FISH AND PARKS
Foss Building
523 East Capitol
Pierre, South Dakota 57501-3182

December 16, 2002

Mr. Jeffrey Schmitt
Assistant Director of Planning
City of Sioux Falls Planning and Building Services
224 West Ninth Street
Sioux Falls, SD 57104-6407

Re: Sioux Falls East Side Corridor Environmental Assessment

Dear Mr. Schmitt:

This letter is in response to the Environmental Assessment (EA) for the East Side Transportation Corridor proposed for the City of Sioux Falls in Minnehaha County, South Dakota.

As stated in our previous letters, agency meetings and also in the EA, numerous wetlands would be impacted as a result of the construction of the East Side Corridor project. It was estimated that approximately 59.19 acres of wetlands would be impacted by the New-Corridor Preferred Alternative and 44.33 acres would be impacted by the Widen/Along Section Line Roads Alternative. As a result of the building of the Corridor project, additional wetland acres adjacent to the project area will more than likely be lost due to future development.

Federal agencies, including projects that are funded through the Federal Highway Administration, are required to implement "no net loss" measures for wetlands through Executive Order 11990. No net loss measures include wetland impact avoidance, minimization, and mitigation. If it is determined that a project may impact wetlands, the Department of Game, Fish and Parks recommends complete avoidance of wetlands, if possible, followed by minimization of any adverse impacts, and finally replacement of any lost acres. If wetland impacts are determined to be unavoidable, as in the stated preferred alternative for this project, a mitigation plan addressing the number and types of wetland acres impacted and the methods of replacement should be prepared and submitted to the resource agencies for review and comment.

In previous discussions with the City of Sioux Falls and the U.S. Army Corps of Engineers, stormwater detention ponds have repeatedly been proposed as mitigation for the City's development projects. It is our view that stormwater retention facilities should not be located in, or directly affect existing wetlands or other waters of the state, nor

should these ponds be allowed to compensate for the loss of a natural wetland. In addition to constant disturbance from people, domestic pets and vehicles, stormwater ponds will collect generally low-quality water. The collected water will enter the ponds, bringing pollutants, pesticides and fertilizers from the adjacent area into the system, and the stormwater pond, although providing some positive functions that wetlands provide, will most likely lose its wildlife benefits due to the constant habitat degredation and disturbance.

We recognize the need for stormwater ponds within the city limits of Sioux Falls, however, due to the reasons listed above, we recommend that a mitigation project be developed off site or possibly out of the city limits. Because wetland restorations are the most certain means to replace lost wetland habitat functions and values, we strongly suggest that restoration of a drained wetland be given first priority in evaluating off-site mitigation options. Protection of the mitigation site with a perpetual easement or other assurances that the mitigation area will be maintained as a wetland for the life of the project should be incorporated into the mitigation plan.

The prairie habitat of the Cactus Hills represents one of the last remaining remnants of tall grass prairie. Conservation of this habitat is critical not only to the lined snake, but also to a wide range of native plants and animals. Since avoidance no longer appears to be an option and the no action alternative is not an option, the preferred alternative must include the use of conservation easements to protect the remaining grassland habitat that is not destroyed by the highway construction. A conservation easement should be a requirement. Without a conservation easement the ultimate use of the prairie will be development. The construction of underpasses and protective fences to funnel the movements of lines snakes and other small animals is an excellent mitigation approach but, as stated in the EA, this is pointless without actual conservation of the prairie habitat. Therefore, a conservation easement must be in place prior to construction of the highway and associated underpasses and fences.

Thank you for the opportunity to provide comments on this project. If you have any questions or if I can be of further assistance, please contact me at (605) 773-6208.

Sincerely,

John C. Kirk
Chief of Environmental Review

CC: Natalie Gates; USFWS; Pierre, SD
John Miller; SDDENR; Pierre, SD
Dave Graves; SDDOT; Pierre, SD
Ginger Massie; FHWA; Pierre, SD

City of Sioux Falls East Side Corridor Final Environmental Assessment
Response to South Dakota Department of Game, Fish and Parks (SDGFP)

"no net loss measures [for wetland impacts] include avoidance, minimization and mitigation" "if wetland impacts are determined to be avoidable, a mitigation plan addressing the number and types of wetland acres impacted and the methods for replacement should be prepared and submitted to the resource agencies for review"

Response: The project will be constructed in segments within a 30-year schedule. Sequencing measures (avoidance, minimization, mitigation) will be implemented during the preliminary design phase for each segment. The preliminary design phase will also include wetland delineation and wetland typing to determine exact impact acreages and wetland types. The sequencing approach, wetland delineation boundaries and types, and wetland mitigation plan will be submitted with the wetland permit application prepared for each segment and submitted for review and approval by the resource agencies.

