Environmental Assessment and Section 4(f) *De Minimis* Finding

FOR

I-229 Exit 5 (26th Street) Interchange

IM 2292(06)5; PCN 4778

Minnehaha County
Sioux Falls, South Dakota

Submitted Pursuant to 42 U.S.C. 4332(2) (c) and 49 U.S.C 303
By the
U.S. Department of Transportation
Federal Highway Administration
and
South Dakota Department of Transportation

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CHAPTER 1
PURPOSE AND NEED FOR THE PROPOSED ACTION

In 2012, the Interstate 229 (I-229) Exit 5 (26th Street) Crossroad Corridor Study was initiated to consider:

- The existing I-229 Exit 5 Interchange and potential options for its reconstruction
- A potential 26th Street grade separated crossing of the Burlington Northern Santa Fe (BNSF) Railway tracks
- Expansion of the 26th Street and Southeastern Avenue intersection

These items jointly are considered the Project. The stakeholders that initiated the Project include: South Dakota Department of Transportation (SDDOT), City of Sioux Falls (the City), Sioux Falls Metropolitan Planning Organization (MPO), and Federal Highway Administration (FHWA). In addition to these stakeholders, landowners, commuters, concerned citizens, business owners, park and trail users, the City's Parks and Recreation Department, and BNSF have been and will continue to be involved in this Project.

FHWA funding is included in this Project; therefore, requirements of the National Environmental Policy Act (NEPA[1]) apply. FHWA has determined that an Environmental Assessment (EA) is necessary to assist in determining whether the Project is likely to have significant impacts on the environment that would require an Environmental Impact Statement (EIS) under NEPA. In addition, this EA provides stakeholders with information necessary to make informed decisions by considering input from other agencies, tribes, and the public.

1.1 PROJECT BACKGROUND

The Project was initiated in the planning process to further analyze the following:

- Improvements to increase traffic capacity for the I-229 Exit 5 Interchange
- Grade separation at the 26th Street crossing of the BNSF Railway (TKDA 2002)
- Improvements to increase the capacity at the intersection with 26th Street and Southeastern Avenue

Improvements to 26th Street were rated the third highest priority for improvements to streets and corridors by residents during a 2010 Market Research Study conducted for the *Direction 2035: Sioux Falls MPO Long-Range Transportation Plan* (Sioux Falls MPO 2010).

The FHWA's Planning and Environment Linkage process was used to carry decisions from the transportation planning process into the NEPA analysis and documentation process. Scoping, initiated in the planning process, included coordination with resource agencies and the public to ensure their input was considered in development of a draft purpose and need statement and the planning alternatives. All information developed during the planning process is being used in the development of this EA.

[1]NEPA (42 United States Code 4321-4347) is the foundation of environmental policy making in the United States. The NEPA process is intended to help public officials make decisions based on an understanding of environmental consequences and take actions that protect, restore, and enhance the environment. It includes an environmental review process early in the planning for proposed actions.

1.2 PROJECT LOCATION AND STUDY AREA

The Project is located within the City, South Dakota (see Figure 1-1, Project Location). The Study Area is an area used to study the range of all reasonable alternatives that meet the Project's purpose and need. The Study Area was identified in the planning process and was pulled forward into the EA process.

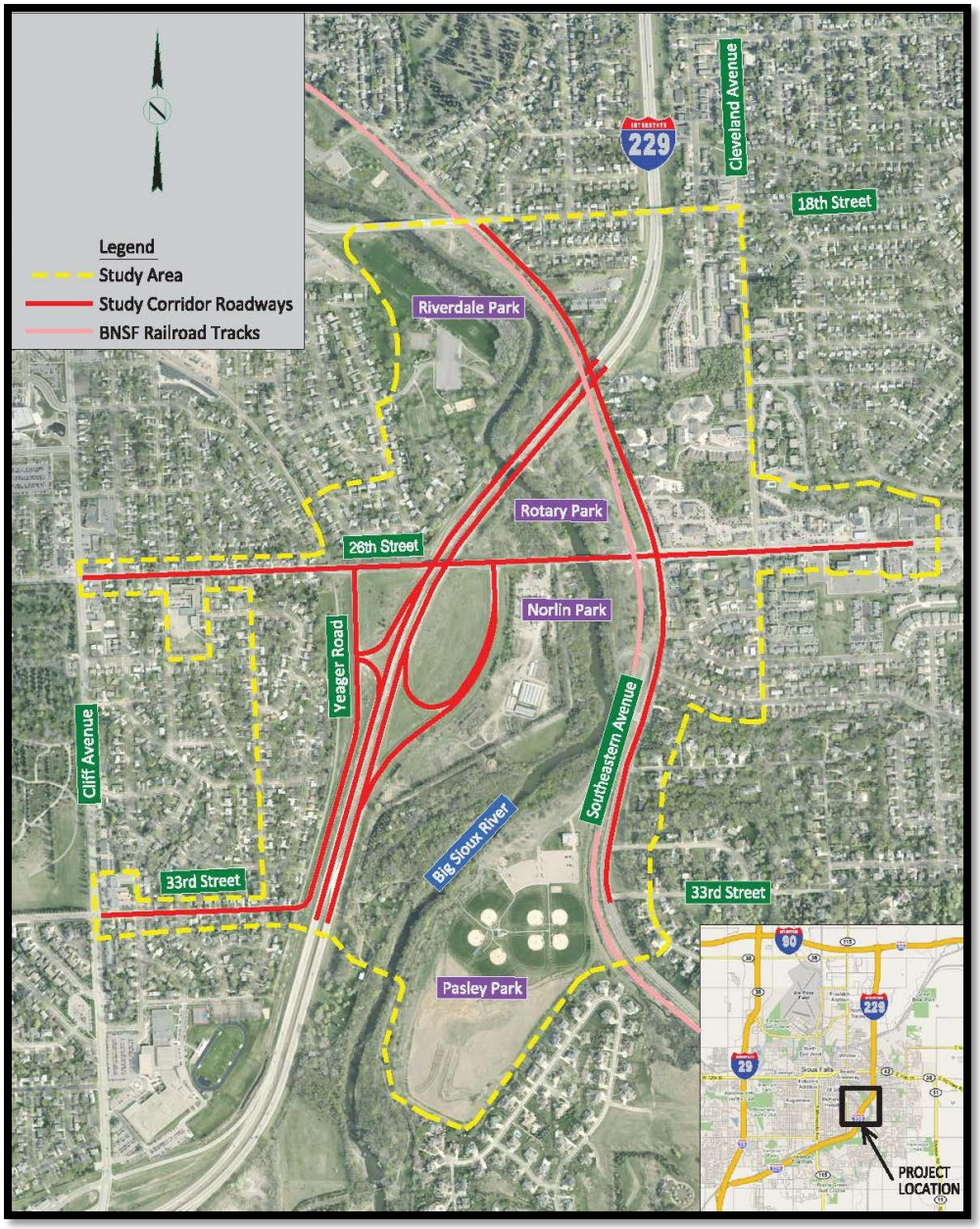

Figure 1-1. Project Location

1.2.1 Purpose and Need for the Project

The National Environmental Policy Act (NEPA) and other environmental requirements rely on a project decision-making process guided by the Purpose and Need for the project. The **purpose** is a brief statement of the primary intended transportation objective and related goals to be achieved

by the proposed transportation improvement. The **need** is a condition(s) sought to be relieved, or a statement of the problem in need of a solution. The need proves the problem exists based on existing data and information. The alternatives are developed, evaluated, and compared based on how well they address the purpose and need statement. The purpose and need statement is developed with the consideration of stakeholders, tribes, public, and agency input.

1.2.2 Purpose of the Project

The purpose of this Project is to accommodate the existing and future traffic needs for the I-229 Exit 5 Interchange and the intersection of 26th Street and Southeastern Avenue with a facility that:

- Improves the existing I-299 Exit 5 Interchange configuration and capacity
- Provides a grade separated 26th Street crossing over the BNSF rail line
- Improves traffic capacity at the intersection with 26th Street and Southeastern Avenue
- Meets the local long range transportation plan

1.2.3 Project Need

Direction 2035: Sioux Falls MPO Long-Range Transportation Plan identifies congestion as the most important factor for identifying transportation improvement needs. The long-range transportation plan also identified the need for ensuring that interchange areas are properly configured to handle projected year 2035 traffic volumes.

The need for this Project is directly related to the current and future transportation needs for the I-229 Exit 5 Interchange, the 26th Street/BNSF rail line crossing, and the intersection of 26th Street and Southeastern Avenue. The existing I-299 Exit 5 Interchange, specifically the ramp intersections with Yeager Road and 26th Street, do not adequately handle existing traffic volumes. Increasing traffic volumes by analysis year 2035 will result in even worse traffic conditions.

1.2.3.1 Standardization of Interchange Ramp Configuration

The southbound I-229 on and off ramps connect to Yeager Road, a parallel local collector roadway, rather than the 26th Street interstate crossing. The SDDOT 2010 Decennial Interstate Corridor Study (2010 Decennial Study) prioritized correction of this unconventional ramp configuration. Other deficiencies noted in the 2010 Decennial Study included substandard curve radii and inadequate stopping sight distance; neither the safety analysis in the 2010 Decennial Study nor the safety analysis prepared for this Project (HDR April 2014) identified these other deficiencies as a safety concern that needed to be addressed.

During the planning stage of the Project, the existing I-299 Exit 5 Interchange was analyzed to determine whether standardization of the southbound ramp configuration was needed to accommodate existing and future traffic conditions. From this analysis, concept options were developed, all of which eliminated the connection of the southbound ramps to Yeager Road. Figure 1-2 shows the existing I-299 Exit 5 Interchange configuration. Corrections of other geometric deficiencies noted in the report were determined to not be warranted.

1.2.3.2 Traffic Capacity

A traffic study was completed as part of this Project to evaluate the traffic operations for current and projected year 2035 traffic volumes on the existing roadway system within the Study Area (HDR March 2014a). The traffic study analyzed Level of Service (LOS), which is a measurement for categorizing traffic flow on roadways and at intersections, generally during peak (worst congestion) traffic periods. The LOS scale is similar to classroom grading with LOS "A" being the best traffic conditions, i.e. free flow, and LOS "F" being the worse, i.e. gridlock.

SDDOT has defined acceptable LOS at intersections such as the southbound and northbound ramps at 26th Street as LOS C or better.

The City has defined acceptable LOS for urban intersections such as the intersection of 26th Street and Southeastern Avenue as LOS D or better.

The present day conditions show that the I-229 northbound and southbound through lanes are generally meeting the needs of the traveling public. Although the I-229 traffic operations are currently acceptable, the surrounding street system experiences pockets of congestion during peak traffic periods, particularly at the following locations:

- I-229 Exit 5 Interchange ramp intersections
- 26th Street/Southeastern Avenue intersection

Figure 1-2 shows the existing and year 2035 LOS at these locations. The LOS for year 2035 assumes that no improvements will be made to the roadway system. In addition to the intersections noted above, which currently operate at LOS F at some periods during the day, the intersection of Yeager Road and 26th Street drops to LOS D by year 2035.

In addition to LOS, crash data was analyzed (HDR March 2014a). At the intersection of 26th Street and I-229 northbound ramps, there were a total of 46 crashes from 2008 to 2011 which is 95 percent above the statewide crash rate for similar types of intersections. These crashes were almost exclusively rear-end crashes related to congestion. The main reason for the congestion is the lack of turning lanes on 26th Street.

There were 26 crashes at the intersection of Yeager Road and 26th Street from 2008 to 2011 which is 28 percent above the statewide crash rate for similar types of intersections. These crashes were mainly rear-end and angle crashes that involved traffic in the westbound left turn lane to Yeager Road. These crashes were also determined to be related to congestion.

The *SDDOT 2010 Decennial Interstate Corridor Study* also noted that most crashes within the I-299 Exit 5 Interchange area are congestion-related.

Congestion throughout the Project is further aggravated when a train blocks 26th Street at the at-grade railroad crossing.

Pedestrian travel is also affected by the congestion present in these areas. With backed up traffic, pedestrians find it difficult to cross intersections safely. The year 2035 traffic operation analysis (HDR March 2014a) indicated the locations that are currently congested and would continue to decrease in LOS and fall below the acceptable LOS C.

1.2.3.3 26th Street and BNSF Railway Grade Separated Crossing

The City has established a grade separation policy (City's Policy) for evaluating and determining the need for grade separated railroad crossings on City streets. The policy contained in the *City of Sioux Falls Engineering Design Standards for Public Improvements* (City of Sioux Falls Public Works 2013) calls for the consideration of five design criteria and analysis of five site specific analysis factors. There is currently one at-grade railroad crossing within the Project, that being the BNSF Railway at-grade crossing approximately 150 feet west of the intersection of 26th Street and Southeastern Avenue.

The City's Policy states that a grade-separated crossing should be considered when one or more of five criteria are met. The criteria and conditions for the BNSF Railway crossing are shown in the following table:

Table 1-1. Criteria Evaluated When Considering Grade Separated Crossings

Criteria	Site Condition
Roadway is classified as arterial on Major Streets Plan	Yes (Sioux Falls MPO 2010)
Roadway design speed at least 45 mph[2]	No – 26th Street design speed is 35 mph.
Projected roadway AADT[3] exceeds 10,000 vehicles per day	Yes - AADT 28,000 (HDR March 2014a)
Rail line has a design speed of at least 49 mph	No - 40 mph (BNSF 2013)
Rail line carries an average of 3 or more trains per day	Yes - during peak seasons (TKDA 2012)

Because one or more of the above design criteria are present, the policy states that the site should be further analyzed for consideration of a grade separation. The five site specific analysis factors and findings are discussed below:

1. Safety – A comparison of accident data on similar segments of roadway is used to identify segments with higher than normal safety concerns. In the years 2008 to 2011, there were 34 crashes reported in the vicinity of the 26th Street and BNSF Railway crossing. This crash rate is 27 percent below the statewide average rate for similar types of facilities. The crash rate indicates that safety is not a concern at this crossing.
2. Vehicle and pedestrian accessibility – During a train crossing, vehicles have been observed to backtrack to the next I-229 interchange if they can. However, pedestrians and bicyclists have little choice but to wait for the train to pass. Within the vicinity of the BNSF Railway, pedestrian and bicycle facilities include sidewalks located on the north side of 26th Street and on the east side of Southeastern Avenue. Pedestrians and bicyclists utilize the sidewalks in the area for transportation to the park areas, residences, and businesses. The at-grade crossing at this location has a major affect on accessibility and mobility.
3. Street connectivity – 26th Street and Southeastern Avenue are major routes within the residential and business areas in this portion of the City. 26th Street carries an average of 28,000 vehicles across the railroad tracks each day. After a train crosses, traffic along 26th Street typically takes 30 minutes to stabilize. Up to 3 trains per day cross 26th Street. When

Trains crossing 26th Street causes long traffic backups, especially during peak hour.

[2] miles per hour
[3] Annual Average Daily Traffic

trains are present, street connectivity is disrupted for large numbers of travelers during peak traffic periods.

4. Emergency vehicle delay – 26th Street and Southeastern Avenue are identified as arterial streets and are designated as emergency vehicle access routes. Emergency vehicle access routes are limited within this area of Sioux Falls due to the presence of the Big Sioux River and other constraining physical features; therefore, delays have a significant effect on emergency vehicles response times.
5. Crossing Noise – Noise in this area is generated from both trains and automobiles. Noise is a concern for recreational users of the Big Sioux River, adjacent park areas, and residences, however there are few residences located within this area. Noise levels are projected to be the same with or without the Project being constructed. Noise levels at the closest building, a local business on the northeastern corner of the intersection of 26th Street and Southeastern Avenue, do not exceed the noise threshold for commercial areas. However, the noise level does exceed the thresholds for residences and park areas. Features required to mitigate for noise would detract from the park view shed, and the required mitigation would not be cost effective (HDR January 2014). Therefore, the project would not provide for crossing noise mitigation. For further discussion of noise policies and mitigation, see Section 3.7, Noise.

Based on the City's Policy, a grade separation of 26th Street at the BNSF Railway is justified as this project will improve vehicle and pedestrian accessibility, provide street connectivity, and reduce emergency vehicle delays.

1.2.3.4 Consistency with the Long Range Transportation Plan

Direction 2035: Sioux Falls MPO Long-Range Transportation Plan (Sioux Falls MPO 2010) reflects the City's plan for 26th Street as an east-west corridor. The transportation plan indicates that the ability to widen 26th Street for the purpose of accommodating future capacity needs is limited due to the close proximity of neighborhoods and homes fronting this corridor. However, in order for 26th Street to serve as an east-west corridor, widening of 26th Street between Cliff Avenue and Cleveland Avenue is proposed, but only to the extent necessary to improve traffic operations and safety at the I-229 Interchange, BNSF Railway crossing, and the intersection of 26th Street and Southeastern Avenue.

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Project Deficiency Summary

I-229 Exit 5 (26th Street) Interchange Environmental Assessment — Sioux Falls, SD

Figure 1-2

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CHAPTER 2
ALTERNATIVES

This chapter describes the alternatives considered during the development of this Project and the process used to evaluate these alternatives. This chapter also presents estimated Project costs.

As discussed earlier, FHWA's Planning and Environmental Linkage process was used to ensure that decisions made during the transportation planning process could be used in the NEPA analysis and documentation process. During the planning process, Concept Options were developed for both the I-229 Exit 5 Interchange (Interchange) and the intersection of 26th Street and Southeastern Avenue (Intersection). For consistency sake, these Concept Options will be referenced in this Chapter when discussing each of the Interchange and Intersection options developed during the planning phase. 'Build Alternatives' to be carried forward for full NEPA analysis will consist of a combination of the Interchange and Intersection Concept Options as discussed further in this Chapter.

2.1 IDENTIFICATION OF CONCEPT OPTIONS

Based on a process of reviewing existing right-of-way (ROW), future land use plans, and other information, Concept Options were identified for preliminary evaluation.

These Concept Options were developed via a study of the area conducted by the Study Advisory Team (SAT). The SAT was composed of SDDOT, the City, and FHWA. SAT members identified the Concept Options by understanding the existing infrastructure and the future traffic demands.

The SAT identified Concept Options for the Interchange, as well as Concept Options for the Intersection. Concept Options for the two locations were considered separately for several reasons.

- The Interchange may be constructed at a different time than the Intersection.
- Construction of the Interchange and the Intersection will have a direct effect on one another.
- In order to allow for construction of each location separately, impacts of a temporary transition between the Interchange and the Intersection needed to be evaluated.

Nine Interchange Options and six Intersection Options were presented February 6, 2013, at a public meeting. Based on comments received at the public meeting and feedback from the SAT, a total of 20 options were ultimately considered for the Interchange and 6

Exit 5 Interchange

- Concept Options 1a and 1b
- Concept Option 2
- Concept Options 3a and 3b
- Concept Option 4
- Concept Option 5a and 5b
- Concept Options 6a and 6b
- Concept Options 7a, 7b, 7c, and 7d
- Concept Option 8
- Concept Options 9a and 9b
- Concept Option 10
- Concept Option 11
- Concept Option 12

26th Street/Southeastern Avenue Intersection

- Concept Option A
- Concept Option B
- Concept Option C
- Concept Option D
- Concept Option E
- Concept Option F

options were considered for the Intersection.

Appendix A displays all of the Concept Options for the Interchange and the Intersection.

2.2 EVALUATION OF CONCEPT OPTIONS

To evaluate the Concept Options (Options), the following questions were considered:

- Project purpose and need
    - Is a standard interchange configuration provided?
    - Are existing and future traffic needs met?
    - Is a grade separated railroad crossing provided in accordance with City policy? This question relates more to the Intersection than to the Interchange.
    - Is the Option consistent with the local long range transportation plan?
- Property impacts
    - Are there impacts to residential and commercial properties?
    - Are there impacts to parks and recreational areas?
- Floodplain and wetland impacts
    - Are there impacts to designated floodplain areas and identified waters of the U.S. (that is, wetlands, streams, and rivers)?
- Construction costs
    - How do the construction costs of the Options compare to each other?

Appendix A contains an analysis of each of the Options based on these main questions as well as several less critical considerations. Figure 2-1 displays the existing conditions for the Project. Section 4(f) resources are present within the Study Area. Since all Options had similar impacts to the Section 4(f) resources, the requirements of 23 CFR 774.3 were considered when eliminating these Options (refer to Section 3.18). The evaluation in Appendix A was used to eliminate Options from further consideration and to identify which Options would be carried forward for further detailed study.

2.3 OPTIONS CARRIED FORWARD FOR DETAILED STUDY

Based on the information discussed in Appendix A, Options carried forward for detailed study in this EA include:

- Interchange
    - Option 5a – West Side Adjacent Ramps
    - Option 7a – West Side Folded Diamond with Yeager Road
- Intersection
    - Option A – Elevated Intersection on Existing Southeastern Avenue Alignment
    - Option C – Elevated Intersection on Shifted Southeastern Avenue Alignment

The following are brief descriptions of the Options carried forward for detailed study, as well as their benefits and disadvantages.

2.3.1 Interchange Options

Animations and renderings of Interchange Options 5a and 7a were presented at the January 15, 2014 public meeting to assist in visualization of the options. The animations and renderings can be viewed on the project web site at: http://www.26thstreetcorridorstudy.com/events.html.

2.3.1.1 Option 5a

Option 5a (see Figures 2-2 and 2-3) proposes a diamond interchange configuration for the west-side ramps, while keeping the east side loop and ramp of the existing Interchange. The west-side ramps would be immediately adjacent to I-229 to minimize impacts on adjacent residential properties.

- Benefits of Option 5a include:
    - Lower construction cost than the full diamond Interchange Options because there is no ramp in the northeast quadrant of the Interchange.
    - Minimal impact on Rotary Park and the Big Sioux River floodplain, because there is no ramp in the northeast quadrant of the Interchange.
    - A LOS of C or better is forecasted for year 2035 conditions.
    - 26th Street widening does not extend west of Frederick Drive, where adjacent properties would be impacted as the current grass boulevard width would be reduced.
    - Because Yeager Road is maintained, there would be minimal impact on local traffic patterns and streets in the area southwest of the Interchange.
- Drawbacks of Option 5a include:
    - West-side ramps immediately adjacent to I-229 will require a new bridge over I-229, increasing the cost associated with this Option.

2.3.1.2 Option 7a

Option 7a (see Figures 2-4 and 2-5) proposes a folded diamond interchange configuration for the west-side ramps, while keeping the east side loop and ramp of the existing Interchange. Yeager Road is realigned to match Frederick Drive at 26th Street. This is essentially the same, basic configuration as the existing Interchange except that the west side loop and ramp would connect to 26th Street instead of Yeager Road, thus providing a standard and acceptable interchange configuration.

- Benefits of Option 7a include:
    - Lower construction cost than the other Interchange Options, because there are no north-side ramps.
    - Minimal Rotary Park and floodplain impacts, because there are no north-side ramps.
    - A LOS of C or better is forecasted for year 2035 conditions.
    - Because Yeager Road is maintained, there would be minimal impact on local traffic patterns and streets in the area southwest of the Interchange. This benefit is in comparison to Options 7c and 7d which proposed elimination of Yeager Road.

- Drawbacks of Option 7a include:
    - The loop ramp from southbound I-229 to 26th Street provides for a relatively low (that is, 25 miles per hour [mph]) design speed. See Appendix B (Alternative 7a Loop Design Analysis) for justification of the loop design speed.
    - Widening of 26th Street west of Frederick Drive would be necessary for merging of the dual left-turn lanes from the southbound off-ramp to westbound 26th Street. Activities west of Frederick Drive would impact adjacent properties because the width of the grass boulevard would be reduced.

2.3.2 Intersection Options

Animations and renderings of Intersection Options A and C were presented at the January 15, 2014 public meeting to assist in visualization of the options. The animations and renderings can be viewed on the project web site at: http://www.26thstreetcorridorstudy.com/events.html.

