

DESIGN DATA				
Traffic	Average Daily			
Current 2022	Pass: 215	Trucks: 585	Total: 800	Site 1: RP 6.9
Forecast 2042	Pass: 290	Trucks: 755	Total: 1,045	Site 1: RP 6.9
Current 2022	Pass: 615	Trucks: 600	Total: 1,215	Site 2: RP 20.6
Forecast 2042	Pass: 795	Trucks: 775	Total: 1,570	Site 2: RP 20.6
Current 2022	Pass: 1,185	Trucks: 510	Total: 1,695	Site 3: RP 40.4
Forecast 2042	Pass: 1,530	Trucks: 690	Total: 2,220	Site 3: RP 40.4
Current 2021	Pass: 1,400	Trucks: 820	Total: 2,220	Site 4: RP 118.5
Forecast 2041	Pass: 1,890	Trucks: 1,175	Total: 3,065	Site 4: RP 118.5
Current 2022	Pass: 1,145	Trucks: 735	Total: 1,880	Site 5: RP 120.5
Forecast 2042	Pass: 1,480	Trucks: 995	Total: 2,475	Site 5: RP 120.5
Current 2022	Pass: 1,145	Trucks: 735	Total: 1,880	Site 6: RP 127.6
Forecast 2042	Pass: 1,480	Trucks: 995	Total: 2,475	Site 6: RP 127.6
Current 2022	Pass: 1,145	Trucks: 735	Total: 1,880	Site 7: RP 143.5
Forecast 2042	Pass: 1,480	Trucks: 995	Total: 2,475	Site 7: RP 143.5
Current 2021	Pass: 1,200	Trucks: 635	Total: 1,835	Site 8: RP 149.9
Forecast 2041	Pass: 1,620	Trucks: 950	Total: 2,570	Site 8: RP 149.9
Current 2022	Pass: 2,185	Trucks: 715	Total: 2,900	Site 9: RP 222.0
Forecast 2042	Pass: 2,820	Trucks: 925	Total: 3,745	Site 9: RP 222.0
Clear Zone Distance (Sites 1-2): 26'		Design Speed (Sites 1-8): 65 MPH		
Clear Zone Distance (Sites 3-8): 32'				
Clear Zone Distance (Site 9): 18'		Design Speed (Site 9): 45 MPH		
Minimum Sight Dist. for Stopping: N/A		Bridges: N/A		
Sight Dist. for No Passing Zone: N/A				
Pavement Design Life 20 (years)				
Design Accumulated One-way Flexible ESALs: 3,038,450				

NORTH DAKOTA DEPARTMENT OF TRANSPORTATION

HEN-9-052(485)006

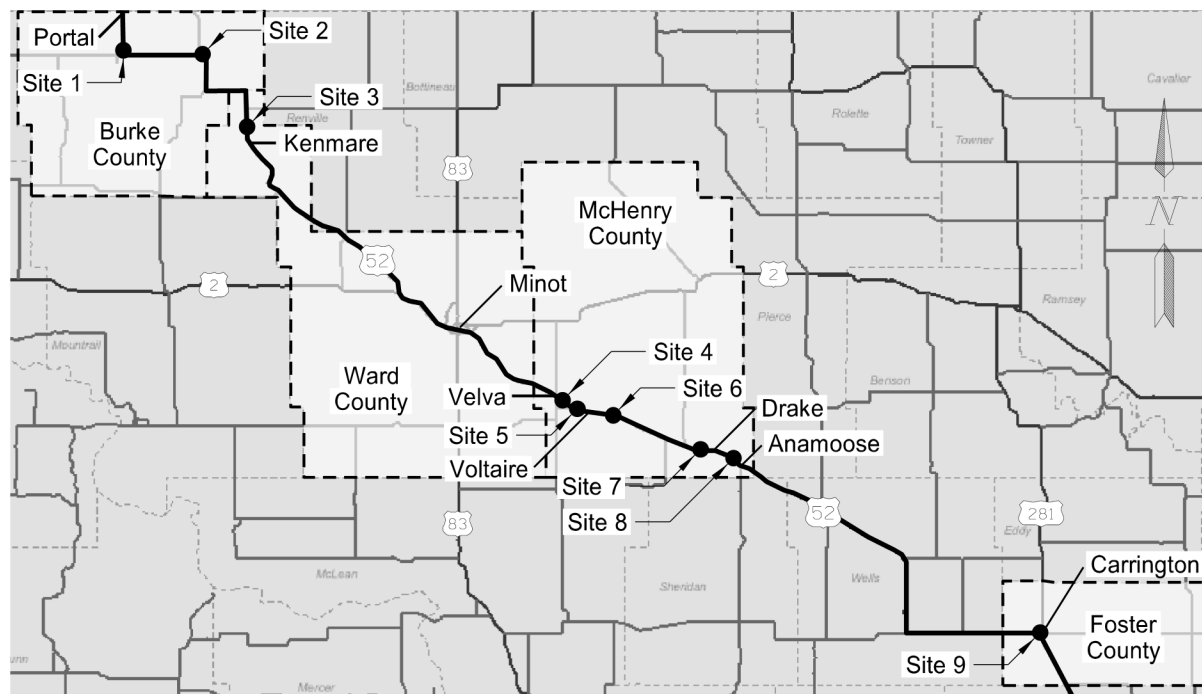
Burke, Ward, McHenry, and Foster Counties
South of Portal to Carrington

Acceleration Lanes, Deceleration Lanes, Turn Lanes,
Pipe, Embankment, Aggregate, HMA, Signing,
Pavement Markings, and Incidentals

