

Technical Memo 3

Date: Monday, July 10, 2017

Project: Northeast Pierre Transportation Plan

To: Steve Gramm, Study Advisory Team

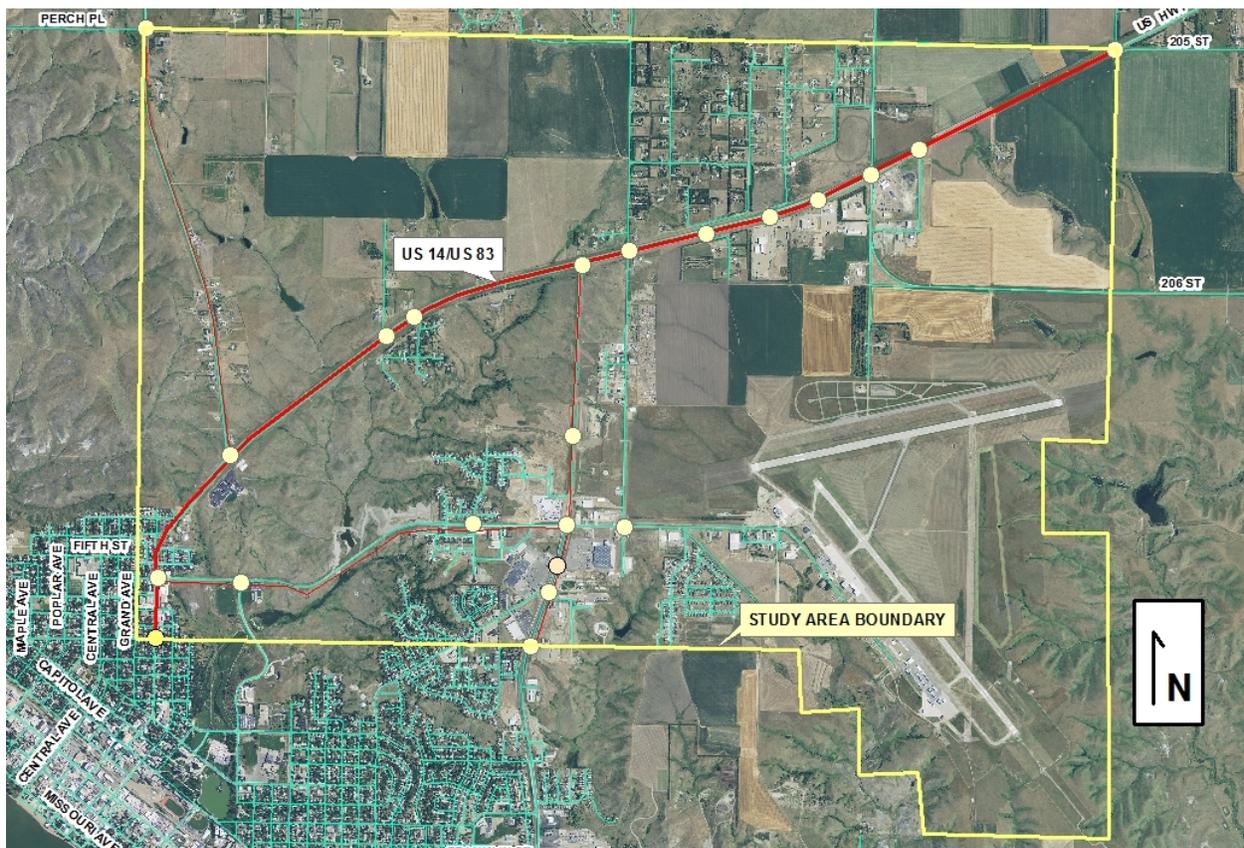
From: Rick Laughlin

Subject: Access Plan, US 14/US 83 corridor

This Technical Memo describes the analysis of access points in the US 14/US 83 corridor in northeast Pierre, SD. The analysis is being performed as part of the Northeast Pierre Transportation Plan and compares the existing access points to standards currently in State administrative rules and Local standards being proposed for the City of Pierre.