2.3.2.1 Option A

Option A (see Figures 2-2 and 2-4) proposes raising the Intersection up from its existing grade by approximately 25 feet. The elevation raise would allow the roadway to pass over the BNSF Railway tracks. With this option, 26th Street and Southeastern Avenue would stay on their existing horizontal alignments.

- Benefits of Option A include:
    - Traffic LOS D is forecast at the intersection for year 2035 conditions. This meets the City's criteria for arterial streets.
    - Access to the properties in the northeast quadrant of the Intersection does not change.
    - Pedestrian connectivity between 26th Street and Southeastern Avenue is maintained.
    - BNSF has indicated to the Project Team this is their preferred option.
- Drawbacks of Option A include:
    - Access would be eliminated to the two commercial properties, 6 condo properties, and 1 residential property along Southeastern Avenue south of 26th Street. This would result in acquisition of all of these parcels.
    - The long bridge across the Big Sioux River and BNSF Railway tracks and the extensive retaining walls would lead to a relatively high construction cost of $18.0 million.

2.3.2.2 Option C

Option C (see Figures 2-3 and 2-5) is the same as Option A, except that Southeastern Avenue is shifted approximately 75 feet west of the existing roadway. This shift provides room for a service road that would provide access to several of the properties in the southeast quadrant of the Intersection.

- Benefits of Option C are the same as Option A, except:
    - Service road continues to provide access to this area.

- Drawbacks of Option C are the same as Option A, except:
    - The City's street department expressed concern with maintenance of the dead-end service road proposed with this Option.
    - The commercial properties in the southeast quadrant would have an overall devaluation due to the lack of direct access to Southeastern Avenue and would have visual impacts due to the elevated road.

2.4 IDENTIFICATION OF BUILD ALTERNATIVES

2.4.1 No-Build Alternative

Under the No-Build Alternative, short-term minor reconstruction and maintenance activities would occur, but reconfiguration of the existing interchange and other proposed improvements would not be conducted (see Figure 2-1). The No-Build Alternative does not meet the Project need of:

- Providing a standard interchange configuration.
- Relieving the existing and future traffic congestion at the Interchange and at the Intersection.

For these reasons, the No-Build Alternative would not meet the future transportation demands in this area. Although the No-Build Alternative would not meet the needs of this Project, it is included for analysis in this EA to provide a baseline for comparison of impacts of the alternatives and meets the NEPA requirement to analyze the impacts of no action.

2.4.2 Build Alternatives

During initial evaluations, separate Options were considered for both the Interchange and the Intersection, with a mutual connecting point west of the Big Sioux River Bridge on 26th Street to demonstrate the potential of these two portions of the Project to be constructed in different construction seasons. Due to the large scale of this Project, the construction of any Build Alternative may be in stages. The stages would be determined by SDDOT and the City and would be based upon funding availability and maintenance of traffic flow during construction. The sequence of construction is anticipated to be the Interchange first and then the Intersection, but they are not limited to this order.

For the purposes of NEPA, the remainder of the document will evaluate Build Alternatives consisting of a combination of each of the Interchange Options along with each of the Intersection Options as shown below. FHWA's guidance requires the whole project to be considered as one alternative in order to evaluate the Project effects and to eliminate the potential for unevaluated direct and indirect effects.

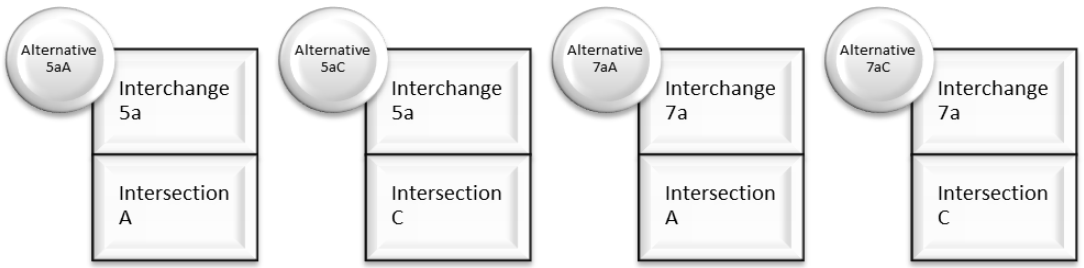

Table 2-1 provides a summary of engineering considerations, construction costs, and property impacts for the four build alternatives that will be brought forward for further analysis in this EA.

Table 2-1. Summary of Alternatives Carried Forward for Further Analysis

Item	Description	Build Alternative			
		5aA	5aC	7aA	7aC
Comparative construction cost ($ million)	Interchange	15.8	15.8	9.5	9.5
	Intersection	18.0	18.8	18.0	18.8
Total Cost		33.8	34.6	27.5	28.3
Design speed (miles per hour)	I-229	65	65	65	65
	Ramps	55	55	25 Minimum*	25 minimum*
	26th Street	35	35	35	35
Residential acquisition	Full acquisition	6 condos, 1 single family	1 single family	6 condos, 3 single family	3 single family
	Partial acquisition	None	None	2 single family	2 single family
Commercial acquisition	Full acquisition	2	2**	2	2**
	Partial acquisition	None	None	None	None
Worst Traffic LOS	Interchange AM/PM	C/C	C/C	C/B	C/B
	Intersection AM/PM	D/D	D/D	D/D	D/D
Meets all SDDOT design criteria		Yes	Yes	Yes	Yes

Notes: All ROW, roadway, structure, and total construction costs are in 2013 dollars.

* *See Appendix B (Alternative 7a Loop Design Analysis) for basis of 25 mph design speed.*

** *See Appendix C for analysis of commercial property acquisition with Intersection Alternative C.*

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Existing Conditions

I-229 Exit 5 (26th Street) Interchange Environmental Assessment — Sioux Falls, SD

Figure 2-1

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Drawn By: B.Miller
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Interchange Opt. 5a - West Side Diamond Adjacent Ramps
Intersection Opt. A - Elevated Intersection on Existing Southeastern Ave. Alignment

I-229 Exit 5 (26th Street) Interchange Environmental Assessment Sioux Falls, SD

Figure 2-2

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Interchange Opt. 5a - West Side Diamond Adjacent Ramps
Intersection Opt. C - Elevated Intersection with Southeastern Ave. Shifted West

I-229 Exit 5 (26th Street) Interchange Environmental Assessment — Sioux Falls, SD

Figure 2-3

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Drawn By: B.Miller
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Interchange Opt. 7a - West Side Folded Diamond
Intersection Opt. A - Elevated Intersection on Existing Southeastern Ave. Alignment
I-229 Exit 5 (26th Street) Interchange Environmental Assessment Sioux Falls, SD

Figure
2-4

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Drawn By: B.Miller
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Interchange Opt. 7a - West Side Folded Diamond
Intersection Opt. C - Elevated Intersection with Southeastern Ave. Shifted West

I-229 Exit 5 (26th Street) Interchange Environmental Assessment Sioux Falls, SD

Figure 2-5

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CHAPTER 3
AFFECTED ENVIRONMENT AND ENVIRONMENTAL IMPACTS

This EA does not evaluate the following resources, which are not present in the Study Area: climate change, wild and scenic rivers, coastal barriers, farmlands, and coastal zones. This chapter describes the affected environment for each resource within the Study Area that could be impacted, and presents the potential environmental impacts for the No-Build Alternative and Alternatives 5aA, 5aC, 7aA, and 7aC.

3.1 LAND USE

Land use and transportation are closely linked. Land use decisions can affect transportation mobility, accessibility, and safety as well as the environment and quality of life. Likewise, transportation decisions can affect land use, the environment, and quality of life as well as mobility, accessibility, and safety (Center for Environmental Excellence by AASHTO 2010). Land use was evaluated by determining the direct and indirect effects of the Project on existing land use (for example, recreation, residential, and commercial and industrial) and by verifying the consistency of the Project with development patterns and land use planning within the City.

Land use within and around the Study Area is primarily recreational and residential. Land use designated as office or commercial and recreational is located at the Intersection. Concentrations of neighborhood commercial lots are located north of 26th Street to the east of Cleveland Avenue. Institutions, education, and public assemblies also exist within the Study Area (see Figure 3-1); an elementary school is located west of I-229 and two churches are located east of I-229.

In 2009, the City adopted a comprehensive plan known as *Shape Sioux Falls 2035* (City of Sioux Falls 2009). The plan was created to develop policies that help guide future ordinances, budgets, and master plans as the City continues to grow. The City's current land use is shown in Figure 3-1 and the future land use within the Study Area is not anticipated to change.

3.1.1 No-Build Alternative

The No-Build Alternative would not result in changes to the current land use. However, recreational and residential uses in the area would be affected since traffic demand would not be properly accommodated. Although future land use is not anticipated to change from the current designation, traffic congestion would make the area less attractive for neighborhood commercial use and redevelopment, which would affect both residents and visitors.

3.1.2 Build Alternatives

The Build Alternatives would have temporary and minor effects on existing and future land use through the proposed Alternatives for the Interchange and the Intersection. Depending on the Build Alternative, impacts could occur on current residential and commercial lands (see Figure 3-1). The Build Alternatives would require the relocation of businesses and residences, which would change the designated commercial and residential use of several parcels of land.

Despite the minor change of land use area, overall, the Build Alternatives would be consistent with future land use plans, by providing necessary improvements in the area to accommodate current and future traffic demands.

3.2 SOCIAL

Transportation provides mobility and access for the daily activities of a community. As such, major changes to the transportation system may affect the various social aspects of a community.

The magnitude of projected change was evaluated for each of these social characteristics. With regard to social impacts, the affected area is the Study Area, unless otherwise noted. Statistics used for the analysis were sometimes based on a larger area (such as the City and Minnehaha County), but the evaluation of impacts was primarily focused on the Study Area. Social factors evaluated for this EA include population, public services and facilities, community cohesion, traffic circulation, and railroads.

3.2.1 Population

Table 3-1 shows the population trends in the Study Area and the surrounding region, indicating a strong growth trend from 1990 to 2010. Because the Study Area boundary does not correspond to U.S. Census Bureau boundaries, the exact change in population in the Study Area is unknown. Although the City has been experiencing exceptional growth, primarily on the outer edges of its boundary; the Study Area was annexed by the City in the 1960s and into the 1970s and has been fully developed for several years to date (City of Sioux Falls 2009). Consequently, for the purpose of this analysis, the Study Area population was assumed to be unchanged from 1990 to 2010.

Table 3-1. Population Trends (1990–2010)

	1990	2000	2010	Population change 1990–2000	Population change 2000–2010
South Dakota	696,004	754,844	814,180	8.45%	7.86%
City	100,814	123,975	153,888	22.97%	24.13%

Source: 1990 U.S. Census, Summary File 1, October 2, 1991; 2000 Census, Summary File 1; August 22, 2001, 2010 U.S. Census, Summary File 1, U.S. Census Bureau, August 25, 2011

3.2.2 Public Services and Facilities

Public facilities include buildings such as City Hall, libraries, auditoriums, schools, emergency response buildings, churches, and utilities such as communication, power, gas, water, and wastewater systems. The following is a list of the public facilities within the Study Area:

- A City elementary school within the Study Area includes Horace Mann Elementary School. There are no secondary schools located within the Study Area. Horace Mann Elementary School had an enrollment of 215 students in the 2011-2012 school year.
- Two churches are located within the Study Area, Southeastern Church of Christ and First Reformed Church. One church, Hope Lutheran Church, is located adjacent to the Study Area.
- The Avera McKennan Addiction Recovery center is located within the southwestern portion of the Study Area on the corner of Cliff Avenue and 33rd Street. Avera McKennan Hospital, one of the two main healthcare facilities in the City, is located just northwest of the Study Area. Core Orthopedics located on the east side of the Study Area north of 26th Street is also an Avera McKennan facility.
- The Greenway Apartments located on 26th Street provide housing specifically for elderly people and are provided by the Sioux Falls Housing and Redevelopment Commission (SFHDC). SFHDC is affiliated with the City and is responsible for providing financial assistance for low-income public housing pursuant to the United States Housing Act of 1937. The mission of SFHDC is to improve the quality of life for the City's community,

specifically its lower income residents, by administering housing assistance payment programs, promoting the development of affordable, decent, and safe housing opportunities, and economic self-sufficiency in a non-discriminatory manner.

- No utility facilities are located within the Study Area. See Section 3.19, Utilities, for information concerning utility lines within the Study Area.

Public facilities in the City that are within or directly adjacent to the Study Area are shown in Figures 3-2a and 3-2b.

3.2.3 Community Cohesion

Community cohesion is the unity or identity that a group of inhabitants of a common geographic area gains as a result of their close proximity and common goals and objectives. This includes, and may be a result of, participation in public or community groups, or use of facilities (such as libraries, schools, or places of worship) by the residents of an area. Community cohesion is affected by access to these facilities, especially for pedestrians, school-aged children, and the elderly.

The Study Area is a node of connectivity within the City as it contains a heavily used east to west corridor, provides access to I-229, and is an important access point to the City's parks and bike trail system. In addition to the parks and bike trail system, the Study Area also has a school and two churches that are nodes of community cohesion.

3.2.4 Traffic Circulation

I-229 is the main north to south corridor which bisects the Study Area. Access to I-229 is provided to northbound traffic by a left-turn lane heading westbound on 26th Street. I-229 access for southbound traffic is provided off of Yeager Road. Southeastern Avenue is another north to south corridor and runs parallel to the Burlington Northern Santa Fe (BNSF) Railway. South Cleveland Avenue runs north to south further east. Two major city streets (18th Street and 26th Street) run east to west through the Study Area and cross I-229. Another major city street is 33rd Street, which enters the Study Area from the west and does not cross I-229, but rather curves north and turns into Yeager Road connecting to 26th Street (see Figure 3-1). Multiple other city streets are located throughout the residential areas within the Study Area.

Traffic comes into the area from the east and west on 26th Street and north and south from I-229. A large number of businesses are present east of the Study Area, which generates travel within the area eastbound and westbound on 26th Street. Residential areas exist primarily northeast, southeast, and west of the Study Area, leading to I-229 providing a valuable corridor for residents who work in various areas of the City.

3.2.5 Railroads

One active rail line exists within the Study Area (see Figure 2-1). The BNSF Railway runs north to south, parallel to Southeastern Avenue. This is the only at-grade crossing within the Study Area. An abandoned rail line crosses 26th Street between the S. Fredrick Drive and S. Riverdale Road. This abandoned line runs north to south and originally was owned by BNSF. Now that it is no longer in operation, the City owns the railroad right-of-way (ROW) at 26th Street and to the south (with track and embankment removed) and BNSF Railway owns the railroad ROW north of 26th Street (with track still present).

An additional remnant rail line is located in the northern part of the Study Area. This site is located directly south of where I-229 crosses over Southeastern Avenue. The remnant rail line

now serves as a pedestrian bridge to connect Riverdale and Rotary Parks over the Big Sioux River. The remnant continues on the south side of I-229 as an embankment and extends southeast.

3.2.6 No-Build Alternative

Under the No-Build Alternative, population, public services, and community cohesion would remain similar to baseline conditions, changing in response to existing development trends. Traffic circulation would continue to worsen, with congestion increasing at the Interchange and the Intersection. The BNSF Railway would continue to be at-grade, which is against the City's policies and does not meet the needs of the traveling public. The abandoned BNSF Railway west of the Interchange would continue to be unused, resulting in no impact on the surrounding area.

3.2.7 Build Alternatives

3.2.7.1 Population

The Project is not anticipated to contribute to ongoing development in the Study Area since this area is already developed. The population elsewhere in the City is not anticipated to increase or decrease due to construction of the Project.

3.2.7.2 Public Services and Facilities

The Build Alternatives would relieve traffic congestion, reducing travel time to public services and facilities in the Study Area. This would include Horace Mann Elementary School, Southeastern Church of Christ, First Reformed Church, the Avera McKennan Addiction Recovery Center, and Greenway Apartments. Travel time to Avera McKennan Hospital on the northwest side of the Study Area likely would be improved due to the Project based on traffic circulation changes. See Section 3.19, Utilities, for information on utilities within the Study Area.

3.2.7.3 Community Cohesion

Community cohesion is anticipated to improve slightly under all of the Build Alternatives. Although physical access to major roads and community facilities would remain essentially unchanged, operational access would be improved through reduced congestion and ultimately time of travel. The Build Alternatives would not create any barriers to movement between areas. However, with the construction of the new Intersection and Interchange, the Build Alternatives would result in a change of elevation if the Intersection would be raised, creating a visual barrier for community members in the area. Although minimal, this visual barrier could impact the businesses' current view from their building; it is not anticipated that this would affect the cohesion of those living in the area.

3.2.7.4 Traffic Circulation

Traffic circulation in the area would not be affected by the Build Alternatives. Access to major roads would remain unchanged.

With all Build Alternatives, 26th Street at the BNSF tracks would be on a bridge approximately 25 feet higher than the existing roadway. Therefore, the current park entrance to Rotary Park off of 26th Street would not be maintained. Loss of this access would be mitigated in accordance with a new Rotary Park and Norlin Park Master Plan which is discussed in Section 3.18.

3.2.7.5 Railroads

The 26th Street crossing of the BNSF Railway would be converted to a grade-separated crossing with the road elevated above the rail for each of the Build Alternatives (see Figure 3-3). It was established in Chapter 1 that the existing at-grade railroad crossing for this Project does not meet the City's current policies, or the needs of the traveling public. A grade-separated BNSF Railway crossing would be valuable in improving the efficiency of the roadway for commuting drivers, pedestrians, bicyclists, and emergency responders. Coordination occurred with BNSF Railway throughout the Project. The existing ROW of the BNSF Railway at this location is 100 feet wide. Through coordination with BNSF Railway, the BNSF Railway concurred with the bridge for this Project spanning approximately 75 feet to span most of their ROW, instead of the full extent. The BNSF Railway has concurred the encroachment of 25 feet of their ROW is acceptable.

The abandoned BNSF Railway west of the Interchange and BNSF ROW would not be impacted by the Project because it falls outside of the construction limits. The pedestrian bridge and rail line embankment at Riverdale Park also would not be impacted by the Project because they are outside of the construction limits.

3.3 ECONOMIC RESOURCES

This section addresses the economic and social character of the Study Area. The sources used for this socioeconomic analysis were the most recent available and included: the U.S. Census Bureau 2010 census data, the *2035 Growth Management Plan* (City of Sioux Falls 2009), and *Year 2035 Long-Range Transportation Plan* (Sioux Falls Metropolitan Planning Organization [MPO] 2010).

The Study Area includes a variety of private businesses that generate income and employment. Businesses and private property (including residences) constitute part of the tax base of the City. Conversion of private property to transportation ROW and changes to transportation access have the potential to impact businesses, individuals, and the City economically. For the purposes of description and evaluation in this EA, economic resources in the Study Area include income and employment, businesses and access, and tax base.

3.3.1 Income and Employment

The City has experienced steady growth due to the largest and fastest-growing labor market area in South Dakota. The City's average population growth rate was 1.5 percent to 2.5 percent between 2005 and 2010; approximately 6,300 salaried jobs were created during the same time frame within the City (Sioux Falls MPO 2010). Many industries are continuing to grow within the area such as finance, insurance, health care, retail sales, wholesale trade, and manufacturing (City of Sioux Falls 2009).

Within the City, non-farm employment grew 13.4 percent from 2000 to 2008. Employment in the finance sector grew 33.9 percent during the same period. Employment data for 2008 showed the largest employment sector to be services, which provides 41.8 percent of the employment. Wholesale trade and retail sales sector accounts for 17.3 percent of employment (City of Sioux Falls 2009). The top five employers within the City are Sanford Health, Avera Health, John Morrell & Company, Sioux Falls School District 49-5, and Citi (Sioux Falls Development Foundation 2013).

Industrial areas within the City are located in the north and north central portions of the City. These industrial areas utilize the existing transportation routes of I-90, I-29, I-229, and BNSF Railways.

The median household income from 2008 through 2012 was approximately $51,882 for the City. This is above the statewide median household income of $49,091 during the same time frame (U.S. Census Bureau 2013).

3.3.2 Businesses and Access

Most businesses within and near the Study Area are located along 26th Street, east of Southeastern Avenue. Access to the businesses in the area is provided primarily from 26th Street, Southeastern Avenue, and Cleveland Avenue. These businesses include mainly office and public services. Businesses and access points are located throughout the Study Area and businesses are displayed in Figures 3-2a and 3-2b.

3.3.3 Tax Base

Sources of revenue for Minnehaha County include general property taxes and revenue shared from the State of South Dakota. In 2012, current general property taxes produced approximately $30 billion for Minnehaha County. The taxable value of Minnehaha County in 2012 was more than $10 billion. This includes over $600 million in agricultural valuation, $5 billion in owner-occupied valuation, and $4 million in other valuation (South Dakota Department of Revenue 2012).

3.3.4 No-Build Alternative

Under the No-Build Alternative, income, employment, and the tax base would remain similar to baseline conditions, changing in response to existing development trends. Access to business properties would worsen with increased congestion causing increased travel time for consumers.

3.3.5 Build Alternatives

3.3.5.1 Income and Employment

Regardless of which Build Alternative is implemented, the City most likely would continue to grow in employment opportunities and population, similar to the growth in recent years. The Build Alternatives would have little impact on income and employment within the area.

3.3.5.2 Business and Access

The Build Alternatives would improve traffic conditions at the Interchange and along 26th Street from the Interchange to east of Southeastern Avenue thus allowing for better access to area businesses. Local or regional traffic that uses roadways in the Study Area to access their homes or businesses likely would not change under any of the Build Alternatives. However, the traffic delays would decrease with the Build Alternatives, allowing customers to find businesses in the area more attractive. A majority of the businesses in the area attract destination-type patrons, as opposed to drive-by patrons. As a result, a change in access location is not likely to affect businesses in the area.

If necessary, two commercial businesses in the southeast quadrant would need to be relocated for Alternatives 5aA and 7aA. Alternatives 5aA and 7aA would also not allow redevelopment of the property in the southeast quadrant of the intersection due to not constructing an access road. The lack of an access road would limit the area to be redeveloped in the future.

Alternatives 5aC and 7aC initially did not require any commercial relocation. However, based on landowner feedback and additional analysis, acquisition and relocation of two commercial businesses may be necessary even with Alternatives 5aC and 7aC. Appendix C contains a memo with the analysis of the commercial properties with Intersection Alternative C. See Section 3.4,

Acquisitions and Relocations, for more information on business and residential acquisitions associated with each Build Alternative.

3.3.5.3 Tax Base

The tax base would decrease with all Build Alternatives because of the acquisition of businesses and residences that require the conversion of land to non-taxable ROW. However, with the relocation and acquisition of these properties for Alternatives 5aA and 7aA, the overall impact on the Study Area would be minimal because the maximum loss in revenue would be approximately 0.02 percent of the total county revenue. With Alternatives 5aC and 7aC, potential redevelopment of the commercial properties in the southeast quadrant of the 26th Street/Southeastern Avenue intersection could occur.

3.4 ACQUISITIONS AND RELOCATIONS

A field survey identified businesses and residences within the Study Area. The Study Area is primarily residential with rental properties as well as owner occupied residences, and also includes 22 businesses.

3.4.1 No-Build Alternative

Under the No-Build Alternative, relocation of businesses and residences would not result from the Project.

3.4.2 Build Alternatives

Table 3-2 includes a list of residences that would be acquired partially or fully, depending on which Build Alternative selected. Figures 3-4 through 3-7 display the location of the proposed acquisitions.