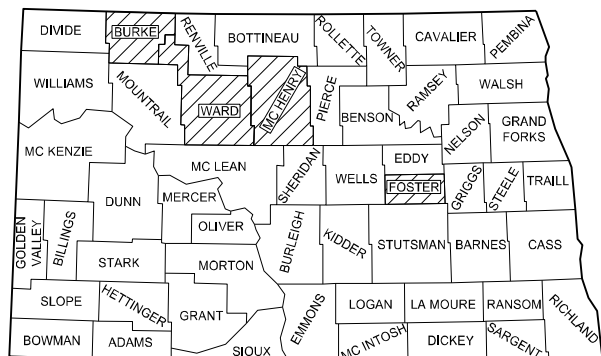
STATE	PROJECT NO.	PCN	SECTION NO.	SHEET NO.
ND	HEN-9-052(485)006	23404	1	1

GOVERNING SPECIFICATIONS	Date Published and Adopted by the North Dakota Department of Transportation
Standard Specifications	4/1/2023
Supplemental Specifications	NONE

PROJECT NUMBER \ DESCRIPTION	NET MILES	GROSS MILES
HEN-9-052(485)006	4.766	215.5



- ① Acceleration and Deceleration Lanes
RP 6.9 - Sta. 350+77 to Sta. 384+35
Sec 31, T-163-N, R-91-W and Sec 36, T-163-N, R-92-W
- ② Acceleration and Deceleration Lanes
RP 20.6 - Sta. 1084+18 to Sta. 1117+76
Sec 32, T-163-N, R-89-W and Sec 5, T-162-N, R-89-W
- ③ Acceleration and Deceleration Lanes
RP 40.4 - Sta. 2119+67 to Sta. 2153+25
Sec 5, T-160-N, R-88-W and Sec 6, T-160-N, R-88-W
- ④ EB and WB Turn Lanes
RP 118.5 - Sta. 6247+49 to Sta. 6267+76
Sec 25, T-153-N, R-80-W
- ⑤ Acceleration and Deceleration Lanes
RP 120.5 - Sta. 6350+10 to Sta. 6390+71
Sec 1 and 2, T-152-N, R-80-W and Sec 31, T-153-N, R-79-W
- ⑥ EB and WB Turn Lanes
RP 127.6 - Sta. 6729+54 to Sta. 6749+88
Sec 12, T-152-N, R-79-W and Sec 7, T-152-N, R-78-W
- ⑦ Acceleration and Deceleration Lanes
RP 143.5 - Sta. 7565+51 to Sta. 7598+62
Sec 4, T-151-N, R-76-W and Sec 9, T-151-N, R-76-W
- ⑧ EB and WB Turn Lanes
RP 149.9 - Sta. 7907+60 to Sta. 7927+89
Sec 16, T-151-N, R-75-W
- ⑨ Acceleration and Deceleration Lanes
RP 222.0 - Sta. 11712+29 to Sta. 11728+60
Sec 19, T-146-N, R-66-W



STATE COUNTY MAP

DESIGNER Thomas Fakler, PE
DESIGNER Kory Kleinknecht, PE
DESIGNER Rachel Heinzen, PE Josh Kueber, PE
DESIGNER Grant Gulevich, EIT Araceli Gonzalez

ND DEPARTMENT OF TRANSPORTATION
OFFICE OF PROJECT DEVELOPMENT

Kirk Hoff

Kirk Hoff
12/21/23

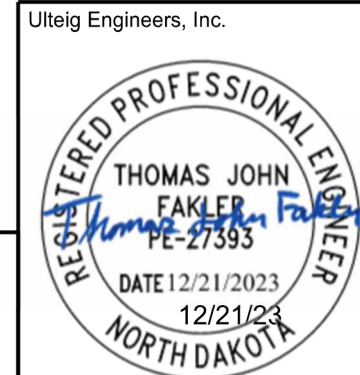


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76	1 - 12	Temporary Erosion Control
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81	1 - 5	Survey Coordinate and Curve Data
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90	1 - 5	Paving Layouts
100	1 - 11	Work Zone Traffic Control
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200	1 - 246	Cross Sections

SPECIAL PROVISIONS

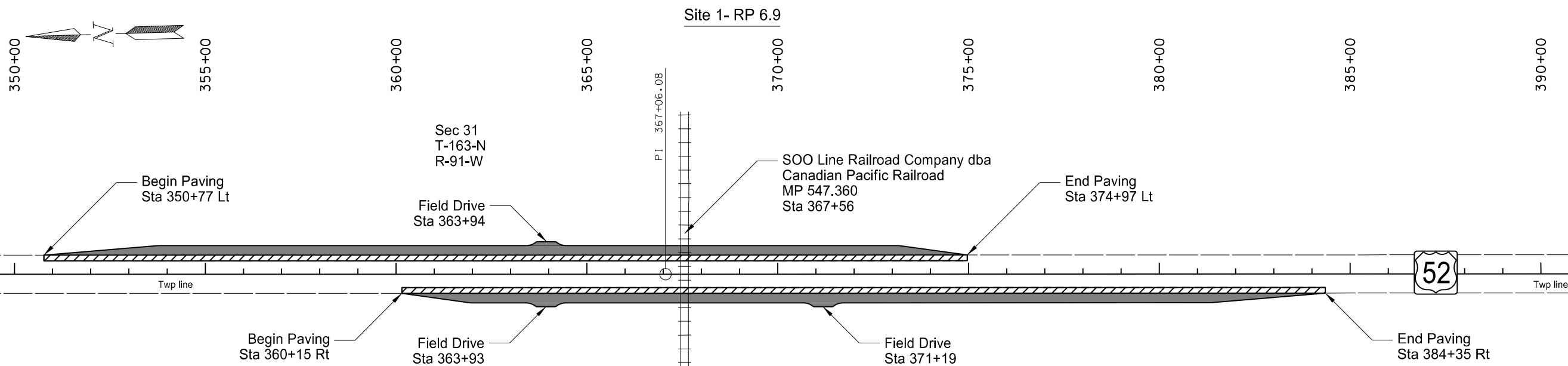
Number	Description
SSP 1	Temporary Erosion and Sediment Best Management Practices
SSP 2	Federal Migratory Bird Treaty Act
SSP 10	E-Ticketing
PSP 2(23)	Permits and Environmental Considerations
SP 26(23)	Railroad Requirements CPR
SP 27(23)	Railroad Requirements BNSF
SP 28(23)	Railroad Requirements Northern Plains
SP 29(23)	Railroad Requirements RRWV