Study Area

The study area for the Northeast Pierre Transportation Plan has been defined as the northern part of the City of Pierre and the adjacent land suitable for development. The study area and US 14/US 83 corridor are shown in the map below.



The US 14/US 83 corridor transitions from an urban 4-lane cross-section within the current Pierre urbanized area to a rural median-divided four-lane cross-section outside of the urbanized area. Major intersections exist at the following locations:

- Elizabeth Street
- Fourth Street
- SD 1804
- US 14B/US 83B/Garfield Avenue

Minor intersections occur at many other locations.

All intersections in the corridor are currently controlled by stop signs on the minor street approaches, except the signalized intersection at Elizabeth Street.

Land Use and Zoning

Land use within the urbanized area is characterized by generally small lots with commercial or residential functions. Outside of the urbanized area, land use is generally agricultural with scattered residential and commercial sites. The agricultural land adjacent to the corridor is zoned for future residential development in sections 21, 22, 27, and 28, with some commercial property in the vicinity of the US 14/Garfield intersection.

Access Criteria

The US 14/US 83 corridor within the study area has been classified in three sections under the South Dakota Administrative Rules. The sections are:

- Pierre urbanized section – Urban Developed classification
- Pierre rural 4-lane section – Free Flow Urban classification
- Rural 2-lane section – Rural classification

A copy of the classification map is attached to this memorandum. No changes to the existing access classifications are recommended at this time. Any changes will require consultation with the City of Pierre and formal adoption by the South Dakota Transportation Commission.

Access criteria for each classification are specified in the South Dakota Administrative Rules. The criteria are shown below:

ACCESS CLASS	SIGNAL SPACING DISTANCE (MILE)	MEDIAN OPENING SPACING (MILE)	MINIMUM UNSIGNALIZED ACCESS SPACING (FEET)	ACCESS DENSITY INCREMENT	DENIAL OF DIRECT ACCESS WHEN OTHER AVAILABLE
Interstate	N/A	N/A	N/A	N/A	Yes
Expressway	½	½	2640	½ mile	Yes
Free Flow Urban	½	½ F, ¼ D	1320	¼ mile	Yes
Intermediate Urban	½	½ F, ¼ D	660	660 feet	Yes
Urban Developed	¼	¼	100	2/block face	Yes
Urban Fringe	¼	½ F, ¼ D	1000	5/side/mile	Yes
Rural	N/A	N/A	1000	5/side/mile	Yes

NOTES:

1. Access to the Interstate system is governed by SDDOT interchange policy. No new access shall be provided on non-interstate routes within 1/8 mile of interstate ramp terminals.
2. N/A = Not Applicable, F = Full Movement – all turns and through movements provided, D = Directional Only – certain turning and through movements not provided.
3. SDDOT may defer to stricter local standards.
4. SDDOT will seek opportunities to reduce access density wherever possible.
5. Rural class minimum unsignalized access spacing may be reduced to 660' by the Area Engineer, based on results of an engineering study as described in § 70:09:02:01.

Physical Constraints

The western portion of the corridor exists in the rolling terrain of the Missouri River breaks while the eastern portion of the corridor exists on generally flat prairie. Areas of steep grades exist in the western portion of the corridor that will affect the ability to develop the property adjacent to the roadway and will also affect the ability to build roads to provide access. The approach zone for the Pierre airport also affects development in the corridor.

These physical constraints and the location of existing access points will have to be considered when planning future access points in the corridor.

Planned Access Points

One of the goals of the Northeast Pierre Transportation Plan is providing roadway facilities in the US 14/US 83 corridor that meet future transportation needs in terms of capacity and safety. Analysis for the plan includes:

- Evaluation of the size of the roadways to meet future needs
- Evaluation of the feasibility of providing roadways in relation to the physical constraints
- Evaluation of the existing and future roadway facilities in relation to pertinent standards

The scope of this analysis allows the detailed planning of access locations throughout the corridor and constitutes an access plan which supersedes the normal access criteria, as defined in South Dakota Administrative Rule.