Table 3-2. Properties Proposed for Acquisition

Property ID	Alternative	Address	Type of Building	Built In
1	7aA, 7aC	1705 E 26th Street	Single family residence	1954
2	7aA, 7aC	1709 E 26th Street	Single family residence	1955
3	7aA, 7aC	1916 S Cardinal Drive**	Single family residence	1954
4	7aA, 7aC	1920 S Cardinal Drive**	Single family residence	1954
5	5aA, 7aA, 5aC*, 7aC*	1800 S Southeastern Avenue	Commercial	1990
6	5aA, 7aA, 5aC*, 7aC*	1808 S Southeastern Avenue	Commercial	1991
7	5aA, 7aA	1900 S Southeastern Avenue	Condominium	1979
8	5aA, 7aA	1902 S Southeastern Avenue	Condominium	1979
9	5aA, 7aA	1904 S Southeastern Avenue	Condominium	1979
10	5aA, 7aA	1906 S Southeastern Avenue	Condominium	1979
11	5aA, 7aA	1908 S Southeastern Avenue	Condominium	1979
12	5aA, 7aA	1910 S Southeastern Avenue	Condominium	1979
13	5aA, 7aA, 5aC, 7aC	1916 S Southeastern Avenue	Single family residence	1978

** See Appendix C for analysis of commercial property acquisition with Intersection Alternative C.*

***Denotes partial acquisition without relocation.*

As noted in Table 3-3, Alternative 5aC would require the fewest acquisitions, including one single family residence and 2 commercial properties. Alternative 7aA would require the highest number of acquisitions, with six condominium units, three single family residences, and two partial single family residences. The commercial acquisitions required for Alternatives 5aA, 7aA 7aC, and 7aC would affect two office buildings. One contains Headhunter's Hairstyles and Farm Bureau Financial Services and the other contains Southeastern Dental Center (including two dental offices).

Table 3-3. Summary of Acquisitions

Alternative	Residential acquisitions	Commercial acquisitions	Total acquisitions
5aA	6 condominium, 1 single family	2	9
5aC*	1 single family	2	3
7aA	6 condominium, 3 single family, 2 single family (partial)	2	11, 2 partial
7aC*	3 single family, 2 single family (partial)	2	5, 2 partial

** See Appendix C for analysis of commercial property acquisition with Intersection Alternative C.*

All ROW and relocation impacts would be mitigated in conformance with the Uniform Relocation Assistance and Real Property Acquisition Act (UA) of 1970, as amended by the Surface Transportation Assistance Act of 1987, and as codified in 49 Code of Federal Regulations (CFR) 24, effective April 1989. South Dakota Department of Transportation's (SDDOT's) ROW program is responsible for acquiring the property necessary for highway purposes and performing services related to acquisition in accordance with the UA.

3.5 PEDESTRIANS AND BICYCLISTS

Existing pedestrian and bicycle trails were identified, and various plans for future trails were reviewed. Within the Study Area, three types of pedestrian and bicyclists facilities were noted, the Big Sioux River Bike Trail, connections to the Big Sioux River Trail, and sidewalks.

The Big Sioux River Bike Trail runs along the Big Sioux River corridor connecting the following parks: Cherry Rock, Riverdale, Rotary, Norlin, and Pasley (see Figure 2-1). Within the Study Area, the City identifies the following segments of the bike trail as Segment 4 (18th Street to 26th Street) and Segment 5 (Pasley Park to Big Sioux River Bridge). An additional segment is listed which is a connection to the Big Sioux Bike Trail, Segment 5a (Pasley Park and Lion's Park Sidepath) (City of Sioux Falls 2014). Additionally, small segments of shared use paths identified on Figure 2-1 serve as connections to the Big Sioux Bike Trail within the Study Area. In the future, an additional pedestrian trail may be developed on the west side of the Big Sioux River. The City currently does not own the property that is south of 26th Street and west of the Big Sioux River; therefore these trails are in the planning stages.

Sidewalks occur along many of the arterial and local streets within the Study Area. These areas differ from the Big Sioux River Bike Trail because they are used primarily for transportation, as

opposed to recreational purposes. Along 26th Street from Yeager Road to Southeastern Avenue, the sidewalk is only on the north side of 26th Street.

3.5.1 No-Build Alternative

As traffic and congestion continue to increase around the Interchange and the Intersection, there would be continued conflict (for example, vehicular pathways intersecting with pedestrian and bike trails) with the current and proposed trail system on the west side of the Big Sioux River.

3.5.2 Build Alternatives

The Build Alternatives were analyzed for potential impacts on existing and planned pedestrian facilities intersecting or occurring along the working limits of the Build Alternatives. Compared to baseline conditions, the Build Alternatives would help reduce traffic and congestion along existing roadways, thereby reducing conflict between vehicles, pedestrians, and bicycles in these areas.

At the Interchange, Alternatives 5aA and 5aC would require a new bridge for the I-229 southbound off-ramp across the Big Sioux River along the west side of I-229 (see Figures 3-4 and 3-5). Pedestrian facilities would not be impacted by this, since the new bridge would span the Big Sioux Bike Trail similar to the existing I-229 bridge.

All Build Alternatives would require a new 26th Street bridge across the BNSF Railway tracks. The new bridge would also cross Rotary Park and Norlin Park at a roadway elevation of between 20 feet to 30 feet above the existing ground. Open clearance under the bridge would be 18 feet to 25 feet. Therefore, the existing vehicular and pedestrian entrance into Rotary Park from 26th Street would not be maintained. Extensive coordination with the Sioux Falls Parks and Recreation Department has resulted in a mitigation plan to maintain vehicular and pedestrian access to the Rotary and Norlin Parks (see Section 3.18). Figure 3-8 illustrates the proposed sidewalk, trails, and access locations with the Build Alternatives.

Sidewalks would be provided on both sides of 26th Street throughout the Study Area. The bridge over the Big Sioux River and the railroad tracks would provide sidewalks to allow for pedestrian and bicycle traffic.

3.6 AIR QUALITY

The U.S. Environmental Protection Agency (USEPA) regulates air pollutants in part by primary and secondary National Ambient Air Quality Standards (NAAQS). South Dakota Department of Environment and Natural Resources (SDDENR) has adopted the federal regulations by reference and operates a network of air monitors at various locations that track the concentration of particulate matter, one of the regulated pollutants. There are two monitoring sites within the City. One monitoring site is located on the west side of the City and monitors for particulate matter of 2.5 microns or less in diameter ($PM_{2.5}$). Annual averages range from a high of 10.7 micrograms per cubed meter (ug/m^3) to a low of 8.7 ug/m^3. This is compared to the annual standard of 12 ug/m^3 (SDDENR 2013).

The other monitoring site is located 0.8 mile north of the Study Area. This site monitors air toxics, carbon monoxide, nitric oxide (NO), NO trace, nitrogen dioxide, nitrogen oxides, ozone, particulate matter of 10 microns or less (PM_{10}), $PM_{2.5}$, and sulfur dioxide. In comparison to the first monitoring site, the $PM_{2.5}$ ranges from 7.9 ug/m^3 to 9.7 ug/m^3, below the level at the monitoring site farther from the Project. For the listed air pollutants monitored, the measurements are below the required annual standard (SDDENR 2013).

The City is in attainment of primary and secondary regulatory standards for ambient air quality including particulate matter, ozone, sulfur dioxide, and nitrogen dioxide (SDDENR 2013).

3.6.1 No-Build Alternative

Air quality would decline over time with the No-Build Alternative as traffic congestion would worsen and other development unrelated to the Project would occur. However, it is not likely that air quality standards would be violated in the foreseeable future.

3.6.2 Build Alternatives

The Build Alternatives would improve air quality slightly, compared to baseline conditions now and in the future, by relieving traffic congestion. The extent of improvement would be similar for each Build Alternative.

3.7 NOISE

Traffic noise consists of vehicular engine noise and tire noise from contact with the roadway surface. In general, noise can be defined as unwanted sound. Noise levels from highway traffic are affected primarily by three factors: (1) the volume of the traffic, (2) the speed of the traffic, and (3) the number of trucks in the flow of traffic. Sound is also composed of various frequencies.[1] The human ear is efficient at blocking out very low- and high-frequency sound. Frequencies to which the human ear does respond must be filtered out, or scaled, when evaluating traffic noise levels. Noise is measured in decibels (dB)—a logarithmic scale. The type of scale that best approximates the frequency response of the human ear is called the A-scale. Therefore, noise levels are measured as and reported in A-weighted decibels (dBA). Table 3-4 provides noise levels (in dBA) common to everyday activities.

The FHWA has developed Noise Abatement Criteria (NAC) and procedures for use in the planning and design of highways. These criteria and procedures are set forth in 23 CFR 772. The NAC noise level is 67 dBA for residential and park area receptors and 72 dBA for commercial receptors (see Table 3-5). Impacts occur when the predicted noise levels approach or exceed these levels or when they substantially exceed the existing noise levels. SDDOT has developed a Noise Analysis and Abatement Guidance (SDDOT 2011) that defines the term 'approach' as coming within 1 dBA less than the NAC and the term 'substantially exceed' as an increase of at least 15 dBA above existing noise levels. This document, approved by FHWA and consistent with FHWA's procedures, was followed for this analysis. Consequently, a predicted noise level of 66 dBA for residential and park area receptors and 71 dBA for commercial receptors would represent a noise impact.

Since this project potentially involves reconfiguration of an interchange, it is considered a Type I project per SDDOT guidance. For Type I projects, a noise analysis is required to quantify noise impacts and to evaluate the feasibility and reasonableness of noise mitigation measures if there are noise impacts associated with the project.

For the Build Alternatives, a noise study was performed with the latest version of the traffic noise model, version 2.5, as part of this Project. The study was updated to analyze the noise levels utilizing the 2035 traffic volumes (HDR January 2014).

Existing noise levels were determined by conducting noise monitoring throughout the Study Area. Existing noise levels potentially are influenced by other activities occurring in the ambient environment (for example, wind or dogs barking), not just the roadway traffic.

[1] Frequency refers to the number of sound waves produced in a given time period.

Table 3-4. Common Noise Levels

Common Outdoor Activities	Noise Level DBA	Common Indoor Activities
	110	Rock band
Jet fly-over at 1,000 feet		
	100	
Gas lawn mower at 3 feet		
	90	
Diesel truck at 50 feet, at 50 mph		Food blender at 1 m (3 feet)
	80	Garbage disposal at 1 m (3 feet)
Noisy urban area (daytime)		
Gas lawn mower at 100 feet	**70**	Vacuum cleaner at 0 feet
Commercial area		Normal speech at 3 feet
Heavy traffic at 300 feet	**60**	
		Large business office
Quiet urban area (daytime)	**50**	Dishwasher next room
Quiet urban area (nighttime)	**40**	Theater, large conference room (background)
Quiet suburban area (nighttime)		
	30	Library
Quiet rural area (nighttime)		Bedroom at night, concert hall (background)
	20	
		Broadcast or recording studio
	10	
Lowest threshold of human hearing	**0**	Lowest threshold of human hearing

Source: California Dept. of Transportation Technical Noise Supplement, Oct. 1998, Page 18.

Table 3-5. Noise Abatement Criteria

[Hourly A-Weighted Sound Level – decibels (dBA)]				
Activity Category	**Activity $L_{eq(h)}$[1]**		**Evaluation Location**	**Description of Activity Category**
	FHWA	**SDDOT**		
A	57	56	Exterior	Lands on which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose.
B[2]	67 52	66 51	Exterior Interior	Residential.
C[2]	67	66	Exterior	Active sports areas, amphitheaters, auditoriums, campgrounds, cemeteries, day care centers, hospitals, libraries, medical facilities, parks, picnic areas, places of worship, playgrounds, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, recreational areas, Section 4(f) sites, schools, television studios, trails, and trail crossings.
D	52	51	Interior	Auditoriums, day care centers, hospitals, libraries, medical facilities, places of worship, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, schools, and television studios.
E[2]	72	71	Exterior	Hotels, motels, offices, restaurants/bars, and other developed lands, properties or activities not included in A–D or F.
F	--	--	--	Agriculture, airports, bus yards, emergency services, industrial, logging, maintenance facilities, manufacturing, mining, rail yards, retail facilities, shipyards, utilities (water resources, water treatment, electrical), and warehousing.
G	--	--	--	Undeveloped lands that are not permitted.

(Based on Table 1 of 23 CFR Part 772)

[1] *The $L_{eq(h)}$ Activity Criteria values are for impact determination only, and are not design standards for noise-abatement measures.*

[2] *Includes undeveloped lands permitted for this activity category.*

3.7.1 No-Build Alternative and Build Alternatives

Under the No-Build Alternative, noise levels could potentially increase due to projected traffic volumes and decrease in LOS along the existing roadways.

Noise levels for receptors located along the Build Alternatives that may be impacted by the noise levels were evaluated for the existing roadways, the No-Build Alternative, and the Build Alternatives. Receptors along the entire length of the Build Alternatives were considered to ensure that all impacts were analyzed. For additional information, see the *Noise Study Technical Report* (HDR January 2014). Noise levels were evaluated from the current estimated levels to those projected in 2035 under the evaluated Build Alternatives.

Noise levels from highway traffic are affected by these main factors: (1) the volume of traffic, (2) the speed of the traffic (which is affected by traffic congestion), (3) the type of vehicles in the traffic flow such as cars, buses, medium trucks, heavy trucks, or motorcycles, (4) the distance between the highway traffic and the noise-sensitive site, (5) any natural or man-made barriers that would affect the transmission of the noise from the highway to the noise-sensitive site, (6) the type of ground cover between the highway and the receptor, (7) the horizontal and vertical alignment of the roadway, and (8) the attenuation or path the sound must travel to reach each noise-sensitive site which accounts for the topography and ground cover between the roadway and the site.

The noise analysis also takes into account the reduced traffic congestion that would result from the grade separated railroad crossing. The smoother traffic flow would reduce vehicle accelerations and result in lower noise levels from traffic.

Train whistles are known to be an annoyance to some people. Although not a consideration in the traffic noise analysis, a grade separated railroad crossing would eliminate the need for trains to blow their whistle when approaching 26th Street which currently occurs up to three times per day at this location.

Predicted noise levels from the design year of 2035 was as much as 3.3 dBA over existing noise levels for the Build Alternatives. Therefore, the predicted noise levels for 2035 indicate that no substantial noise increases, defined as above 15 dBA in the SDDOT's noise policy, are expected to occur. In comparison to the Build Alternatives, the No-Build Alternative would produce similar noise levels to the Build Alternatives. As a result, the Build Alternatives would not substantially increase the noise levels for the design year of 2035.

Noise-sensitive sites are predicted to approach or exceed FHWA NAC as a result of the Build Alternatives. Noise barriers were evaluated at five areas within the Study Area to determine their potential impacts when utilized with all Build Alternatives. The noise barriers were modeled in relationship to the front row of noise-sensitive sites directly behind the barrier at each location. One aspect of feasibility is to achieve a 5 dBA noise reduction at a minimum of 60 percent of the front row of noise-sensitive sites directly behind the wall. The other consideration is to determine whether a wall would be cost-effective. Two of the five noise walls that were evaluated (Noise Barriers A and B) were unable to achieve the necessary noise reduction. The remaining three walls (Noise Barriers B, C, and D) were considered to meet the noise reduction requirement, but ultimately were not cost-effective. Based on this assessment, it was concluded that noise-abatement measures are not feasible or reasonable. Therefore, noise mitigation is not proposed as part of this Project (HDR, January 2014).

3.8 WATER QUALITY

The water resources within the Study Area include surface water features, groundwater, and wetlands. Water quality issues related to surface water were evaluated primarily by considering the Project's potential short- and long-term impacts of runoff and siltation. Water quality issues related to groundwater were evaluated by considering potential impacts on groundwater wells near wellhead protection areas and by decreased groundwater recharge as a result of increased impermeable surfaces.

As noted in SDDENR's *2014 Integrated Water Quality Assessment Report*, the Study Area lies in the Lower Big Sioux River Basin, part of the Missouri River major hydrologic basin (SDDENR 2014). Reach 13 of the Big Sioux River flows from south to north through the Study Area. This reach of the Big Sioux River currently does not support all designated beneficial uses due to *E-coli*, fecal coliform, and total suspended solids.

One intermittent stream flows into the Big Sioux River within the Study Area. The stream enters the Big Sioux River just north of 26th Street and west of Southeastern Avenue. The stream is a small segment that has formed a defined bed and bank, therefore was noted as an intermittent stream. No water quality information for this intermittent stream has been documented.

Residents in the Study Area use the public water supply, which relies on groundwater and surface water. The Big Sioux Aquifer is the primary source of water for the City. Minnehaha County has defined the entire aquifer within the county to be the source water protection area, without defining individual wellhead protection areas (WHPA) (East Dakota Water Development District [EDWDD] 2013). The City's residents use approximately 54 million gallons per day of potable water from the Sioux Falls Water Purification Plant (SFWPP) (City of Sioux Falls 2011). For additional water supply needs the City purchases drinking water from Lewis and Clark Rural Water System to support the growing area (Lewis and Clark Regional Water System 2013). No wells are known to exist within the Study Area (Environmental Data Resources, Inc. [EDR] 2013).

3.8.1 No-Build Alternative

Under the No-Build Alternative, increased disturbance from site clearing, excavation, and construction activities would not occur, resulting in less potential for water quality impacts in the Study Area. However, existing roads in the Study Area may currently be affecting water quality in the form of runoff and surface erosion, and future development unrelated to the proposed action could cause additional water resource impacts.

3.8.2 Build Alternatives

For the Build Alternatives, the amount of sedimentation from soil erosion would not increase substantially due to implementation of the National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges Associated with Construction Activities as it applies to the Project. These requirements help minimize erosional impacts during construction through the use of best management practices (BMPs), and limit post construction erosion to preconstruction levels (typically achieved through reestablishment of vegetation and structural devices such as berms and energy dissipation structures). BMPs would be implemented through the NPDES General Permit to minimize impacts on the Big Sioux River and the unnamed intermittent stream. In addition, BMPs would ensure the water source protections areas are accounted for during the Project. If any abandoned groundwater wells are impacted during construction, the SDDOT and City would work with the contractor to ensure it is properly capped and sealed. Any impacted wells and connections would be replaced for properties that were not

fully acquired. It is anticipated that the Build Alternatives would not impact the water resources in the area due to the incorporation of BMPs into final design and construction.

Adherence to the Stormwater Pollution Prevention Plan (SWPPP) during construction would minimize impacts on the aquifer systems and surrounding watersheds by implementing BMPs related to revegetation and stabilization of disturbed areas and roadside ditches. These would have long-term operational benefits of limiting future water quality degradation.

All Build Alternatives would require a new or widened bridge for 26th Street over I-229 and a new or widened bridge for 26th Street over the Big Sioux River. Alternatives 5aA and 5aC would require two new or widened bridges for I-229 over the Big Sioux River north of 26th Street. The amount of paved surface area would increase. The amount of paved surface area would increase resulting in increased runoff with potential water quality degradation if untreated. A method for treating this runoff will be determined during final design such as directing runoff to sediment points within the Interchange loops or storm inlets with sumps.

3.9 WETLANDS AND OTHER WATERS OF THE U.S.

Wetlands and other waters of the U.S. are regulated by the U.S. Army Corps of Engineers (USACE) under Section 404 of the Clean Water Act. Other waters of the U.S. include rivers, streams, intermittent streams, lakes, ponds, and impoundments. Wetlands and other waters of the U.S. are subject to USACE jurisdiction, which is determined by the USACE regulatory office. Executive Order (EO) 11990, Protection of Wetlands (May 24, 1977), directs agencies to consider avoidance of adverse effects and incompatible development in wetlands.

A review of aerial photographs, hydric soils mapping, National Hydrography Datasets (NHD), and National Wetlands Inventory (NWI) was conducted to identify wetlands within the Study Area. Field wetland delineation boundaries were available from a previous project, Central Main Replacement, for those areas within the Study Area along the east side of the Big Sioux River. The delineation report dated December 2010 identified 7.25 acres of wetlands. Many of the wetlands were associated with the Big Sioux River floodplain, while others were associated with impoundments caused by roadway embankments.

An office wetland delineation was completed for the remainder of the Study Area outside of the Central Main Replacement surveyed area. An office wetland delineation is a preliminary determination of wetland locations conducted solely through desktop analysis. An additional 10.18 acres of wetlands were determined from the desktop analysis. A formal field delineation of the entire Study Area would be completed to determine final impacts during final design.

For purposes of this discussion, other waters of the U.S. focuses on non-wetland areas such as rivers, perennial streams, large ponds, and intermittent streams. Other waters of the U.S. in the Study Area were determined by identifying perennial and intermittent waterways on U.S. Geological Survey (USGS) 7.5-minute quadrangle topographic maps, aerial photography, and NHD data. Perennial and intermittent streams are discussed in Section 3.8, Water Quality, and are shown in Figures 3-9 through 3-12.

3.9.1 No-Build Alternative

Wetlands and other waters of the U.S. would not be impacted by the No-Build Alternative, but future development unrelated to this Project could cause impacts on wetlands and other waters of the U.S.

3.9.2 Build Alternatives

For the Build Alternatives, if fill activities occur within jurisdictional wetlands or waters of the U.S., a USACE Section 404 permit, with Section 401 Water Quality Certification, would be required. During final design, a field delineation and jurisdictional determination would be completed during coordination with USACE. Also, to comply with EO 11990, a Wetland Finding is required if documented wetlands could not be avoided by the Project (see Appendix D). For wetlands found not to be under USACE jurisdiction, FHWA regulations (23 CFR 777.9) would apply and mitigation for permanent impacts on wetlands would be conducted. The potential permanent impacts for the Project are summarized in Table 3-6. All Build Alternatives would impact minimal amounts of wetlands, with Alternatives 7aA and 7aC impacting the most amount at 0.19 acre. For other waters of the U.S., Alternatives 5aA and 5aC would impact the most linear feet of the Big Sioux River with a new crossing for the northwest interchange ramp and widening of the existing bridge west of the Intersection. All proposed crossings have existing bridges to cross the Big Sioux River, therefore minimizing the impact on surface waters.

During final design, impacts on wetlands and other waters of the U.S. would be avoided if possible, and if unavoidable, minimized to the extent possible. During the Build Alternatives' analysis, designs were chosen that followed existing roadways to minimize impacts on wetlands and waters of the U.S. A permit through the USACE would be required prior to commencement of construction activities for the Project.

If required by USACE, mitigation measures would be undertaken. A mitigation plan would be prepared for the USACE Section 404 and Section 401 permit application. FHWA regulations (23 CFR 777.9) apply to all wetland impacts, whether jurisdictional or non-jurisdictional as determined by the USACE and mitigation for permanent impacts on wetlands would be required. Mitigation would occur through the use of on-site mitigation, off-site mitigation, or a mitigation bank.

Table 3-6. Total Wetland Impacts

Alternative	Total Number of Acres of Wetland Impact	Total Linear Feet of Crossing of Other Waters of the U.S.
5aA	0.06	118
5aC	0.06	118
7aA	0.19	94
7aC	0.19	94

3.10 VEGETATION, FISH, AND WILDLIFE

FHWA guidance for the National Environmental Policy Act (NEPA) analysis recommends addressing the likelihood of modifying water bodies, impacting other wildlife, and introducing invasive plant species. This section provides conditions and potential impacts on the overall biological health of the Study Area.

Upland and riverine wildlife exists throughout the Study Area. However, due to the urban surroundings of the Study Area, habitat for upland species present is expected to be limited to the Big Sioux River riparian corridor. Early coordination with South Dakota Department of Game Fish and Parks (SDGFP) and U.S. Fish and Wildlife Service (USFWS) took place concerning the proposed Project.

The Migratory Bird Treaty Act also protects migratory birds and their nests. Several species of migratory birds may utilize the Big Sioux riparian corridor within the Study Area.

The South Dakota State Noxious Weed list identifies 25 species of plants as potential noxious weeds that can grow throughout South Dakota and could be present within the Study Area (U.S. Department of Agriculture [USDA] Natural Resources Conservation Service [NRCS] 2012) (see Table 3-7).