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D-101-10	NDDOT Utility Company and Organization Abbreviations	D-754-83	Object Markers - Culverts
D-101-20, 21	Line Styles	D-754-87	Sign Punching, Stringer And Support Location Details For Street Name Signs And 911 Signs
D-101-30, 31, 32, 33	Symbols	D-760-3	Rumble Strips Undivided Highways (Shoulders 4' Or Greater)
D-101-40	Cross Section Legend	D-760-5	Saw Slotted Rumble Strips At Intersections
D-203-6	Standard 90 Degree Flared Intersections - (Center Left Turn Lane on Major Road)	D-762-1	Pavement Marking Message Details
D-203-7	Recovery Approaches At T-Intersections	D-762-4	Pavement Marking
D-203-8	Standard Rural Approaches	D-762-6	Pavement Marking for Standard 90 Degree Flared Intersection - (Center Left Turn Lane on Major Road)
D-255-2	Erosion And Siltation Control - Erosion Control Blanket Installation	D-762-11	Short-Term Pavement Marking
D-256-1	Erosion And Siltation Controls	D-766-1	Mailbox Location Details
D-260-1	Erosion And Siltation Controls - Silt Fence	D-900-2	Pavement Details At Railroad Crossing
D-261-1	Erosion Control - Fiber Roll Placement Details		
D-704-2	Traffic Control For Coring Of Hot Bituminous Pavement		
D-704-7	Breakaway Systems For Construction Zone Signs - Perforated Tube		
D-704-8	Breakaway Systems For Construction Zone Signs - U-Channel Post		
D-704-9	Construction Sign Details - Terminal And Guide Signs		
D-704-10	Construction Sign Details - Regulatory Signs		
D-704-11, 11A	Construction Sign Details - Warning Signs		
D-704-12	Shoulder Closure Tapers		
D-704-13	Barricade And Channelizing Device Details		
D-704-14	Construction Sign Punching And Mounting Details		
D-704-19	Road Closure And Lane Closure On A Two Way Road Layouts		
D-704-20	Terminal And Seal Coat Sign Layouts		
D-704-22	Construction Truck And Temporary Detour Layouts		
D-704-24	Shoulder Closures And Bridge Painting Layouts		
D-704-26	Miscellaneous Sign Layouts		
D-704-27	Mobile Operation (Pavement Marking)		
D-704-30	Windrow Marking		
D-704-32	Sign Layout For One Lane Closure Divided Highway Moving Operation		
D-704-33	Two-Lane Roadway Portable Rumble Strips		
D-704-50	Portable Sign Support Assembly		
D-704-56	Mobile Operation - Grinding Shoulder Rumble Strips		
D-706-1	Bituminous Laboratory		
D-708-6	Erosion And Siltation Controls - Median Or Ditch Inlet Protection		
D-714-1	Reinforced Concrete Pipe Culverts And End Sections (Round Pipe)		
D-714-4	Round Corrugated Steel Pipe Culverts And End Sections		
D-714-22	Concrete Pipe, Cattle Pass, or Precast Concrete Box Culvert Ties		
D-720-1	Standard Monuments And Right Of Way Markers		
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D-754-53, 57, 74	Sign Punching, Stringer and Support Location Details - Route Marker Signs		

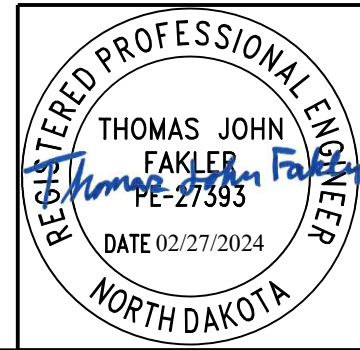
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Legend

