

APPENDIX D
CITY ENGINEERING
COUNTERMEASURES

A - North Ave Median Improvements

Median improvements are recommended along North Ave and Main St from Yankee Street to Kansas St to improve safety and traffic operations. The project would include a raised concrete median while maintaining 11-foot travel lanes, preserving efficient vehicle movement through this important corridor. Where appropriate, a six-inch recessed edge strip is recommended to provide additional delineation and help guide drivers more effectively. A key component of the project is limiting left-turn access at locations where alternate access routes exist.

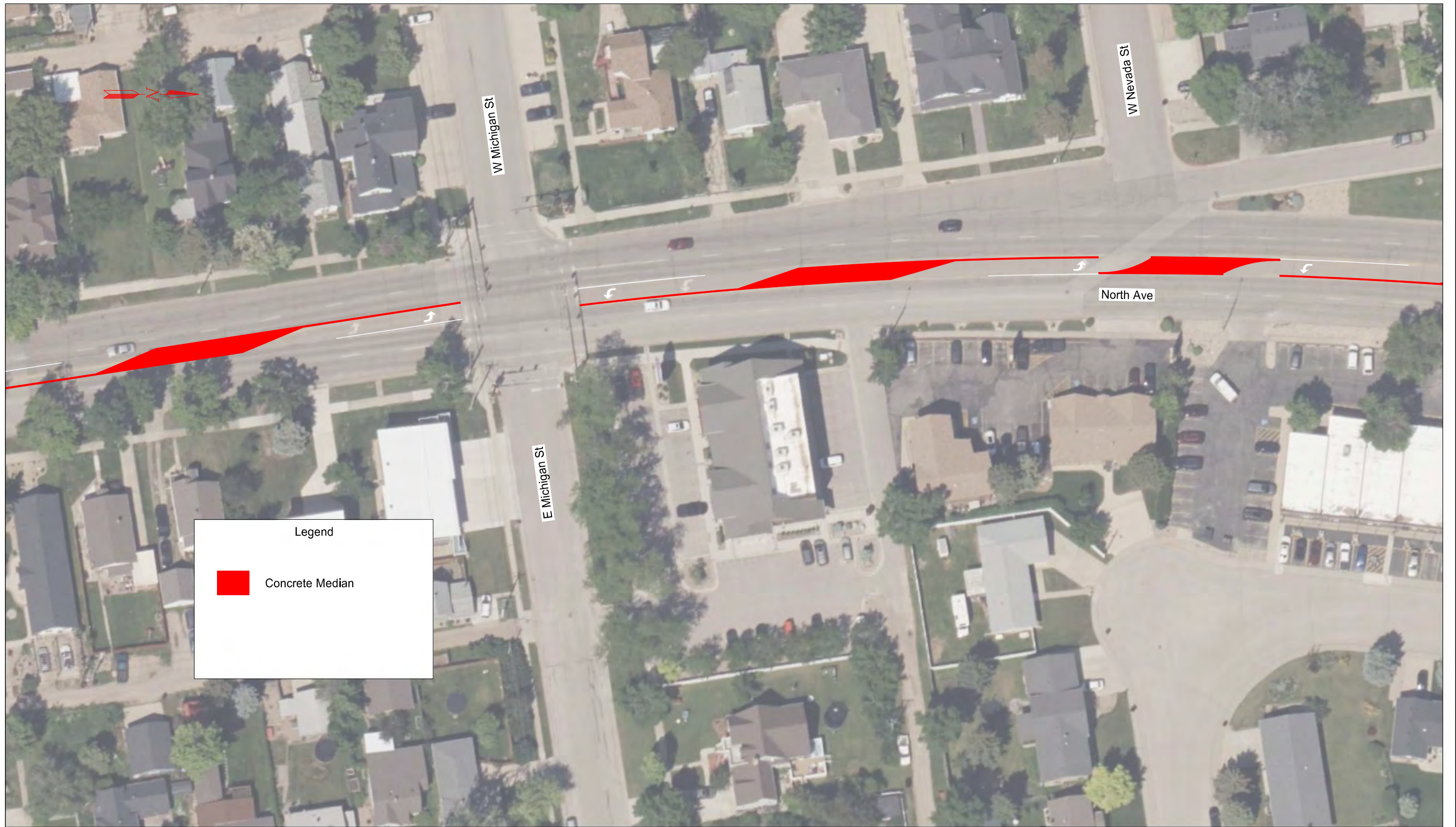


PROJECT A - NORTH AVENUE - MEDIAN IMPROVEMENTS

SAFETY ACTION PLAN
SPEARFISH, SD



Figure A-1



PROJECT A - NORTH AVENUE - MEDIAN IMPROVEMENTS

SAFETY ACTION PLAN
SPEARFISH, SD



Figure A-2

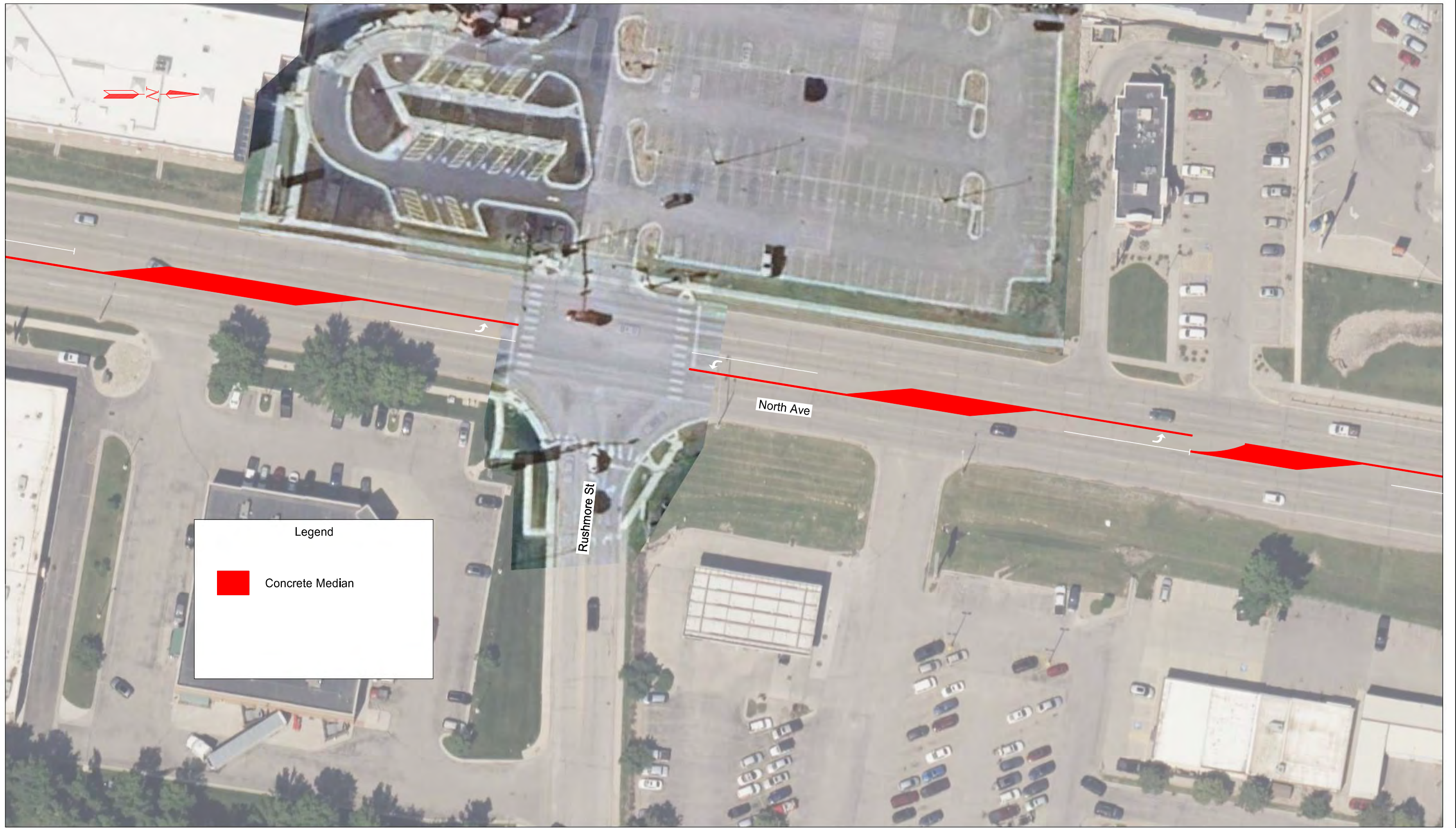


PROJECT A - NORTH AVENUE - MEDIAN IMPROVEMENTS

SAFETY ACTION PLAN
SPEARFISH, SD



Figure A-3



PROJECT A - NORTH AVENUE - MEDIAN IMPROVEMENTS

SAFETY ACTION PLAN
SPEARFISH, SD



Figure A-4

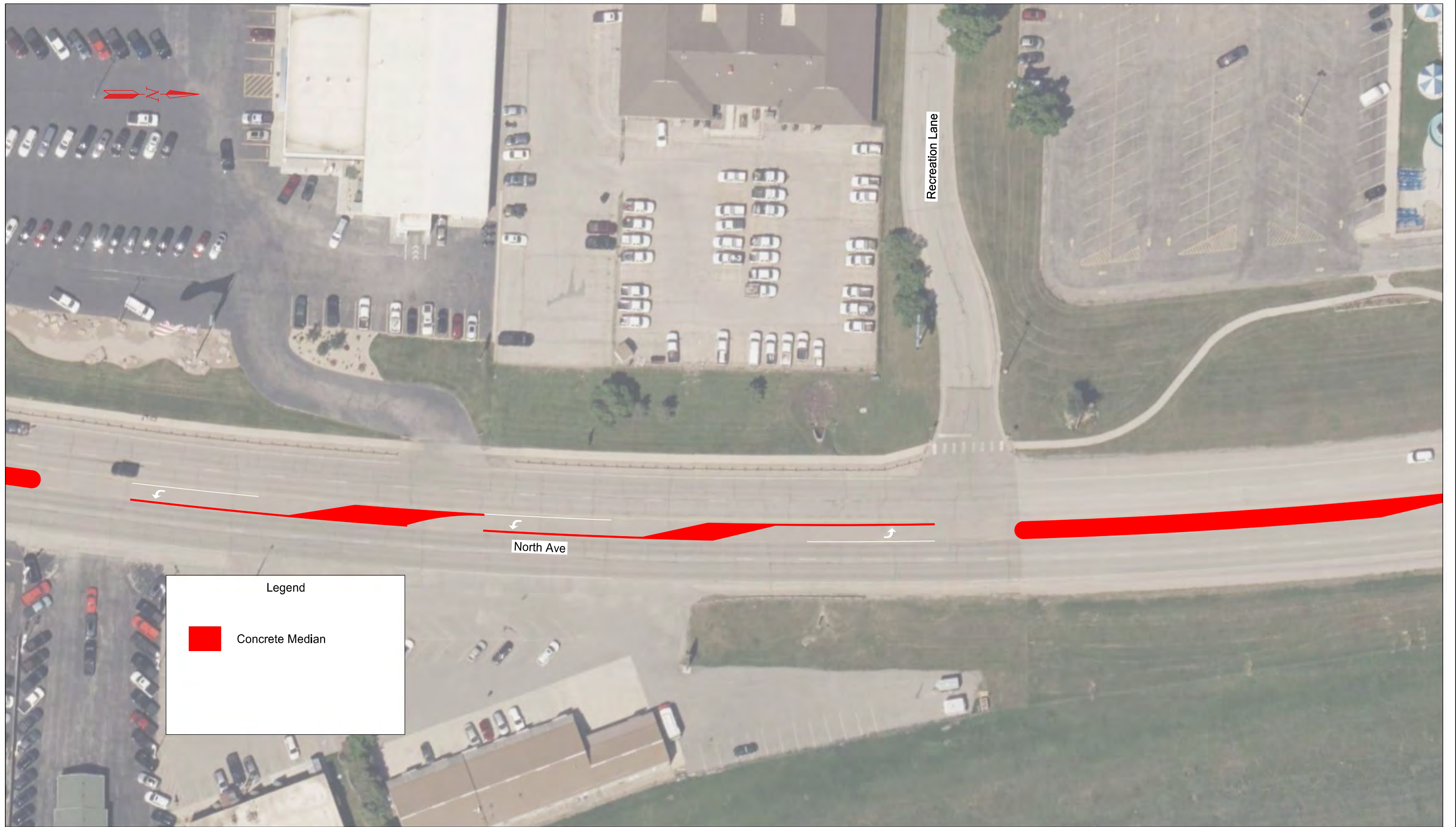


PROJECT A - NORTH AVENUE - MEDIAN IMPROVEMENTS

SAFETY ACTION PLAN
SPEARFISH, SD



Figure A-5



PROJECT A - NORTH AVENUE - MEDIAN IMPROVEMENTS

SAFETY ACTION PLAN
SPEARFISH, SD



Figure A-6



PROJECT A - NORTH AVENUE - MEDIAN IMPROVEMENTS

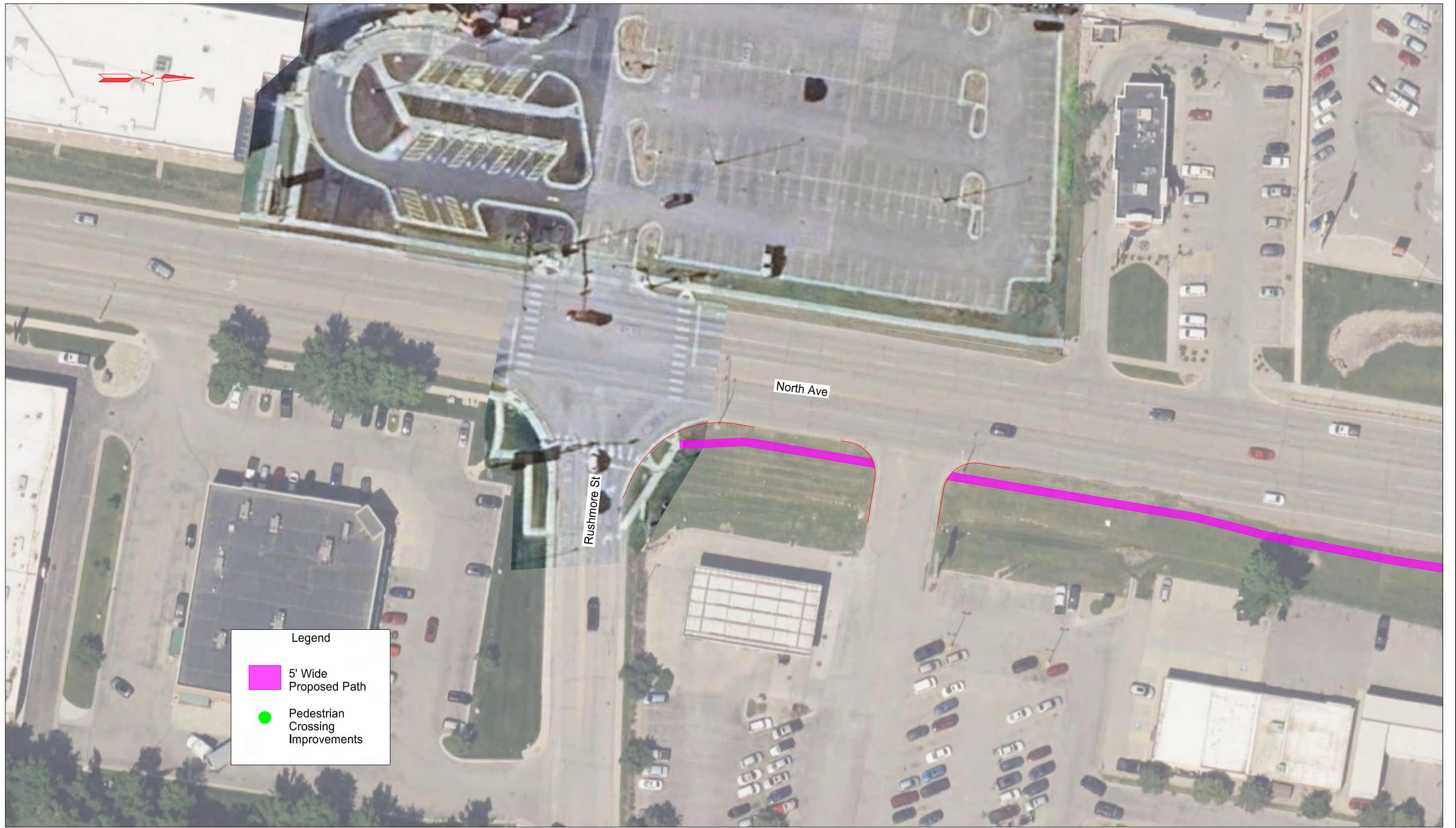
SAFETY ACTION PLAN
SPEARFISH, SD



Figure A-7

B - North Ave Sidewalk Connection

