

LENGTH OF PROJECT		
PROJECTS	MILES-GROSS	MILES-NET
County Road #5	1.080	1.080
TOTAL	1.080	1.080






PLANS
 For The Proposed Improvement
GRAND FORKS COUNTY HIGHWAY
2" HBP OVERLAY & MILLING SURFACE
PROJECT CP-05(021)

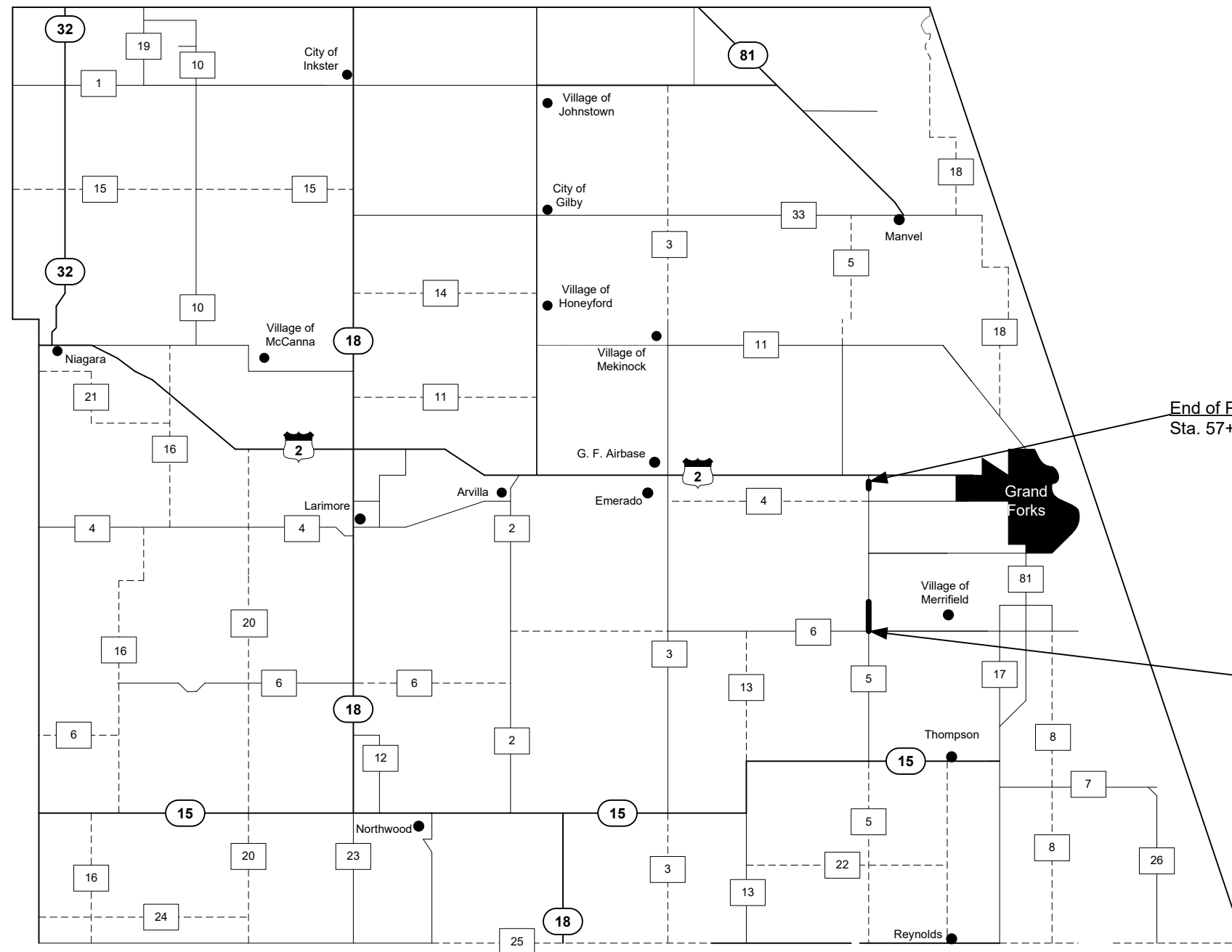
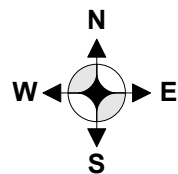
PCN	State	Project No.	Sheet No.
	ND	CP-05(021)	1

GOVERNING SPECIFICATIONS
Standard Specifications for Road and Bridge Construction
 2020 Standard Specification adopted by the North Dakota
 Department of Transportation and the Supplemental
 Specifications effective on the date of the project is advertised.

