

# INTERSECTION IMPROVEMENTS

**Project No.**  
SOIB-7-002(152)022

**PCN**  
20750

US Hwy 2 @ 58<sup>th</sup> Street in Williston



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Prepared by

NORTH DAKOTA DEPARTMENT OF TRANSPORTATION  
BISMARCK, NORTH DAKOTA

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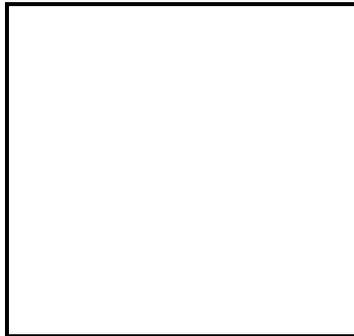
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November 2015

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US Hwy 2 @ 58<sup>th</sup> Street in Williston

## ***CERTIFICATION***

I hereby certify that this report was prepared by me or under my direct supervision and that I am a duly registered professional engineer under the laws of the State of North Dakota. This document was originally issued and sealed by Jeffrey R. Rensch, Registration number PE-8211 on 11/25/2015 and the original document is stored at the North Dakota Department of Transportation.



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Jeffrey R. Rensch, P.E.

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Date

## EXECUTIVE SUMMARY

The purpose of this decision document is to evaluate proposed build alternatives that were presented at a Public Input Meeting held on 10/08/2015 for the 58<sup>th</sup> Street intersection with US Hwy 2 in Williston.

### A. Project Description

Project Number: SOIB-7-002(152)022  
Highway: US Highway 2  
Local Roads: 58<sup>th</sup> Street  
District: Williston  
Project Limits: Intersection of US Hwy 2 & 58<sup>th</sup> Street

### B. Project Schedule

<u>Project Number</u>	<u>Documented CATEX</u>	<u>Plans Complete</u>	<u>Bid Opening</u>
SOIB-7-002(152)022	12/21/2015	4/15/16	6/10/2016

### C. Background Information

This project was originally scoped with a series of intersection improvement projects along the US Hwy 2 corridor throughout the City of Williston. In August 2015, the City of Williston submitted a preliminary scope of proposed improvements for the 58<sup>th</sup> Street intersection that included the following:

- 1) Realign the existing frontage road in the southwest quadrant of the US 2 / 58<sup>th</sup> St. intersection so the frontage road will access 58<sup>th</sup> St. approximately 400' west of the existing access location.
- 2) Extend existing turn lanes on northbound and southbound US Hwy 2 at the intersection with 58<sup>th</sup> Street.
- 3) Replace interim, span-wire mounted traffic signals at the intersection of US Hwy 2 and 58<sup>th</sup> Street with permanent, post-mounted traffic signals.

Two alignment alternatives were developed for the new frontage road access and were discussed in further detail with the City of Williston during a field review held August 20<sup>th</sup>. Both the City of Williston and NDDOT agreed to advance both alignment alternatives for project development.

A Public Input Meeting was held for this project on October 8<sup>th</sup> and the two design alternatives were presented for public comment. The Public Involvement Report has been appended by reference to this document.

**Figure 1 – Existing Conditions**



## D. Existing Conditions & Deficiencies

### *Existing Conditions:*

US Hwy 2 is a 4-lane divided highway aligned in a generally north-south direction at the intersection of 58<sup>th</sup> Street in Williston. The existing posted speed limit on US Hwy 2 at this intersection is 40 mph. The speed limit transitions to 55 mph approximately 350 feet north of the intersection. There are existing left and right turn lanes at this intersection for both the northbound and southbound directions of US Hwy 2.