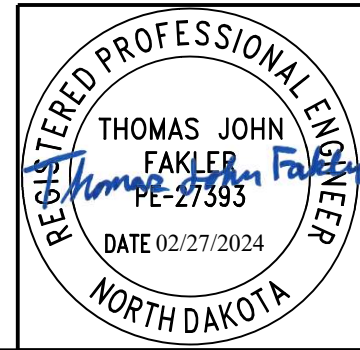
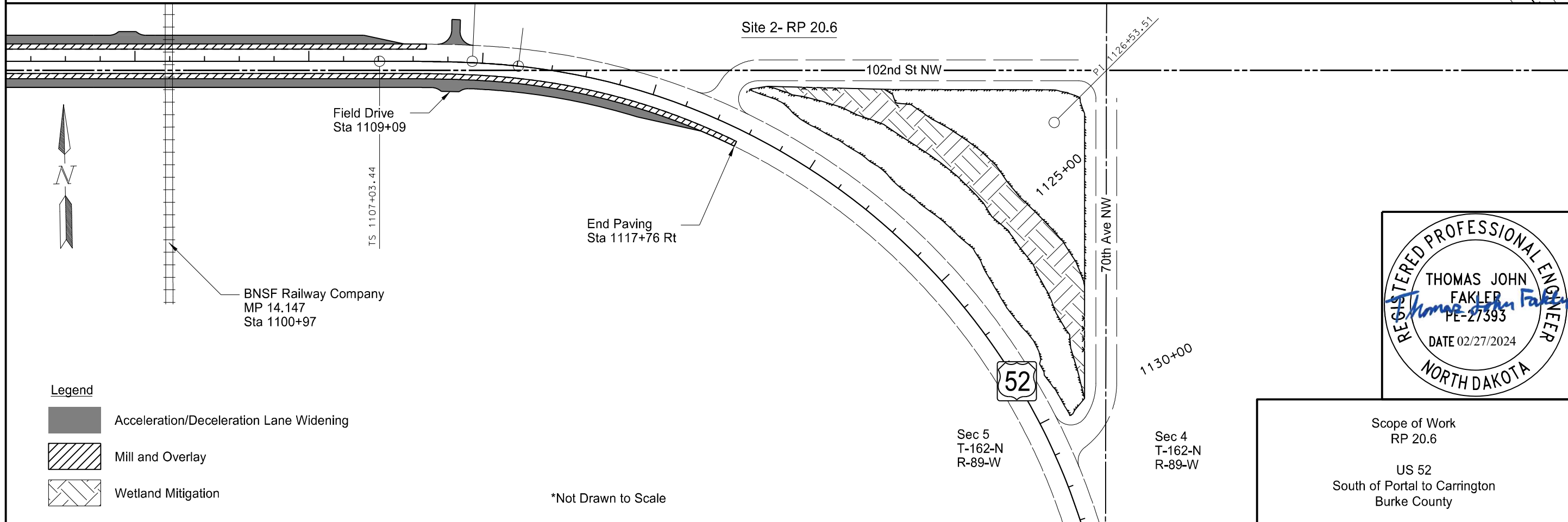
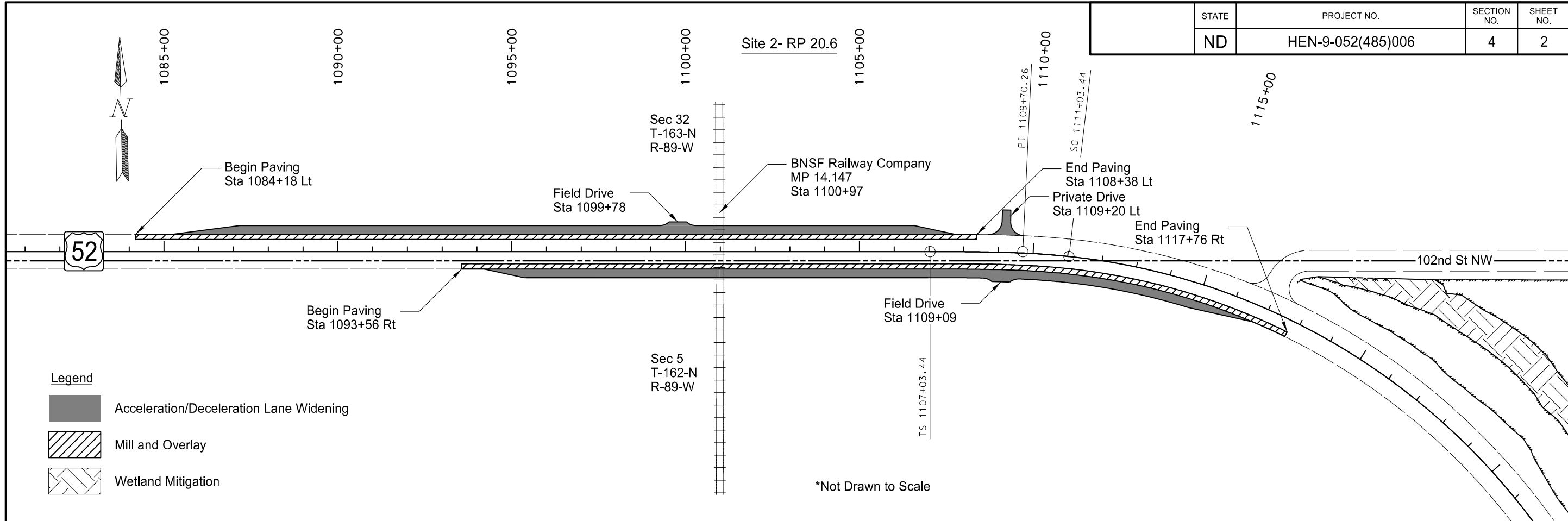
-  Acceleration/Deceleration Lane Widening
-  Mill and Overlay