POC: Scott Clayton
 P.O. Box 5682
 Grand Forks, ND 58206
 (701) 780-8248

Surveyed & Designed 06/01/2021
 PS & E Corrections 06/14/2021

-  U.S. Highway
-  State Highway
-  County Highway
-  County Gravel
-  Hot Bituminous Overlay



End of Project No. CP-05(021) - CR #5
 Sta. 57+00 = NW Corner of Sec. 3, T151N, R51W

Beg. of Project No. CP-05(021) - CR #5
 Sta. 0+00 = SW Corner of Sec. 34, T151N, R51W

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TABLE OF CONTENTS

STATE	PROJECT NO.	SHEET NO.
ND	CP-05(021)	2

<u>Sheet No.</u>	<u>Description</u>	<u>No.</u>	<u>List of Standard Drawings</u>
1	Title Page	D-704-7	Breakaway Systems for Construction Zone Signs
2	Table of Contents	D-704-8	Breakaway Systems for Construction Zone Signs
3	Scope of Work	D-704-9	Construction Sign Details Terminal and Guide Signs
4	Notes	D-704-13	Barricade and Channelizing Device Details
5	Basis of Estimate	D-704-14	Construction Sign Punching and Mounting Details
6	Summary of Quantities	D-704-20	Terminal and Seal Coat Sign Layouts
7	Typical Milling Section	D-704-22	Construction Truck and Temporary Detour Layouts
8	Typical Section Paving	D-704-26	Miscellaneous Sign Layouts
9	Typical Section Paving	D-704-27	Mobil Operation (Pavement Marking)
10	Milling Transition	D-760-5	Saw Slotted Rumble Strips at Intersection
11	Subgrade Repair	D-762-1	Pavement Marking Message Detail
12	Approach Detail Paving	D-762-4	Pavement Marking
13	Construction Sign Detail	D-762-6	Pavement Marking For Standard 90 Degree Flared Intersection
14	Traffic Control Devices	D-762-11	Short Term Pavement Marking
15	Pavement Marking Installation Detail		

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Table
 of
 Contents

SCOPE OF WORK

State	Project No.	Sheet No.
ND	CP-05(021)	3

Design Data

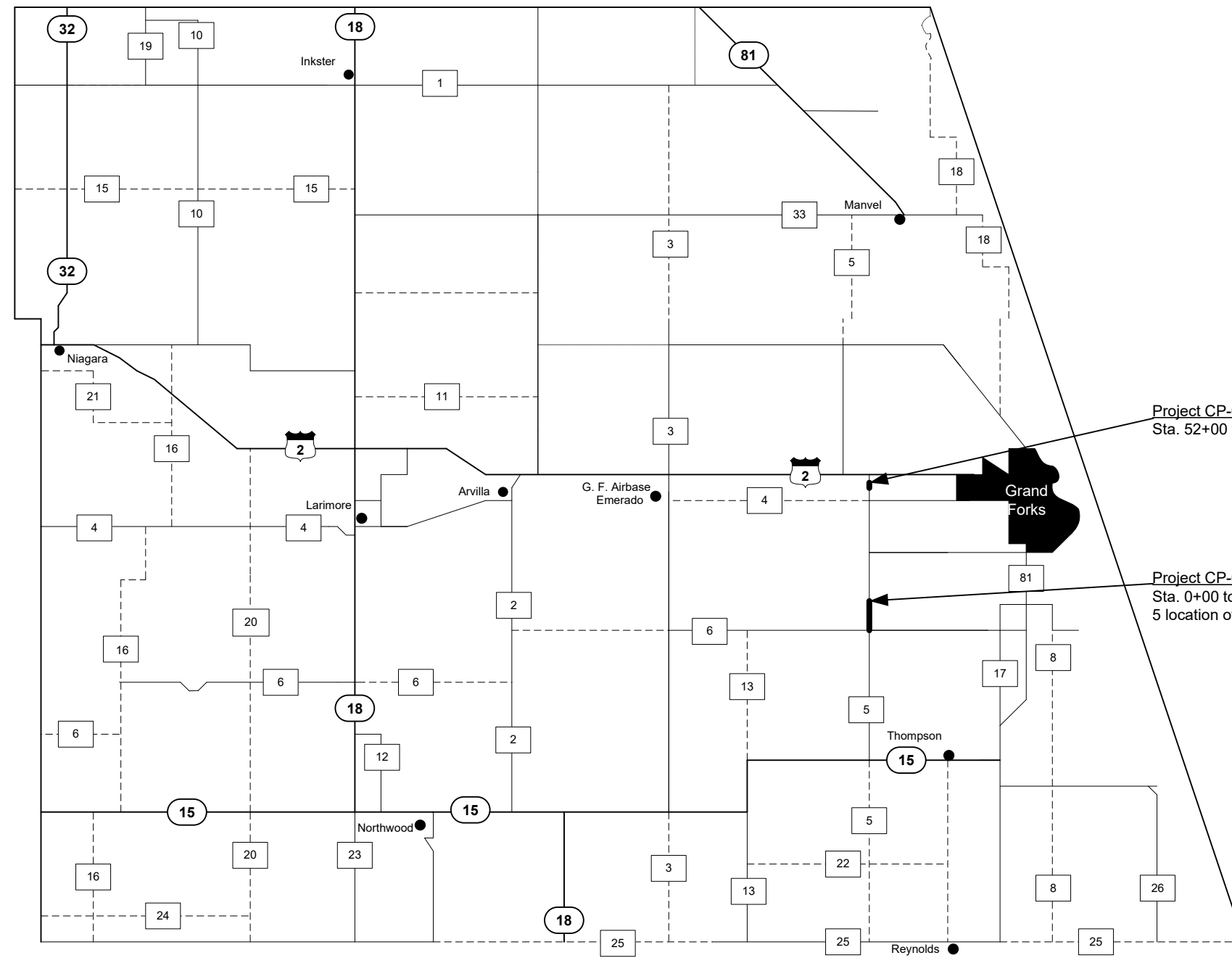
Sta. 0+00 to Sta. 52+00 – County Road No. 5
 Pass: 1,060 ADT Truck: 106 ADT Total: 1,166
 Design Speed: 55 MPH