58<sup>th</sup> Street is a local street located within the city limits of Williston. The roadway runs in an east-west direction and intersects US Hwy 2 at a skew angle of approximately 10 degrees from perpendicular. West of US Hwy 2, 58<sup>th</sup> Street is a 2-lane undivided concrete roadway with existing right and left turn lanes for eastbound traffic approaching US Hwy 2. East of US Hwy 2, 58<sup>th</sup> Street is currently an undeveloped gravel roadway with a total roadway width of approximately 20 feet. Plans have been developed by the City of Williston to make improvements to 58<sup>th</sup> Street east of US Hwy 2. The proposed roadway section includes a 2-way undivided concrete roadway with left and right turn lanes for westbound traffic on 58<sup>th</sup> Street.

A frontage road on the west side of US Hwy 2 intersects 58<sup>th</sup> Street from the south approximately 100 feet west of the intersection of 58<sup>th</sup> Street and US Hwy 2. The frontage road terminates at this location and there is no frontage road in the northwest quadrant of this intersection. Frontage roads located to the east of US Hwy 2 also intersect 58<sup>th</sup> Street in close proximity to the intersection of US Hwy 2. Improvements proposed by the City of Williston for 58<sup>th</sup> Street east of US Hwy 2 will include shifting the access to these frontage roads farther to the east, outside the functional area of the US Hwy 2 intersection.

Existing span-wire mounted traffic signals provide traffic control at the intersection of US Hwy 2 and 58<sup>th</sup> Street. The existing traffic signals were installed in December, 2014.

### *Deficiencies:*

#### 1. Location of Frontage Road access to 58<sup>th</sup> Street

The existing frontage roads intersect 58<sup>th</sup> Street approximately 100 feet from the intersection with US Hwy 2. The Access Management Manual, published by the Transportation Research Board, states that a minimum distance of 150 feet should be provided between a frontage road and a signalized intersection, and that a distance of 300 feet or greater is preferred. The existing frontage road intersections east and west of US Hwy 2 do not currently satisfy either of these recommendations.

#### 2. US Hwy 2 Turn Lane Deficiencies

Existing turn lanes for northbound and southbound traffic on US Hwy 2 are being analyzed as part of a Traffic Operations Study to determine the appropriate lengths for the traffic conditions at the intersection with 58<sup>th</sup> Street. The results of this study are not yet available. It is anticipated that the Traffic Operations Study will recommend widening and lengthening the existing turn lanes.

A summary of the existing lengths and widths of the US Hwy 2 turn lanes, as well as desired/required geometry, is shown in the following table. The taper lengths and deceleration lengths listed within the table are based on a 40 mph design speed.

**Table 1 – US Hwy 2 Turn Lane Summary**

Location	Turn Lane Width		Turn Lane Taper Length		Full Width Turn Lane Length	
	Existing	Desired	Existing	Required	Existing	Required
US Hwy 2 NB Right Turn Lane	9'	12'	120'	144'	270'	150' Decel. + Storage *
US Hwy 2 NB Left Turn Lane	11'	12'	120'	144'	270'	150' Decel. + Storage *
US Hwy 2 SB Right Turn Lane	11'	12'	75'	144'	240'	150' Decel. + Storage *
US Hwy 2 SB Left Turn Lane	11.5'	12'	75'	144'	240'	150' Decel. + Storage *

\* Required storage length is dependent on the results of the Traffic Operations Study.

