

Project No.

PCN

RP 34 to Christine - SB



Prepared by

**NORTH DAKOTA DEPARTMENT OF TRANSPORTATION
BISMARCK, NORTH DAKOTA**

<http://www.dot.nd.gov/>

DIRECTOR
Grant Levi, P.E.

OFFICE OF TRANSPORTATION PROGRAMS
Steve Salwei, P.E.

Principal Author:
Scott Clausen, EIT
September 2015

SCOPING REPORT

Report Completed By: Scott Clausen

Date: September 2015

A. GENERAL INFORMATION

Project Number:

District: Fargo

Location: RP34 to Christine - SB

Reference Point: RP 34.000 to RP 44.126 – 10.126 miles

Counties: Richland County

Legal Description: T134N, R49W, Sec 22 to T136N, R49W, Sec 27

Functional and Funding Roadway Classification: Interstate

Speed Limit: 75 mph

Project Schedule: Proposed to be added to the STIP for a 2019 New/Reconstruction.

dTIMS Recommendations:

Constrained: Minor Asphalt 2019 Unconstrained: Minor Asphalt 2019

B. PURPOSE, NEED, AND IMPROVEMENT

Purpose and Need of Project:

IRI score is in the good range. The distress score is in the fair range. There is alligator cracking, longitudinal cracking, transverse cracking, transverse joint spalling, faulting, bituminous patching, and concrete patching. The original project limits were from RP 32.000 to RP 44.126. The District Engineer deemed that the segment from RP 32.000 to RP 34.000 was in satisfactory condition and not in need of improvement at this time.

Proposed Improvement:

A New/Reconstruction PCC is proposed. All safety hardware is to meet NCHRP 350 standards. All regulatory and warning signs and pavement markings will be verified to comply with current MUTCD standards or brought up to MUTCD standards if necessary.

C. TRAFFIC AND CRASH ANALYSIS

RP 34.000 to RP 42.189

	Year	Trucks	Total AADT	Flex ESALs	Rigid ESALs
Current Traffic	2015	1,750	3,515	1,475	2,465
Forecast Traffic	2035	2,550	5,240	2,195	3,675

RP 42.189 to RP 44.126

	Year	Trucks	Total AADT	Flex ESALs	Rigid ESALs
Current Traffic	2015	1,370	3,795	1,180	1,975
Forecast Traffic	2035	2,045	5,660	1,760	2,945

Crash Analysis:

Notes/Trends:

- No fatal crashes and the segment is not on the High Crash Location Map
- 19 of 24 crashes were single vehicle with 11 being run off roadway crashes.

Recommendation: None at this time.

D. EXISTING ROADWAY CHARACTERISTICS

	International Roughness Index (IRI)	Distress Score	Rut
Excellent	< =60	≥ 98	< 0.25"
Good	61 – 99	88 – 97	0.25" to 0.375"
Fair	100 – 145	77 – 87	0.376" to 0.50"
Poor	> 145	≤ 76	> 0.50"

Segment 1: RP 34.000 to RP 39.048

Actual Age	IRI	IRI Rating	SI or SCI	Faulting
40	74	Good	7	.09
Effective Age	Distress	Distress Score	Rutting	Rutting Score
26	84	Fair	N/A	N/A
Load Restrictions	By Legal Weight			

CONSTRUCTION HISTORY				
Year	Construction	Depth (in)	Width (ft)	Oil
1974	Grade	-	48	-
1974	C-C 104 Feet	-	-	-
1975	Lime Treated Subgrade	6	48	-
1975	Plant Mix Bit Base	2	41	85-100
1975	Non-Reinforced PCC	9	27	-
1975	Joint Space 16 Foot	-	-	-
1975	Non-Reinforced PCC	9	10	-
1995	Grinding	-	18	-
1995	Concrete Pavement Repair	-	37	-
2003	CPR/Dowel Bar Retrofit	-	12	-
2003	Grinding	-	18	-
2009	CPR/Dowel Bar Retrofit	-	12	-
2009	Grinding	-	15	-

Segment 2: RP 39.048 to RP 44.126

Actual Age	IRI	IRI Rating	SI or SCI	Faulting
40	66	Good	7	N/A
Effective Age	Distress	Distress Score	Rutting	Rutting Score
14	86	Fair	.07	Excellent
Load Restrictions	By Legal Weight			

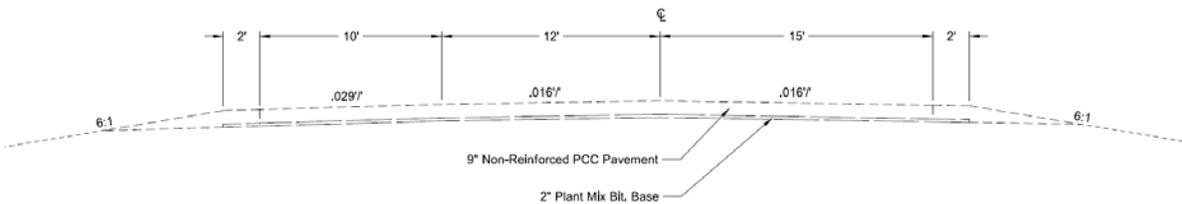
CONSTRUCTION HISTORY				
Year	Construction	Depth (in)	Width (ft)	Oil
1974	Grade	-	48	-