*Not Drawn to Scale



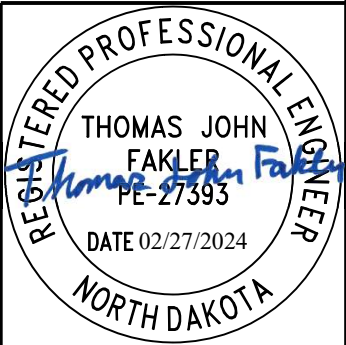
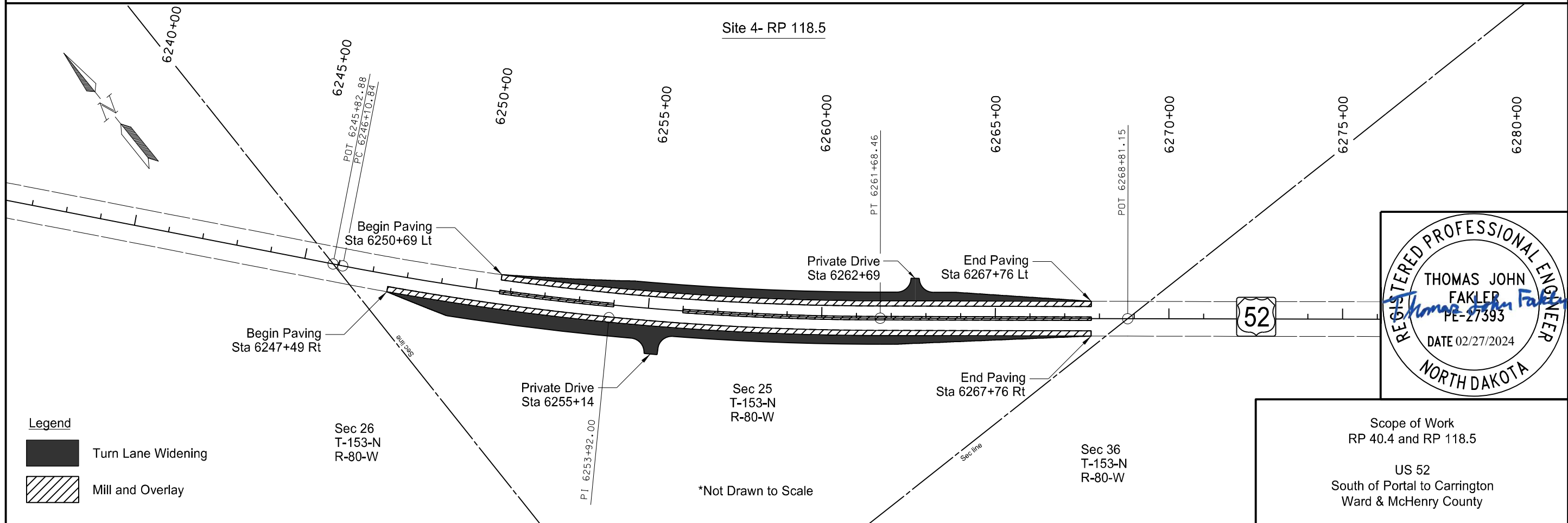
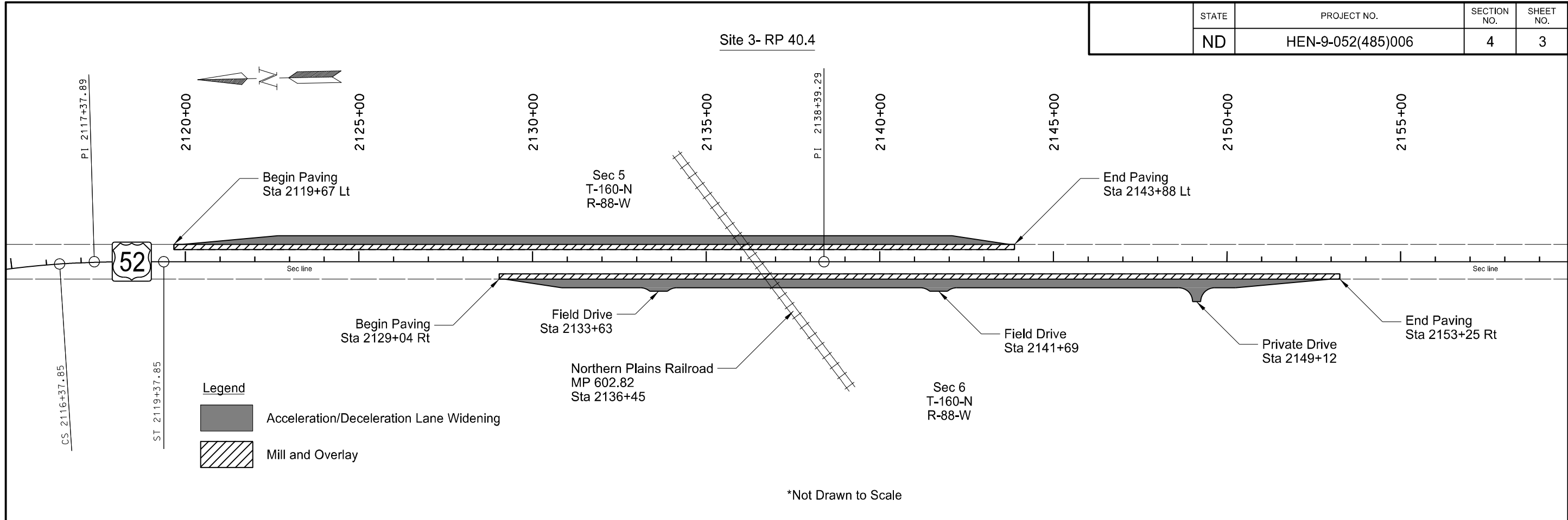
Scope of Work
 RP 6.9
 US 52
 South of Portal to Carrington
 Burke County

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Scope of Work
 RP 20.6
 US 52
 South of Portal to Carrington
 Burke County