Sta. 52+00 to Sta. 57+00 – County Road No. 5
 Pass: 3,720 ADT Truck 315 ADT Total 4,035
 Design Speed: 55 MPH

Clear Zone Distance: 55 MPH - 18'
 Minimum Sight Distance Stopping: 55 MPH - 495'
 Minimum Sight Distance (Passing): 55 MPH - 900'

Pavement Design Life = 20 Years

Grand Forks County will retain approximately 400 yards of millings. The Contractor shall haul the millings to 1700 North Columbia Road, Grand Forks. The remaining milling shall be the contractor's.

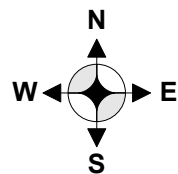


Scope of Work

Project CP-05(021) County Road No. 5
 Sta. 52+00 to Sta. 57+00 – 2.00" Overlay & Milling Transitions

Project CP-05(021) – County Road No. 5
 Sta. 0+00 to Sta. 52+00 – 2.00" Overlay, 2" Milling Surface & 5 location of subgrade repair

- U.S. Highway
- State Highway
- County Highway
- County Gravel
- Hot Bituminous Overlay



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STATE	PROJECT NO.	SHEET NO.
ND	CP-05(021)	4

NOTES

DIMENSIONS: Thicknesses shown on the typical sections for surfacing are approximate. It is intended that the plan tonnage provided by the basis of estimate will be used uniformly throughout the project unless otherwise authorized by the engineer.

107 **CULTURAL RESOURCE CLEARANCE OF GRAVEL/BORROW PITS:** The contractor is required to ensure that applicable cultural resource laws and regulation have been followed for all material sources. All material source locations, even those opened prior to the current project, must have been subjected to Class III cultural resource inventory prior to use. Inventory results will determine recommendations regarding use of a particular source.

107 **HAUL ROADS:** Before submitting a proposal, contact the appropriate State, County, Township, or City officials to determine if there are any roadways that will be designated an "no haul routes".

230 **SHOULDER PREPARATION:** All vegetation that is within the shoulder paving and approach paving areas shall be chemically killed with a non-selective herbicide a minimum of two weeks before the paving operation. Before depositing the RAP Superpave FAA 43 on the shoulders and approaches, all weeds, grass, dirt, and other objectionable material shall be removed from the existing shoulders and approaches. The Engineer shall approve the condition of the shoulders before placement of HBP.

After the bituminous pavement has been placed on the shoulders, the contractor shall provide a smooth transition between the pavement slough and existing inslope. All lumps of sod or dirt shall be removed or reworked to allow for a smooth transition.

All costs for this work shall be included in the price bid for RAP Superpave FAA 43.

411 **MILLING PAVEMENT SURFACE:** This bid items is for the milling of mainline and project ending and beginning milling transitions.

411 **MILLING MATERIAL:** Approximately 400 yards of milled material will be hauled to Grand Forks County Shop the remaining millings shall become the property of the Contractor. All costs for labor and equipment to mill, haul, and stockpile the material shall be included in the unit price for "MILLING PAVEMENT SURFACE". The County shall provide equipment & labor to pushup material into pile at the County Shop.

411 **TEMPORARY ASPHALT WEDGES:** The contractor shall place temporary asphalt wedges at the beginning and ends of the project, intersecting routes, and private drives to allow smooth passage of vehicles at these milled locations. Asphalt wedges shall be placed at these milled areas prior to the traffic being allowed back on the milled roadway section. All costs associated with labor, materials and equipment for the installation, maintenance and removal of the asphalt wedges shall be included in the price bid for "Milling Pavement Surfaces".

430 **HOT BITUMINOUS PAVEMENT DENSITY:**
 1.) Density shall be obtained according to section 430.04 I.3, ordinary compaction.
 2.) Contractor has the option to provide FAA 43, 44 or 45 Mix.
 3.) Asphalt Cement shall be PG58S-28. Cement shall be included in the price bid for RAP-Superpave FAA 43.

704 **TRAFFIC CONTROL FOR UNEVEN PAVEMENT:** Install an "Uneven Lanes" sign (Sign W8-11-48) and a supplementary plaque identifying the length of the uneven pavement (Sign W20-52-54). Place this assembly on the right shoulder, in both directions, in advance of the uneven pavement.

Between the "Uneven Lanes" sign and the beginning of the uneven pavement, install a "Do Not Pass" sign (Sign R4-1-48) on the right shoulder in both directions.

Install "Uneven Lanes" signs and a supplementary plaque identifying the length of the uneven pavement at the following intersections:

County Major Collectors;
 State Highways;
 US Highways; and
 Interstate Ramps

Contractor shall keep one lane open at all times.