Access Inventory and Recommendations

An inventory of existing corridor access points and recommended actions for existing and future access points are provided in spreadsheets attached to this memo, indexed by mile reference marker. Maps of the access locations are also attached.

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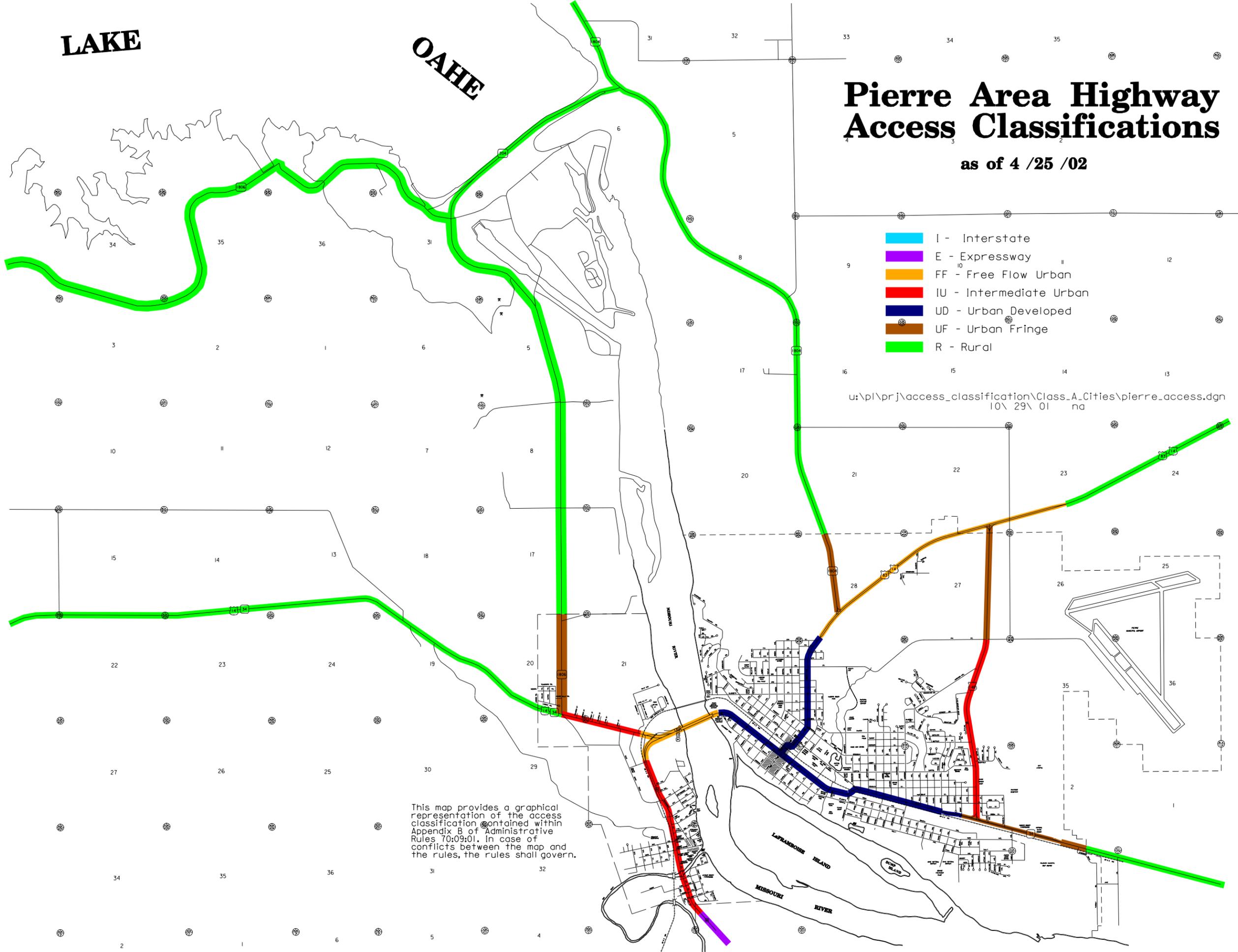
Pierre Area Highway Access Classifications