Table 3-7. Noxious Weeds of South Dakota

Scientific Name	Common Name	Scientific Name	Common Name
Centaurea repens L.	Russian knapweed	Euphorbia pseudovirgata (Schur) Soó	leafy spurge
Cardaria draba (L.) Desv.	hoary cress	Hypericum perforatum L.	St. Johnswort
Carduus acanthoides L.	plumeless thistle	Lepidium latifolium L.	perennial pepperweed
Carduus nutans L.	musk thistle	Linaria dalmatica (L.) Mill.	dalmatian toadflax
Centaurea diffusa Lam.	diffuse knapweed	Linaria vulgaris Mill.	yellow toadflax
Centaurea solstitialis L.	yellow starthistle	Lythrum salicaria L.	purple loosestrife
Centaurea maculosa auct. non Lam.	spotted knapweed	Lythrum virgatum L.	purple loosestrife
Chondrilla juncea L.	rush skeletonweed	Myriophyllum spicatum L.	Eurasian water milfoil
Cirsium arvense (L.) Scop.	Canada thistle	Rosa multiflora Thunb.	multiflora rose
Convolvulus arvensis L.	field bindweed	Sonchus arvensis L.	perennial sowthistle
Crupina vulgaris Cass.	common crupina	Sorghum halepense (L.) Pers.	johnsongrass
Cuscuta L.	Dodder	Tamarix L.	salt cedar
Euphorbia esula L.	leafy spurge		

3.10.1 No-Build Alternative

The No-Build Alternative would not involve Project construction, and therefore would neither directly impact wildlife nor invasive plant species. Other development unrelated to this Project could cause future impacts on these resources.

3.10.2 Build Alternatives

Wildlife likely would be affected similarly for all Build Alternatives. Due to the urban surroundings of the Study Area, habitat is limited to the Big Sioux River, riparian areas, and associated parks that are concentrated in the eastern half of the Study Area.

A majority of the existing habitat within the Study Area for migratory birds has been previously disturbed by development and increasing traffic. For the Build Alternatives, it is anticipated that particular habitats for migratory birds would remain upon the completion of the Project. With all Build Alternatives, a new or widened bridge would be constructed, however in previous years nesting has not been observed in the area. Therefore it is not anticipated that the migratory birds would be impacted by the replacement or modification of the bridge.

The potential for introduction or spread of invasive plant species would be similar for all Build Alternatives. To minimize the establishment of invasive plant species, native vegetation would

be planted along areas disturbed by the preferred alternative. The preferred alternative ROW would be maintained to prevent the spread of invasive species (for example, spraying and mowing of invasive species).

USFWS had no objections and did not recommend any BMPs to implement during design (USFWS 2013). SDGFP commented that the Big Sioux River was a substantial fishery resource and provided multiple BMPs to incorporate into the Project plans (SDGFP 2013). These practices would include:

- Stream bottoms and wetlands impacted by construction activities would be restored to pre-project elevation and disturbed areas would be seeded, with native prairie areas to be avoided to the extent possible.
- Removal of vegetation and soil would be accomplished in a manner to reduce soil erosion and vegetation disruption. Seeding of disturbed areas to re-establish vegetation and other protective measures would be conducted to minimize impacts of construction. A post construction erosion control plan would also be implemented to provide interim control prior to reestablishment of permanent vegetative cover on the disturbed site.

3.11 FLOODPLAIN

EO 11988, Floodplain Management (42 Federal Register 26951), requires that federal agencies identify potential floodplain encroachment by projects they fund and that they assess the impact of this encroachment on human health, safety, and welfare and on the natural and beneficial values of the floodplain. A floodplain is defined as the area adjacent to a watercourse, including the floodway, inundated by a particular flood event. A floodway is the channel and any adjacent floodplain areas that must be kept free of encroachment to ensure that the 100-year (1 percent annual chance) flood is conveyed without increasing the flood height by more than 1 foot. For purposes of the discussion in this EA, floodplain is synonymous with the 100-year floodplain.

The current Flood Insurance Study (FIS) for Minnehaha County, including the City, is dated September 2, 2009. The Big Sioux River floodplain and floodway boundaries are delineated in the Study Area and shown in Figures 3-9 through 3-12 (Federal Emergency Management Agency [FEMA] 2009).

3.11.1 No-Build Alternative

Under the No-Build Alternative, impacts on floodplains and the floodway of the Big Sioux River would not occur. The photo below illustrates the No-Build Alternative where the existing 26th Street Big Sioux River Bridge and roadway embankment remain in place, all of which are below the 100 year flood elevation.

Existing 26th Street Big Sioux River Bridge that would remain as part of the No-Build Alternative.

Proposed 26th Street Big Sioux River Bridge that is part of the Build Alternatives.

3.11.2 Build Alternatives

Figures 3-9 through 3-12 depict the location of floodplains and the floodway in the Study Area as well as the total acreage of floodplains within the working limits for each Build Alternative. Alternatives 7aA and 7aC have the lowest total encroachment of floodplain with 1.80 acres and 0.28 acre of floodway encroachment, while Alternatives 5aA and 5aC have the highest total encroachment of floodplain with 2.32 acres and 0.28 acre of floodway encroachment.

The photo above is a rendering of essentially all Build Alternatives where 26th Street crosses the Big Sioux River, the floodplain, and the BNSF Railway tracks on a bridge structure elevated between 15' and 30' above the existing bridge and roadway elevation. HEC-RAS modeling has determined that the 100 year flood elevation in this section of the Big Sioux River would decrease as a result of the greater waterway opening of the new bridge.

During final design, a hydraulic analysis and a Non-Building Floodplain Development Permit would need to be completed for the preferred alternative for the Project. The hydraulic analysis and Non-Building Floodplain Development Permit would be reviewed by the Floodplain Administrator authorized by FEMA. The required documentation that would be needed for the crossings to meet the regulatory requirements would be verified.

3.12 THREATENED OR ENDANGERED SPECIES

According to the USFWS South Dakota Ecological Services website, the federally listed threatened or endangered (T&E) species listed in Minnehaha County are the western prairie fringed orchid and Topeka shiner; the rufa red knot and northern long-eared bat are species proposed for listing as federally endangered. State-listed T&E species and species of management concern (that is, designated species that require both control and protection) are regulated under South Dakota Statutes 34A-8 and 34A-8A, respectively. SDGFP maintains a list of species determined to be threatened or endangered within the state. Table 3-8 includes a brief description of each species and required habitat.

Table 3-8. Threatened and Endangered Species

Species	Status	Present in Study Area	Comments
Western prairie fringed orchid (*Platanthera praeclara*)	Federally threatened	No	The western prairie fringed orchid occurs most often in remnant native prairies and meadows (USFWS 2011). Suitable habitat is not present in the Study Area. Therefore the species is not further considered for this Project.
Topeka shiner (*Notropis topeka)*	Federally endangered	No	Species is not known to occur within the Study Area as suitable habitat does not exist. Therefore the species is not further considered for this Project.
Northern long-eared bat (*Myotis septentrionalis)*	Proposed federally endangered	Potentially	Winter habitat of the northern long-eared bat typically consists of caves or mines, while summer habitat can consist of live or dead tree snags and, less commonly, man-made structures. Potential habitat within the Study Area includes riparian areas along the Big Sioux River. Therefore the species is potentially present within the Study Area.
Rufa red knot (*Calidris canutus rufa)*	Proposed federally threatened	No	The rufa red knot may utilize areas within South Dakota as stopover habitat during migration. No known occurrences have been recorded for the Study Area. Rufa red knots will utilize sand or gravel shorelines as stopover habitat. No suitable stopover habitat exists within the Study Area. Therefore the species is not further considered for this Project.
Lined snake (*Tropidoclonion lineatum)*	State endangered	No	Species is not known to occur within the Study Area as no suitable habitat exists. Therefore this species is not further considered for this Project.

Species	Status	Present in Study Area	Comments
Peregrine falcon (*Falco peregrinus)*	State endangered	No	Use of the Study Area by American peregrine falcon for nesting or foraging is unlikely due to the existing road disturbance and human activity. Therefore, the species is not further considered for this Project.
Osprey (*Pandion haliaetus)*	State threatened	No	Use of the Study Area by osprey for nesting or foraging is unlikely due to the existing road disturbance and human activity.
Blanding's turtle (*Emydoidea blandingii*)	State endangered	No	Species is not known to occur within the Study Area as no suitable habitat exists. Therefore the species is not further considered for this Project.
Trout perch (*Percopsis omiscomaycus)*	State threatened	No	Species is not known to occur within the Study Area as no suitable habitat exists. Therefore the species is not further considered for this Project.
Northern river otter (*Lontra canadensis)*	State threatened	No	Species is not known to occur within the Study Area as no suitable habitat exists. Therefore the species is not further considered for this Project.

Although bald and golden eagles are not listed as a T&E species, these species are protected under the Bald and Golden Eagle Protection Act (16 USC 668-668c). Bald eagles and golden eagles are found near rivers, lakes, and reservoirs. Large cottonwood trees are used for nesting and roosting (SDGFP 2005). Due to the area being disturbed, no nests have been documented, although cottonwood trees do exist within the area.

The Study Area potentially contains habitat for the northern long-eared bat. While the Study Area does not contain caves or mines that would serve as winter hibernacula, the potential for summer roosting sites exists within the area. Live and dead tree snags are prevalent within the area and several man-made structures could serve as appropriate habitat.

An early coordination letter was sent March 20, 2013, to SDGFP and USFWS discussing the Project and requesting comments and responses regarding T&E species. Input was received from both agencies concerning the Project and is discussed further in Section 3.12.2.

3.12.1 No-Build Alternative

The No-Build Alternative would not result in a conversion of land to highway and related uses for the Project, although current development in the Study Area may result in land conversion. Regardless of whether the Project is constructed or future development occurs, the No-Build Alternative is not anticipated to affect T&E species or their critical habitat.

3.12.2 Build Alternatives

The Study Area is located within the City limits. The majority of the Study Area is developed or recreational. The habitat within the Study Area can be described as urban areas and maintained park areas. Based on a comparison of the above mentioned species and the habitat present in the Study Area (no designated critical habitat is present), it is assumed that no currently federally listed and state-listed T&E species are present within the Study Area and the Project would not

adversely affect any currently listed T&E species. In a letter dated April 8, 2013, USFWS concurred that the Project would have No Effect on the Topeka shiner and the western prairie fringed orchid (USFWS 2013).

For proposed T&E species, suitable habitat for the red rufa knot is not present in the Study Area. Therefore, this species would not be affected by the Project. For the northern long-eared bat, potential habitat is present in the Study Area. Therefore, an additional coordination letter was sent to the USFWS on November 20, 2014. An effect determination of may affect, not likely to adversely affect was proposed for the species based on SDDOT conducting tree clearing outside of the species' roosting period (October 1 to April 1). USFWS has concurred with these determinations (USFWS 2014).

3.13 CULTURAL RESOURCES

The consideration of cultural resources is guided by various statutes and EOs. Principal among these is the National Historic Preservation Act (NHPA) of 1966 (as amended). Section 106 of the NHPA directs federal agencies to take into account the effects of their undertakings on historic properties and provide the Advisory Council on Historic Preservation (ACHP) a reasonable opportunity to comment on the undertaking. This is accomplished by following the ACHP's implementing regulations, 36 CFR 800. Consideration of historic and cultural resources is required pursuant to NEPA and the Council on Environmental Quality's (CEQ's) implementing regulations found at 40 CFR 1500. Both the NHPA and NEPA encourage integration and coordination of their procedures to promote timely and efficient consideration of the undertaking's impacts on properties that are listed in or qualify for listing in the National Register of Historic Places (NRHP). Activities carried out to assess the impacts of the Project on cultural and historic resources were designed to ensure coordination of these statutory requirements.

Based on background research on existing sites and areas previously surveyed for cultural resources, an intensive pedestrian survey of the Study Area (see Figure 1-1) was determined to be required for identifying potential historic structures. A survey of potential historic property structures was conducted and documented (HDR March 2014b). All structures examined have been recommended as not eligible for listing on the NRHP by the architectural historian principal investigator.

A records search was conducted and identified two previously recorded resources that are NHRP eligible within the Study Area: the Chicago, Rock Island, and Pacific Railroad grade and the Riverdale Park Pedestrian Bridge. Previous archaeological investigations along the Big Sioux River within and in the immediate vicinity of the Study Area document shallow soils, poor drainage, and highly disturbed conditions along its floodplain and terraces (Lueck 2010). Previous construction activities and land alterations associated with highway and railroad construction, park development, and installation of infrastructure, have created conditions not conducive for preservation of archaeological remains. Combined with the presence of paved roads, contoured surfaces, and manicured lawns obscuring surface soils elsewhere in the Study Area, little potential exists for encountering buried archaeological remains, and archaeological pedestrian survey was not recommended. Consequently, no archaeological survey was conducted for this undertaking.

3.13.1 No-Build Alternative

The No-Build Alternative would not impact cultural resources in the Study Area. It is possible that ongoing and planned future development could disturb the documented resources as well as previously undetected resources.

3.13.2 Build Alternatives

A total of 23 structures were surveyed, and all were recommended as not eligible for listing on the NRHP (HDR March 2014b). The two previously recorded historic properties, the Chicago, Rock Island, and Pacific Railroad grade and Riverdale Pedestrian Bridge, and the Burlington Northern Railroad are located outside of the construction limits of the Build Alternatives, and therefore would not be affected by the Project. SHPO concurred with a determination of No Adverse Effect for any of the Build Alternatives evaluated for this undertaking (SHPO 2014).

If during construction, any buried, undocumented cultural sites are found, project construction activities would be immediately halted and South Dakota State Historic Preservation Office (SHPO) would be notified so that an appropriate course of action can be determined.

3.14 REGULATED MATERIALS

Properties where hazardous or other regulated materials have been stored can present a risk if spills or leaks have occurred or may occur. Contaminated or potentially contaminated properties are of concern for transportation projects because of the associated liability of acquiring the property through ROW purchase, the potential cleanup costs, and safety concerns related to exposure to contaminated soil, surface water, or groundwater.

Hazardous wastes and petroleum products use, storage, and clean-up are regulated by the US EPA and SDDENR. A Phase I Environmental Site Assessment (ESA) was performed to identify recognized environmental conditions (RECs), defined under ASTM 1527-13, associated with hazardous waste and petroleum products located in the Study Area (HDR March 2014c).

The Phase I ESA indicated that the majority of the listed sites (federal, state, tribal, and local databases) within the Study Area were Resource Conservation and Recovery Act (RCRA) generators, spills, underground storage tank (UST), Leaking UST (LUST), historic auto stations, and historic dry cleaning sites. This is typical in an urban setting, where the land use is primarily a mix of residential and commercial properties. Some light industrial land uses were noted to the northwest.

The Findings of the Phase I ESA report identified five closed LUST sites within the Study Area, and two sites immediately adjacent to and upgradient from the Study Area. Two active drycleaners were also identified, but both are retail locations that do not conduct onsite dry cleaning. The Big Sioux River was listed as a site in the CERCLIS-NFRAP (Comprehensive Environmental Response, Compensation, and Liability Information System-No Further Remedial Action Planned) database, due to unprecedented flooding in 1997. The potential for hazardous material releases to the river and surrounding banks was considered very high at the time, but the listing was later archived in 2008. No spills or significant accidents causing a release of hazardous substance or petroleum products were identified along the railroad in the Study Area.

The table below summarizes the RECs that were identified for the Study Area (see also Figure 3-13).

Table 3-9. Recognized Environmental Conditions (RECs)

Site	Description	Reason For REC
Don's Conoco/Don's Auto Towing (1201 E 26th St).	This site is currently Don's Auto Towing, located in the southeast corner of 26th St and Cliff Ave. It is no longer a gas station. General automotive services and towing are still conducted out of this property.	This site is considered a REC, due to the extended period of time the site had been a gas station and its risk-based closures. Residual soil and groundwater contamination still remains below clean up standards onsite. Due to the proximity of this site to potential construction corridors, the likelihood of encountering contaminated media remains. The site has a slab-on-grade structure, therefore vapor migration was not considered to be an issue. However, vapor migration could be a concern for construction activities, particularly along preferred underground pathways for vapor migration, such as underground utility corridors.
Fina Serve, Inc. #9538/ Gas Stop (1737 South Cliff Ave).	This site is currently an active Holiday Gas Station located in the northwest corner of 26th St and Cliff Ave.	This site is considered a REC, due to the extended period of time the site had been a gas station and its risk-based closures. Residual soil and groundwater contamination still remains above clean up standards onsite. Due to the proximity of this site to potential construction corridors, the likelihood of encountering contaminated media remains. The site has a slab-on-grade structure, therefore vapor migration was not considered to be an issue. However, vapor migration could be a concern for construction activities, particularly along preferred underground pathways for vapor migration, such as underground utility corridors.
Gas Stop (3000 E 26th St)	This site is currently an active Holiday Gas Station located on the north side of 26th Street, east of Cleveland Ave.	Little to no residual contamination remained at the site, due to extensive soil removal onsite and no groundwater impacts. However, this site has remained an active gas station in the intervening 23 years since the clean up was conducted. Given the site's history of releases, and the common occurrence of leaks occurring at gas stations, this site is considered to be a REC.
Big Sioux River	The site was described as the Big Sioux River located in South Dakota. The site was listed following historic floods in 1997.	The release of undefined hazardous materials to the Big Sioux River and its surrounding flood plain has been identified by the EPA as a possibility due to flooding of the river. The river is also located downgradient from many potential sources of contamination (i.e. industrial facilities, gas stations, etc.), therefore, the Big Sioux River and adjacent floodplain is considered to be a REC if subsurface construction is proposed in this area.

3.14.1 No-Build Alternative

For the No-Build Alternative, REC sites would still be present. If the Project is not built, potential disturbance of contaminated media or regulated materials would not be impacted by proposed construction activities. However, other future development unrelated to the Project could occur and have the potential to impact or be impacted by the RECs in the Study Area.

3.14.2 Build Alternatives

The preliminary work limits for Alternatives 5aA and 5aC are not expected to encounter contamination associated with the identified RECs in Table 3-9. The exception would be construction below the flood zone in the vicinity of the Big Sioux River, where contaminant impacts from hazardous waste and petroleum products transported along the river during former flooding events may be present. Bridge construction is proposed over the Big Sioux River on both 26th Street and I-229. The identified property acquisitions are currently and historically,

either residential homes or commercial office buildings. No known environmental issues have been identified in association with the properties.

The proposed work limits for Alternatives 7aA and 7aC are not expected to encounter contamination associated with the identified RECs in Table 3-9. The exception would be construction below the flood zone in the vicinity of the Big Sioux River, where contaminant impacts from hazardous waste and petroleum products transported along the river during former flooding events may be present. Bridge construction is proposed over the Big Sioux River along 26th Street. The identified property acquisitions are currently and historically, either residential homes or commercial office buildings. No known environmental issues have been identified in association with the properties.

3.15 VISUAL IMPACTS AND AESTHETICS

Visual landscape characteristics are observed objects that affect the aesthetic value of an environment. They can be natural, such as trees or rivers, or manmade, such as roadways and utility poles. They also can be permanent, such as a house, or temporary, such as a moving vehicle. A variety of natural features and manmade elements contribute to the visual resources of an area. The characteristics of the existing visual landscape were examined to assess how the Project might affect viewers' perceptions of their surroundings.

The Study Area is located primarily in an urban area consisting of residential, recreational, and commercial land uses. Infrastructure includes I-229, the Interchange, City streets, Big Sioux River Bridge, the BNSF Railway, residential areas, businesses, and structures associated with the City parks.

3.15.1 No-Build Alternative

The No-Build Alternative would not involve Project construction, and therefore would not directly alter visual impacts or aesthetics. However, future development unrelated to the Project could diminish aesthetics and potentially affect the visual landscape of the area. Traffic congestion currently presents a visual intrusion in the area and would continue to increase without the Project.

3.15.2 Build Alternatives

There is a potential for visual impacts through an increase in the traffic along any of the Build Alternatives carried forward for evaluation. However, because the proposed Build Alternatives involve existing roadways, and traffic already occurs in the area, the visual impact would be minimal in most areas.

All Build Alternatives would cross the Big Sioux River in one location. Alternatives 5aA and 5aC require a second crossing location and widening on I-229 for the northwest interchange ramp. During the public scoping process, residents located on the northwest side of the Interchange noted that with the proposed interchange ramp for Alternatives 5aA and 5aC, headlights might shine into their homes. To mitigate, a wall would be incorporated into final design that would serve as a visual barrier for cars that are exiting southbound I-229 onto 26th Street. Renderings of the barrier are provided on the project web site at: http://www.26thstreetcorridorstudy.com/documents/Interchange%20Options%205a%207a%207c%20Renderings.pdf

Because the Big Sioux River crossings already exist, the Build Alternatives would not cause further permanent visual impacts on the area. However, the planned design would raise 26th Street at the Intersection by approximately 25 feet, affecting the buildings in the vicinity of the Intersection. At the southeast quadrant of the Intersection, the commercial properties'

landowners expressed concerns about the visual impacts of raising the Intersection. Renderings were created to display the expected visuals to one business building, Southeastern Dental Center, located at the southeast corner of the Intersection to determine the affect. The Build Alternatives would change the view from this business from the current outlook on the intersection, to a future retaining wall. A full analysis, with renderings, is provided in Appendix C. The renderings are also provided on the project web site at:
http://www.26thstreetcorridorstudy.com/documents/Intersection%20Options%20A%20and%20C%20Renderings.pdf

With the exception of the commercial properties at the Intersection, the impacts of the Build Alternatives on visual resources in the Study Area would be typical of what is normally associated with this type of highway project. The Build Alternatives would raise the roadway, so traffic would not be directly adjacent to the parks and recreational facilities. By raising the roadway, the aesthetics within the park could be improved. The increased roadway and bridge elevation would reduce the direct line of sight between the park users and the traffic and increase the open space under the Big Sioux River Bridge. Seeding of disturbed areas to re-establish vegetation and other protective measures would be conducted to minimize impacts after the preferred alternative is constructed.

3.16 ENERGY

A principal factor in energy use is vehicle fuel consumption, which is affected by total miles traveled, the number of stops and starts, sudden acceleration or deceleration congestion, and grade steepness. Construction activities also would consume energy through use of construction equipment and during the creation of construction materials.

Currently, the energy use in the Study Area includes vehicle fuel consumption, fuel consumption by BNSF locomotives, and use of electricity, natural gas, or other fuel for heat and power by residences and businesses.

3.16.1 No-Build Alternative

Under the No-Build Alternative, the existing roadway would remain the same, resulting in increased congestion in the area. Congestion would increase idling and the number of decelerations and accelerations, thereby increasing the fuel consumption for vehicles traveling on the existing roadway. The No-Build Alternative would not involve construction, and therefore would not temporarily increase energy use.

However, future development unrelated to the Project could still occur, and energy use of these developments would increase.

3.16.2 Build Alternatives

All Build Alternatives would reduce congestion within the area, thereby reducing congestion at the Interchange and the Intersection. The Build Alternatives would reduce wait times at intersections and improve the flow of traffic. All Build Alternatives would increase overall traffic flow, thereby likely reducing overall fuel consumption for vehicles using the roads within the area. Temporarily, fuel consumption during construction would increase within the Study Area as part of construction induced congestion.

3.17 ENVIRONMENTAL JUSTICE

EO 12898 requires each federal agency to "make achieving environmental justice 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." Also, the U.S. Department of Transportation (DOT) and FHWA issued guidance addressing minority, low-income, and vulnerable age populations and how they should be considered during planning for transportation projects:

- DOT Order 5610.2(A), Final DOT Environmental Justice Order, issued May 2, 2012, is used by DOT to comply with Executive Order 12898.
- FHWA issued Order 6640.23A, FHWA Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, June 14, 2012.