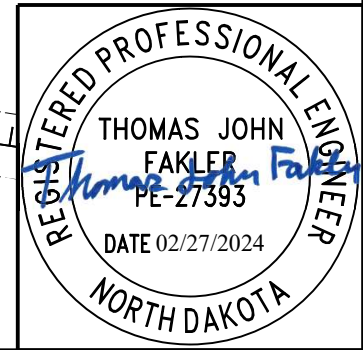
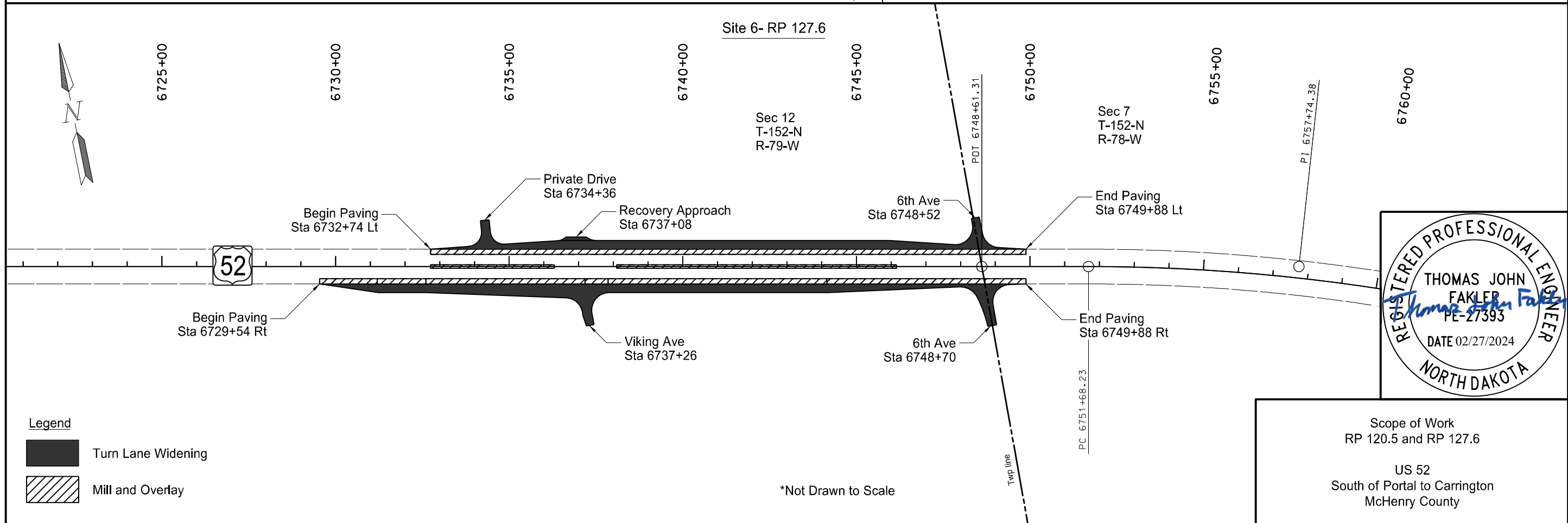
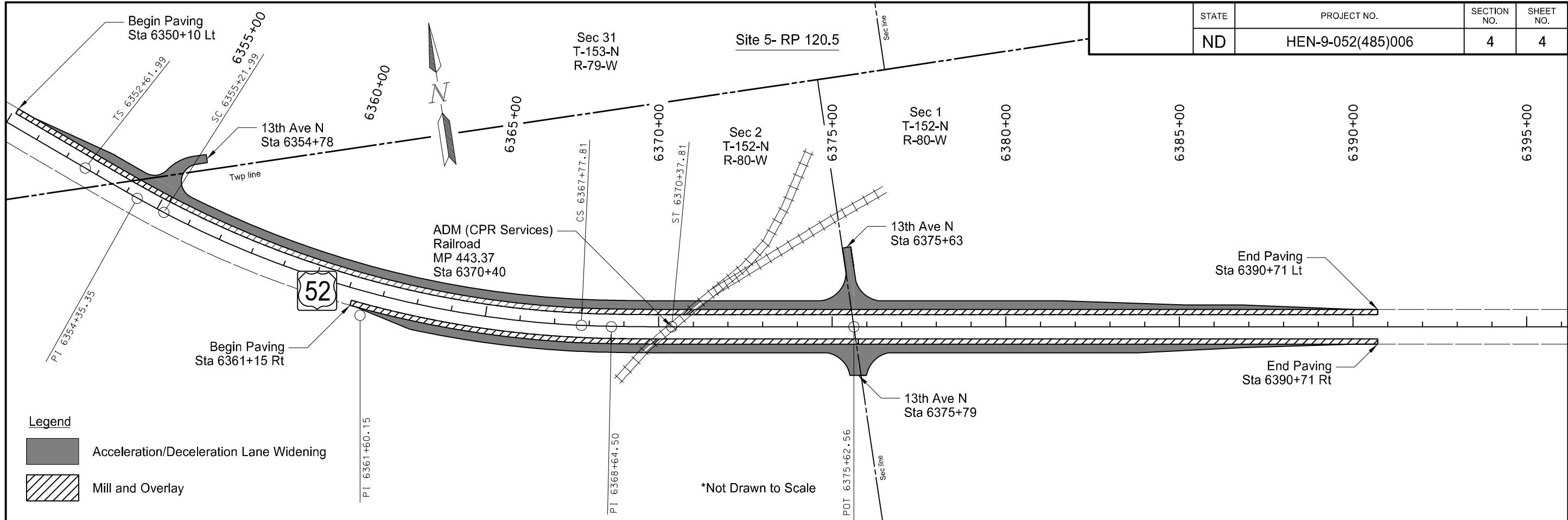
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Scope of Work
RP 40.4 and RP 118.5