as of 4 /25 /02

- █ I - Interstate
- █ E - Expressway
- █ FF - Free Flow Urban
- █ IU - Intermediate Urban
- █ UD - Urban Developed
- █ UF - Urban Fringe
- █ R - Rural

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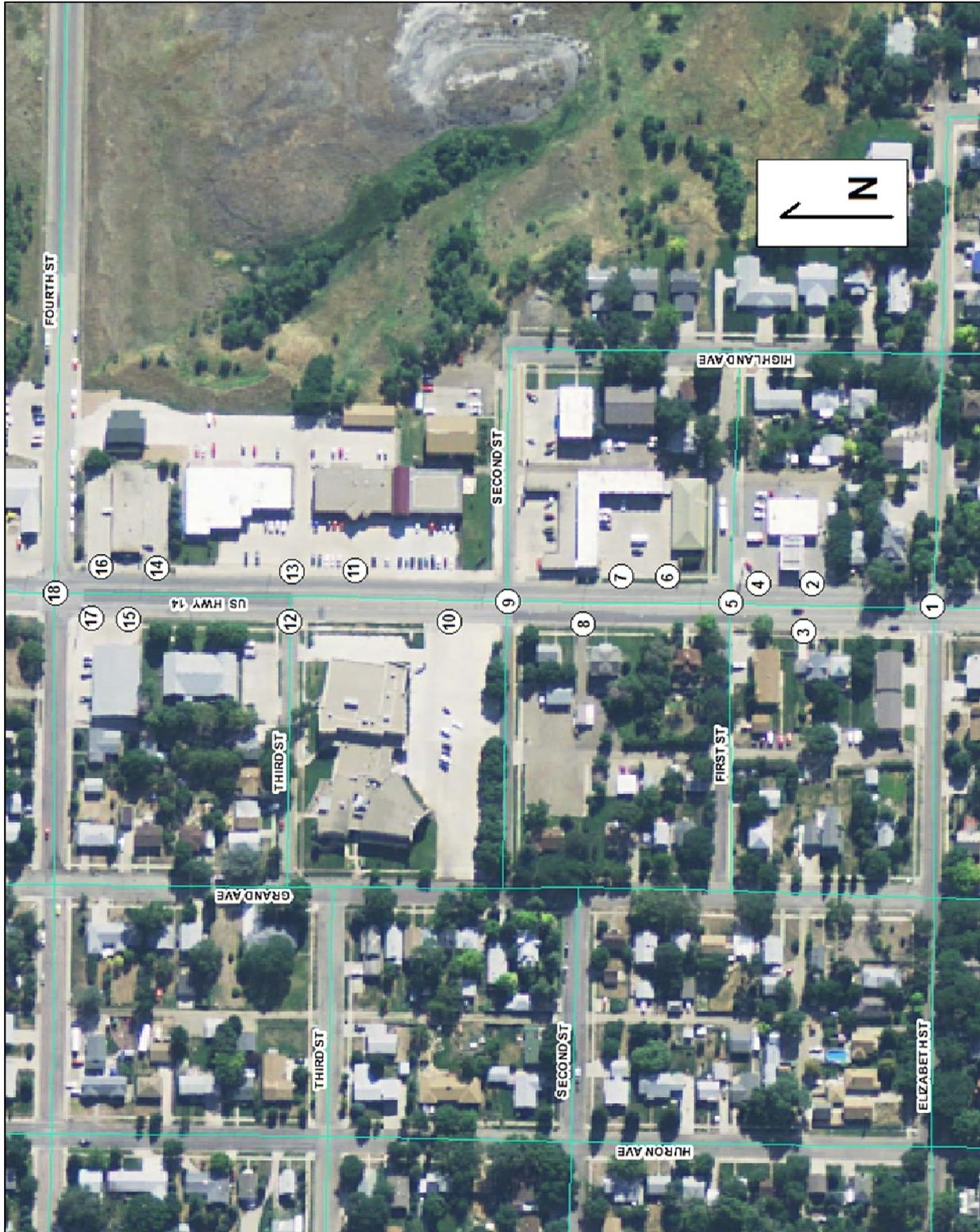
This map provides a graphical representation of the access classification contained within Appendix B of Administrative Rules 70:09:01. In case of conflicts between the map and the rules, the rules shall govern.