There is also federal guidance regarding coordination with populations that have difficulty understanding English:

- EO 13166, Improving Access to Services for Persons with Limited English Proficiency—EO 13166 was issued by former President Clinton August 11, 2000, and requires federal agencies to examine the services they provide, identify any need for services to those with limited English proficiency (LEP), and develop and implement a system to provide those services so LEP persons can have meaningful access to them.

Data on minorities and age from the 2010 U.S. Census and data on income from the 2011 5-year average American Community Survey (part of the U.S. Census) were analyzed to determine the characteristics (that is, minority, age, languages spoken, and income) of the population in and near the Study Area. Data were analyzed to the smallest geographic unit available (that is, census block for minority and age data and census block groups for language spoken and income data). LEP populations were identified to determine if there are any barriers to effective communication within the Study Area. Census block group data for languages spoken were analyzed to determine the percentage of individuals for whom English is not their primary language. The geographic area of census block groups overlap the boundaries of the Study Area; therefore, the total population of the census blocks analyzed for the Study Area is somewhat larger than the actual population in the Study Area. An Environmental Justice (EJ) memorandum was developed which discusses the methodology of the analysis, tables of population characteristics, and EJ findings (HDR December 2013b). The following is a summary of the EJ populations within the Study Area (see Figure 3-14):

- *Minority populations* – Overall, the percentages of minority populations within the Study Area were greater, but not substantially greater than percentages within the City. The percentage of Black and African Americans met the City threshold level. Clusters of minority populations were present in 5 of the 68 census blocks within or adjacent to the Study Area.
- *Elderly and children* – The percentage of elderly in the Study Area is higher, but not substantially higher than the percentage in the City. Sixteen clusters of elderly populations were identified in the Study Area. The percentage of children in the Study Area is comparable to the City, with one cluster of children exceeding the City threshold level.
- *Low-income population* – Potential low-income populations were analyzed based on the percentage of the City's population with income below the poverty level (that is, the population whose income is below the relevant poverty threshold) in 2011. Low-income populations within the City were compared to those within the census block groups in the Study Area. Three clusters of low-income populations shown in Figure 3-14 were identified in the Study Area based on a review of the most recent Census data available. These clusters are located at the north end of the Study Area.

- *LEP* – The percentage of LEP in the Study Area at the block group level indicated that LEP is substantially greater within two block groups (7.7 percent and 12.4 percent) than the City level (4.5 percent). However, the percentage of Spanish-language LEP in the City is only 1.9 percent, and the percentage in the Study Area is only 0.9 percent and is not above the 5 percent requirement for written translations for vital documents specified in the Safe Harbor provisions of the DOT LEP guidance (DOT December 14, 2005). Although bilingual notices were not needed, a meaningful number of Spanish speaking individuals are within the Study Area; therefore a Spanish translator was an available alternative for the public meeting January 15, 2014, if requested.

3.17.1 No-Build Alternative

The No-Build Alternative would not disproportionately affect minority, vulnerable age, low-income and LEP populations. Under the No-Build Alternative, minority, vulnerable age, low-income, and LEP populations would continue to be affected by baseline conditions such as traffic congestion and future activities unrelated to the proposed action.

3.17.2 Build Alternatives

The location of the identified EJ populations was compared to the proposed direct and indirect effects of the Build Alternatives to determine if the Build Alternatives disproportionately affect EJ populations highly and adversely. The following summarizes the EJ populations in comparison to the Build Alternatives' proposed impact areas:

- *Minority populations* – All Build Alternatives would run within proximity to one minority cluster northeast of the Intersection and one cluster southwest of the Interchange.
- *Elderly and children* – Each of the Build Alternatives would be adjacent to clusters of elderly and children on the west side of I-229 and northeast of the Intersection.
- *Low-income population* – One cluster would be adjacent to all Build Alternatives northeast of the Intersection.
- *LEP* – A meaningful number of individuals (99) speak Spanish, but not English very well.

EJ is grounded in the practice of making sure that both the benefits and burdens of transportation investments are shared as equitably as possible among all affected communities. Therefore, the following considerations were applied to the Build Alternatives:

Access – Access to jobs, schools, health care facilities, and shopping is a consideration for the Build Alternatives.

Overall, the Build Alternatives would improve traffic flow for drivers between the Interchange and the Intersection. The improvements would include traffic movements and provide additional lanes to relieve congestion. These improvements in traffic movements would benefit the traveling public, including the bus system. Access in the area would remain similar to existing conditions, therefore similar for all populations. The relief in traffic congestion would also reduce conflicts between vehicles, pedestrians, and bicycles in the area. Sidewalks would be provided on both sides of 26th Street throughout the Study Area, as well as the sidewalks provided as part of the Rotary-Norlin Mitigation Plan. Therefore, it is anticipated that the area would improve for pedestrians and bicyclists.

Visual – Visual impacts would be minor for all residents and would not disproportionately affect EJ populations. The EJ population clusters currently are adjacent to existing infrastructure. The

portion of the Build Alternatives that would have a viewshed change is the Intersection. The change would be due to the roadway being elevated. Two businesses located adjacent to this area would have a change in their current viewshed, from being able to see out into the street and the park areas versus seeing a retaining wall. No residences are located directly adjacent to the area.

For Alternatives 5aA and 5aC, the northwest ramp would be located adjacent to a residential area. Due to the proximity of the ramp to the homes, the headlights of the vehicles at the Interchange could affect the residents. As a result, a wall is planned to be incorporated with the ramp during the final design that would shield the homes from headlights.

Noise – A noise analysis was completed for all Build Alternatives. The residences that would be impacted for each Build Alternative were compared to the areas that the EJ populations exist. Residences within EJ populations were impacted but not disproportionally when compare to the entire population that exists in the area. Although noise receptors located in EJ populations would be impacted, the analysis of the noise mitigation shows mitigation measures are not feasible and/or reasonable. Impacts on noise receptors have been identified. See Section 3.7, Noise, for further discussion of the noise analysis.

Acquisitions and Relocations – Acquisitions would be required with all of the Build Alternatives. No Build Alternatives require relocations situated in a census block in which minorities or low income populations have been identified. Alternatives 7aA and 7aC would require the acquisition of at least one residence within a cluster of elderly and children, but there would be no disproportionate impacts. All acquisitions would be completed under the Uniform Relocation Act; therefore suitable housing would be identified for these residences. See Section 3.4, Acquisitions and Relocations, for a discussion of specific residences.

3.18 SECTION 4(F) AND 6(F) PROPERTIES

3.18.1 Applicability

Section 4(f) of the Department of Transportation Act of 1966 (49 U.S.C. 303), declares that it is the policy of the United States Government that special effort should be made to preserve the natural beauty of the countryside and public park and recreation lands, wildlife and waterfowl refuges, and historic sites.

Section 4(f) specifies that the Secretary of Transportation may approve the use of Section 4(f) property only if:

(a)The FHWA determines that:

(1) There is no feasible and prudent avoidance alternative to the use of land from the property; and

(2) The action includes all possible planning to minimize harm to the property resulting from such use; or

(b) The FHWA determines that the use of the property, including any measure(s) to minimize harm (such as any avoidance, minimization, mitigation, or enhancement measures), will have a *de minimis* impact on the property.

For historic sites, a *de minimis* impact means the FHWA determined, in accordance with 36 CFR part 800, that no historic property is affected by the project or that the project will have No Adverse Effect on the historic property in question.

For parks, recreation areas, and wildlife and waterfowl refuges, a *de minimis* impact is one that will not adversely affect the features, attributes, or activities qualifying the property for protection under Section 4(f).

3.18.2 Proposed Action

The Project, referred to as the Proposed Action in this section, would improve the capacity for the I-229 Exit 5 Interchange, provide for a grade separated crossing for 26th Street and BNSF Railway, and improve the capacity of the 26th Street and Southeastern Avenue intersection. The Purpose and Need are explained in Chapter 1 of this document and the alternatives considered, along with the Proposed Alternative, are described in Chapter 2. Detailed descriptions of the environmental impacts due to the Build Alternatives related to Section 4(f) and 6(f) properties are discussed further in this chapter. For example, descriptions of the land use within the Study Area and the impacts of the Build Alternatives on the existing and planned uses are discussed further under Section 3.1, Land Use.

3.18.3 Section 4(f) Properties

Numerous parks and recreation areas are present in the vicinity of the Study Area (City of Sioux Falls 2013). No wildlife or waterfowl refuges or historic sites were identified in or near the Study Area. Publicly owned parks in the vicinity of the Study Area are illustrated on Figures 3-4 through 3-7. Only those that would potentially be impacted are described below.

Riverdale Park, owned by the City, is located north and west of I-229 with the Big Sioux River running along the east side of the park. Riverdale Park provides approximately 42.3 acres of public recreational area. Park amenities include accessible restrooms and picnic shelters. Recreational facilities include playgrounds, accessible basketball courts, tennis courts, league football fields, sand volleyball courts, and access to the Big Sioux River Bike Trail system.

Rotary Park, owned by the City, is surrounded entirely by highway ROW including I-229 to the northwest, 26th Avenue to the south, and Southeastern Avenue to the east. Rotary Park provides approximately 13.5 acres of public recreational area. The park contains a 62 space parking area, playground equipment, restroom facilities, and a sheltered picnic area. The sheltered picnic area is one of the most utilized in the park system. The park provides access to the Big Sioux River Bike Trail system, fishing, canoeing, and kayaking. The Big Sioux River runs through the center of this park. There is an entrance to both the west side and east side of the park off of 26th Street. A paved roadway also connects the parking lot of Rotary Park and the parking lot of Norlin Park by passing under the 26th Street, Big Sioux River Bridge (see Figure 3-8).

Norlin Park, owned by the City, is located south of 26th Street between the Big Sioux River and Southeastern Avenue. Norlin Park provides approximately 35.8 acres of public recreational area. The park includes a 9 space parking area and access to the Big Sioux River Bike Trail system. As described above, the Norlin Park parking area is accessed from Rotary Park by the paved roadway under the Big Sioux River Bridge. The existing 7' of vertical clearance limits the use of this access and the roadway is not maintained during the winter months.

Pasley Park, owned by the City, abuts the south end of Norlin Park. Pasley Park provides approximately 24.9 acres of public recreational area. The park contains accessible restrooms, picnic shelters, and playgrounds. The park also includes league baseball fields and a bike trail access point. Pasley Park is accessed from Southeastern Avenue, south of 26th Street. The roadway goes under the BNSF railway and in the past has flooded.

The Big Sioux River Bike Trail, owned by the City, runs along the Big Sioux River corridor connecting Cherry Rock, Riverdale, Rotary, Norlin, and Pasley Parks within the Study Area (see

Figure 2-1). This trail is approximately 12 feet wide within the limits of the Study Area. Small segments of shared use paths identified on Figure 2-1 provide connections to the Big Sioux Bike Trail. As recreational facilities, the Big Sioux River Trail and sidewalk connections to the Big Sioux River are identified as Section 4(f) resources.

In the future, an additional pedestrian trail may be developed on the west side of the Big Sioux River (see Figure 3-8). The City currently does not own the property that is south of 26th Street and west of the Big Sioux River. These trails are in the planning stages and are not currently considered a Section 4(f) resource.

Other sidewalks within the Study Area and shown on Figure 2-1 are utilized for the purpose of transportation and not solely for recreational purposes. Therefore, these sidewalks are not considered Section 4(f) resources.

3.18.4 Impacts to Section 4(f) Properties

3.18.4.1 No Build Alternative

The No-Build Alternative would not have a direct impact on the available features, attributes, or activities available within the parks or other recreational resources. Access to facilities would continue under the existing roadway system. Other projects could also occur in the future that could affect the trail system, park, and recreational resources. The No-Build Alternative would cause delays for access to the park and recreational areas in the vicinity of the Study Area due to traffic congestion, but it is unlikely that the extent of these delays would result in a future constructive use.

3.18.4.2 Build Alternatives

All Build Alternatives would encroach on parks located adjacent to 26th Street (refer to Figures 3-4 through 3-7). Appendix A describes all 20 evaluated Build Alternatives. Three of the 20 Build Alternatives would affect features protected under Section 4(f) which include the canoe launch area in Rotary Park or the bike path in Riverdale Park. Of the remaining 17 Build Alternatives, which includes Alternatives 5aA, 5aC, 7aA, and 7aC, use of Section 4(f) properties would be similar but none would affect features, attributes or activities that qualify each park for protection. Uses of 4(f) properties include:

- The park entrance just west of the BNSF railroad crossing from 26th Street into Rotary and Nolin Parks would need to be relocated to construct a grade separated structure over the BNSF at 26th Street.
- Temporary use of property at the highway ROW line and Nolin Park along 26th Street to construct fill slopes and the Big Sioux River Bridge (see Figures 3-4 to 3-7). The area under and adjacent to the bridge would be temporarily impacted during the construction of the crossing.

3.18.5 Measures to Minimize Harm to Section 4(f) Property

3.18.5.1 Mitigation and Enhancements

The access road and parking area to Rotary Park that is currently located on the east side would be relocated to the west side of the Big Sioux River within Rotary Park. A trail bridge over the Big Sioux River would be constructed to access all existing facilities in both Rotary and Norlin Parks. The existing facilities, restrooms and playground equipment, located within Rotary Park (east and west side) would not be impacted by this Project.

The west side of Rotary Park is currently utilized primarily for canoe access to the Big Sioux River. Relocation of the parking facility to the west side with construction of a trail bridge over the Big Sioux River would allow better utilization of the entire park. The existing parking lots and paved roadway connecting the east side of Rotary Park to the Norlin Park would be removed and repurposed as an exercise trail. This trail would also serve as a bike path loop around the two parks. This new trail would be part of the Project and maintain the use of green space in Norlin Park.

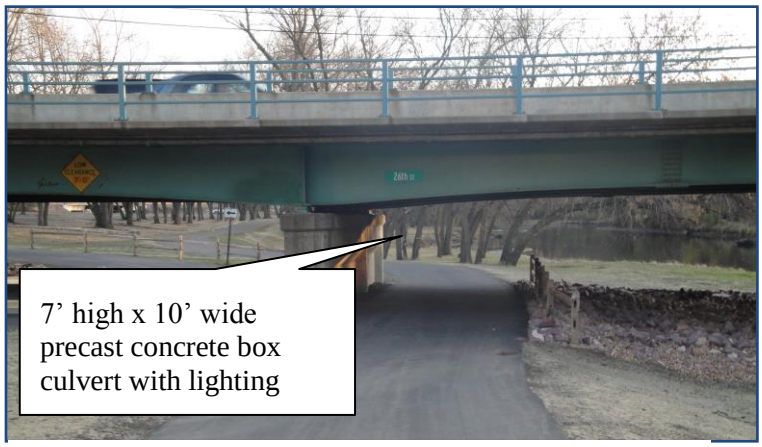
The Big Sioux River Trail would remain on the same alignment. Construction of the new Big Sioux River Bridge would change the vertical clearance under the bridge from the existing 7' clearance to approximately 18'. The area under the bridge would continue to be "reserved for future transportation purpose". Since this area is designated as highway ROW, it is not subject to Section 4(f) now or in the future. However, until such time as needed, the area would continue to be used by the parks for activities which would benefit from the improved natural lighting, see Section 3.18.5.2 photo.

Figure 3-15 includes a conceptual Rotary-Norlin Park Mitigation Plan. This plan is included for illustration only and is subject to change. Features such as the facilities, playground, restroom, and shelter, as shown in the Plan could be added by the City's Parks and Recreation Department in the future but these features would not be part of this Project.

Entering and exiting Rotary Park and Norlin Park is currently restricted during peak traffic volumes and when trains are present across 26th Street. The new access road location would function at a higher level of service providing improved access to the parks.

3.18.5.2 Temporary Construction Impacts

Access to Rotary and Norlin Parks would be coordinated with the City's Parks and Recreation Department in order to maintain access to the parks at all times during construction. Access may require BNSF's approval of a temporary crossing of the railroad tracks or phased construction with the new parking area and trail bridge being constructed prior to removal of the existing Rotary Park access road.



Proposed Big Sioux River Trail access during construction

In advance of constructing the new Big Sioux River Bridge, a concrete box culvert would be placed under 26th Street to maintain the Big Sioux River Trail throughout the duration of the Project. Upon completion of the Project, the path would be returned to follow under the bridge (see Figure 3-15).

No permanent ROW would be acquired from any of the parks. A temporary easement along the edge of Rotary and Norlin Parks would be required for to construct 26th Street. This area is currently a sloped part of the roadway embankment. The areas would remain sloped roadway embankment upon completion of the Project. As discussed in Section 4(f) guidance, these areas would qualify as temporary occupancy since they are short in duration, would not change the ownership of the areas, do not result in temporary or permanent adverse changes to existing park activities, and include only minor amounts of land.

3.18.6 Section 6(f) Land and Water Conservation Properties

Section 6(f) of the Land and Water Conservation Fund Act of 1965 was established to protect federal investments and maintain high-quality recreation resources. The National Park Service administers Section 6(f), which protects parks and recreation areas that were acquired, developed, or rehabilitated, even in part, with the use of any federal land and water grant funds. All federal agencies must comply with Section 6(f) (16 USC 4601-4 et seq.).

Section 6(f) states that no lands that have been paid for in part or in entirety by federal land and water grants can be converted to non-park or non-recreation uses without the approval of the National Park Service. This approval would be granted only if the action complies with the state recreation plan and an area of equal fair market value and usefulness is substituted for the land being removed from park and/or recreation use (16 USC 4601-4 et seq.).

Table 3-10 provides information regarding funds designated to each park (National Park Service, Land and Water Conservation Fund March 15, 2012).

Table 3-10. Land and Water Conservation Fund Study Area Funding

Project Number	Park	Amount	Reason for Utilization of Funds
4600110	Norlin and Riverdale	$21,057.00	Land acquisition
4600231	Norlin and Riverdale	$26,000.00	Land acquisition
4600243	Norlin and Riverdale	$6,750.00	Land acquisition
4600319	Cherry Rock	$13,804.55	Land acquisition
4600315	Cherry Rock	$16,844.13	Park improvements
4600275	Cherry Rock	$14,825.00	Land acquisition
4600720	Riverdale	$12,890.82	Park improvements
621-XXX	Big Sioux River Bike Trail	$50,850.00	Not Identified

For the Project, coordination occurred with the SDGFP grants coordinator to confirm the Section 6(f) properties within the Study Area. The Section 6(f) properties include Norlin Park, Rotary Park, Riverdale Park, and the Big Sioux River Bike Trail (see Appendix E).

Because these impacts have been determined to be very minor, the SDGFP has indicated that the Project would fall under a temporary non-conforming use for the construction activities impacting Rotary Park, Norlin Park, and the Big Sioux River Bike Trail (see Appendix E). During final design, the SDDOT would need to coordinate with SDGFP grants liaison and NPS approximately 10 months before construction to request concurrence from NPS for a temporary non-conforming use to Section 6(f) properties. Temporary non-conforming uses are typically issued for 180 days. The Project would need to comply with the conditions of the non-conforming use request.

3.18.7 Agency Coordination

Extensive coordination occurred with the City's Parks and Recreation Department to develop strategies to avoid, minimize, mitigate, and enhance the parks system through the construction of this project. This coordination resulted in the conceptual Rotary-Norlin Park Mitigation Plan as presented earlier in this document.

The City of Sioux Fall's Parks and Recreation Department, the NPS, and the SDGFP have been informed of the FHWA's intent to:

- Implement all measures as discussed above to avoid, minimize, mitigation, and enhance the park features; and

- Based on the measures to minimize harm, the FHWA intends to make a *de minimis* impact finding.

Coordination also occurred with the SDGFP Grants Coordinator regarding Section 6(f) properties within the Study Area and it is anticipated this Project would be a non-conforming temporary use to Section 6(f) properties. Refer to Appendix E, Section 4(f) and 6(f) Coordination for all associated correspondence.

3.18.8 Summary

For Section 4(f), SDDOT, FHWA, and City's Public Works Department have coordinated with the City's Parks and Recreation Department to discuss the intent of making a *de minimis* impact finding for the Build Alternatives (see Appendix E). Following an opportunity for public review and comment, the official with jurisdiction over the Section 4(f) property, in this case the City, must concur in writing that the Project would not adversely affect the activities, features, or attributes that make the property eligible for Section 4(f) protection.

For Section 6(f) during final design, the SDDOT would need to coordinate with SDGFP grants liaison and NPS approximately 10 months before construction to request concurrence from NPS for a temporary non-conforming use to Section 6(f) properties. Temporary non-conforming uses are typically issued for 180 days. The Project would need to comply with the conditions of the non-conforming use request.

3.19 UTILITIES

Private and public utilities are located throughout the Study Area (see Figures 3-16 and 3-17). The private utilities within the Study Area include Century Link Communications, Xcel Energy, MidAmerican Energy, SDN Communications, Northern Natural Gas, MidContinent Communications, and Sprint Communications. Coordination occurred with each of these companies during the preliminary design of the Build Alternatives with specific review meetings taking place between February 11 and February 29, 2014 (HDR February 2014). Public utilities within the Study Area include sanitary sewer, storm sewer, water main, underground power, street lights, and city fiber optic.

3.19.1 No-Build Alternative

The No-Build Alternative would not involve the Project construction, therefore would not result in temporary or permanent impacts to utilities.

3.19.2 Build Alternatives

The Build Alternatives would cause temporary impacts to private and public utilities within the Study Area during construction. In order to minimize impacts, close coordination with utility companies and the City has been completed. This coordination would continue throughout final design and into construction for the preferred alternative. The utility coordination did not show any major differences between the Build Alternatives regarding utility impacts.

Potential private utility adjustments were identified that would need to be part of the project construction (HDR, February 2014). The most significant private utility adjustment would be a potential shift of the Xcel power line along the south side of 26th Street. The Xcel representative stated that adjustments can be addressed during final design. Adjustments to City of Sioux Falls utilities would be addressed during final design.

3.20 CONSTRUCTION

In addition to the direct and indirect effects discussed in previous sections of this EA, construction of the proposed Project would have short-term, temporary effects related specifically to construction activities. The impacts from construction of a Build Alternative would occur during and immediately following construction. In addition, temporary impacts on travel patterns would occur. The time required for construction impacts to dissipate varies by the type of construction activity and resources affected. Most construction impacts cease immediately with completion of construction (such as, air emissions from construction vehicles), whereas other impacts slowly dissipate (such as, revegetating disturbed areas).

The location and type of borrow material required for the Project would be identified during final design. If off-site borrow locations would be required, their type and location would be evaluated, and any required permits would be sought at that time.

A detailed discussion of specific construction impacts is not feasible until final design has been completed for the preferred alternative. The following are general practical precautions to minimize the temporary adverse effects of construction activities on the following resources:

- Temporary easements would affect land use during construction. These areas would be returned to their previous land use after construction is complete.
- A traffic control plan would be developed during design to minimize the amount of traffic disruption. Access to the businesses within the Study Area would be considered as part of the traffic control plan. The traffic control plan would also address continuous access to areas for emergency response services (such as police).
- Previously defined BMPs, in accordance with SDDOT construction manuals, would be used to mitigate construction-related noise impacts. An example of one BMP would be to limit construction to daylight hours, typically 6 a.m. to 6 p.m. This BMP would reduce noise levels in any neighboring residential areas during the evening and at night, the most sensitive time frames for noise impacts.
- Emissions caused by vehicle delays, construction vehicles, and related equipment and activities generating dust would be minimized to the extent possible by implementing smooth traffic-flow patterns and water sprinkling.
- A NPDES General Permit for Stormwater Discharges Associated with Construction Activities is required for the Project. A Notice of Intent would be filed with SDDENR and a SWPPP would be developed that would prevent impacts on the water resources in the Study Area through the implementation of BMPs. Some examples of BMPs are silt fencing or re-vegetating disturbed soil. For any construction areas that would remain un-vegetated for an extended period of time, such as over the winter, temporary seeding would be required in accordance with the SWPPP.
- All Build Alternatives would require fossil fuel and labor as well as construction materials. The use of energy, labor, and raw materials is largely irreversible and irretrievable, with the exception of items that can be salvaged during demolition and removal at the end of the facility's design life and possibly recycled.
- Contiguous, ADA accessible sidewalks would be provided throughout the phases of construction. Temporary tie-ins may be required, to ensure no sidewalk terminates at a dead end. All recreational trails would remain in service throughout construction.