704 **CONSTRUCTION SIGNING:** The contractor shall furnish the necessary signs as shown on the standard drawing "construction sign and barricade location details" under type A, G, K, L and EE, GG as required by there construction operation.

762 **SHORT TERM PAVEMENT MARKING:** The quantity for Short Term Striping is based on two applications Milling & Surface Courses.

Pavement marking paint for short term striping shall be a commercially available traffic marking paint. Glass beads for short term pavement marking shall meet the requirements of Standard Specification 880.02 and be tested and approved prior to use on the project.

Sta.	Sta.	Rt/Lt	Length	Applications	Total Linear Feet	Overlap
County Road #3						
0+00	6+50	Lt	650'	2	1,300'	
52+00	53+15	Rt	115'	2	230'	115'
52+00	53+15	Lt	115'	2	230'	
53+15	55+69	Rt	254'	2	508'	254'
53+15	55+69	Rt	254'	2	508'	
53+15	55+69	Lt	254'	2	508'	
53+15	55+69	Lt	254'	2	508'	
55+69	57+00	Rt	131'	2	262'	131'
55+69	57+00	Lt	131'	2	262'	

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STATE	PROJECT NO.	SHEET NO.
ND	CP-05(021)	5

BASIS OF ESTIMATE STA. 0+00 TO STA. 52+00 County Road No. 5

Roadway Quantity Per Mile	Roadway Width	Unit	Description	Field Approach (0)	Section & Priv. Drives (0)
20.00		M Gal	Water for Dust Palliative		
		CY	Aggregate Base Course Class 5		
1,408.00	30'	Gal	CSS-1H or SS-1H or MS-1 Emulsion Asphalt for Tack Coat (0.08 Gal/S.Y.) Surface Course		
1,760.00	24'	Ton	Hot Bit. Pvm. Superpave FAA 43 (2.00 Ton/C.Y.) 2.00" @ 4.5000 S.F.		
114.40	24'	Ton	PG 58-28 Asph. Cement for Hot Bituminous Pavement (6.5% of Hot Bit. Pvm.)		
30.00		M Hr	Flagging		
15.00		HR	Pilot Car		
10,560.00		L F	Edge Line Striping		

BASIS OF ESTIMATE STA. STA. 52+00 TO STA. 57+00 County Road #5

Roadway Quantity Per Mile	Roadway Width	Unit	Description	Field Approach (0)	Section & Priv. Drives (0)
20.00		M Gal	Water for Dust Palliative		
		CY	Aggregate Base Course Class 5		
2,158.93	46'	Gal	CSS-1H or SS-1H or MS-1 Emulsion Asphalt for Tack Coat (0.08 Gal/S.Y.) Surface Course		
2,802.98	40'	Ton	Hot Bit. Pvm. Superpave FAA 43 (2.00 Ton/C.Y.) 2.00" @ 7.1667 S.F. Surface Course & 10% Blade Leveling		
182.19	40'	Ton	PG 58-28 Asph. Cement for Hot Bituminous Pavement (6.5% of Hot Bit. Pvm.)		
30.00		M Hr	Flagging		
15.00		HR	Pilot Car		
10,560.00		L F	Edge Line Striping		

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Basis of Estimate

STATE	PROJECT NO.	SHEET NO.
ND	CP-05(021)	6

SUMMARY OF QUANTITIES

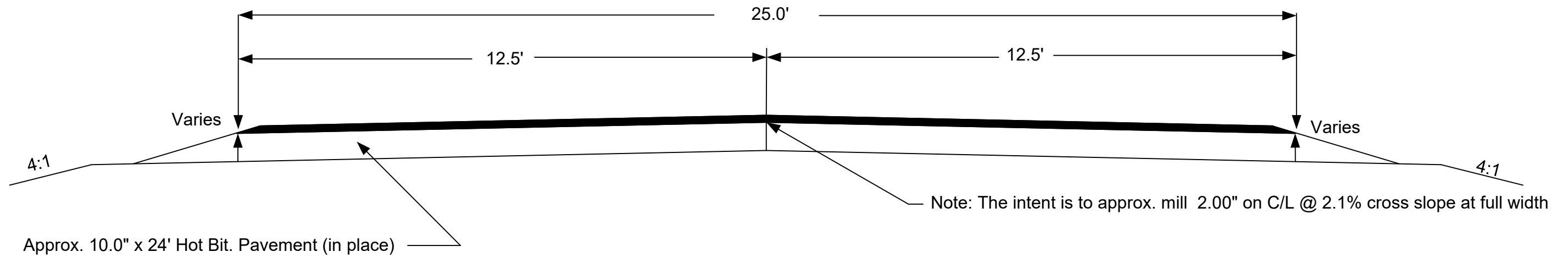
Spec. No.	Code No.	Item Description	Unit	County Road #5	Total Project
103	0100	Contract Bond	L Sum	1	1
216	0100	Water	M Gal	22	22
302	0120	Aggregate Base Course CL 5	Ton	171	171
401	0050	Tack Coat	Gal	1,591	1,591
411	0105	Milling Pavement Surface	SY	256	256
411	0114	Milling Pavement Surface – 2 Inch	SY	14,444	14,444
430	0143	RAP - Superpave FAA 43	Ton	1,999	1,999
702	0100	Mobilization	L Sum	1	1
704	0100	Flagging	MHr	32	32
704	1000	Traffic Control Signs	Unit	1,206	1,206
704	1052	Type III Barricade	Ea	8	8
704	1067	Tubular Markers	Ea	50	50
704	1185	Pilot Car	HR	16	16
760	0010	Rumble Strips – Intersection	Set	1	1
762	0103	Pavement Marking Painted - Message	SF	162	162
762	0430	Short Term 4 In Line Type NR	LF	3,458	3,458
762	1104	Pavement Marking Painted 4 In Line	LF	14,988	14,988