ACCESS INVENTORY AND RECOMMENDATION

US 14/US 83

ACCESS NUMBER	MRM	OFFSET	SIDE	ACCESS IDENTIFICATION	RECOMMENDATION
1	229.86	--	BOTH	ELIZABETH STREET	RETAIN EXISTING STREET INTERSECTION
2		0.03	RIGHT	COMMERCIAL DRIVEWAY	RETAIN EXISTING DRIVEWAY
3		0.04	LEFT	RESIDENTIAL DRIVEWAY	RETAIN EXISTING DRIVEWAY
4		0.05	RIGHT	COMMERCIAL DRIVEWAY	ELIMINATE WITH PROJECT
5	229.91	--	BOTH	FIRST STREET	RETAIN EXISTING STREET INTERSECTION
6		0.02	RIGHT	COMMERCIAL DRIVEWAY	CONSOLIDATE WITH ACCESS 7
7		0.03	RIGHT	COMMERCIAL DRIVEWAY	CONSOLIDATE WITH ACCESS 6
8		0.04	LEFT	RESIDENTIAL DRIVEWAY	RETAIN EXISTING DRIVEWAY
9	229.98	--	BOTH	SECOND STREET	RETAIN EXISTING STREET INTERSECTION
10		0.02	LEFT	INSTITUTIONAL DRIVEWAY	RETAIN EXISTING DRIVEWAY
11		0.04	RIGHT	COMMERCIAL DRIVEWAY	ELIMINATE WITH PROJECT
12	230.05	--	LEFT	THIRD STREET	RETAIN EXISTING STREET INTERSECTION
13		--	RIGHT	COMMERCIAL DRIVEWAY	RETAIN EXISTING DRIVEWAY
14		0.04	RIGHT	COMMERCIAL DRIVEWAY	RETAIN EXISTING DRIVEWAY
15		0.05	LEFT	COMMERCIAL DRIVEWAY	ELIMINATE WITH PROJECT
16		0.06	RIGHT	COMMERCIAL DRIVEWAY	ELIMINATE WITH PROJECT
17		0.06	LEFT	COMMERCIAL DRIVEWAY	ELIMINATE WITH PROJECT
18	230.10	--	BOTH	FOURTH STREET	INTERSECTION BEING SCOPED FOR FINAL DESIGN
19		0.02	LEFT	RESIDENTIAL DRIVEWAY	ELIMINATE WITH PROJECT
20		0.03	RIGHT	COMMERCIAL DRIVEWAY	CONSOLIDATE WITH ACCESS 21
21		0.04	RIGHT	COMMERCIAL DRIVEWAY	CONSOLIDATE WITH ACCESS 20
22		0.05	LEFT	RESIDENTIAL DRIVEWAY	RETAIN EXISTING DRIVEWAY
23	230.16	--	BOTH	FIFTH STREET	RETAIN EXISTING STREET INTERSECTION
24	230.22	--	BOTH	SIXTH STREET	RETAIN EXISTING STREET INTERSECTION
25		0.03	RIGHT	COMMERCIAL DRIVEWAY	RETAIN EXISTING DRIVEWAY
26	230.09	--	LEFT	SEVENTH STREET	RETAIN EXISTING STREET INTERSECTION
27		0.02	RIGHT	UTILITY DRIVEWAY	RETAIN EXISTING DRIVEWAY