This safety project is proposed along North Ave between Hillsview Road and Rushmore St. The project would construct a five-foot sidewalk on the east side of North Ave to create a continuous pedestrian route in an area that currently lacks complete facilities. This improvement would enhance walkability for nearby neighborhoods, strengthen connections to key destinations, and provide a safer, more comfortable option for pedestrians traveling along the corridor. In addition to the new sidewalk, the Project includes upgrades to pedestrian actuation buttons at the south and west crossings. These enhancements would make it easier for users to activate crossing phases and improve the overall visibility and safety of pedestrians at these intersections.



PROJECT B - NORTH AVENUE - SIDEWALK CONNECTION

SAFETY ACTION PLAN
SPEARFISH, SD



Figure B-1



PROJECT B - NORTH AVENUE - SIDEWALK CONNECTION

SAFETY ACTION PLAN
SPEARFISH, SD

Figure B-2



C1 - North Ave Speed Signage Improvements

This project is recommended along North Ave and Colorado Blvd at the following locations:

- North of Yukon Pl (transition to 35 mph)
- North of Hillsview Rd (transition to 25 mph)
- East of Lariat Dr (transition to 25 mph)
- East of Spearfish Canyon Rd (US 14A) (transition to 35 mph)

Enhanced speed limit signage is needed to improve driver awareness and compliance with posted speed limits. The project improvements would include enlarged "Reduced Speed Ahead" and "Speed Limit" signs along this corridor to help increase attentiveness and promote safer travel conditions for all users. Signage is recommended on both sides of the southbound lanes for North Ave and adjacent to the westbound lanes for Colorado Blvd. As part of the improvements, the City is also considering the installation of dynamic speed signs to provide real-time feedback to drivers and encourage speed reduction.