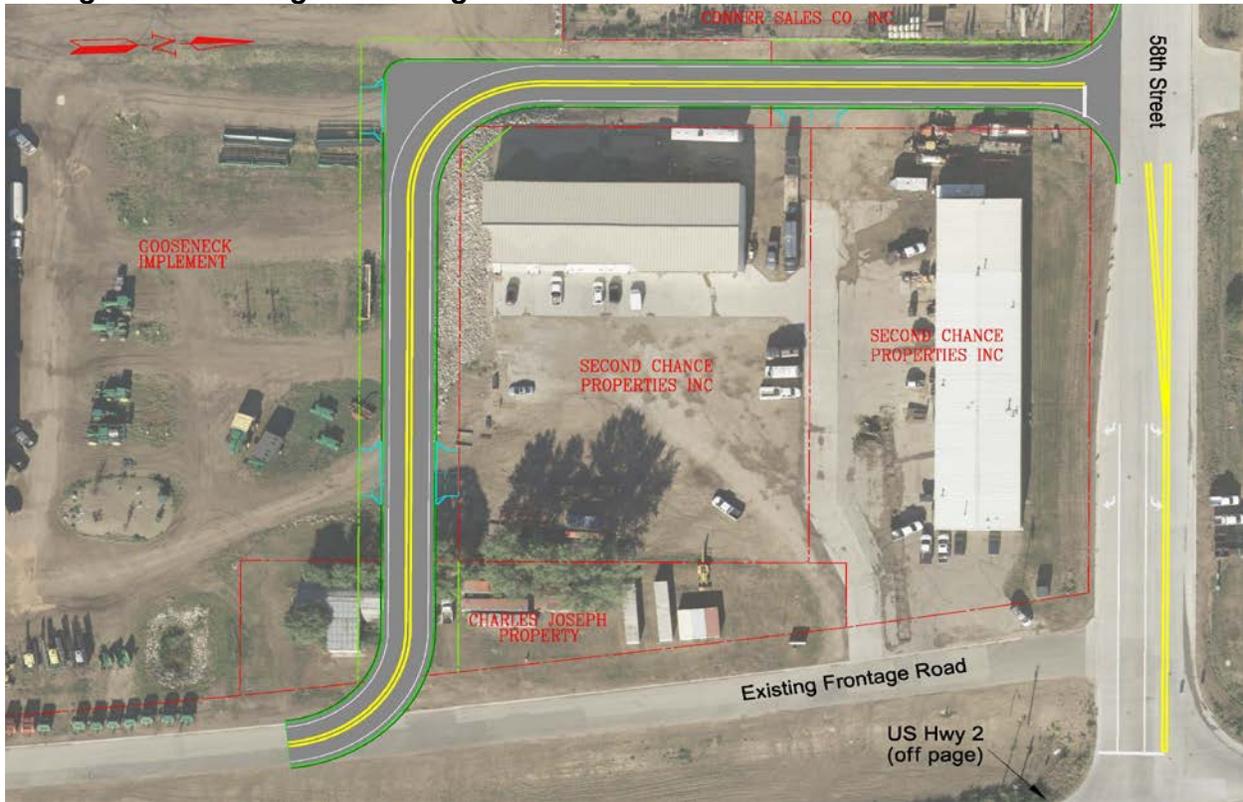
E. Scope of Work & Alternatives

1. Frontage Road Alignment

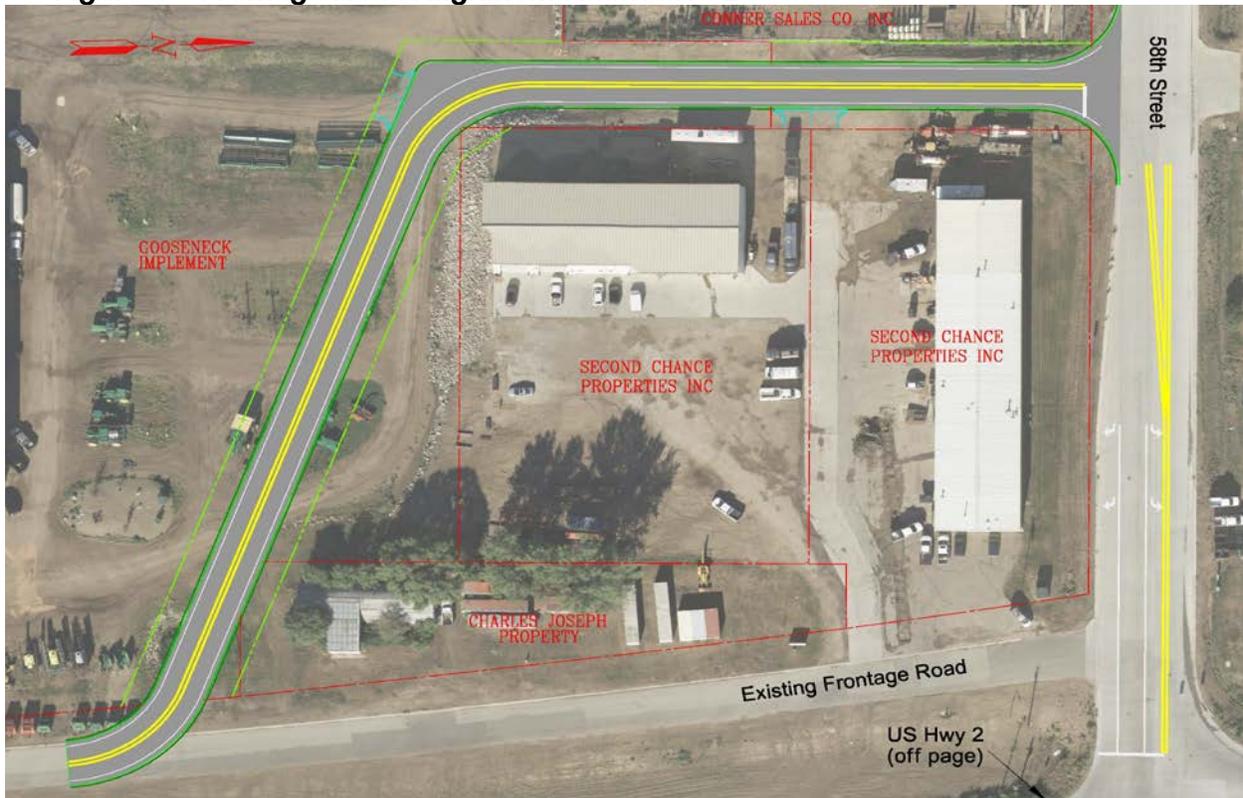
Two alignment alternatives have been developed to move access to the frontage road in the southwest quadrant of the US 2 / 58<sup>th</sup> St. intersection farther to the west, outside the functional area of the intersection. The new access would be located approximately 500 feet from the existing signalized intersection of US Hwy 2 and 58<sup>th</sup> Street. This distance would meet the recommendations of the TRB's Access Management Manual and would improve traffic operations on 58<sup>th</sup> Street at the intersection of US Hwy 2.

Both frontage road alignment alternatives intersect 58<sup>th</sup> Street at the same location, but the two differ in the route taken to connect from this new access to the existing frontage road running parallel to US Hwy 2. Both alternatives will require the acquisition of permanent right of way to accommodate the realignment. The two frontage road alignment alternatives are shown in the following figures.

**Figure 2 – Frontage Road Alignment Alternative 1**



**Figure 3 – Frontage Road Alignment Alternative 2**



*Issues & Impacts:*

Alignment Alternative 1 generally follows the existing property lines and is favored by two adjacent property owners (Gooseneck Implement & Second Chance Properties). This alternative would bisect property currently held by the Charles Joseph Estate and would require the complete removal of a storage building located on the property. Early discussions with the property owners indicate that the building is being used mainly for storage for a gaming business owned by members of the family. A small portion of the building is being used as a workspace to service and repair equipment related to the gaming business. It is anticipated that the selection of Alignment Alt. 1 would require the acquisition of the entire parcel currently held by the Charles Joseph Estate and that removal of the storage building would qualify the family for some form of business relocation assistance.

Alignment Alternative 2 would avoid the need to acquire in its entirety the property owned by the Charles Joseph Estate and would also avoid impacts to any buildings located on the property. Therefore, no business relocation assistance would be needed for this alternative. However, Alignment Alt. 2 would require a larger area of right of way from property owned by Gooseneck Implement and would impact existing storm water infrastructure located on that property, including an existing storm water detention pond constructed by the property owner. This alignment alternative is preferred by representatives of the Charles Joseph Estate.