US 52
South of Portal to Carrington
Ward & McHenry County

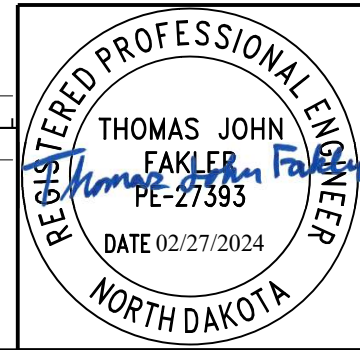
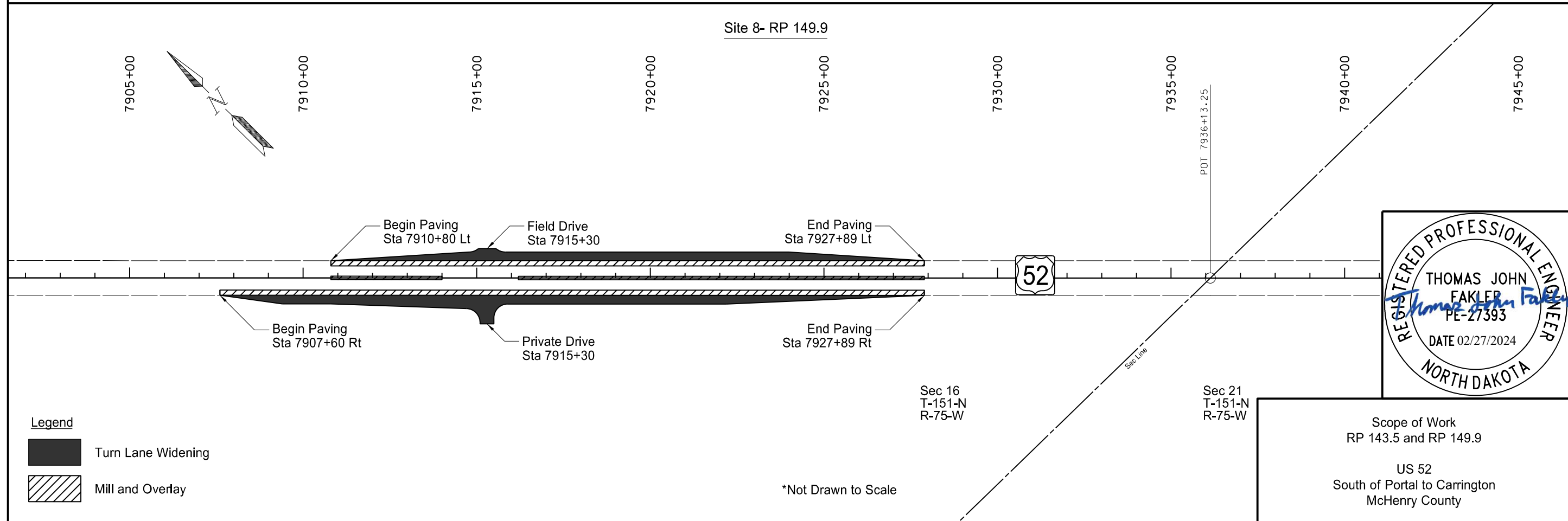
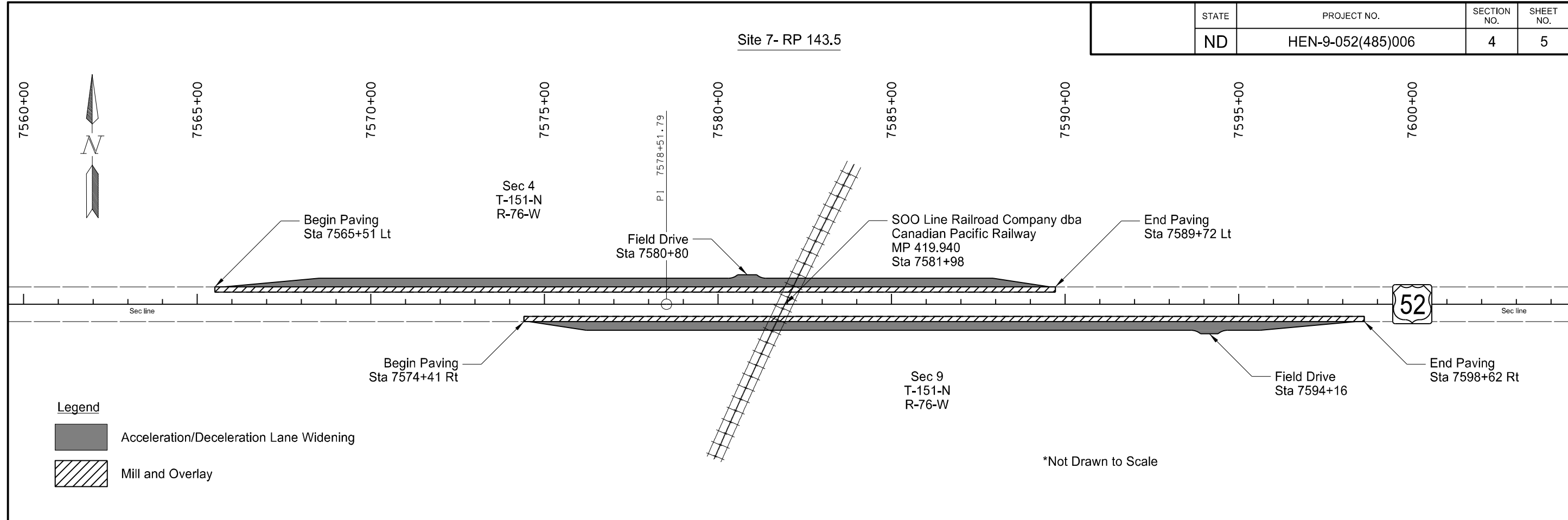
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Scope of Work
 RP 120.5 and RP 127.6