CONSTRUCTION HISTORY				
Year	Construction	Depth (in)	Width (ft)	Oil
1974	C-C 104 Feet	-	-	-
1975	Lime Treated Subgrade	6	48	-
1975	Plant Mix Bit Base	2	41	85-100
1975	Non-Reinforced PCC	9	27	-
1975	Joint Space 16 Foot	-	-	-
1975	Non-Reinforced PCC	9	10	-
1995	Grinding	-	18	-
1995	Concrete Pavement Repair	-	37	-
2003	CPR/Dowel Bar Retrofit	-	12	-
2003	Grinding	-	18	-
2009	CPR/Dowel Bar Retrofit	-	12	-
2009	Grinding	-	15	-
2014	Concrete Pavement Repair	-	24	-
2014	HBP-Superpave-FAA 45	3	37	PG 58-28

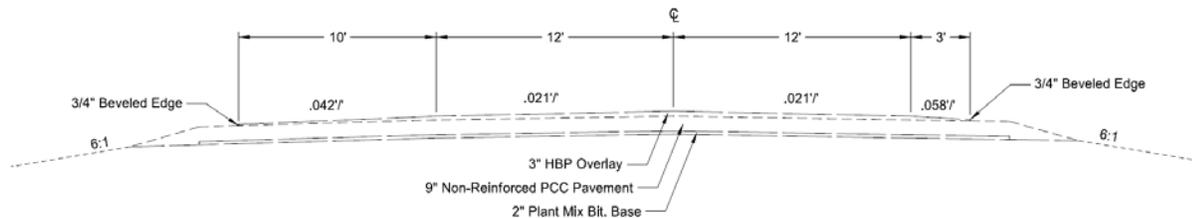
Existing Foreslopes: 6:1

Existing Typical Section:

RP 34.000 to RP 39.070 and RP 43.000 to 44.126



RP 39.070 to RP 43.000



E. EXISTING GEOMETRY

Horizontal Curves: All curves meet requirements.

Vertical Curves: All curves meet requirements.

Major Intersections Needing Realignment: None

F. EXISTING STRUCTURES

Required Clearance = 16.6'

Bridge No	Name	Vertical Clearance	Length (ft)	Width (ft)	Rating
-----------	------	--------------------	-------------	------------	--------

Bridge No	Name	Vertical Clearance	Length (ft)	Width (ft)	Rating
0029-034.040	I-29/Pitcairn Separation	16'7"	235	29.9	94.7
Recommended Improvement: Do Nothing					
0029-034.359L	Pitcairn Creek	-	70	40	97.0
Recommended Improvement: Do Nothing					
0029-037.043	I-29/Colfax Interchange	16'7"	235	36.1	95.9
Recommended Improvement: Do Nothing					
0029-038.039	Triple 10X7X188' RCB	-	33	-	80.4
Recommended Improvement: Do Nothing					
0029-039.047	I-29/Colfax Separation	16'7"	235	29.9	94.7
Recommended Improvement: Do Nothing					
0029-040.033	Double 10X8X198' RCB	-	21	-	75.3
Recommended Improvement: Do Nothing					
0029-041.053	I-29/Mile 41 Separation	16'7"	245	22.0	89.7
Recommended Improvement: Do Nothing					
0029-041.629L	Wild Rice River	-	245	40.0	94.8
Recommended Improvement: Do Nothing					
0029-042.117	I-29/Walcott Interchange	16'9"	245	29.9	99.0
Recommended Improvement: Do Nothing					

Centerline Culverts:

Pipes should be surveyed and extended to meet clear zone. The District has requested that all centerline pipes be re-laid. A cost is included.

G. LAND INTERESTS

Small Community: None

Reservation: None

Public Land: None

Refuge: None

Adjacent Land Usage: Agricultural

H. ISSUES AND APPURTENANCES CHECKLIST

- 1. Curb and Gutter? Yes No
- 2. Sidewalk? Yes No
- 3. Multi-Use Path? Yes No
- 4. Curb Ramps? Yes No
- 5. Detectable Warning Panels? Yes No
- 6. Lighting? Yes No
- 7. Signals? Yes No

8. Storm Sewer? Yes No
9. Manholes? Yes No
10. Other Underground Work? Yes No
11. Parking Facilities? Yes No
12. Frontage Roads? Yes No
13. Utility Issues? Yes No
14. Landscaping? Yes No
15. Approach or Ditch Block Flattening? Yes No
16. T Intersection Recovery Approaches? Yes No
17. Fence? Yes No
18. Railroad Crossings? Yes No
19. Detours? Yes No
20. Automatic Traffic Recorder Locations? Yes No
21. Weigh-In-Motion Sites? Yes No
22. ITS (Deicing, Snow Gates, VMS, RWIS, etc.)? Yes No
23. Highway Patrol/Truck Pullouts or Rest Areas? Yes No
 There is an abandoned Rest Area at RP 40.75. There are no suggested improvements.
24. Additional Right of Way? Yes No
25. Drainage Issues? Yes No
26. Snow Impact Areas? Yes No
27. Subgrade Issues? Yes No
28. Noise Analysis: Type I Project? Yes No Maybe
29. Maintenance Issues? Yes No
30. Guardrail? Yes No

Type	RP	L/R	Length (ft)	Suggested Improvement
Blocked Out "W" Beam	34.367	L	219	None at this time. Assumed replacement.
Blocked Out "W" Beam	34.367	R	240	None at this time. Assumed replacement.

ITEM	ESTIMATED COST
Field Lab and Office	\$75,000
Traffic Control	\$263,000
Guardrail	\$69,000
Pavement Markings and Rumble Strips	\$100,000
Re-Lay Existing Pipes	\$508,000
Subtotal	\$17,499,000
20% Engineering	\$3,499,000
Total Cost	\$20,998,000

M. DECISIONS

Should this project advance as a New/Reconstruction for an **Estimated Cost of \$20,998,000?**

 X Yes No

DDE Comments: _____



 Deputy Director for Engineering

 10/12/15

 Date