**Table 2 – Frontage Road Alignment R/W Summary**

Property Owner	Preferred Alternative	Alignment Alternative 1			Alignment Alternative 2		
		R/W acquisition	Total Parcel Area	Relocations Required?	R/W acquisition	Total Parcel Area	Relocations Required?
Gooseneck Implement	Alt. 1	0.75 acres	15.45 acres	No	1.20 acres	15.45 acres	No
Second Chance Properties	Alt. 1	0.01 acres	1.44 acres	No	0.01 acres	1.44 acres	No
Charles Joseph Estate	Alt. 2	0.57 acres	0.57 acres	Yes	0.03 acres	0.57 acres	No
Connor Sales Co.	No Comments	0.26 acres	13.83 acres	No	0.26 acres	13.83 acres	No

## 2. Removal Limits of Existing Frontage Road

During the public meetings that were held for this project, representatives from the NDDOT stated that it would be desirable to remove the existing frontage road in its entirety between 58<sup>th</sup> Street and the new frontage road. One property owner affected by the project has stated that he would prefer to have a portion of the existing frontage road remain in place to continue to provide access to the east side of the businesses located on property owned by Second Chance Properties, Inc. Two options are shown below regarding the removal limits of the existing frontage road. The removal options provided in the figures are shown in conjunction with frontage road Alignment Alternative 1, but would be applicable regardless of which frontage road alignment alternative is selected.

**Figure 4 – Frontage Road Removal Option 1**



**Figure 5 – Frontage Road Removal Option 2**



### *Issues & Impacts:*

No significant issues arise from either of the removal options shown; however, Removal Option 2 would require the continued need to maintain an additional 400 feet of frontage road at this location.

### 3. Permanent Signals & Turn Lane Modifications on US Hwy 2

The original scoping document prepared by the City of Williston included work to modify existing turn lanes on US Hwy 2 and replace the existing span-wire mounted traffic signals with new, post-mounted traffic signals. This work would result in traffic impacts to US Hwy 2 and 58<sup>th</sup> Street that would not be caused by either frontage road alignment alternative.

During early development of the proposed project it was discovered that a separate future project has been programmed for US Hwy 2 that would encompass the intersection of US Hwy 2 and 58<sup>th</sup> Street. Project No. NH-7-002(156)022 [PCN 20845] is currently programmed in the Draft 2016 – 2019 STIP as a concrete overlay project on northbound US Hwy 2 extending through the intersection with 58<sup>th</sup> Street. This project is likely to result in significant traffic impacts to US Hwy 2 during construction and also could bring about the need for some rework to any signal or turn lane modifications that are completed as part of Project No. SOIB-7-002(152)022 [PCN 20750].

Based on this information regarding the future concrete overlay project, a decision item has been included in this document regarding whether or not the signal and turn lane modifications should be included with the current project [SOIB-7-002(152)022], or removed and added to future Project No. NH-7-002(156)022.

#### F. Public Input

Two meetings have been held to date to engage the public in the decision-making process for the proposed improvements at the intersection of US Hwy 2 and 58<sup>th</sup> Street. Information regarding the two meetings is shown below.

##### Landowner/Tenant Meeting

Date: Tuesday, September 29<sup>th</sup>, 2015  
Time: 4:00 pm to 8:00 pm  
Location: Grand Williston Hotel & Conference Center  
Williston, ND

##### Public Input Meeting

Date: Thursday, October 8<sup>th</sup>, 2015  
Time: 5:00 pm to 7:00 pm – formal presentation started at 5:30 pm  
Location: Williston Area Recreation Center  
Williston, ND

A comprehensive summary of these meetings, including comments received from property owners and the general public, has been incorporated into a Public Involvement Report. The Public Involvement Report has been appended by reference to this decision document.