PROJECT C1 - COLORADO BLVD - SPEED SIGNAGE IMPROVEMENTS

SAFETY ACTION PLAN
SPEARFISH, SD



Figure C1-1



PROJECT C1 - COLORADO BLVD - SPEED SIGNAGE IMPROVEMENTS

SAFETY ACTION PLAN
SPEARFISH, SD



Figure C1-2



PROJECT C1 - NORTH AVENUE - SPEED SIGNAGE IMPROVEMENTS

SAFETY ACTION PLAN
SPEARFISH, SD



Figure C1-3



PROJECT C1 - NORTH AVENUE - SPEED SIGNAGE IMPROVEMENTS

SAFETY ACTION PLAN
SPEARFISH, SD




Figure C1-4

C2 - North Ave Gateway Signage

Gateway signage is recommended to be installed along North Ave north of Yukon Pl to enhance driver awareness and establish a clearer sense of arrival into Spearfish. The Project would introduce a City-branded gateway feature that serves both as a visual identifier and as a reminder for motorists to remain attentive as they enter a more developed area of the corridor.



Legend

 Gateway Sign

PROJECT C2 - NORTH AVENUE - GATEWAY SIGNAGE

SAFETY ACTION PLAN
SPEARFISH, SD



Figure C2-1

D1, D2 - Main St & Colorado Blvd – Striping Improvements

The Main St and Colorado Blvd striping improvements Project is recommended along Main St and Colorado Blvd from Jackson Blvd to US 14A (Spearfish Canyon Rd) to improve safety and mobility for all users. This is a demonstration project recommendation, not a permanent project recommendation. The project includes two build options that both involve restriping the existing roadway into a three-lane configuration with a center two-way left turn lane. This “road diet” design is aimed at reducing crash rates, improving traffic flow, and creating a safer environment for vehicles, pedestrians, and bicyclists. Both options would utilize 11-foot lanes, and 6-inch painted (non-recessed) striping.

The first build option focuses on restriping Main St and Colorado Blvd without a designated bike lane, maintaining vehicle travel lanes and the two-way left turn lane to enhance safety and reduce turning conflicts. The second build option incorporates dedicated 6-foot bike lanes on both sides of the corridor, except from Jackson Blvd to Grant St (where Downtown angled parking exists), promoting multimodal connectivity and supporting active transportation.



PROJECT D1 - MAIN STREET AND COLORADO BLVD - STRIPING IMPROVEMENTS (NO BIKE LANE)

SAFETY ACTION PLAN
SPEARFISH, SD



Figure D1-1



PROJECT D1 - MAIN STREET AND COLORADO BLVD - STRIPING IMPROVEMENTS (NO BIKE LANE)

SAFETY ACTION PLAN
SPEARFISH, SD



Figure D1-2



PROJECT D1 - MAIN STREET AND COLORADO BLVD - STRIPING IMPROVEMENTS (NO BIKE LANE)

SAFETY ACTION PLAN
SPEARFISH, SD



Figure D1-3

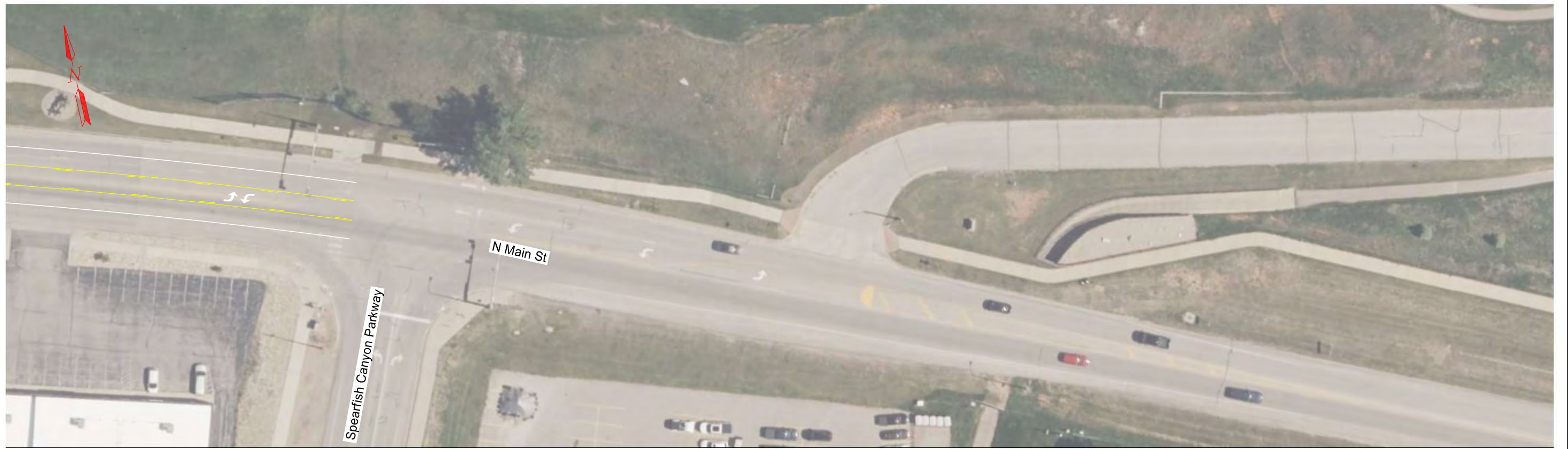


PROJECT D1 - MAIN STREET AND COLORADO BLVD - STRIPING IMPROVEMENTS (NO BIKE LANE)

SAFETY ACTION PLAN
SPEARFISH, SD



Figure D1-4



PROJECT D1 - MAIN STREET AND COLORADO BLVD - STRIPING IMPROVEMENTS (NO BIKE LANE)

SAFETY ACTION PLAN
SPEARFISH, SD



Figure D1-5

Cost Estimate
Prepared by: SRF Consulting Group, Inc. January 2026



SPEC	CODE	DESCRIPTION	UNITS	UNIT PRICE	Project D1 - Main Street Striping Improvements (No Bike Lane)	Total Cost
110E1100		Remove Concrete Pavement	SY	\$60.00		\$0.00
110E1140		Remove Concrete Sidewalk	SY	\$60.00		
120E4000		Grading	STA	\$1,000.00		\$0.00
110E0300		Remove Concrete Curb and/or Gutter	FT	\$15.00		\$0.00
260E1010		Base Course	TON	\$100.00		\$0.00
380E2900		6" Raised Concrete Island with Pedestrian Access	SY	\$150.00		\$0.00
380E2556		6" Barrier Type Median PCC Pavement	SY	\$200.00		\$0.00
633E3045		Durable Pavement Marking, Arrow	EA	\$10.00	66	\$660.00
633E3007		Durable Pavement Marking 6" White	LF	\$1.50	11394	\$17,091.00
633E3008		Durable Pavement Marking 6" Yellow	LF	\$1.50	28975	\$43,462.50
633E3030		Durable Pavement Marking 24" White	LF	\$5.00		\$0.00
635E5980		* Rectangular Rapid Flashing Beacon System	EA	\$25,000.00		\$0.00
635E0575		Remove Pavement Marking, Area	SF	\$2.50	21732	\$54,330.00
632E3610		Variable Speed Limit Sign	EA	\$10,000.00		\$0.00
650E0060		Type B66 Concrete Curb and Gutter	LF	\$60.00		\$0.00
651E0040		SIDEWALK CONCRETE 4IN	SY	\$120.00		\$0.00
		Gateway Signage	EA	\$75,000.00		
		Pedestrian Crossing Improvements	EA	\$10,000.00		
		Signs (Supports, Sheeting)	EA	\$500.00		
		** School Zone Flashing Sign	EA	\$10,000.00		
TURF ESTABLISHMENT & EROSION CONTROL (5%)						0
DRAINAGE - URBAN (8% WHERE APPLICABLE)						0
MOBILIZATION (8%)					1	\$9,244.00
TRAFFIC CONTROL (3%)					1	\$3,467.00
Bridge Replacement (LSUM)						
ESTIMATED TOTAL CONSTRUCTION COST WITHOUT CONTINGENCY						\$128,254.50
CONTINGENCY (18%)						\$23,086.00
DESIGN ENG & CONST ADMIN (20%)						\$25,651.00
INFLATION @ 6% PER YEAR (3 Year Estimation)						\$33,810.00
ESTIMATED TOTAL CONSTRUCTION COST						\$210,801.50

NOTES:
 *This pay item to be used for the Rectangular Rapid Flashing Beacon (RRFB) System.
 **This pay item to be used for the School Zone Beacon System. Price includes push buttons, conduit, cabinet, signing and post.