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Summary of
 Quantities

State	Project No.	Sheet No.
ND	CP-05(021)	7

County Road #5



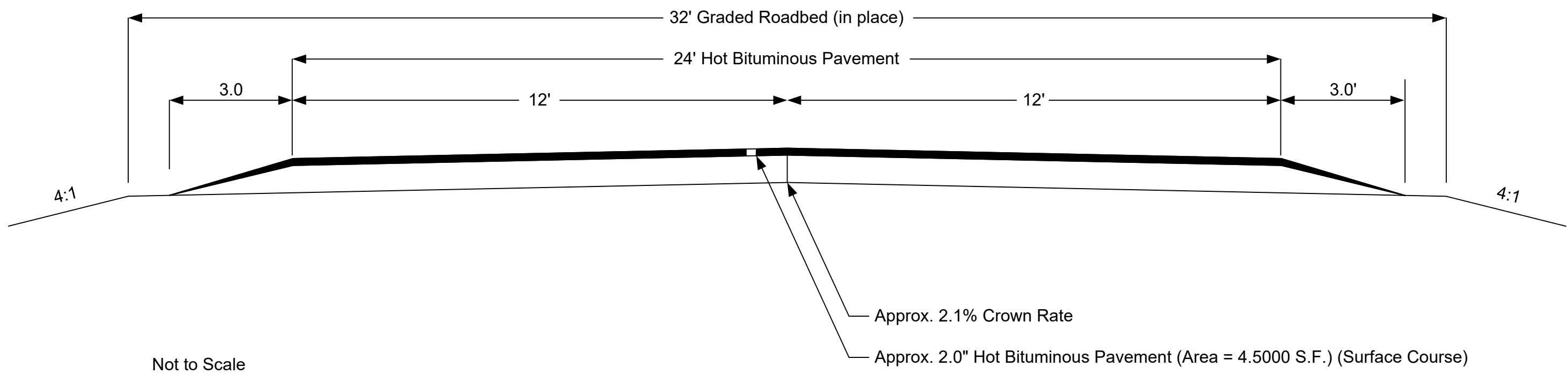
Not to Scale

Typical Milling Section
Sta. 0+00 to Sta. 52+00
Tangent

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Typical
Milling Section

County Road #5



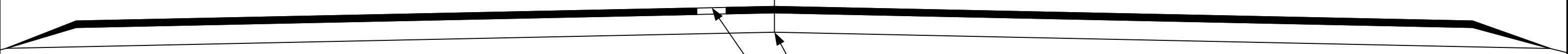
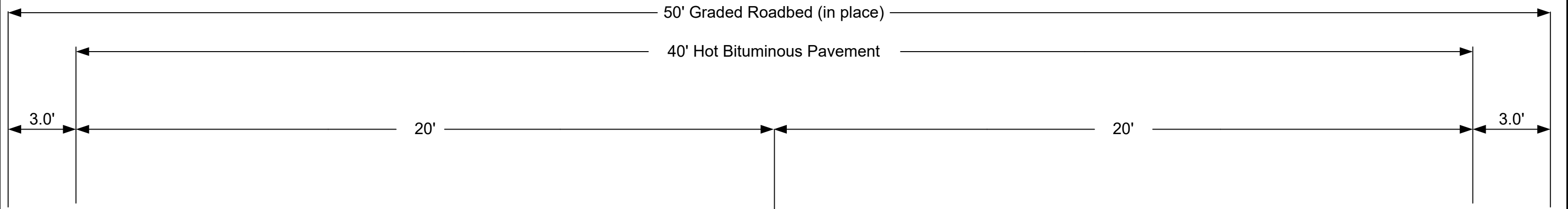
Typical Section
Sta. 0+00 to Sta. 52+00
Tangent

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Typical Section

State	Project No.	Sheet No.
ND	CP-05(021)	9

County Road #5



Not to Scale

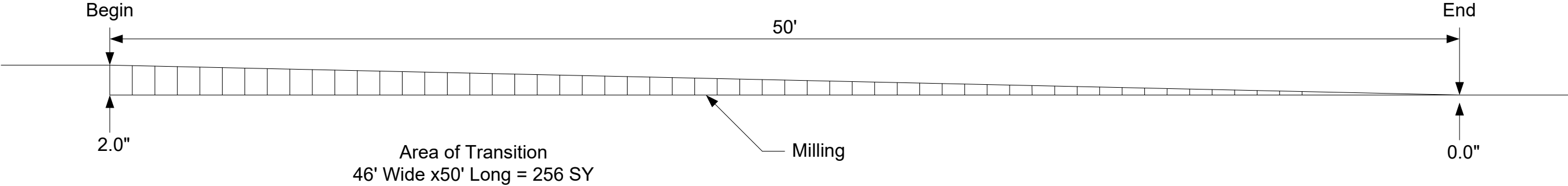
Typical Section
Sta. 52+00 to Sta. 57+00
Tangent