**Table 3 – Comparison of Alternatives / Summary of Public Comments**

Location	Design Alternative	Advantages	Disadvantages	Public Comments
<b>Frontage Road Alignment</b>	<p style="text-align: center;"><b>Frontage Road Alignment Alt. 1</b></p> <p style="text-align: center;"><u>Estimated Total Cost</u> \$2,121,805</p> <p style="text-align: center;"><u>Anticipated Bid Opening</u> Fall, 2016</p>	<ul style="list-style-type: none"> <li>- Alignment runs parallel to existing property lines and does not create irregular parcel remnants.</li> <li>- No interference with existing privately owned &amp; maintained drainage infrastructure located on property owned by Gooseneck Implement.</li> </ul>	<ul style="list-style-type: none"> <li>- Alignment would require the relocation of a business operated from the property owned by the Charles Joseph Estate.</li> </ul>	<ul style="list-style-type: none"> <li>- This alternative is supported by representatives of Gooseneck Implement and 2<sup>nd</sup> Chance Properties. Representatives of the Charles Joseph Estate have stated that they would be willing to accept this option if adequate business relocation assistance is provided.</li> </ul>
	<p style="text-align: center;"><b>Frontage Road Alignment Alt. 2</b></p> <p style="text-align: center;"><u>Estimated Total Cost</u> \$1,629,705</p> <p style="text-align: center;"><u>Anticipated Bid Opening</u> Summer, 2016</p>	<ul style="list-style-type: none"> <li>- Alignment does not require the removal of any buildings or business relocations from any of the affected properties.</li> </ul>	<ul style="list-style-type: none"> <li>- Alignment does not follow existing property boundaries.</li> <li>- Alignment would disturb existing privately owned &amp; maintained storm water infrastructure located on property owned by Gooseneck Implement.</li> <li>- Alignment would require the acquisition of a large area of property from Gooseneck Implement currently being used for equipment storage.</li> </ul>	<ul style="list-style-type: none"> <li>- This alternative is supported by representatives of the Charles Joseph Estate. Representatives of Gooseneck Implement have stated they are strongly opposed to this alternative.</li> </ul>
<b>Frontage Road Removal</b>	<p style="text-align: center;"><b>Frontage Road Removal Option 1</b></p>	<ul style="list-style-type: none"> <li>- Approximately 400' of existing frontage road would be removed from the state system, eliminating the need for snow removal and maintenance on this section of roadway.</li> </ul>	<ul style="list-style-type: none"> <li>- No access would be provided to the existing concrete driveway serving businesses located on property owned by 2<sup>nd</sup> Chance Properties.</li> </ul>	<ul style="list-style-type: none"> <li>- The owner of 2<sup>nd</sup> Chance Properties has provided verbal and written comments in opposition to this option.</li> </ul>
	<p style="text-align: center;"><b>Frontage Road Removal Option 2</b></p>	<ul style="list-style-type: none"> <li>- Access would be provided to the existing concrete driveway serving the businesses located on property owned by 2<sup>nd</sup> Chance Properties.</li> </ul>	<ul style="list-style-type: none"> <li>- Approximately 400' of existing frontage road would remain on the state system, requiring future maintenance and snow removal.</li> </ul>	<ul style="list-style-type: none"> <li>- The owner of 2<sup>nd</sup> Chance Properties has provided verbal and written comments requesting that a portion of the existing frontage road remain to serve the existing access located on the east side of his property.</li> </ul>

## G. Comments on the Draft Decision Document

### Williston City Commission

**Comment:** The City Commission recommends the NDDOT adopt Frontage Road Alignment Alternative 1 with Removal Option 2 for the existing frontage road. The City has proposed the following modification to Removal Option 2:

*“Remove the existing Frontage Road between the north edge of the 2<sup>nd</sup> Change Property Parking Lot and 58<sup>th</sup> Street.”*

**Response:** The City’s preference on the Frontage Road Alignment Alternative is noted. The proposed modification to the removal limits of the existing frontage road proposed with Removal Option 2 have been incorporated into Removal Option 2 shown in this document.