PROJECT D2 - MAIN STREET AND COLORADO BLVD - STRIPING IMPROVEMENTS (WITH BIKE LANE)

SAFETY ACTION PLAN
SPEARFISH, SD



Figure D2-1



PROJECT D2 - MAIN STREET AND COLORADO BLVD - STRIPING IMPROVEMENTS (WITH BIKE LANE)

SAFETY ACTION PLAN
SPEARFISH, SD



Figure D2-2



PROJECT D2 - MAIN STREET AND COLORADO BLVD - STRIPING IMPROVEMENTS (WITH BIKE LANE)

SAFETY ACTION PLAN
SPEARFISH, SD



Figure D2-3



PROJECT D2 - MAIN STREET AND COLORADO BLVD - STRIPING IMPROVEMENTS (WITH BIKE LANE)

SAFETY ACTION PLAN
SPEARFISH, SD



Figure D2-4



PROJECT D2 - MAIN STREET AND COLORADO BLVD - STRIPING IMPROVEMENTS (WITH BIKE LANE)

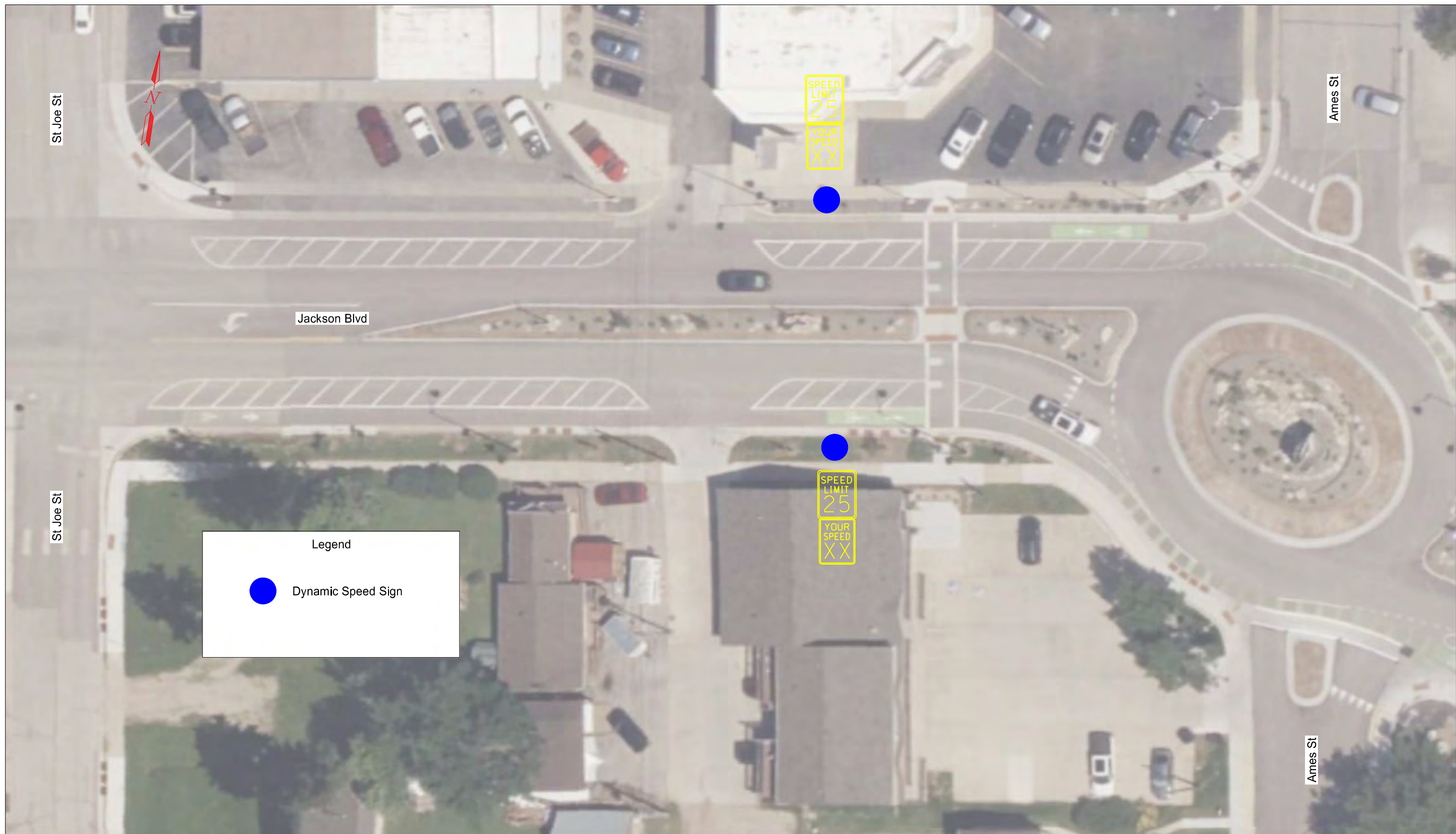
SAFETY ACTION PLAN
SPEARFISH, SD



Figure D2-5

E - Jackson Blvd Dynamic Speed Signs

This safety improvement project is recommended along Jackson Blvd just west of 3rd St and between St Joe St and Ames St and would focus on reducing vehicle speeds and increasing driver awareness. The project would incorporate the installation of dynamic speed signs on both sides of the roadway. These electronic signs display real-time vehicle speeds to alert drivers when they exceed the posted limit, encouraging voluntary compliance and promoting safer driving behavior.



PROJECT E - JACKSON STREET - DYNAMIC SPEED SIGNS

SAFETY ACTION PLAN
SPEARFISH, SD



Figure E1-1



PROJECT E - JACKSON STREET - DYNAMIC SPEED SIGNS

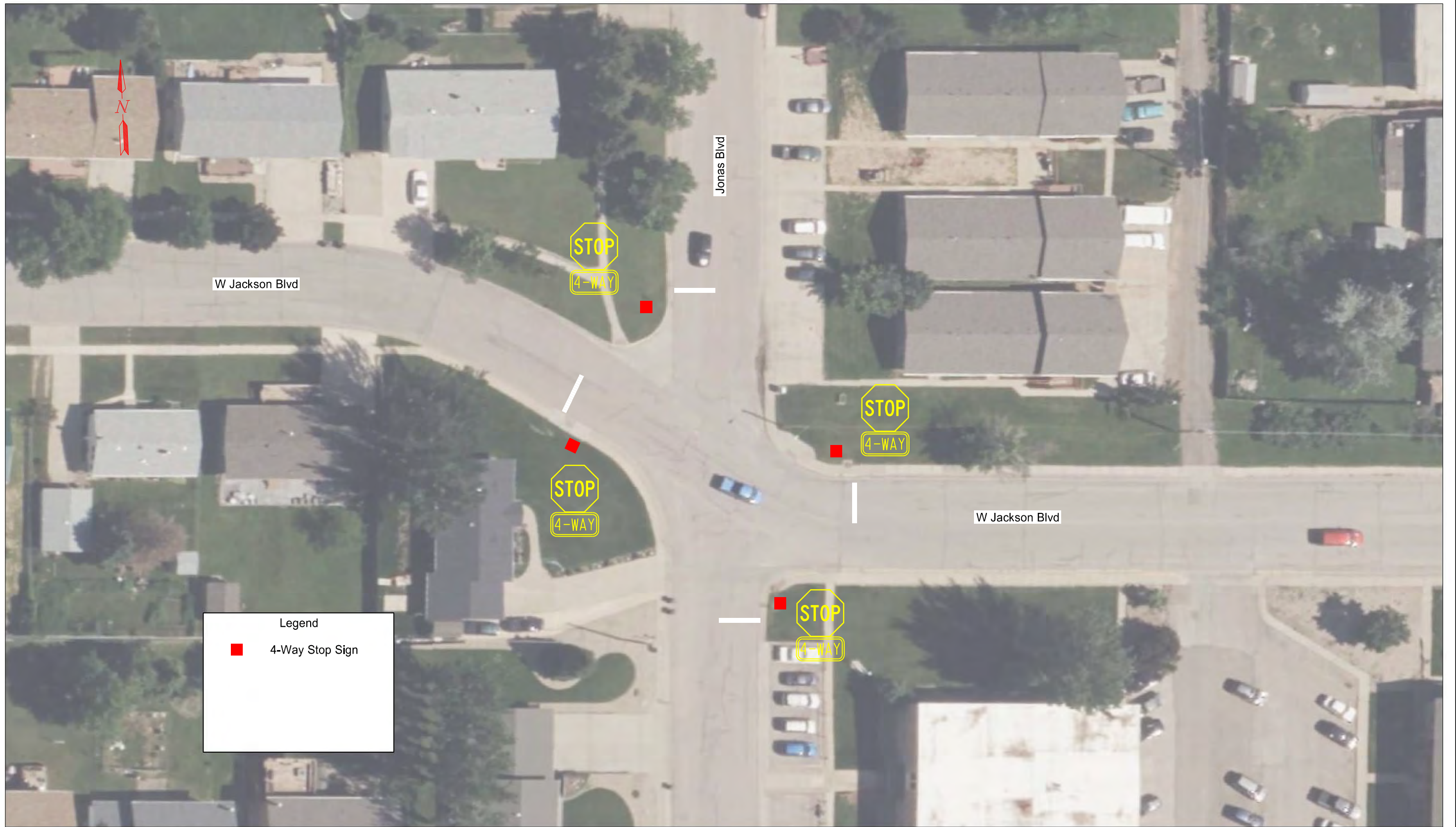
SAFETY ACTION PLAN
SPEARFISH, SD



Figure E1-2

F - Jackson Blvd & Jonas St Signage

These improvements would take place at Jackson Blvd and Jonas St through the installation of all-way stop control. The Project would convert the existing intersection into a 4-way stop, requiring all approaching traffic to come to a complete stop before proceeding. This change is designed to improve safety by reducing the potential for right-angle and turning collisions, as well as enhancing predictability for both motorists and pedestrians.