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Typical Section

State	Project No.	Sheet No.
ND	CP-05(021)	10

Milling Transitions



Milling Transitions Approximate Stationing
(Begin & End of Project)

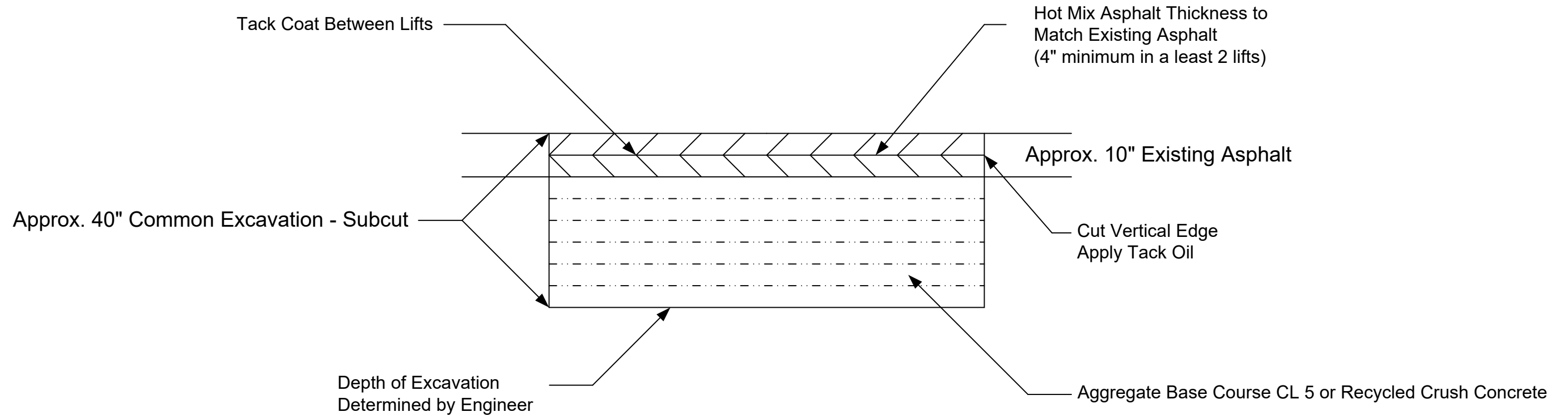
- 1.) Sta. 52+00 to Sta. 52+50
- 2.) Sta. 56+50 to Sta. 57+00

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Milling Transitions

County Road No. 5

State	Project No.	Sheet No.
ND	CP-05(021)	11



Repair Subgrade at the following locations:

Sta. 12+78 to Sta. 13+42	5.5' Wide x 64' Long x 40" Depth	61.11 Ton CL 5	21.73 Ton FAA 43
Sta. 18+07 to Sta. 18+27	5.5' Wide x 20' Long x 40" Depth	19.09 Ton CL 5	6.79 Ton FAA 43
Sta. 28+89 to Sta. 29+19	5.5' Wide x 30' Long x 40" Depth	28.65 Ton CL 5	10.19 Ton FAA 43
Sta. 33+21 to Sta. 33+66	5.5' Wide x 45' Long x 40" Depth	42.97 Ton CL 5	15.28 Ton FAA 43
Sta. 42+06 to Sta. 42+26	5.5' Wide x 20' Long x 40" Depth	19.09 Ton CL 5	6.79 Ton FAA 43
Total		170.91 Ton CL 5	60.78 Ton FAA 43

<p style="text-align: center;">This document was originally issued and sealed by Nicholas J. West Registration Number PE-5961 on 06-15-2021 document is stored at the Grand Forks County Highway Department</p>	<p>Subgrade Repair</p>
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State	Project No.	Sheet No.
ND	SC-CNOC-1800(017)	12