**Comment:** The City prefers to leave Decision Item #4 up to the NDDOT (Should the work involving the US Hwy 2 turn lanes and traffic signals be moved to future project NH-7-002(156)022). The City has no objections to moving this work to the future project as long as there is some assurance that the project will be scheduled and constructed in a timely fashion.

**Response:** Comment Noted.

**Recommendations Table**

	1. Should the project proceed?		2. Which frontage road alignment alternative should proceed with this project?		3. Which existing frontage road removal option should proceed with this project?		4. Should the traffic signal & turn lane work on US Hwy 2 be moved to Project NH-7-002(156)022?	
	Yes	No	Alt. 1	Alt. 2	Option 1	Option 2	Yes	No
Office of Project Development	X		X			X	X	
Office of Transportation Programs	X		X		X		X	
Office of Operations								
Design Division	X		X			X	X	
Williston District	X		X			X	X	
Local Government Division	X		X		X		X	
Environmental and Transportation Services Div.								
City of Williston	X		X			X	<i>See Note Below</i>	<i>See Note Below</i>

Note: See Section G: *Comments on the Draft Decision Document* for additional details regarding the recommendations provided by the City of Williston.

H. Executive Decisions

1. Should the proposed project proceed as described in this document?

Yes

No

2. Which frontage road alignment alternate should proceed with the project?

Alternative 1 – Proposed Frontage Road Alignment 1

Estimated Construction Cost: \$ 998,000

Estimated R/W & Relocation Cost: \$1,123,805

**Estimated Total Cost: \$2,121,805**

**Anticipated Bid Opening: Fall, 2016**

**Note: R/W & Relocation costs shown above assume relocation of the existing business to a new location. R/W staff have stated that it may be possible to relocate the existing business into a new building to be constructed on-site. This option may require removal of the existing frontage road to facilitate a land transfer (utilizing the existing frontage road right of way) with the property owners of the Charles Joseph Estate. A schematic of the proposed layout is included in Appendix A. An estimate of the proposed costs utilizing this alternative is provided below:**

*Estimated Construction Cost: \$ 998,000*

*Estimated R/W & Relocation Cost: \$ 700,000*

***Estimated Total Cost: \$1,698,000***

***Anticipated Bid Opening: Fall, 2016***

**Please note in the comments section if this alternative should be carried through to the environmental phase of the project and further explored by NDDOT R/W staff.**

Alternative 2 – Proposed Frontage Road Alignment 2

Estimated Construction Cost: \$1,198,000

Estimated R/W & Relocation Cost: \$ 431,705

**Estimated Total Cost: \$1,629,705**

**Anticipated Bid Opening: Summer, 2016**

3. Which frontage road removal option should proceed with the project?

Option 1 - Remove the existing frontage road for the full length between the 58<sup>th</sup> Street and the newly constructed frontage road.

Option 2 - Remove 50 feet of the existing frontage road immediately south of 58<sup>th</sup> Street and leave the remaining existing frontage road in place.

4. Should work on the traffic signals and turn lanes on US Hwy 2 be moved to Project NH-7-002(156)022, PCN 20845, currently scheduled for an 11/17/2017 bid letting?

**Estimated Total Cost: \$1,018,000**

Yes – Remove the proposed traffic signal and turn lane work from Project SOIB-7-002(152)022, PCN 20750, add it to Project NH-7-002(156)022, PCN 20845.

No – Traffic signal and turn lane work proposed for US Hwy 2 at the intersection of 58<sup>th</sup> Street should remain part of Project SOIB-7-002(152)022, PCN 20750.

Amendments/Comments for Project No. SOIB-7-002(152)022:

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Ronald J. Henke, P.E., Deputy Director for Engineering

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Date

# Appendix A Layout of Charles Joseph Estate Property with Business Relocation On-Site