PROJECT F - JACKSON STREET & JONAS BOULEVARD - SIGNAGE

SAFETY ACTION PLAN
SPEARFISH, SD

Figure F-1



G - Hillsview Road Crossing Improvements

Multiple pedestrian safety improvements are recommended along Hillsview Rd between Main St and St. Joe St:

- At the midblock crossing between Spirit Ln and Main St on Hillsview Rd, a recommended project would remove and replace the existing pedestrian bridge and introduce a redesigned crossing that meets ADA requirements and includes clearer visibility for both nonmotorized and motorized users. A central pedestrian refuge island is advised to allow users to cross the roadway in two stages, and the posted speed limit at the crossing would be reduced to 15 mph to create a safer, slower-speed environment.
- At the current recreational path crossing on the east side of the Hillsview Rd and Stagebarn Circle intersection a central pedestrian refuge island is also recommended to allow users to cross the roadway in two stages.



PROJECT G - HILLSVIEW ROAD - CROSSINGS

SAFETY ACTION PLAN
SPEARFISH, SD



Figure G1-1



PROJECT G - HILLSVIEW ROAD - CROSSINGS

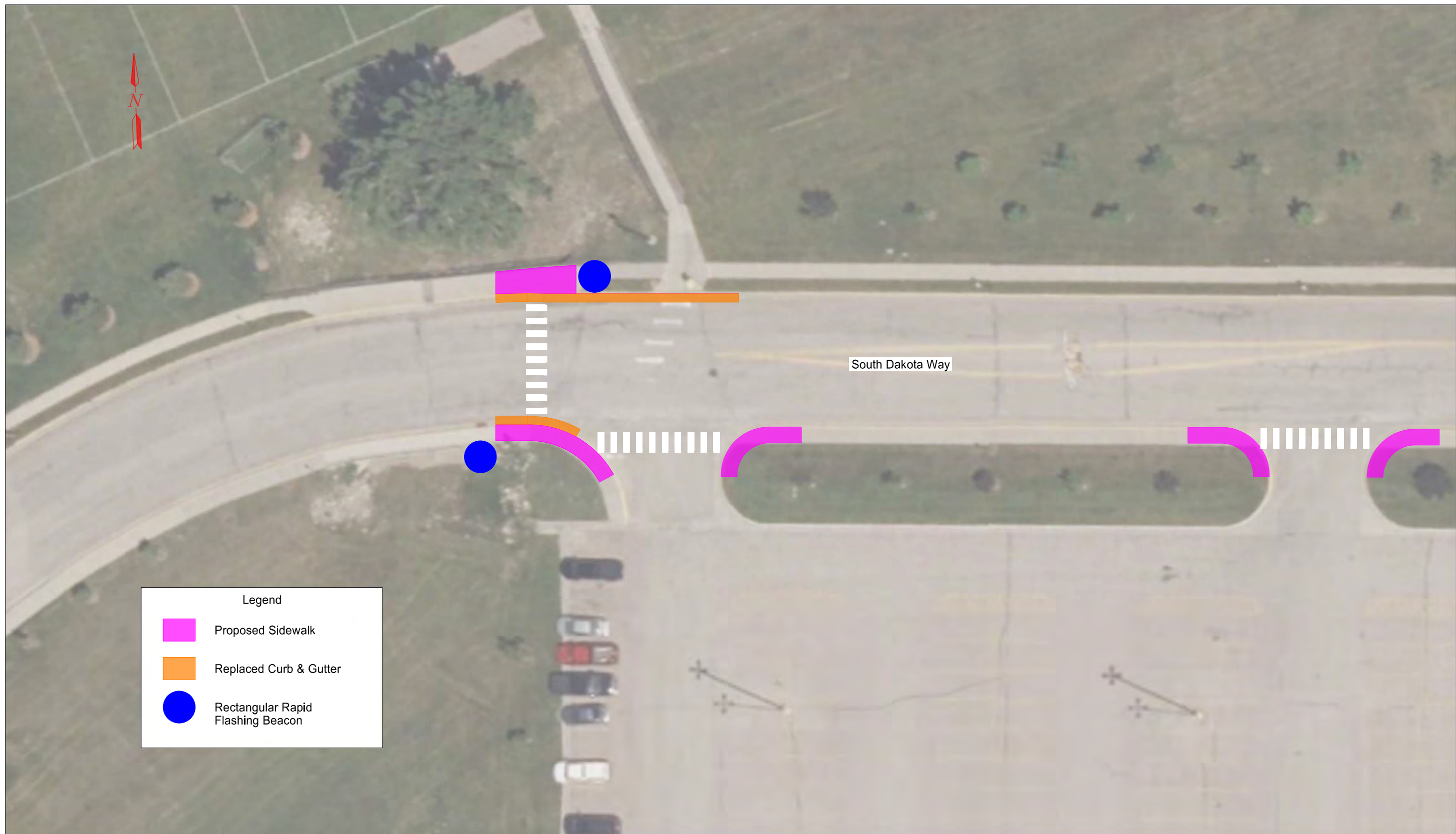
SAFETY ACTION PLAN
SPEARFISH, SD



Figure G1-2

H - South Dakota Way – Pedestrian Crossing Improvements

Pedestrian safety improvements are recommended along South Dakota Way at the crossing to Black Hills State University. The project would realign the existing pedestrian crosswalk to the west to eliminate its current skewed configuration, which can limit visibility and increase crossing distances for pedestrians. By straightening the crosswalk, the Project would create a more direct and predictable path for students and other pedestrians traveling between the university and nearby destinations. In addition to the realignment, the project includes the relocation of existing flashing beacon pedestrian crossing signs to the altered crossing location.



PROJECT H - SOUTH DAKOTA WAY - PEDESTRIAN CROSSING IMPROVEMENTS

SAFETY ACTION PLAN
SPEARFISH, SD

Figure H-1



I - Rad Route to School – Shared Use Path

A new shared use path is proposed along the north termini of Canyon St, following Spearfish Creek to Creekside Elementary School. This project would create a continuous off-street connection that enhances safety and accessibility for students, families, and other users traveling to and from the school. By separating pedestrians and bicyclists from vehicle traffic, the path provides a safer and more comfortable route that supports active transportation and encourages walking and biking as viable travel options.