28	230.37	--	LEFT	EIGHTH STREET	RETAIN EXISTING STREET INTERSECTION
29		--	RIGHT	UTILITY DRIVEWAY	RETAIN EXISTING DRIVEWAY
29B		0.05	LEFT	SERVICE DRIVEWAY	RETAIN FOR EXISTING AG USE ONLY
30	230.69	--	LEFT	SD 1804	INTERSECTION UNDER STUDY
31		--	RIGHT	GOVERNMENT DRIVEWAY	INTERSECTION UNDER STUDY
32		0.39	LEFT	FIELD ENTRANCE	RETAIN FOR EXISTING AG USE ONLY
33		0.39	RIGHT	FIELD ENTRANCE	RETAIN FOR EXISTING AG USE ONLY
34		0.60	RIGHT	FIELD ENTRANCE	RETAIN FOR EXISTING AG USE ONLY
35	231.51	--	LEFT	DULUTH AVENUE	REDIRECT ACCESS TO SAUNDERS AVENUE WHEN LOCAL STREETS DEVELOPED
36	231.66	--	RIGHT	SAUNDERS AVENUE	RETAIN EXISTING INTERSECTION
37		0.29	LEFT	COMBINED DRIVEWAY	ELIMINATE WITH REDEVELOPMENT
38		0.40	RIGHT	FARM ENTRANCE	PLANNED FUTURE COLLECTOR INTERSECTION
39		0.40	LEFT	FARM ENTRANCE	PLANNED FUTURE COLLECTOR INTERSECTION
40	232.38	--	RIGHT	US 14B/GARFIELD AVENUE	RETAIN EXISTING ACCESS POINT - CONFIGURATION UNDER REVIEW
41	232.58	--	RIGHT	IN AIRPORT ROAD	INTERSECTION BEING MODIFIED
42		--	LEFT	KINGSWAY ROAD	INTERSECTION BEING MODIFIED
43		0.34	RIGHT	PLAINSVIEW ROAD	RETAIN EXISTING INTERSECTION
44		0.34	LEFT	WINDSOR PLACE	RETAIN EXISTING INTERSECTION
45		0.60	RIGHT	COMMERCIAL DRIVEWAY	RETAIN EXISTING INTERSECTION
46		0.60	LEFT	BUHL AVENUE	RETAIN EXISTING INTERSECTION
47		0.82	RIGHT	PLATTED STREET	RETAIN EXISTING INTERSECTION
48	233.64	--	BOTH	293RD AVENUE	RETAIN EXISTING INTERSECTION
49		0.22	RIGHT	GRACE AVENUE	RETAIN EXISTING INTERSECTION
50		0.23	LEFT	FIELD ENTRANCE	RETROFIT TO RURAL STANDARD IF PROPERTY DEVELOPS
51	233.95	--	BOTH	END DIVIDED HIGHWAY	
52		0.32	RIGHT	FARM ENTRANCE	RETAIN EXISTING DRIVEWAY
53		0.53	BOTH	FIELD ENTRANCE	RETAIN FOR EXISTING AG USE ONLY
54		0.87	BOTH	205TH STREET	RETAIN EXISTING INTERSECTION