"storm water retention facilities should not be located in, or directly affect existing wetlands or other waters of the state, nor should these ponds be allowed to compensate for the loss of a natural wetlands"

Response: The City of Sioux Falls is currently (January 2003) undergoing a study to develop and identify storm water Best Management Practices (BMP's) that are needed for growth areas for the City. The City has identified a goal of using regional BMP's wherever possible.

As part of the study, the City will examine all new growth areas based on the 2015 Growth Plan and the 2002 Sanitary Sewer Collection Systems Facilities Plan and identify the BMP's necessary to maintain compliance with Federal, State, and City storm water standards. Of specific concern is the compliance with the City's Surface Water Discharge Permit #SDS-000001 and its corresponding approved Storm Water Management Program. Under the City's Commercial/Residential Management Program new development and significant redevelopment must provide appropriate post construction system design and engineering methods to reduce the discharge of pollutants to the maximum extent possible from the City's storm water system. The primary mechanism for incorporating storm water quality BMP's into developments is the City's Chapter 11, Drainage Improvements, of the Sioux Falls Engineering Design Standards.

Wetland impact mitigation for the East Side Corridor project will be coordinated with appropriate wetland restoration or creation methods identified by the storm water management study.

"we [SDGF&P] recommend that a [wetland] mitigation project be developed off site or possibly out of the City limits. Because wetland restorations are the most certain means to replace lost wetland habitat functions and values, we strongly suggest that restoration of a drained wetland be given first priority in evaluating off-site mitigation options. Protection of the mitigation site with a perpetual easement or other assurances

that the mitigation area will be maintained [should be incorporated in the wetland mitigation plan]"

Response: The City of Sioux Falls agrees with the assertion that wetland restorations are more successful and provide better wetland functions and values then wetland creations. Wetland restorations are also more cost effective (lower costs) and have a higher success probability when compared to wetland creation sites. In addition, the City is aware that there are abundant wetland restoration opportunities in the region, including areas beyond the scope of future development. Therefore, drained wetland basins will be given highest priority during a site search for potential mitigation sites, especially sites that are geographically protected from or beyond the scope of future intense growth. All wetland mitigation sites will include an upland buffer, perpetual easement, and a long-term management/maintenance plan.

"the construction of underpasses and protective fences to funnel the movements of lined snakes and other small animals is an excellent mitigation approach but, as stated in the EA, this is pointless without actual conservation of the prairie habitat. Therefore, a conservation easement must be in place prior to construction of the highway and associated underpasses and fences.

Response: The City is aware that effective faunal underpasses and fencing require the protection and management of the surrounding habitats. The City will initiate the process to develop and implement conservation easements or a similar sort of agreement that protects the habitat in perpetuity. A restoration and management plan for the prairie may be developed and included with the perpetual easement. The City will request guidance, participation and consultation from the SDGF&P and other resource agencies to assist with the negotiations, design, and implementation of these measures. These efforts will be implemented and established prior to construction of the northern alignment portion of this project. These efforts will begin as soon as possible to complement the projected construction schedule.

Post-it® Fax Note 7671	Date 12-17-02	# of pages ▶ 1
To Ross Harris	From John Miller	
Co./Dept. SEH	Co. DENR	
Phone # 952 912 2615	Phone # 605 773 3351	
Fax # 952 912 2601	Fax # 605 773 5286	

includ[e] exists. corrid[or] close proximity to the roadway.

atment currently important in this River) located in

Minimization of Impacts on Water Quality

There will be no impacts to water quality with the No Action Alternative because improvements to roadways would be limited to maintenance and minor repairs.

South Dako[ta] Surface Water Discharge (SWD) program's Storm Water Mitigation measures will be developed during construction planning and staging to avoid erosion into waters including stream and wetland areas. Under the ~~National Pollutant Discharge Elimination System (NPDES)~~ permit for the project, Best Management Practices (BMPs) will be used to avoid erosion from all disturbed land. An Erosion Control Plan will be developed to include BMPs to be installed, staging, temporary storage of excess material, inspection, and maintenance schedule of BMPs, and temporary seeding measures.