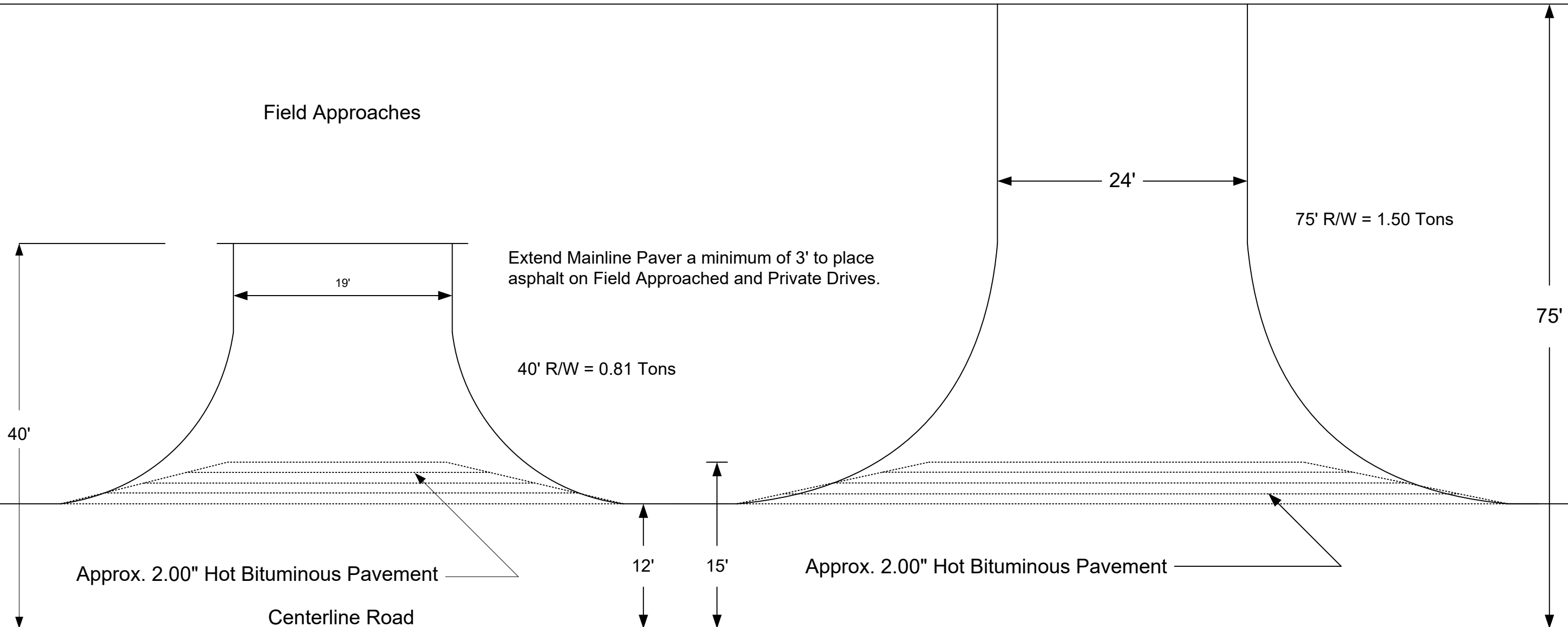
Approach Details Paving

County Road #5 75' R/W 3 = 2.43 Tons 2 = 3.00 Tons

Section Line & Private Drives

Field Approaches

R/W

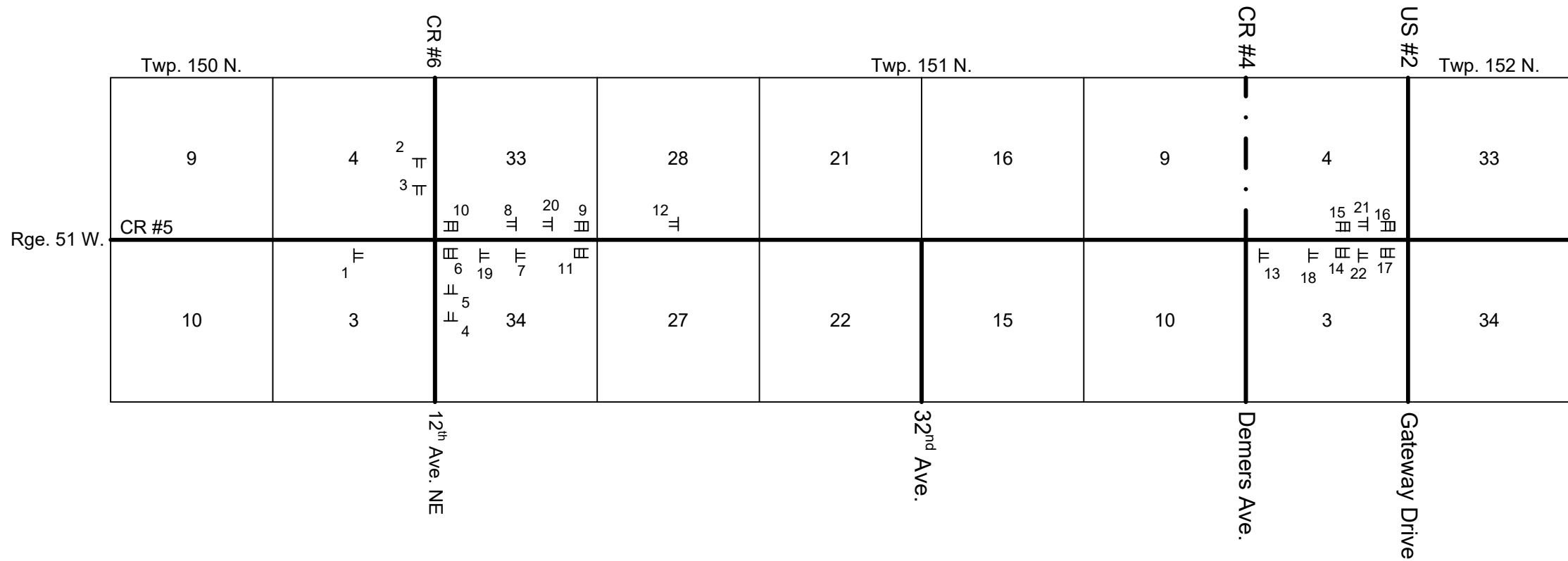
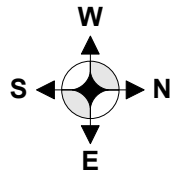