Access Map 1 – US 14/US 83 Corridor



Access Map 2A – US 14/US 83 Corridor



Access Map 2B – US 14/US 83 Corridor



Access Map 3 – US 14/US 83 Corridor



Access Map 4 – US 14/US 83 Corridor



Access Map 5 – US 14/US 83 Corridor



Access Map 6 – US 14/US 83 Corridor



Access Map 7 – US 14/US 83 Corridor



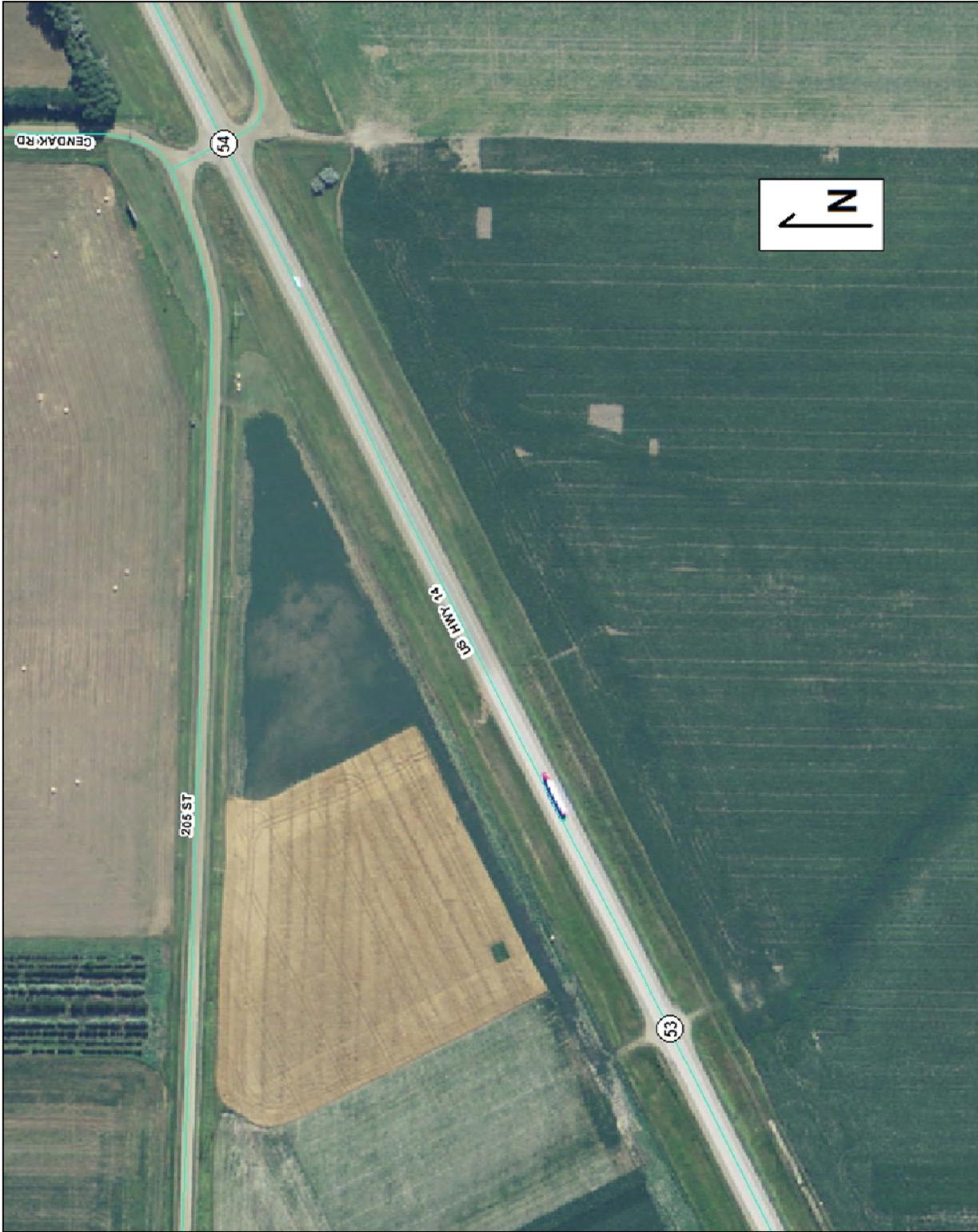
Access Map 8 – US 14/US 83 Corridor



Access Map 9 – US 14/US 83 Corridor



Access Map 10 – US 14/US 83 Corridor



Access Map 11 – US 14/US 83 Corridor