PROJECT I - RAD ROUTE TO SCHOOL - SHARED USE PATH

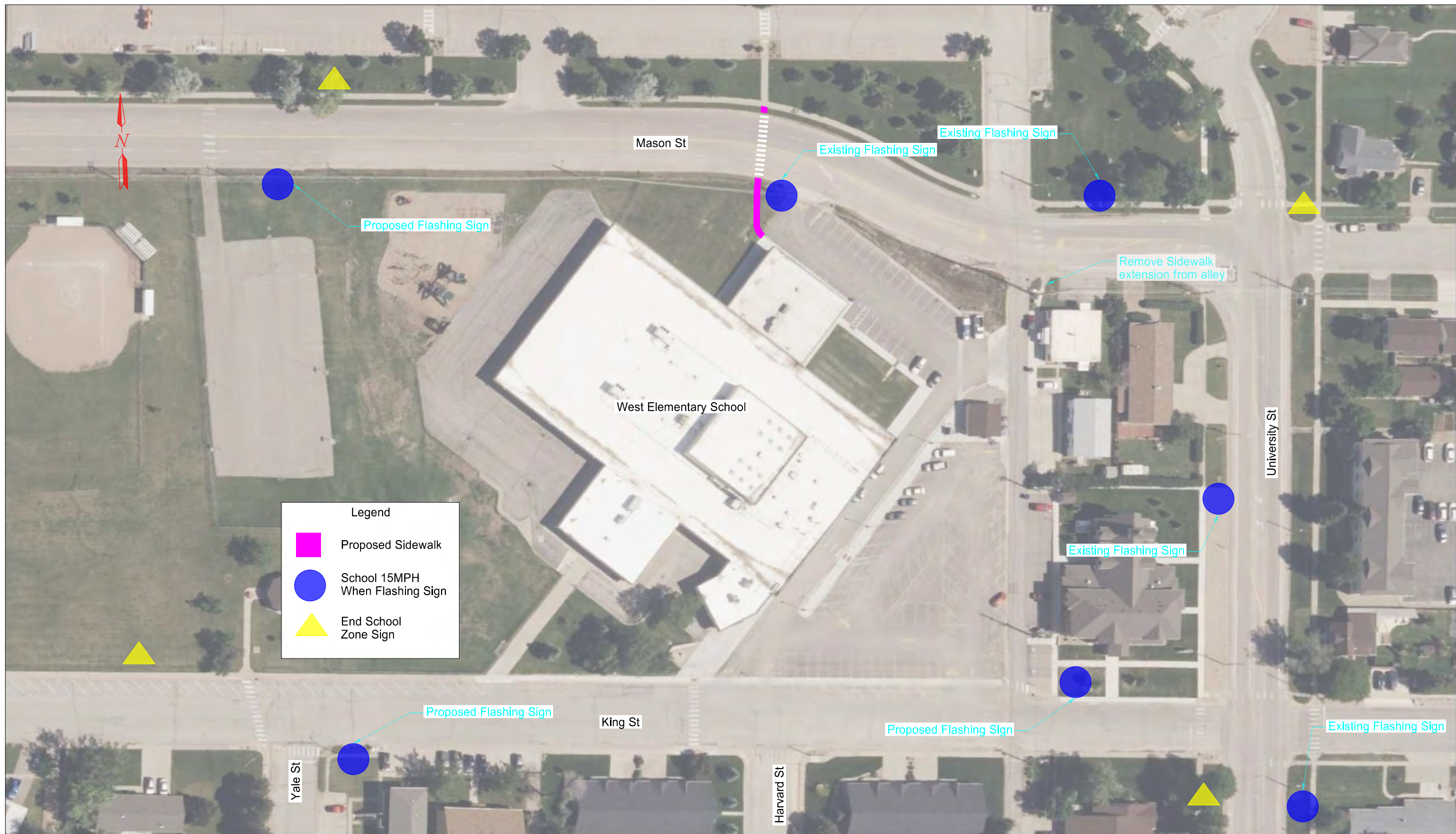
SAFETY ACTION PLAN
SPEARFISH, SD



Figure I-1

J - West Elementary School - Pedestrian Crossing Improvements

A series of recommended improvements to support safe crossings at West Elementary School have been identified to enhance safety for students and families. The project focuses on several key locations adjacent to the school, including proposed flashing sign additions along King St and the relocation of a crossing on Mason St approximately 200 feet to the west of its current location near the northeast corner of the school. New flashing signs along King St would help to increase driver awareness of an important student crossing that the school staffs with crossing guards. The current crossing on Mason St (located on the northeast corner of the school) is at an unsafe location adjacent to an alley with traffic turning and visibility conflicts. Relocating the crossing to the west would improve visibility for both drivers and those using the sidewalk. School zone signage is also proposed to be extended around all four corners of the area around the school.



PROJECT J - WEST ELEMENTARY SCHOOL - PEDESTRIAN CROSSING IMPROVEMENTS

SAFETY ACTION PLAN
SPEARFISH, SD



Figure J-1

K - Colorado Blvd Improvements (27th St to Colorado Loop)

The City of Spearfish in conjunction with the SDDOT conducted a corridor study of Colorado Blvd in 2023. The Study Advisory Team (SAT) ultimately preferred intersection and roadway segment alternatives that include traditional signals, roundabouts, 3 lane and 5 lane sections along with bicycle and pedestrian facilities. The preferred recreation path alternative was to locate the path on the north side of the roadway with pedestrian underpasses located at False Bottom Creek, Tetro Creek, and Miller Creek. The following project plans and cost estimates are from the study.

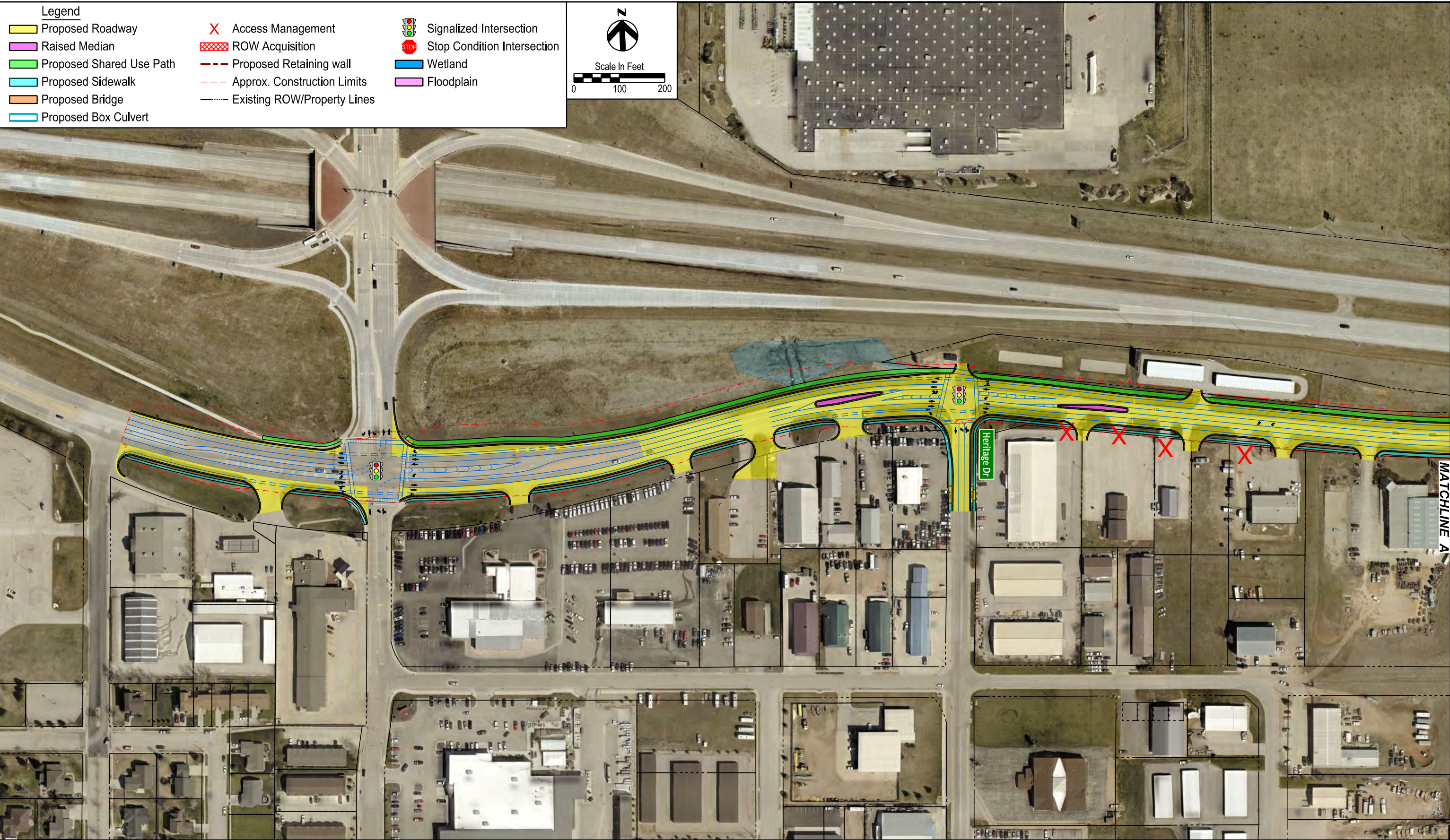


FIGURE 35

Revision:



Colorado Blvd Improvements - 27th St to East of Heritage Dr

Colorado Blvd Corridor Study (27th Street to Colorado Loop)