As either the New Corridor-Preferred or the Widen/Improve Section Line Roads Alternatives develop and are constructed, land uses in the area will transform from agricultural to urban uses. As urban land uses expand, storm sewers and storm water ponding will become prevalent and will be designed to trap the majority of sediment prior to discharging to adjacent wetlands and streams. Non-storm sewered areas will be designed to meet site specific needs to trap pollutants.

5. **Storm Water Runoff**

~~There will be no~~ No impacts to storm water runoff are expected with the No Action Alternative because improvements to roadways would be limited to maintenance and minor repairs.

In response to water quality concerns and in accordance with the requirements of the ~~NPDES~~ SWD program, the New Corridor-Preferred and the Widen/Improve Section Line Roads Alternatives would include substantial water ponding provisions to assist in attaining the goal of not increasing pollutant loading.

As either the New Corridor-Preferred and the Widen/Improve Section Line Roads Alternatives develop and are constructed, coordination with the affected agencies would continue through the design and permitting process to ensure that storm water provisions conform to all regulations and standards.

Erosion and Sedimentation

As either the New Corridor-Preferred and the Widen/Improve Section Line Roads Alternatives develop and are constructed, the potential for erosion and sedimentation will increase without proper controls. An ~~NPDES~~ state-issued storm water permit will be required for either alternative. Erosion prevention and sediment control BMPs would be followed in accordance with the ~~NPDES~~ permit, which would include an Erosion Control Plan. Temporary and permanent control features include timely revegetation of disturbed areas, hay bales, silt fences, flotation silt curtains, and sediment ponds, but are not limited to,

Erosion and sediment control measures will be implemented to protect all drainage leading to wetlands, streams and rivers.

General Permit for Storm Water Discharges Associated w/ Construction Activity

Note to the Reader:

The preceding page includes corrections and editorial changes from the South Dakota Department of Environmental and Natural Resources. These changes have been made and are incorporated on Pages 48 and 49 of the final EA document.

FEDERAL HIGHWAY ADMINISTRATION
SOUTH DAKOTA DIVISION
The Sibley Building
116 East Dakota Avenue
Pierre, SD 57501-3110

Phone: 605-224-7326
FAX: 605-224-1766

ROUTE SLIP

July 22, 2003

To:	Title	Routing Symbol
Jeff Schmitt		City of Sioux Falls

REMARKS:

_x_	For Your File	___	Per Our Conversation
___	For Your Comment	___	Per Your Request
____	For Your Information	___	Please Respond
___	For Your Signature	_x_	Take Appropriate Action

SUBJECT: East Side Corridor

MESSAGE: Attached is a copy of the signed FONSI for the East Side Corridor. Let me know if you have any questions. Thank you.

Attachment

From:	Title	Telephone
Ginger Massie	Environmental Engineer	605-224-7326 Extension 3037

FEDERAL HIGHWAY ADMINISTRATION
FINDING OF NO SIGNIFICANT IMPACT
FOR
SIOUX FALLS EAST SIDE CORRIDOR
MINNEHAHA AND LINCOLN COUNTIES, SOUTH DAKOTA
I-29 (Exit 106) east and north 17 miles to I-90 (Exit 402)

The FHWA has determined that the Preferred Alternative (New Corridor) for the proposed Sioux Falls East Side Corridor will have no significant impact on the human environment. This FONSI is based on the attached Environmental Assessment (EA) which has been independently evaluated by the FHWA and determined to adequately and accurately discuss the need, environmental issues, and impacts of the proposed project and appropriate mitigation measures. It provides sufficient evidence and analysis for determining that an EIS is not required. The FHWA takes full responsibility for the accuracy, scope and content of the attached EA.

The Preferred Alternative for the East Side Corridor includes the development of a new regional arterial highway to accommodate forecasted regional travel demand growth in Sioux Falls. The location for the proposed new roadway is illustrated on EA Figure 2. The project extends from I-29 (Exit 106) east and north approximately 17 miles to I-90 (Exit 402). The proposed four-lane roadway is planned to be designed within a 200-foot wide corridor with 12-foot minimum travel lane widths, 20-foot medians, 10-foot shoulders, 10-foot berms, and 10-foot wide paved pedestrian/bicycle trails. Grade-separated interchanges have been proposed at intersections with Minnesota Avenue, SD Highway 11, and Rice Street. Grade-separated structures are proposed to span existing railroads and other local roads that are not provided with immediate access to the new corridor. Other intersections are proposed to be designed at-grade with traffic controls (turning lanes, traffic signals) and placed with 1-mile access openings, except in future commercial areas, where ½-mile access openings will be permitted.

7-16-03
Date

Ginger R. Massie
For FHWA