Construction-related impacts for the Project are not considered to be significant due to compliance with provisions of the most recent SDDOT *Construction Field Manual* and the most recent *South Dakota Standard Specifications for Road and Bridges*.

3.21 CUMULATIVE IMPACTS

This section addresses potential cumulative impacts associated with the Project. Cumulative impacts are beneficial and/or adverse effects that would result when impacts from the Project are considered with impacts from other local or regional projects. CEQ's *Regulations for Implementing the Procedural Provisions of NEPA* define cumulative impacts as the following:

> The impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions (40 CFR 1508.7).

Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time. They may arise from single or multiple actions and result in additive or interactive effects. Before cumulative impacts can be evaluated, a proposed action must have advanced far enough in the planning process that its implementation is reasonably foreseeable. Reasonably foreseeable actions are not speculative, are likely to occur based on reliable sources, and are typically characterized in planning documents.

The following paragraphs identify past, present, and reasonably foreseeable future actions, discuss the potential resulting cumulative impacts, and evaluate the impacts on affected resources. Sources of information for proposed projects include the *Sioux Falls Comprehensive Development Plan: Shape Sioux Falls 2035*; and *Direction 2035: Sioux Falls MPO Long-Range Transportation Plan* (City of Sioux Falls 2009; Sioux Falls MPO 2010) and the most recent *South Dakota State Transportation Improvement Plan* (STIP) (SDDOT 2013a).

3.21.1 Past and Present

Past actions have affected resources within the Study Area including the development of the I-229 corridor with establishment of roadway infrastructure. Residential, recreational, and commercial development with associated utility infrastructure improvements have occurred in the vicinity of the Interchange.

These past actions have resulted in an increase of impervious surfaces and impacts on water quality, wildlife, land use, and waters of the U.S. in the Study Area. In the past century and a half, development has dramatically changed the landscape of this part of South Dakota. However, groundwater resources are still utilized for potable water even with the introduction of pavements and other obstructions to groundwater recharge.

Although wetlands have been reduced in the City through past activities, current protections and requirements for replacement of impacted wetlands would minimize and mitigate impacts; frequently more wetlands are restored or created than those that would be impacted. Impacts on the Big Sioux River would be minimized with BMPs.

Land use within the Study Area is primarily recreational and residential. Office and commercial land use is located near the Intersection. Homes, businesses, and parks within the Study Area attract visitors and residents, placing pressure the existing transportation system.

The cumulative affects of these past and present impacts are not significant in the Study Area.

3.21.2 Reasonably Foreseeable Future

The following are the reasonably foreseeable future actions near the Study Area.

- Arterial street rehabilitation northeast of the Study Area between 26th Street and 18th Street. Program includes asphalt overlay, seal coating, and neighborhood street reconstruction projects (2014) (City of Sioux Falls 2013).
- Concrete pavement restoration of Cliff Avenue, west of the Study Area. This includes rehabilitation of concrete pavement, including full depth joint rehabilitation, panel replacement, corner break blow-ups, joint resealing, and other various rehabilitation work (City of Sioux Falls 2013).
- Cherry Rock Park development; Ball field renovations, design (2015) and construction (2016) (City of Sioux Falls 2013).
- Install fire protection at Riverdale Park, design and construction (2016) (City of Sioux Falls 2013).

Coordinated project planning would minimize future impacts so that the projects considered together would not produce significant cumulative impacts from stormwater and sedimentation transport to water resources.

Impacts on resources, such as water quality and air quality, would be limited by the regulatory requirements for each project. For each project, impacts on wetlands, waters of the U.S., historic properties, or T&E species habitat would be further limited by federal regulations, which may include permits and/or mitigation requirements. Long-term impacts on air quality would not be significant, as the area impacted and the degree of impact is anticipated to be slight. The development of designated floodplain, parks, and greenways would be limited due to these areas serving as water storage areas to minimize future damage in naturally flood-prone areas. Impacts on the designated floodplain would require coordination with the local designated floodplain manager.

Transportation projects in the Study Area would be coordinated with the City, Minnehaha County, Sioux Falls MPO, and as needed with SDDOT and FHWA. Most of the impacts from the reasonably foreseeable future actions would be short-term, primarily during construction since many are occurring within previously disturbed areas. Therefore, cumulative impacts are not anticipated to be significant.

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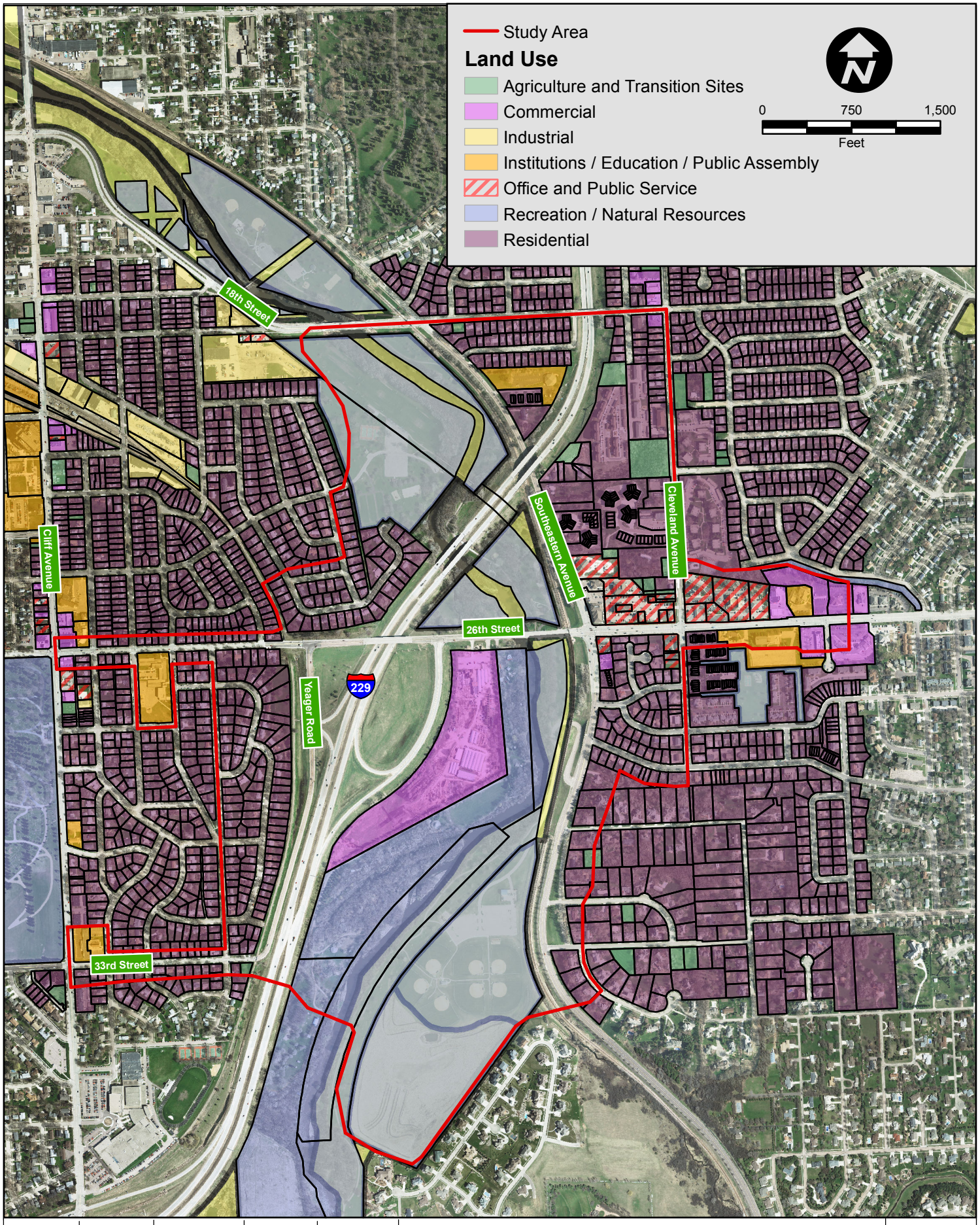

Land Use

I-229 Exit 5 (26th Street) Interchange Environmental Assessment Sioux Falls, SD

Figure 3-1

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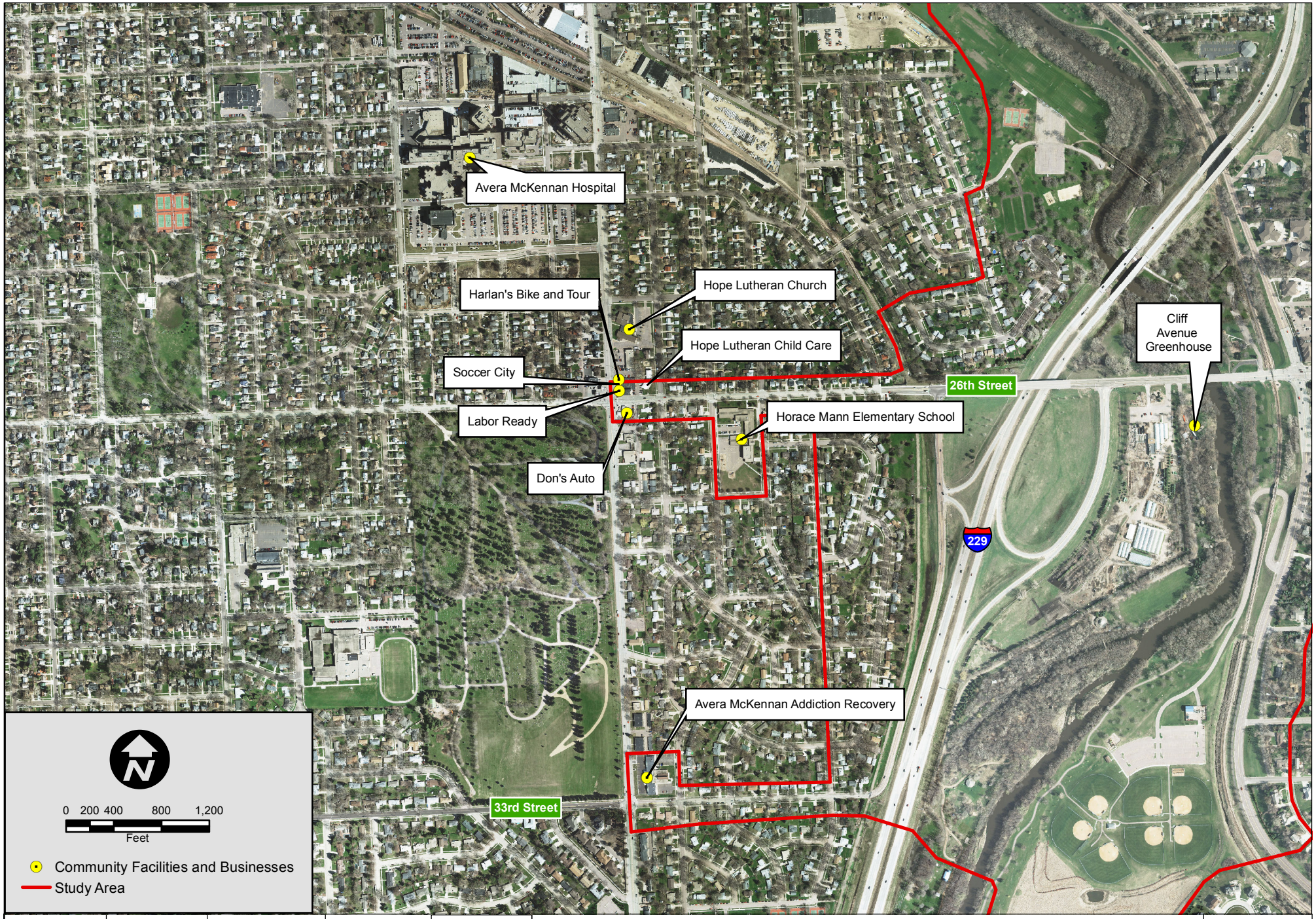

Social and Economic

I-229 Exit 5 (26th Street) Interchange Environmental Assessment

Sioux Falls, SD

Figure

3-2a

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Social and Economic

I-229 Exit 5 (26th Street) Interchange Environmental Assessment

Sioux Falls, SD

Figure

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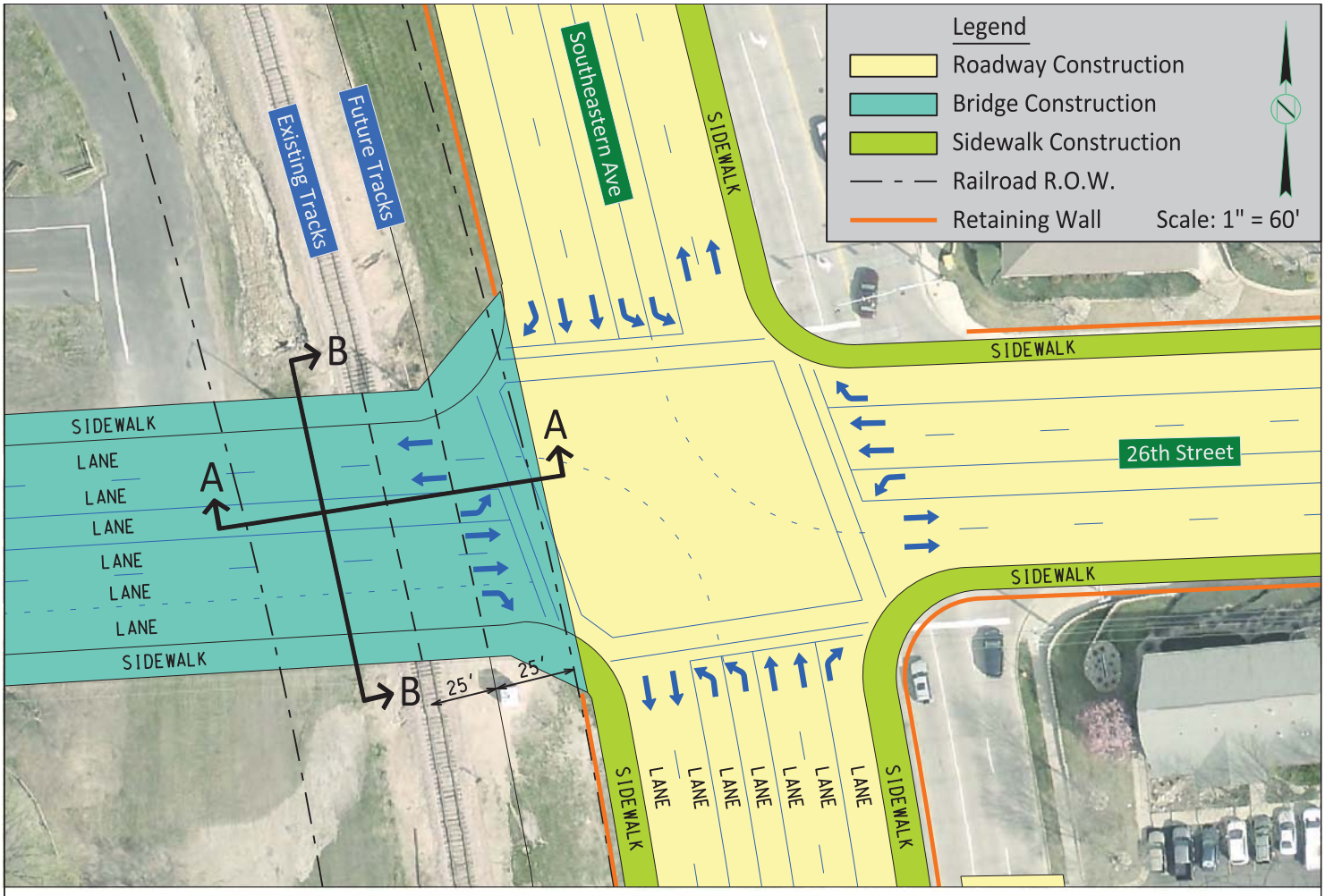

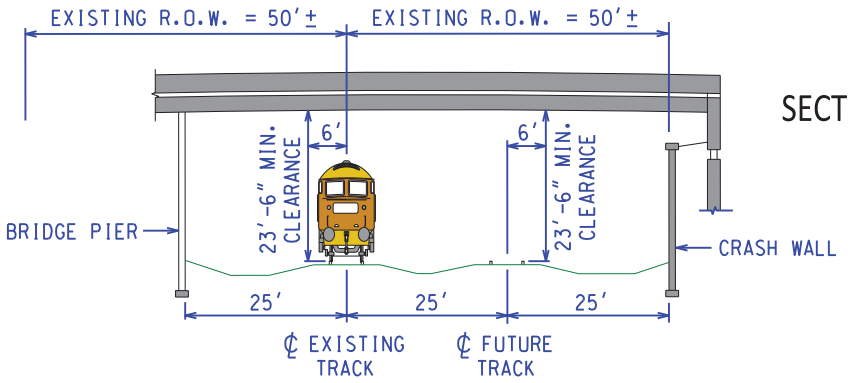

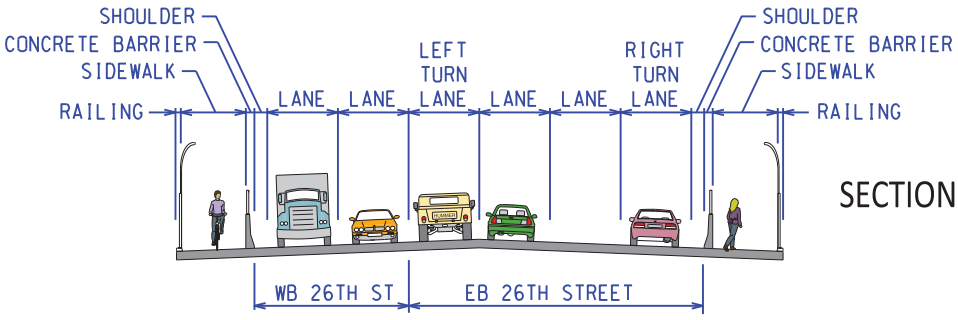

Drawn By:
B.Miller
1-7-2014

Chked By:
J.Unruh
1-7-2014

Revision:
8-26-2014

BNSF Railroad Crossing Layout

I-229 Exit 5 (26th Street) Interchange Environmental Assessment
Sioux Falls, SD

Figure
3-3

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Drawn By: B.Miller
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Chked By: J.Unruh
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Revision: 10-23-14

Acquisitions and Park Impacts - Option 5aA

I-229 Exit 5 (26th Street) Interchange Environmental Assessment Sioux Falls, SD

Figure 3-4

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Drawn By: B.Miller
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Acquisitions and Park Impacts - Option 5aC

I-229 Exit 5 (26th Street) Interchange Environmental Assessment Sioux Falls, SD

Figure 3-5

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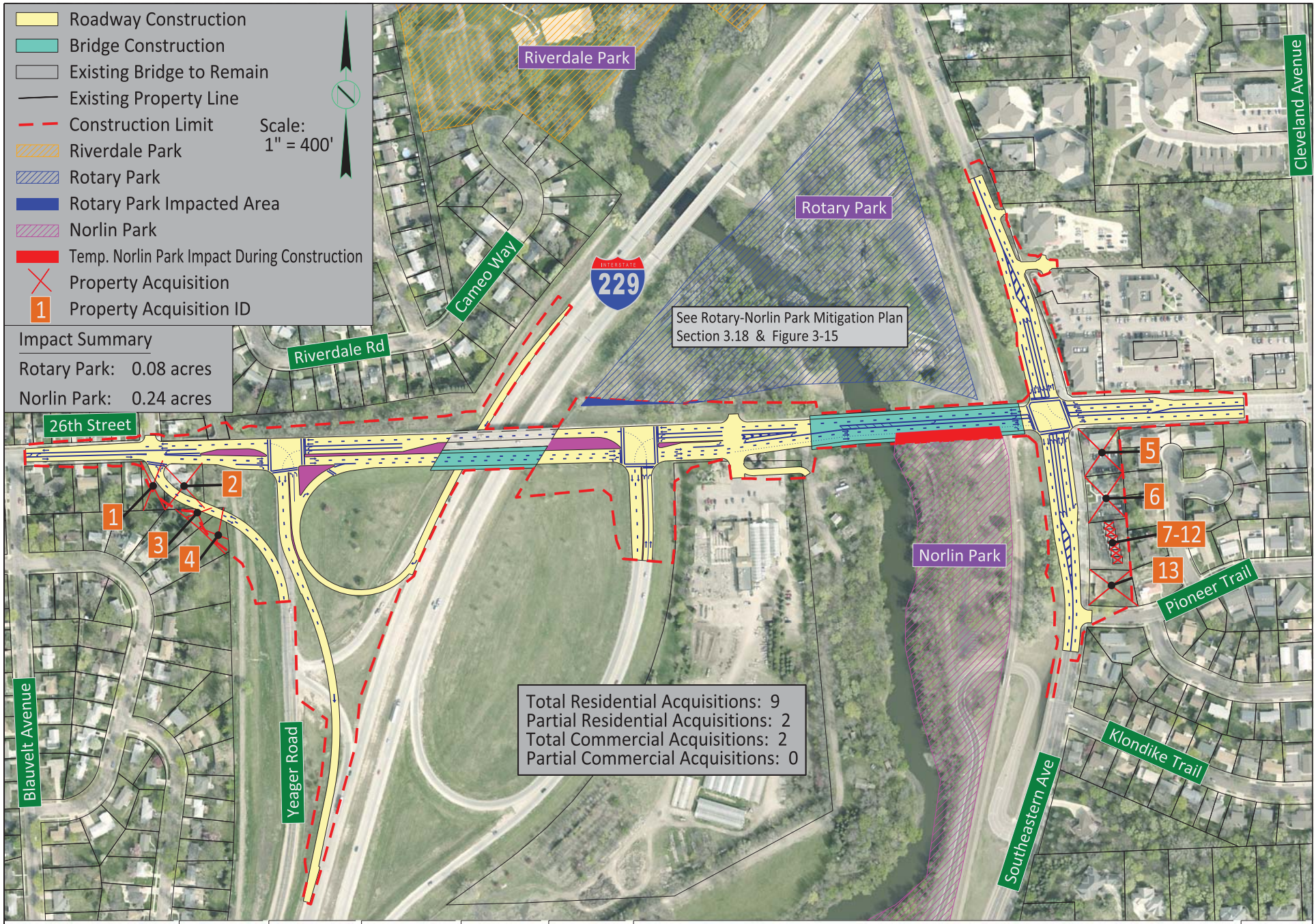

Drawn By: B.Miller
Date: 1-8-2014
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Date: 1-8-2014
Revision: 10-23-14