Spearfish, SD

Figure #

35

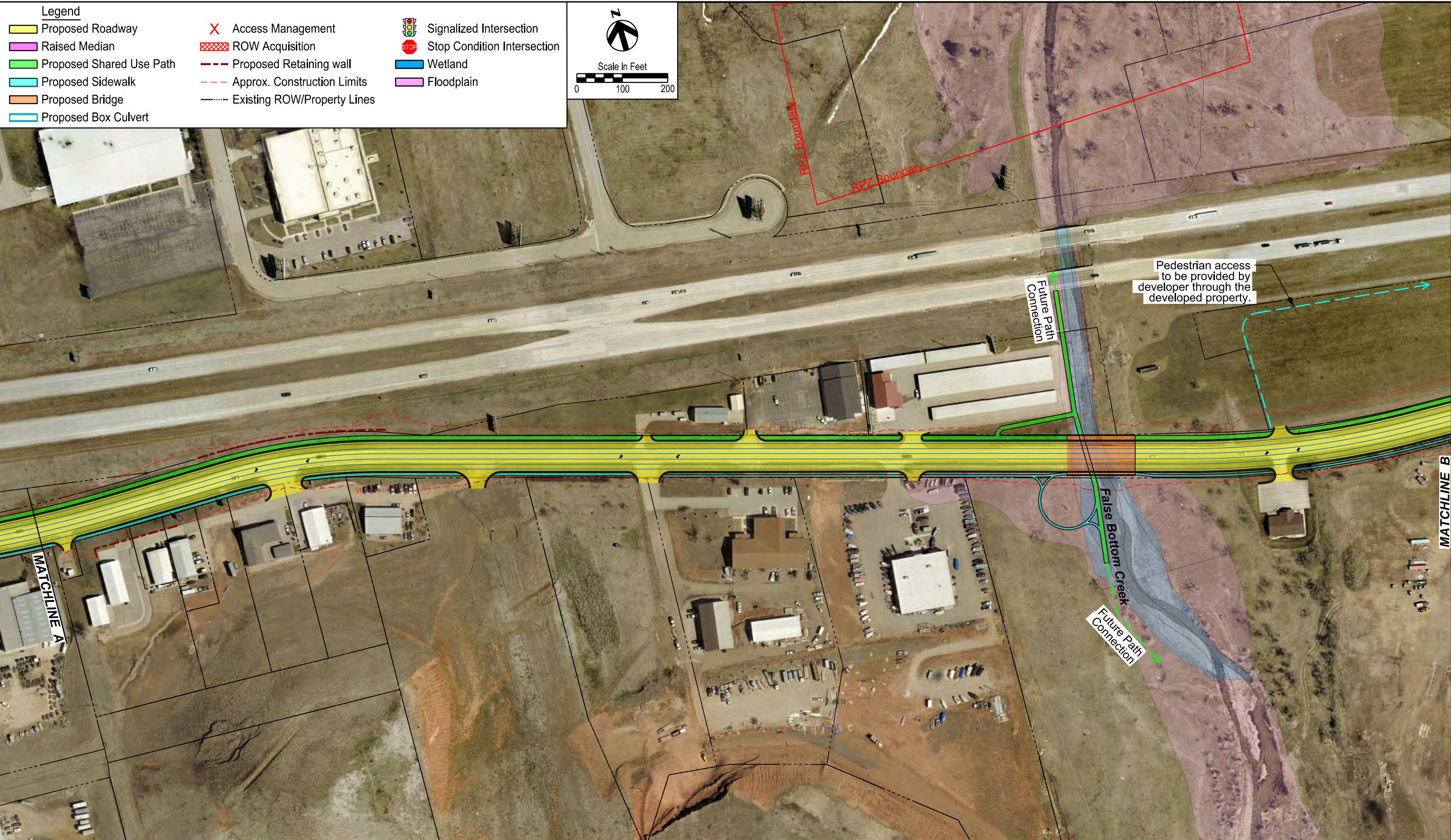


FIGURE 36

Revision:



Colorado Blvd Improvements - East of Heritage Dr to False Bottom Creek

Colorado Blvd Corridor Study (27th Street to Colorado Loop)

Spearfish, SD

Figure #

36

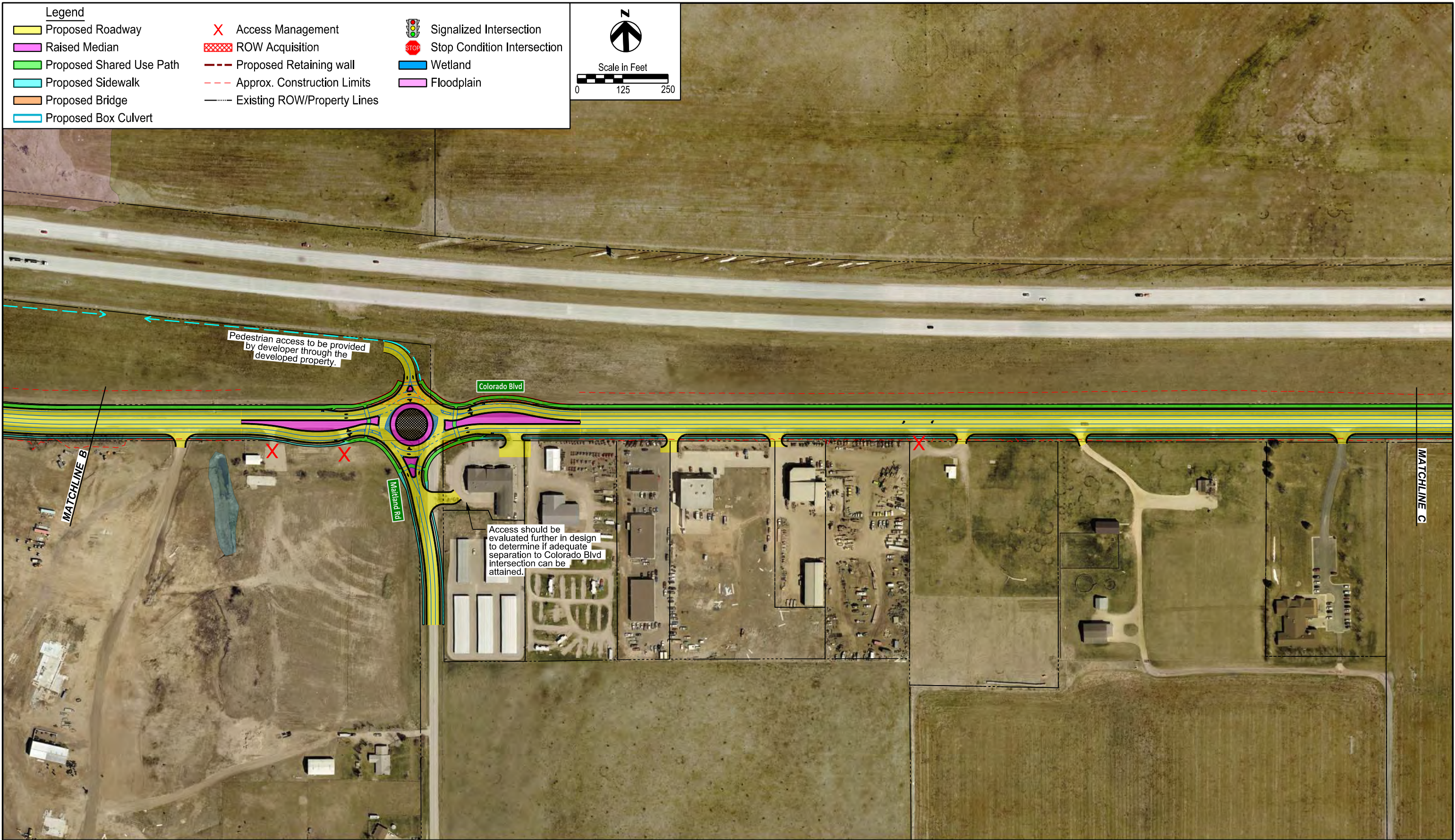


FIGURE 37

Revision:



Colorado Blvd Improvements - False Bottom Creek to West of Rainbow Rd

Colorado Blvd Corridor Study (27th Street to Colorado Loop)

Spearfish, SD

Figure #

37

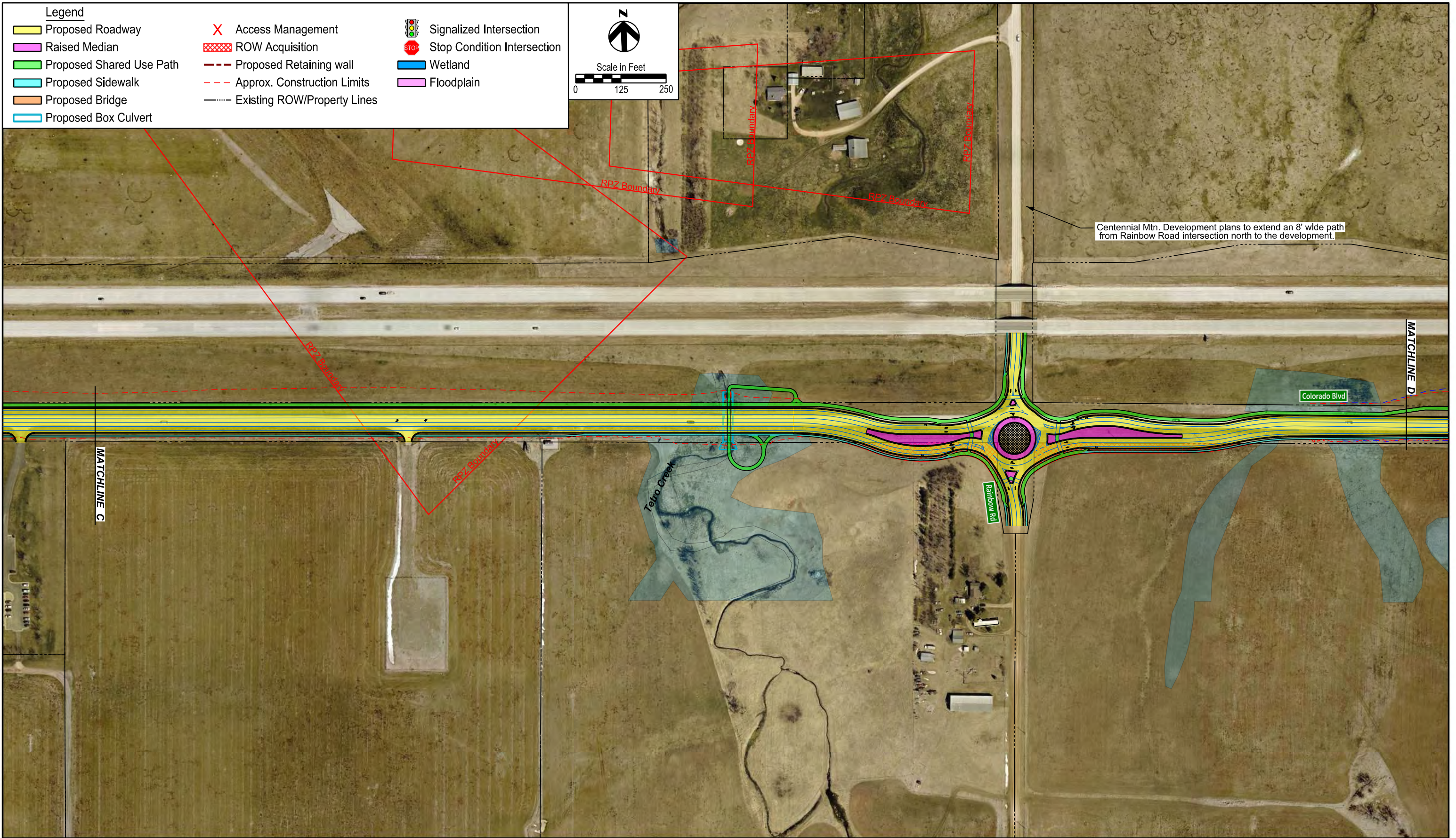


FIGURE 38

Revision:



Colorado Blvd Improvements - Rainbow Rd Area

Colorado Blvd Corridor Study (27th Street to Colorado Loop)

Spearfish, SD

Figure #

38

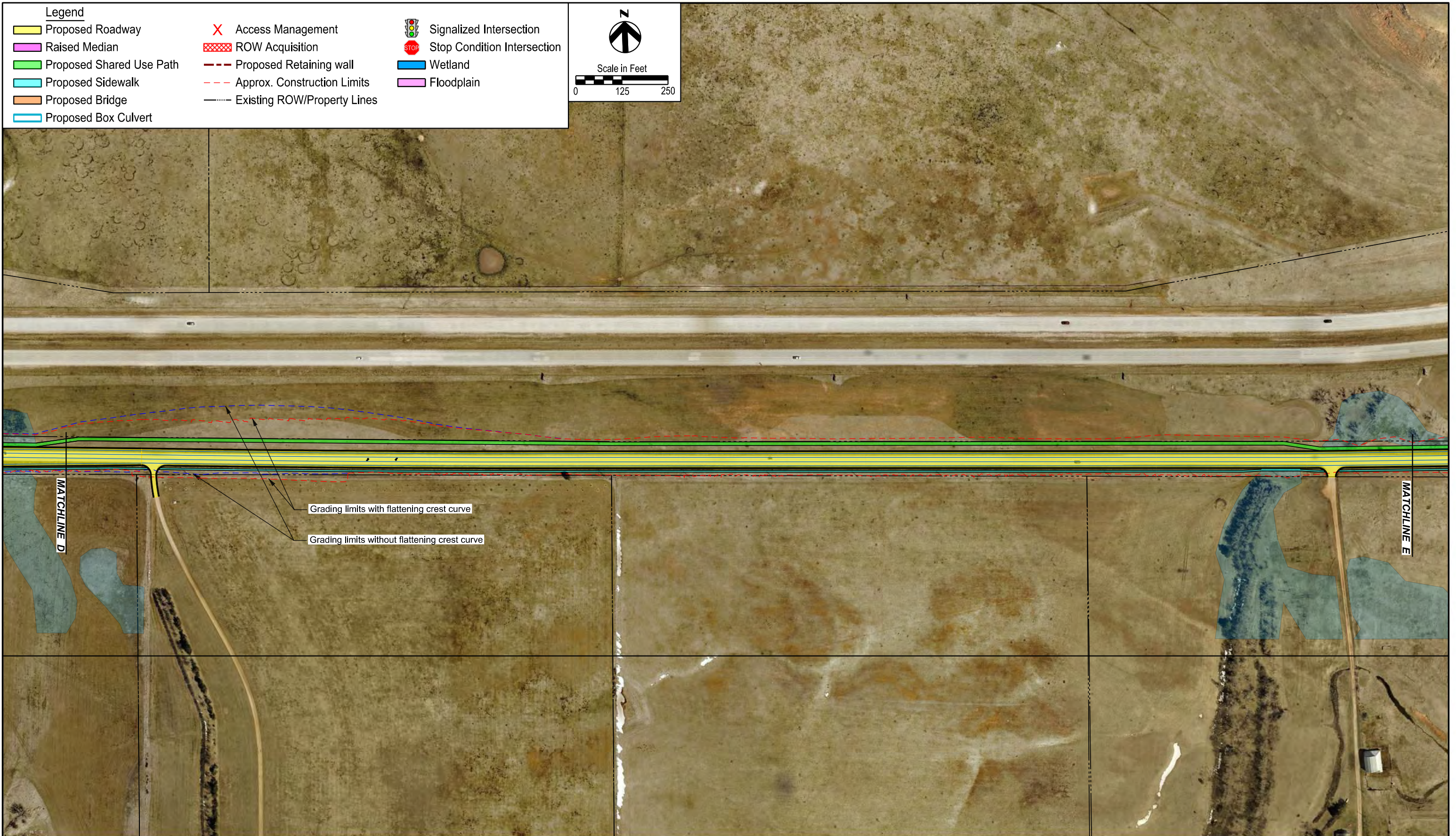


FIGURE 39

Revision:



Colorado Blvd Improvements - East of Rainbow Rd to West of Aurora Ave

Colorado Blvd Corridor Study (27th Street to Colorado Loop)

Spearfish, SD

Figure #

39

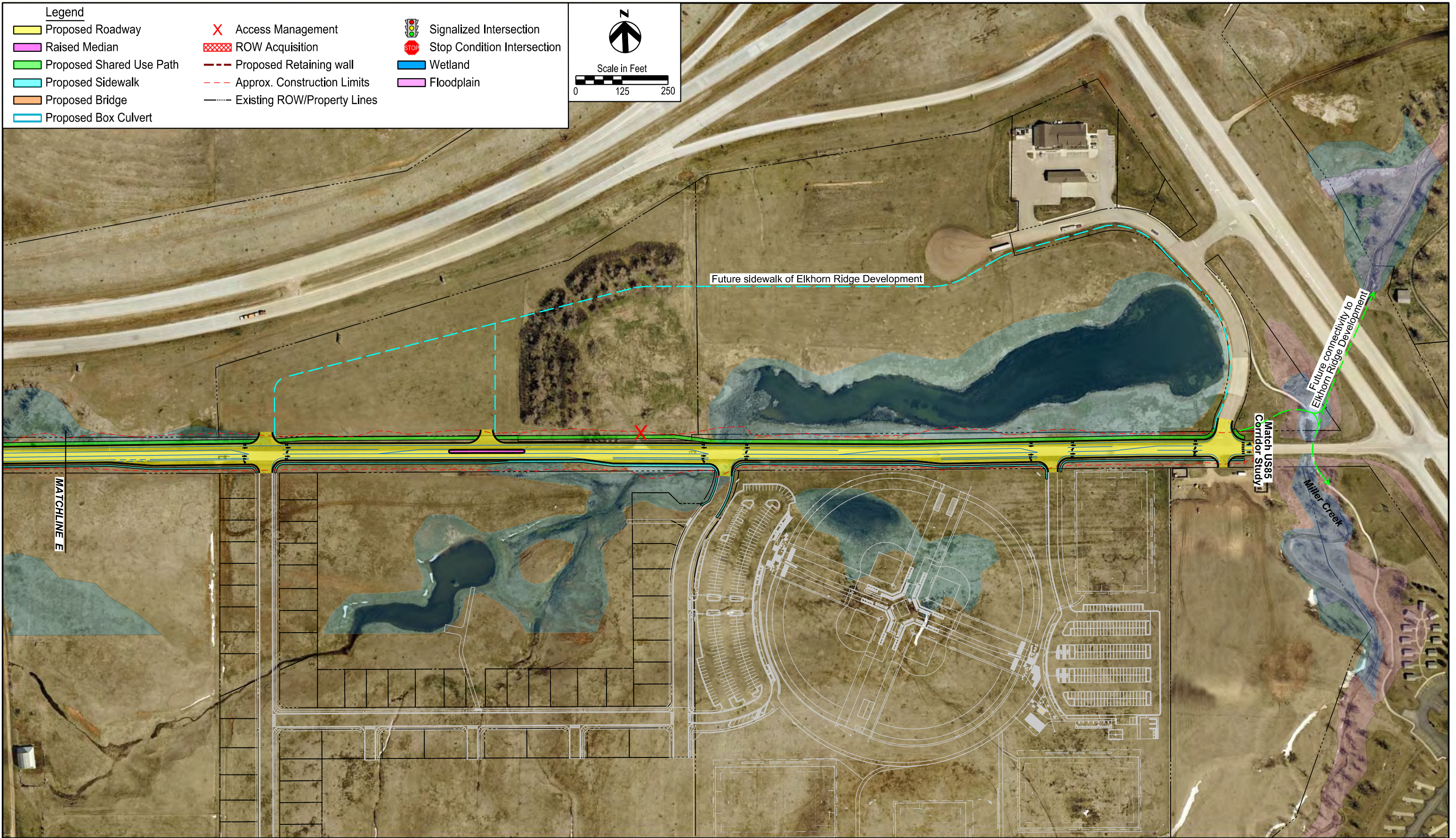


FIGURE 40

Revision:



Colorado Blvd Improvements - Aurora Ave to Colorado Lp

Colorado Blvd Corridor Study (27th Street to Colorado Loop)

Spearfish, SD

Figure #

40