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Approach
 Details Paving

Construction Sign Detail
County Road #5

State	Project No.	Sheet No.
ND	CP-05(021)	13



- 1.) Road Work Ahead (W20-1-48)
- 2.) Road Work Ahead (W20-1-48)
- 3.) Road Work Next 1.0 Miles Lt. Arrow (G20-52a-72)
- 4.) Road Work Ahead (W20-1-48)
- 5.) Road Work Next 1.0 Miles Rt. Arrow (G20-52a-72)
- 6.) Road Work Next 1.0 Miles (G20-1a-60)
- 7.) Speed Limit 45 MPH (R2-1-48), Minimum Fee \$80 (R2-1aP-24)
- 8.) Speed Limit 45 MPH (R2-1-48), Minimum Fee \$80 (R2-1aP-24)
- 9.) Road Work Next 1.0 Miles (G20-1a-60)
- 10.) End Road Work (G20-2a-48)
- 11.) End Road Work (G20-2a-48)
- 12.) Road Work Ahead (W20-1-48)
- 13.) Road Work Ahead (W20-1-48)
- 14.) Road Work Next 0.1 Miles (G20-1a-60)
- 15.) End Road Work (G20-2a-48)
- 16.) Road Work Next 0.1 Miles (G20-1a-60)
- 17.) End Road Work (G20-2a-48)
- 18.) Speed Limit 45 MPH (R2-1-48), Minimum Fee \$80 (R2-1aP-24)

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Construction
Sign Detail

County Road #5

State	Project No.	Sheet No.
ND	CP-05(021)	14

PROJECT TRAFFIC CONTROL DEVICES LIST PROJECT CP-05(021)					
Sign Number	Sign Size	Description	Quantity Required	Unit Per Sign	Units SubTotal
G20-1a-60	60" x 36"	Road Work ___ Miles	4	34	136
G20-1b-60	60" x 24"	Work In Progress/No Work In Progress		17	0
G20-2a-48	48" x 24"	End Road Work	4	24	96
G20-4-36	36" x 18"	Pilot Car Follow Me	1	10	10
G20-50a-72	72" x 36"	Road Work Next ___ Miles Rt & Lt Arrows		38	0
G20-52a-72	72" x 24"	Road Work ___ Miles Rt. or Lt. Arrow	2	30	60
G20-55-96	96" x 48"	Work Zone Speed Limit Enforced		53	0
R1-1-30	30" x 30"	Stop		17	0
R1-1-48	48" x 48"	Stop		34	0
R1-1a-18	18" x 18"	Stop and Slow Paddle (back to back)	2	8	16
R2-1-48	48" x 60"	Speed Limit	3	40	120
R2-1aP-24	24" x 18"	Minimum Fee \$80 (mounted on speed limit post)	3	10	30
R2-5a-48	48" x 60"	Reduced Speed Limit		40	0
R4-1-48	48" x 60"	Do Not Pass	4	40	160
W8-1-48	48" x 48"	Bump	4	34	136
W8-3a-48	48" x 48"	Pavement Ends Symbol		34	0
W8-11-48	48" x 48"	Uneven Lanes	4	34	136
W8-12-48	48" x 48"	No Center Stripe		34	0
W8-53-48	48" x 48"	Trucks Entering Highway		34	0
W8-54-48	48" x 48"	Trucks Entering Ahead or ___ Ft.		34	0
W8-55-48	48" x 48"	Trucks Crossing Ahead or Ft.		34	0
W14-3-64	48" x 36"	No Passing Zone		27	0
W20-7a-48	48" x 48"	Flagging Symbol	2	34	68
W20-7b-48	48" x 48"	Be Prepared to Stop	2	34	68
W20-7k-48	24" x 18"	___ Feet		8	0
W20-51-48	48" x 48"	Equipment Working		34	0
W20-52-54	54" x 12"	Next ___ Miles		10	0
W21-2-48	48" x 48"	Fresh Oil		34	0
W20-1-48	48" x 48"	Road Work Ahead or ___ Ft. or One Mile	5	34	170
		TOTAL UNITS			1,206

Pay Item Description	Unit	Spec & Code	Quantity
Traffic Control Signs	Unit	704-1000	
Type III Barricades	Each	704-1050	8
Type II Barricades	Each	704-1051	
Type I Barricades	Each	704-1052	
Delineator Drums	Each	704-1060	
Traffic Cones	Each	704-1065	
Tubular Marker	Each	704-1067	50
Flexible Delineator	Each	704-1072	
Obliteration of Pavement Marking	L.F.	704-0104	
Raised Pavement Markers	Each	762-0200	

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Traffic Control Devices