Acquisitions and Park Impacts - Option 7aA

I-229 Exit 5 (26th Street) Interchange Environmental Assessment Sioux Falls, SD

Figure 3-6

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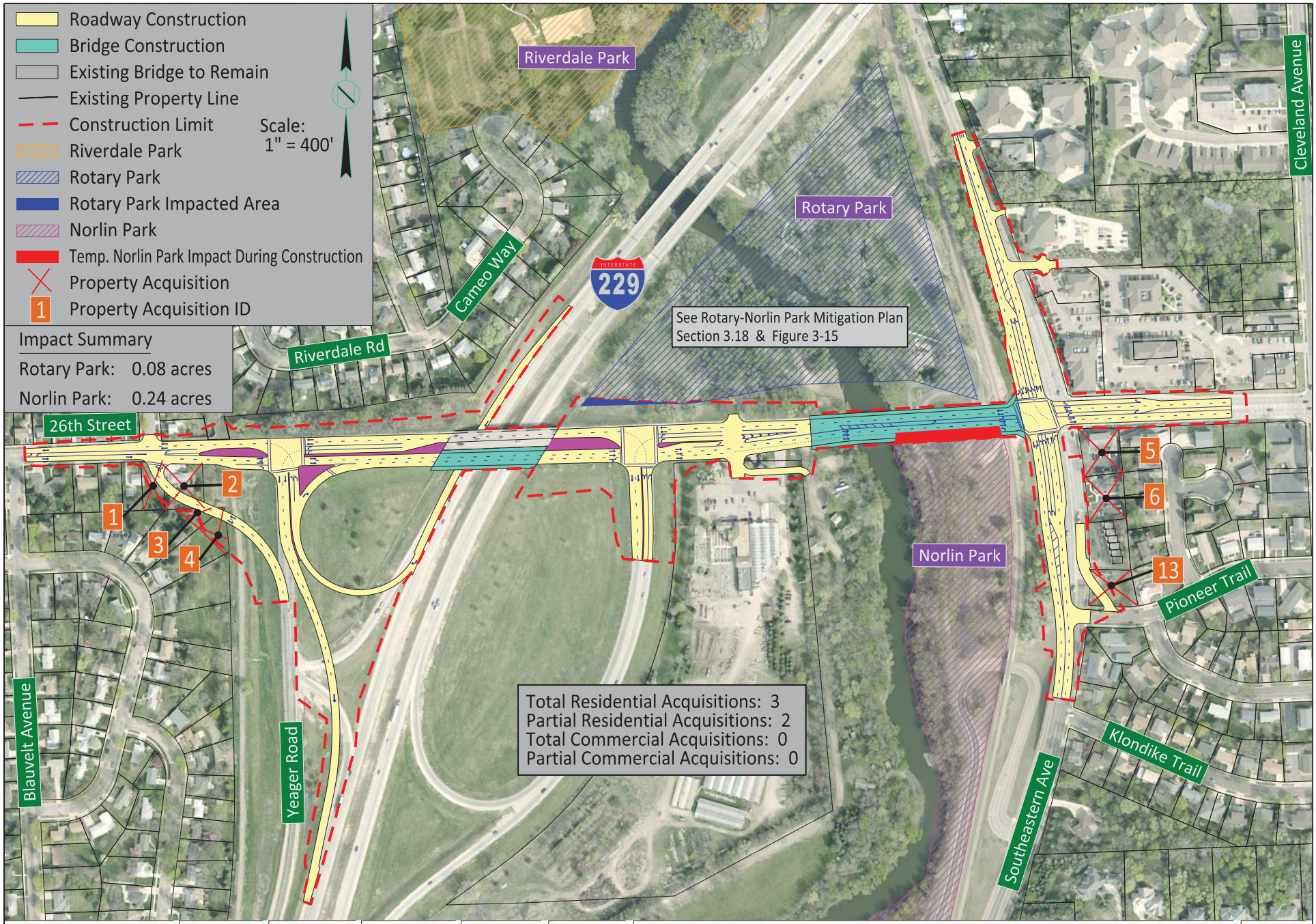

Drawn By: B.Miller
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Date: 1-8-2014
Revision: 10-23-14

Acquisitions and Park Impacts - Option 7aC

I-229 Exit 5 (26th Street) Interchange Environmental Assessment Sioux Falls, SD

Figure 3-7

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Proposed Sidewalks, Trail System and Park Access

I-229 Exit 5 (26th Street) Interchange Environmental Assessment
Sioux Falls, SD

Figure 3-8

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Drawn By: B.Miller
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Chked By: J.Unruh
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Wetland and Other Waters of the U.S. and Floodway/Floodplain Impacts - Option 5aA

I-229 Exit 5 (26th Street) Interchange Environmental Assessment Sioux Falls, SD

Figure 3-9

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Drawn By: B.Miller
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Wetland and Other Waters of the U.S. and Floodway/Floodplain Impacts - Option 5aC

I-229 Exit 5 (26th Street) Interchange Environmental Assessment Sioux Falls, SD

Figure 3-10

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Drawn By: B.Miller
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Wetland and Other Waters of the U.S. and Floodway/Floodplain Impacts - Option 7aA

I-229 Exit 5 (26th Street) Interchange Environmental Assessment Sioux Falls, SD

Figure 3-11

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Drawn By: B.Miller
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Date: 1-3-2014
Revision: 10-23-14

Wetland and Other Waters of the U.S. and Floodway/Floodplain Impacts - Option 7aC

I-229 Exit 5 (26th Street) Interchange Environmental Assessment Sioux Falls, SD

Figure 3-12

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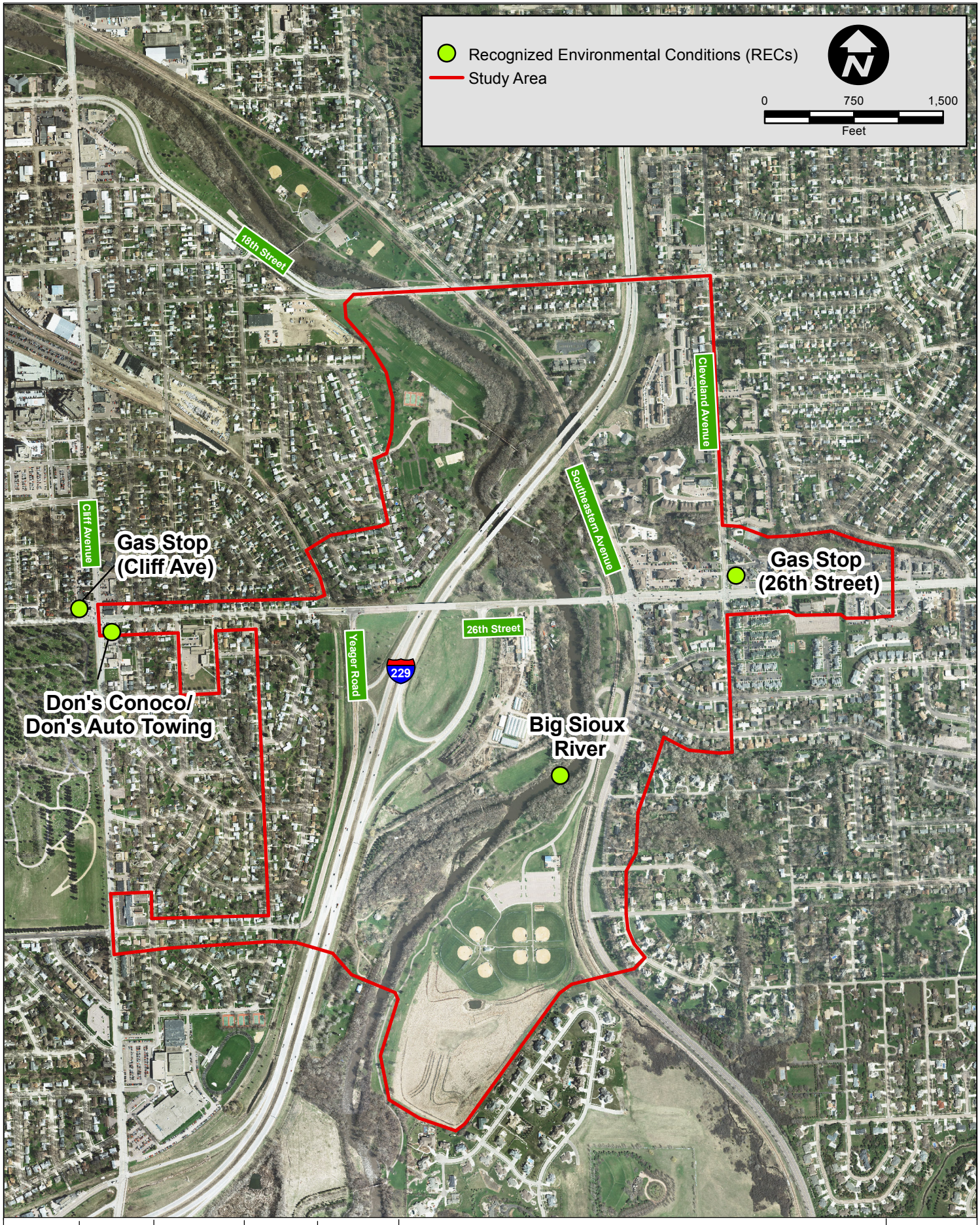

Regulated Materials

I-229 Exit 5 (26th Street) Interchange Environmental Assessment Sioux Falls, SD

Figure
3-13

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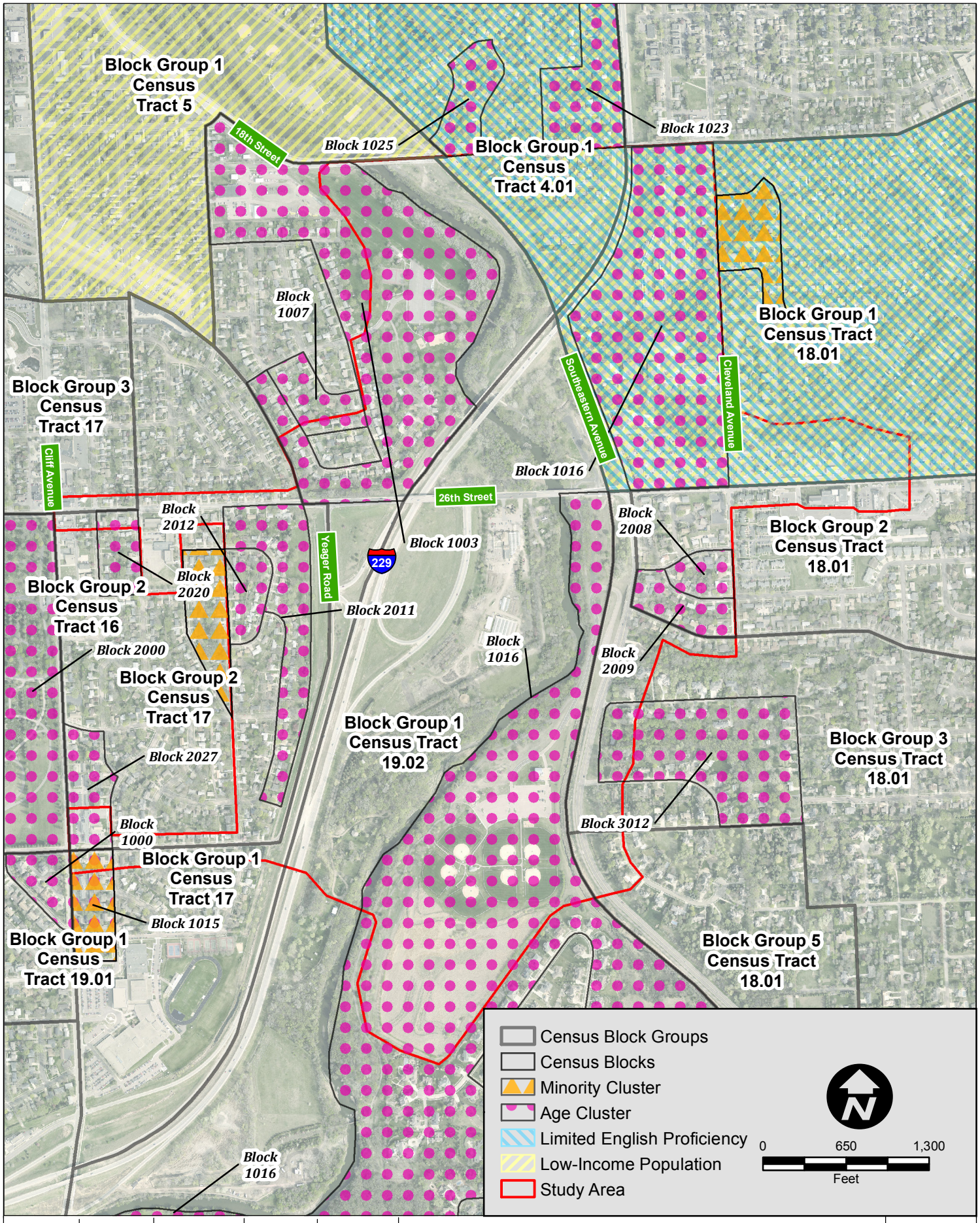

Environmental Justice

I-229 Exit 5 (26th Street) Interchange Environmental Assessment Sioux Falls, SD

Figure
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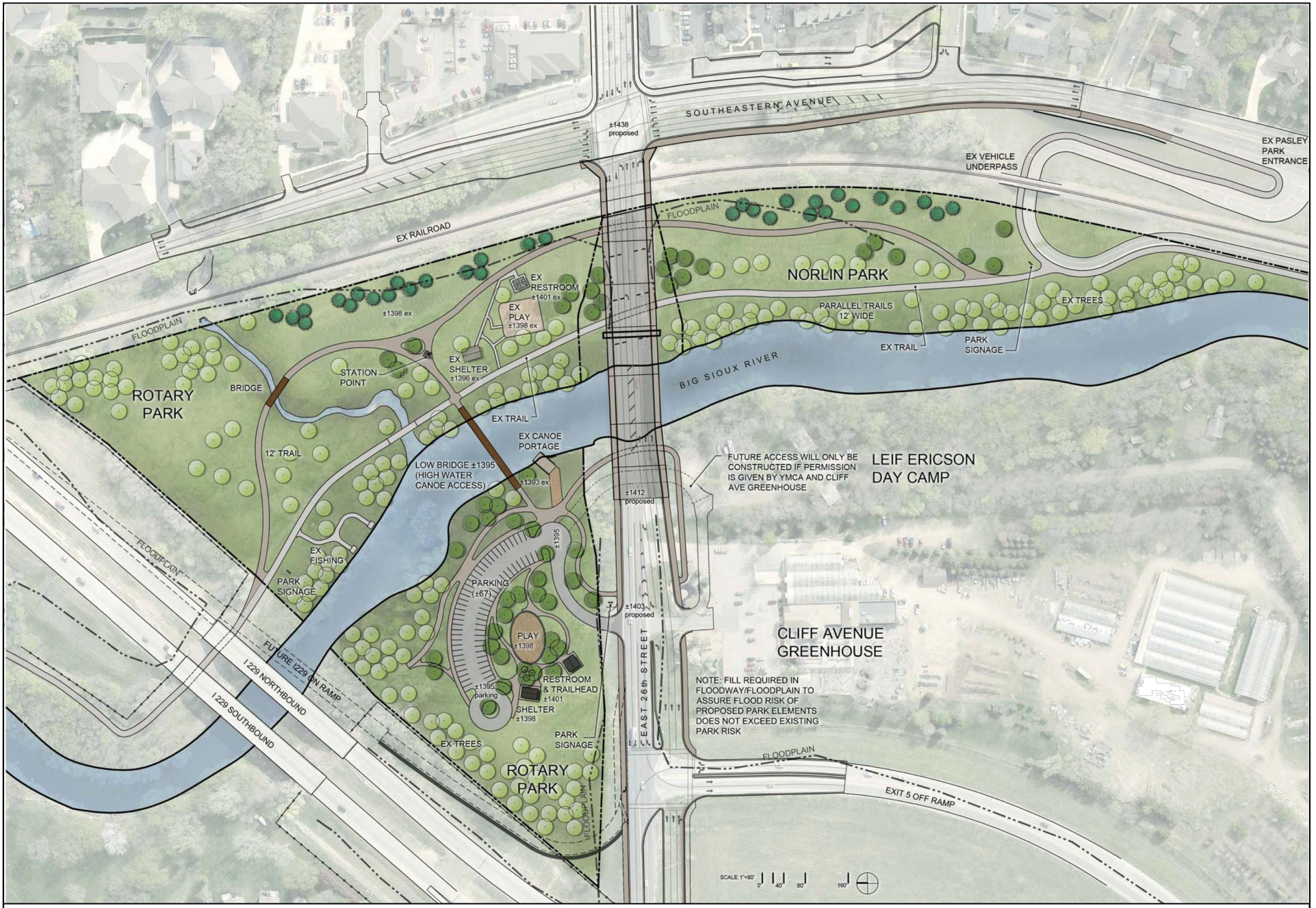

Drawn By: J.Coryell
Date: 6-6-2014
Chked By: C.Kucker
Date: 6-6-2014
Revision: 6-6-2014

Rotary-Norlin Park Mitigation Plan

I-229 Exit 5 (26th Street) Interchange Environmental Assessment Sioux Falls, SD

Figure 3-15

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Drawn By: B.Miller
Date: 1-9-2014
Chked By: J.Unruh
Date: 1-9-2014
Revision: 10-23-14

Private Utilities

I-229 Exit 5 (26th Street) Interchange Environmental Assessment Sioux Falls, SD

Figure 3-16

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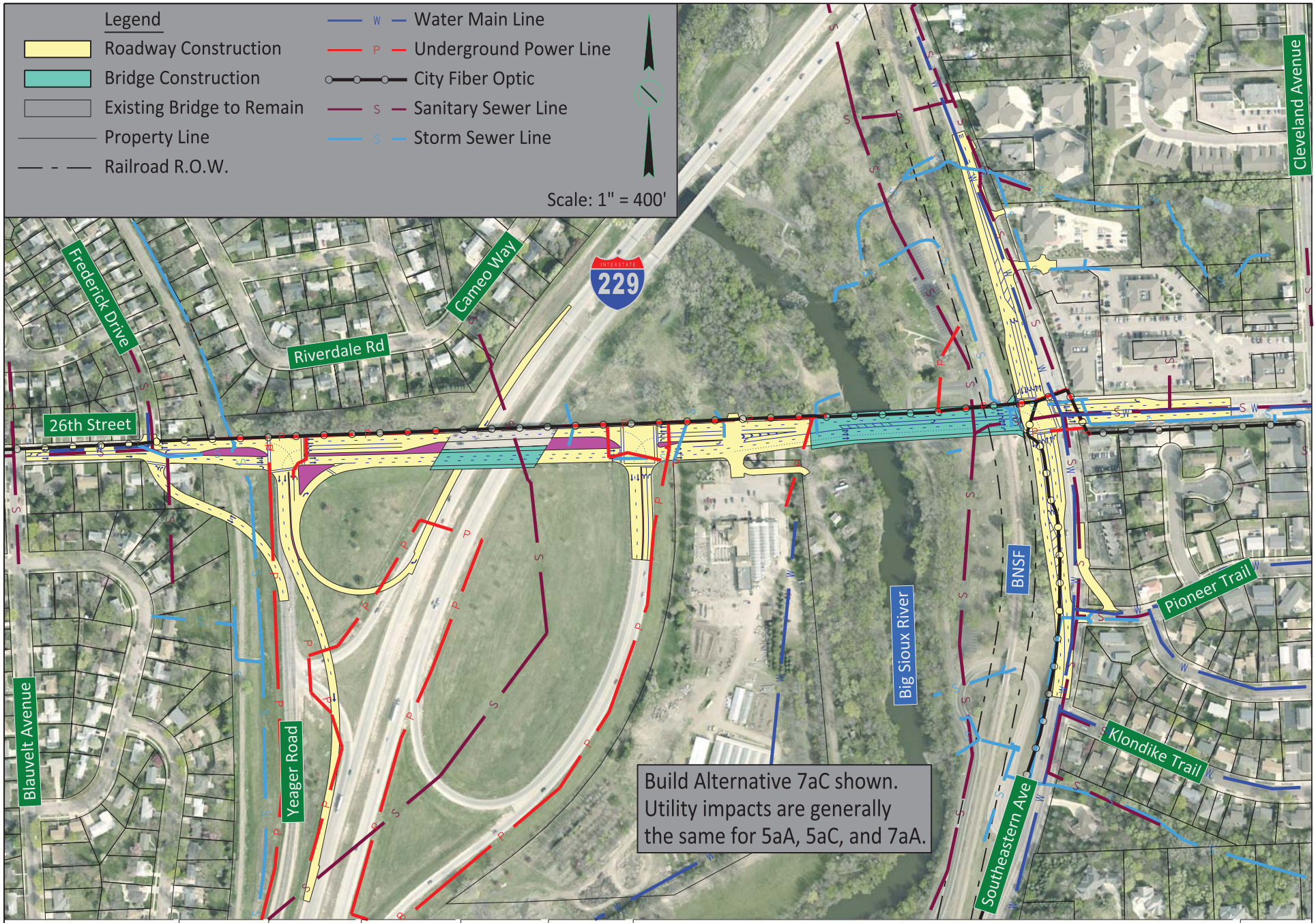

Drawn By: B.Miller
Date: 1-9-2014
Chked By: J.Unruh
Date: 1-9-2014
Revision: 10-23-14

City Utilities

I-229 Exit 5 (26th Street) Interchange Environmental Assessment Sioux Falls, SD

Figure 3-17

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CHAPTER 4
PREFERRED ALTERNATIVE

4.1 SUMMARY OF IMPACTS

Table 4-1 summarizes the affected environment and environmental impacts associated with the Build Alternatives.

Impacts associated with the Build Alternatives were calculated utilizing construction limits based on preliminary design. Chapter 3, Affected Environment and Environmental Impacts, contains a summary of potential impacts on environmental resources for the Build Alternatives, in comparison to the No-Build Alternative.

Table 4-1. Impact Summary of Build Alternatives

Resource	5aA	5aC	7aA	7aC
	Summary			
Land use	Consistent with land use plans			
Social environment	No effect			
Economic resources	Relocation of 2 commercial properties. Businesses east and west of I-229 would be temporarily impacted during construction.			
Acquisitions and relocations	6 condominium (total) 1 single family (total) 2 commercial (total)	1 single family (total) 2 commercial (total)	6 condominium (total) 3 single family (total) 2 single family (partial) 2 commercial (total)	3 single family (total) 2 single family (partial) 2 commercial (total)
Pedestrians and bicycles	Similar and in some cases improved access within the area. Sidewalks, paths, and trails would be replaced and new trails would be constructed to meet ADA standards.			
Air quality	Slightly improved due to reducing traffic congestion.			
Noise	No substantial noise increases (<3.3 dBA). Mitigation for noise increase at noise-sensitive sites which approach or exceed FHWA NAC is not considered feasible based on SDDOT's noise policy.			
Water quality	No major effects due to the implementation of BMPs during construction.			
Wetlands and other waters of the U.S.	0.06 acre of wetland impact 118 linear feet of crossing; crosses Big Sioux River.	0.06 acre of wetland impact 118 linear feet of crossing; crosses Big Sioux River.	0.19 acre of wetland impact 94 linear feet of crossing; crosses Big Sioux River.	0.19 acre of wetland impact 94 linear feet of crossing; crosses Big Sioux River.
Vegetation, fish, and wildlife	No major effects through implementation of BMPs during construction.			
Floodplain	The 100 year flood elevation of the Big Sioux River would decrease as a result of the new bridge.			
Threatened and endangered species	Topeka shiner – *No Effect*, western prairie fringed orchid – *No Effect*, northern long-eared bat- *May Affect, Not Likely to Adversely Affect*, rufa red knot- *Not present in Study Area*. State-listed species are not anticipated to inhabit the area.			
Cultural resources	No adverse effect.			
Regulated materials	The preliminary work limits for the Build Alternatives are not expected to encounter contamination associated with the identified RECs. The exception would be construction below the flood zone in the vicinity of the Big Sioux River, where contaminant impacts from hazardous waste and petroleum products transported along the river during former flooding events may be present.			
Visual impacts and aesthetics	A visual barrier would be incorporated into the Interchange southbound off-ramp design to prevent headlights from shining into adjacent homes. The Intersection would be raised approximately 25 feet, affecting the view from commercial properties at the southeast quadrant of the Intersection.		The Intersection would be raised approximately 25 feet, affecting the view from commercial properties at the southeast quadrant of the Intersection.	

Resource	5aA	5aC	7aA	7aC
	Summary			
Energy	Likely reduction in overall fuel consumption with improved traffic flow. Temporarily, fuel consumption during construction would increase within the Study Area.			
Environmental justice	Environmental justice populations would not be adversely or disproportionately affected.			
Section 4(f)	*De minimis* impact			
Section 6(f)	Temporary non-conforming use			
Utilities	The most significant private utility adjustment would be a potential shift of the Xcel power line along the south side of 26th Street. The Xcel representative stated that adjustments can be addressed during final design. Adjustments to City utilities can be addressed during final design.			
*Note: Reference Figures 2-2, 2-3, 2-4 and 2-5 for property acquisition information and Level of Service information.				

4.2 SELECTION OF THE PREFERRED ALTERNATIVE

Based on an evaluation of the potential impacts, this section discusses the recommendation of a preferred alternative.

4.2.1 Interchange

Alternative 7a is recommended as the preferred alternative over Alternative 5a. The benefits include:

- Alternative 7a's estimated construction cost of $9.5 million is $6.3 million or 40% less than the cost of Alternative 5a. The main reasons for the lower cost of Alternative 7a are:
    - The existing 26th Street bridge over I-229 can be utilized while Alternative 5a would require a new structure.
    - Significantly more retaining walls are required for Alternative 5a.
    - The southeast ramp/loop system remains the same as the existing ramp/loop while Alternative 5a would require new southbound off-ramp bridge.
- Traffic capacity throughout the Interchange for analysis year 2035 is adequate for both Alternatives 5a and 7a. However, Alternative 7a is more favorable than Alternative 5a because of the southwest quadrant loop for the southbound I-229 to eastbound 26th Street movement. This is the predominant AM and PM peak hour traffic movement. With Alternative 7a, the southwest loop becomes the 3rd eastbound lane for eastbound 26th Street. This design ensures optimal traffic flow for the heavy traffic movement. Alternative 5a requires less than desirable 60 degree (approximately) angled dual left turn lanes from the southbound off-ramp onto eastbound 26th Street.
- Alternative 7a would not impact the residential neighborhood in the northwest quadrant of the Interchange. In comparison, although Alternative 5a's southbound off ramp can be constructed entirely within the I-229 ROW, the close proximity of the off ramp to the residences in the northwest quadrant of the Interchange is not desirable based on comments from residents.

Benefits of Alternative 5a include:

- There are no property acquisitions.
- Widening of 26th Street west of Frederick Drive is not required.

Drawbacks of Alternative 7a include:

- There would be 2 total residential acquisitions.
- There would be 2 partial residential acquisitions.
- Widening of 26th Street would be necessary between Frederick Drive and Blauvelt Avenue.

These drawbacks are considered minor in comparison to the $6.3 million cost difference between Alternatives 5a and 7a.

The southeast looped ramp system remains the same as the existing looped ramp.

The No-Build Alternative is not recommended as the preferred alternative because the traffic capacity of the Interchange is not improved.

4.2.2 Intersection of 26th Street and Southeastern Avenue

Alternative C is recommended as the preferred alternative because:

- The alignment shift of Southeastern Avenue of approximately 30 feet to the west in comparison to Alternative A:
    - Allows for redevelopment of the 2 acquired commercial properties in the southwest quadrant of the intersection.
    - Provides greater spacing from the building and property in the northeast quadrant of the intersection to the Southeastern Avenue retaining wall.

As detailed in Appendix C, acquisition of the 2 commercial properties in the southeast quadrant of the intersection of 26th Street and Southeastern Avenue intersection was not initially anticipated. However, it was determined that these 2 commercial properties would be acquired with Alternative C due to:

- Property devaluation resulting from changed access (dead-end service road vs. Southeastern Avenue which is an arterial street).
- Visual impacts of retaining walls blocking the view to the Big Sioux River and adjacent parks.
- Delayed snow removal on a dead-end service road in comparison to Southeastern Avenue.

The No-Build Alternative is not recommended as the preferred alternative because:

- A grade-separated crossing of 26th Street over the BNSF Railway tracks is not provided.
- The intersection capacity is not improved.
- The alternative is not consistent with the long range transportation plan.

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CHAPTER 5
ENVIRONMENTAL COMMITMENTS AND PERMITTING

5.1 SUMMARY OF ENVIRONMENTAL COMMITMENTS

Mitigation and future actions were addressed by specific resource sections, but are summarized in this chapter to provide a consolidated discussion to ensure the incorporation of these items in the final design and construction. If a specific South Dakota Department of Transportation (SDDOT) standard environmental commitment is required, then the specific reference is included. For additional best management practices (BMPs) or mitigation required during construction, see Section 3.20, Temporary Construction.

- **Railroads** – Coordination with Burlington Northern Santa Fe (BNSF) would be required during final design of the preferred alternative.
- **Economic resources, acquisitions, and relocations** – All right-of-way (ROW) and relocation impacts would be mitigated in conformance with the Uniform Relocation Assistance and Real Property Acquisition Act (UA) of 1970, as amended by the Surface Transportation Assistance Act of 1987, and as codified in 49 Code of Federal Regulations (CFR) 24, effective April 1989.
- **Water quality** – The final plan sheets for the design of the preferred alternative would include SDDOT Commitment D1: Surface Water Quality, Commitment D2: Surface Water Discharge Commitment C: Water Source, and Commitment E: Stormwater (SDDOT 2013b).

  BMPs would be implemented through the National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges Associated with Construction Activities to minimize impacts on the Big Sioux River.

  In addition, BMPs would ensure the water source protections areas are accounted for during the Project. If any abandoned groundwater wells are impacted during construction, the SDDOT and City would work with the contractor to ensure it is properly capped and sealed. During final design, directing the runoff to sediment points located within the Interchange loops would be considered. In addition, the use of storm inlets with pumps will be analyzed. It is anticipated that the preferred alternative would not impact the water resources in the Study Area due to the incorporation of BMPs into final design and construction.
- **Wetlands and other waters of the U.S.** – The final plan sheets for the design of the preferred alternative would include SDDOT Commitment A, Wetlands, Commitment N, and Section 404 of the Clean Water Act Permit (SDDOT 2013b).

  A formal field delineation of the entire Study Area would be completed to determine final impacts during final design. Also during final design, impacts on wetlands and other waters of the U.S. would be avoided if feasible, and then minimized to the extent possible. For wetlands and other waters of the U.S. that cannot be avoided, a U.S. Army Corps of Engineers (USACE) Section 404 Permit, with Section 401 Water Quality Certification from South Dakota Department of Environment and Natural Resources (SDDENR), would be required for any fill activities in jurisdictional wetlands or other waters of the U.S. A permit application would be submitted to USACE prior to commencement of construction activities for the Project.

If required by USACE, mitigation measures would be undertaken. A mitigation plan would be prepared for the USACE Section 404 and Section 401 Permit application, and a mitigation plan would be developed and coordinated with the resource agencies. For wetlands found not to be under USACE jurisdiction, Federal Highway Administration (FHWA) regulations (23 CFR 777.9) would apply and mitigation for permanent impacts on wetlands would be required. Mitigation would occur through the on-site, off-site mitigation or a mitigation bank.

- **Vegetation, fish, and wildlife** – The South Dakota Department of Game Fish and Parks (SDGFP) commented that the Big Sioux River was a substantial fishery resource and provided multiple BMPs to incorporate into the final design of the preferred alternative (SDGFP 2013). In addition, stream bottoms and wetlands impacted by construction activities would be restored to pre-project elevation and disturbed areas would be seeded, with native prairie areas to be avoided to the extent possible. During the construction of the preferred alternative, the removal of vegetation and soil would be accomplished in a manner to reduce soil erosion and vegetation disruption. Seeding of disturbed areas to re-establish vegetation and other protective measures would be conducted to minimize impacts of construction. A post construction erosion control plan would be implemented to provide interim control prior to reestablishment of permanent vegetative cover on the disturbed site.
- **Floodplain** – During final design, a hydraulic analysis and a Non-Building Floodplain Development Permit would need to be completed for the preferred alternative for the Project. The hydraulic analysis and Non-Building Floodplain Development Permit would be reviewed by the Floodplain Administrator authorized by FEMA. The required documentation that would be needed for the crossings to meet the regulatory requirements would be verified.
- **Threatened and endangered species** –Tree clearing would be conducted outside of the northern long-eared bat roosting period (October 1 to April 1). Follow up consultation would be performed to address potential U.S. Fish and Wildlife Service (USFWS) Section 7 updates (for example, new threatened and endangered (T&E) species or changes to law) with each portion of the Project being designed.
- **Cultural resources** – In the event that additional land is needed based on final design, the area would be surveyed and additional documentation and coordination with FHWA and State Historical Preservation Office (SHPO) would be required.

  Under SDDOT Commitment I, if evidence for cultural resources is uncovered during Project construction activities, then such activities shall cease and the Project Engineer shall be immediately notified. The Project Engineer would contact SDDOT Environmental Engineer to determine an appropriate course of action (SDDOT 2013b).
- **Regulated materials** – To avoid and/or minimize impacts on Recognized Environmental Conditions in the Study Area, a construction BMP would be implemented. The contractor should be alert for the large areas of soil staining, buried drums, or underground storage tanks (USTs), and coordinate with SDDOT and SDDENR if any obvious contamination is found prior to continuing work in those areas.
- **Visual impacts and aesthetics** – To mitigate for headlights shining into homes, a wall would be incorporated into final design that would serve as a visual barrier for vehicles that are exiting I-229 onto 26th Street. This would only be relevant to Alternatives 5aA and 5aC.

- **Section 4(f) and Section 6(f) properties** – To mitigate for Section 4(f) *de minimis* impacts, the Rotary and Norlin Parks Mitigation Plan would be implemented. The mitigation plan presented as part of this assessment is conceptual in nature and the final plan will be developed along with the roadway design project. As part of final design, the mitigation incorporated would need to follow all federal, state, and local regulations. Construction will be phased to allow all activities, features, attributes of the park to remain open and available to the public throughout the entirety of construction.

  In advance of constructing the new Big Sioux River Bridge, a concrete box culvert would be placed under 26th Street to maintain the Big Sioux River Trail throughout the duration of the Project. The concrete box culvert would allow users to continue to utilize the Big Sioux River Trail.

  For Section 6(f), the SDDOT would need to coordinate with the SDGFP grant liaison and NPS approximately 10 months before construction to request concurrence from NPS for a temporary non-conforming use to Section 6(f) properties. The Project would need to comply with the conditions of the non-conforming use request.

  The final plan sheets for the design of the preferred alternative would include SDDOT Commitment M1 and M2 (SDDOT 2013b).

- **Utilities** – Coordination with the utility companies would be required during final design of the preferred alternative.

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CHAPTER 6
COMMENTS AND COORDINATION

This chapter includes a summary of the coordination with and involvement of the public, agencies, and tribes that have taken place during development of this Environmental Assessment (EA). The following sections describe the efforts and events included during the National Environmental Policy Act (NEPA) process for the I-229 Exit 5 (26th Street) Interchange (Interchange) EA.

6.1 STUDY ADVISORY TEAM

To ensure coordination occurred throughout this EA, a Study Advisory Team (SAT) was formed. The SAT members included representatives from the following: Federal Highway Administration (FHWA), South Dakota Department of Transportation (SDDOT), and the City of Sioux Falls, South Dakota (City). Meetings were held at Project milestones and are listed below in Table 6-1.

6.2 AGENCY AND PUBLIC COORDINATION

The following is a summary of the coordination with the agencies and public.

6.2.1 Agency and Public Utilities Coordination

Throughout the initial stages of the I-229 Exit 5 (26th Street) Crossroad Corridor Study and continuing throughout the NEPA process, coordination occurred with public utilities and the Burlington Northern Santa Fe (BNSF) Railway (see Table 6-1).

Resource agency coordination was initiated for the EA process through coordination letters March 20, 2013, which included a Project Location figure, to federal and state agencies as well as local government agencies. Four responses were received and incorporated into this EA. Table 6-1 summarizes these responses, as well as any additional correspondence and coordination with agencies.

The following are the agencies (federal, state, and local) and private entities that were consulted regarding the Project:

Federal and state agencies that were consulted regarding the Build Alternatives include:

- South Dakota Division of Emergency Management
- U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS)
- South Dakota Department of Game Fish and Parks (SDGFP)
- U.S. Fish and Wildlife Service (USFWS) – South Dakota Field Office
- U.S. Army Corps of Engineers (USACE)
- South Dakota Department of Environment and Natural Resources (SDDENR)
- South Dakota State Historical Society (SHPO)
- City of Sioux Falls Parks and Recreation Department

Table 6-1. Project Coordination

Agency	Date	Agency Comment/Meeting Purpose	Response
Study Advisory Team[1]	April 24, 2012	SAT Meeting #1	Not applicable.
	April 30, 2012	SAT Meeting #2	
	May 10, 2012	A workshop with the SAT to discuss preliminary options and address any questions concerning the Project.	
	August 7, 2012	SAT Meeting #3	
	November 2, 2012	SAT Meeting #4	
	January 10, 2013	SAT Meeting #5	
	April 19, 2013	SAT Meeting #6	
	July 24, 2013	SAT Meeting #7	
	December 16, 2013	SAT Meeting #8	
	March 26, 2014	SAT Meeting #9	
Sioux Falls Parks and Recreation Department	May 10, 2012	Meeting with Sioux Falls Parks and Recreation staff, City, and SDDOT officials to discuss the preliminary considerations of the Project.	Not applicable.
	January 30, 2013	Meeting with City, Sioux Falls Parks and Recreation staff and SAT members to allow attendees to review the proposed concept options.	Not applicable.
	January 14, 2014	Meeting with City, Sioux Falls Parks and Recreation staff and SAT members.	Not applicable.
	February 18, 2014	Meeting with City, Sioux Falls Parks and Recreation staff and SAT members.	Not applicable.
	March 10, 2014	Meeting with City, Sioux Falls Parks and Recreation staff and SAT members concerning Rotary Park.	Not applicable.
	April 1, 2014	Parks committee Meetings, April 1st, April 3rd, April 8th	Not applicable.
	September 8, 2014	Letter from HDR to Sioux Falls Parks and Recreation Director to relay the intent to make a *de*	Not applicable.

[1] The Study Advisory Team consists of representatives from the City, SDDOT, Sioux Falls Metropolitan Planning Organization (MPO), FHWA, and HDR Engineering, Inc. (HDR).

Agency	Date	Agency Comment/Meeting Purpose	Response
		minimis finding for the impacts to Section 4(f) properties under their jurisdiction.	
BNSF	July 10, 2012	Meeting between BNSF and members of the SAT team to discuss the Project.	Not applicable.
	January 1, 2013	Meeting #2 with BNSF to discuss the Project. .	Not applicable.
	March 13, 2014	Response to written request submitted to BNSF on February 21, 2014.	Not applicable.
City of Sioux Falls	January 28, 2013	Meeting with City staff to discuss the concept options being considered for the Project.	Not applicable.
	August 6, 2013	Meeting with representatives from the City to discuss the concerns with the Pasley Park entrance road drainage and Riverdale drainage.	Not applicable.
	August 16, 2013	Meeting with City staff to review the I-229 Exit 5 Interchange and the 26th Street and Southeastern Avenue intersection (Intersection) concept options.	Not applicable.
	February 7, 2014	City staff review of remaining Interchange and Intersection options.	Not applicable.
	March 20, 2014	City staff review of remaining Interchange and Intersection options- ongoing coordination.	Not applicable.
South Dakota Department of Game Fish and Parks	March 25, 2013 October 27, 2014	The Big Sioux River is classified as a substantial fishery resource. Best management practices (BMPs) should be incorporated into Project plans. In-stream work should not be undertaken during fish spawning periods (that is, April, May, and June). Stream bottoms and wetlands impacted by construction activities should be restored to pre-project elevation. Removal of vegetation and soil should be accomplished in a manner to reduce soil erosion and to disturb as little vegetation as possible. Grading operations and reseeding of indigenous species should begin immediately following construction. A site specific sediment and erosion control plan should be made part of the project Plan and implemented at the direction of the Project staff. A post construction erosion control plan should be implemented to provide interim control prior to re-	The specific BMPs noted and the BMPs that are part of the National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges Associated with Construction Activities (General Permit) would be implemented to minimize impacts on the Big Sioux River. Since this portion of the stream is within an urban area, the in-stream work will not be restricted to a certain timeframe. For any construction areas that would remain un-vegetated for an extended period of time, such as over the winter, temporary seeding would be required in accordance with the Storm Water Pollution Prevention Plan (SWPPP). See Section 3.8, Water Quality, and Chapter 5, Environmental Commitments and Permitting, for additional information.

Agency	Date	Agency Comment/Meeting Purpose	Response
		establishment of vegetative cover on the site.	
South Dakota Department of Game Fish and Parks	March 3, 2014	Meeting to confirm the Section 6(f) properties within the Study Area. Discussed Build Alternatives and potential impacts on Section 6(f) properties. Clarified next steps for Section 6(f) coordination.	Not applicable.
	July 18, 2014	Phone conversation with SDGFP Grants Liaison noting it is anticipated that the Project will be a NPS non-conforming temporary use. Concurrence from NPS for this use can be requested approximately 10 months before construction.	Comments noted.
SDDOT and City of Sioux Falls	March 28, 2013	Meeting to update the team about the direction of the Project.	Not applicable
U.S. Fish and Wildlife Service	April 8, 2013	This constitutes a report of the Department of the Interior prepared in accordance with the Fish and Wildlife Coordination Ace (16 United States Code [USC] 661 et seq.). We have reviewed and have NO OBJECTION to this proposed Project.	Comments noted.
	April 16, 2014	We concur with the "not likely to jeopardize" determination.	Comment noted.
	December 8, 2014	USFWS concurs with the determination of "may effect, not likely to adversely affect" for the northern long-eared bat.	A stipulation that the SDDOT would complete tree clearing outside the northern long-eared bat summer roosting period from October 1 to April 1. See Section 3.12, Threatened or Endangered Species, and Chapter 5, Environmental Commitments and Permitting, for additional information.
South Dakota Department of Environment and Natural Resources	April 17, 2013	Appropriate erosion and sediment control measures must be installed to control the discharge of pollutants from the construction site. Any construction activity that disturbs an area of one or more acre of land must have authorization under the NPDES General Permit. A Surface Water Discharge (SWD) permit may be required if any construction dewatering should occur as a result of the Project. This segment of the Big Sioux River is classified by the South Dakota Water Quality Standards and Uses Assigned to Streams. Because	BMPs would be implemented through a NPDES General Permit to minimize impacts on the Big Sioux River. For any construction areas that would remain un-vegetated for an extended period of time, such as over the winter, temporary seeding would be required in accordance with the SWPPP. See Section 3.8, Water Quality, and Chapter 5, Environmental Commitments and Permitting, for additional information.

Agency	Date	Agency Comment/Meeting Purpose	Response
South Dakota Department of Environment and Natural Resources		of the beneficial uses associated with the Big Sioux River, special construction measure may have to be taken to ensure that the total suspended solids standard of 90 milligrams per liter (mg/L) is not violated.	
		Impacts on the Big Sioux River and wetlands should be avoided 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 Section 404 of the Federal Water Pollution Control Act.	Wetland areas have been avoided or minimized to the extent possible and any remaining impacts would be mitigated, if required by USACE or FHWA. See Section 3.9, Wetlands and Other Waters of the U.S., for additional information.
South Dakota Department of Environment and Natural Resources	April 19, 2013	It appears, based on the information, the Project will have little to no impact on the air quality in this area. This Project is approved.	Comments noted
Sioux River Cyclists	June 19, 2013	Meeting with Sioux Falls area cyclists to discuss the improvements to the sidewalks, paths, and the connection from the area east of Southeastern Avenue to the bike trail and park system.	Comments noted.
SHPO	August 15, 2014	SHPO concurs with No Adverse Effect Finding.	Comment noted.

6.3 PUBLIC INVOLVEMENT

Extensive public involvement has been carried out throughout the Project. Public involvement occurred during the milestones of the Project, which helped develop and analyze potential environmental impacts of the No-Build Alternative and Build Alternatives.

The following are the public meetings for the Project:

- Public Meeting #1, July 17, 2012 – A public meeting was held from 5:30 p.m. to 7:30 p.m. as part of the public scoping[2] process at the Morningside Community Center. The public had the opportunity to discuss preliminary options with SDDOT, Sioux Falls MPO, City, and Consultant staff. Verbal and written comments were received at the meeting and via electronic and mail transmittal after the meeting.
- Public Meeting #2, February 6, 2013 – A public meeting was held at John Harris Elementary to update the public on the concept options that had been developed. The public meeting was an open-house style meeting scheduled from 5:30 p.m. to 7:30 p.m. with a brief, summarizing presentation at 5:35 p.m. This was followed by an open house discussion with SDDOT, Sioux Falls MPO, City, and Consultant staff.
- Public Meeting #3, January 15, 2014 – A public meeting will be held at John Harris Elementary to provide the public with the concept options that were carried forward in the EA.
- Public Meeting #4 is planned to receive comments on the EA and Section 4(f) *De Minimis* Finding (which will be publicly available a few weeks before the meeting) and preferred alternative.

Additional public involvement efforts included the following:

- Small group meetings – Small group meetings were utilized throughout the Project to communicate with the Project's stakeholders (August 16, 2012, January 31, 2013, July 15, 2013, and December 3, 2013).
- Signs – Signs were placed within the Study Area to display the website and to request public input.
- Travel survey – An online travel survey was made available to the public. The survey was used to obtain additional traffic information on the area and opinions on the Project.
- Website – A website (that is, www.26thStreetCorridorStudy.com) was established and is being maintained to provide the public easy access to study documents and other information.
- Website update postcard – A postcard was sent to landowners informing them that additional screening document was available online at the Project's website (October 20 2013).

Throughout the course of the Project, correspondence received from the public was logged, and, if requested, a response was sent to the specific entity or individual.

6.4 TRIBAL COORDINATION

Section 106 of the National Historic Preservation Act (NHPA) of 1966, guides federal agencies to consult tribes that are federally recognized and may have a cultural or religious association to historic resources affected by federal actions.

[2] Under NEPA, public scoping is a process used to solicit input on a proposed project using federal funds or involving a federal decision.

For this Project, SDDOT sent coordination letters to seven American Indian tribes that may have an interest in the initiation of this EA. The tribal parties that were consulted regarding the Project included:

- Flandreau Santee Sioux Tribe
- Lower Brule Sioux Tribe
- Sisseton Wahpeton Oyate Tribe
- Standing Rock Sioux Tribe
- Yankton Sioux Tribe
- Three Affiliated Tribes
- Ponca Tribe of Nebraska

No tribal responses were received concerning the Project.

6.5 FUTURE INVOLVEMENT

A Public Information Meeting would be held following the release of this EA and Section 4(f) evaluation for public comment. Following the 30 day comment period, SDDOT and the FHWA would make the determination as to the adequacy of the environmental documentation. If further documentation is necessary, it could be accomplished by revising the EA or preparing an Environmental Impact Statement (EIS), whichever is appropriate.

If the environmental review process finds the Project will not result in any significant environmental impacts, SDDOT will then prepare a request for a Finding of No Significant Impact (FONSI) that will be submitted to FHWA. SDDOT will also seek concurrence from the City's Parks and Recreation Department for a Section 4(f) determination of *de minimis*. If FHWA agrees that the FONSI and 4(f) determination is appropriate, it will issue a FONSI to conclude the environmental review process and document the decision. If FHWA determines the Project contains significant environmental impacts, the SDDOT may prepare an EIS or select the No-Build Alternative.

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CHAPTER 7
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HDR, December 2013b. Environmental Justice Technical Memorandum.

HDR, January 2014. Noise Study Technical Report. I-229 Exit 5 (26th Street) Crossroad Corridor Study.

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HDR, March 2014c. Phase I Environmental Site Assessment. I-229 Exit 5 (26th Street) Crossroad Corridor Study.

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