US 52
 South of Portal to Carrington
 McHenry County

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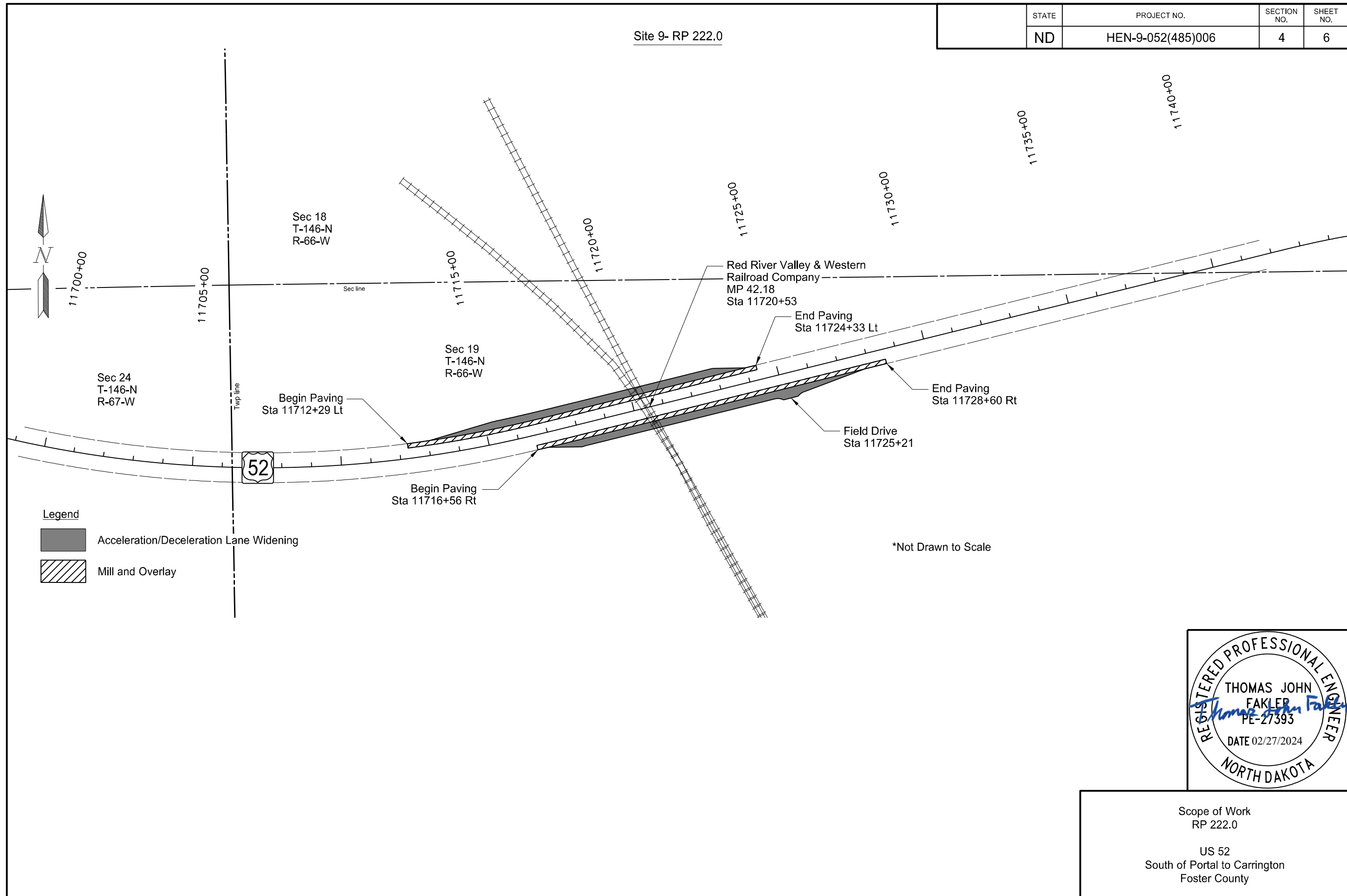


Scope of Work
RP 143.5 and RP 149.9



US 52
South of Portal to Carrington
McHenry County

Site 9- RP 222.0

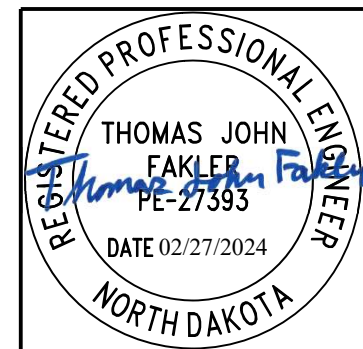
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Legend

-  Acceleration/Deceleration Lane Widening
-  Mill and Overlay

*Not Drawn to Scale



Scope of Work
RP 222.0

US 52
South of Portal to Carrington
Foster County

NOTES

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	HEN-9-052(485)006	6	1

100-P01 COORDINATION OF PROJECTS: Other projects in the vicinity of this project that are under contract during the 2024 construction season:

- NDDOT project HEN-7-052(034)000, PCN 23484, is a passing lane project on US 52 from RP 4.3 to RP 34.8
- NDDOT project SS-9-999(502), PCN 23640 is structure rehabilitation project with structure work located on US 52 at RPs 50.507, 60.290, 60.700, and 61.068.
- NDDOT project INF-X-4-052(100)140, PCN 23150, is a passing lane project on US 52 from RP 141.17 to RP 183.39
- NDDOT project NHU-4-052(104)137 PCN 23641, is a mill and HMA overlay project on US 52 from RP 141.17 to RP 183.39

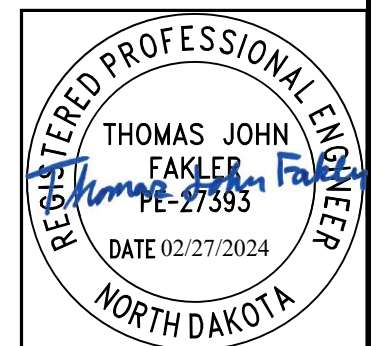
100-P02 LANDOWNER COORDINATION: Proposed driveway improvements near RP 120.5 exist within the limits of a temporary easement obtained for construction. Coordinate with the landowner, CF Industries, at 847-405-2400 prior to construction. Conduct work activities to minimize impacts to landowner operations. Restore affected areas to a condition equal to or better than the original condition that the landowner and Engineer find acceptable.

107-P01 HAUL ROAD RESTORATION: Use Class 13 aggregate for haul road restoration. This material will be paid according to the PS-1 schedule.

107-P02 RAILROAD COORDINATION: Coordinate with Railroad representatives to attend the pre-construction conference and provide a project schedule a minimum of 1 month prior to construction. Keep Railroad representatives informed of scheduling changes, changes in grading impacts, and lane or road closures/width restrictions occurring during construction. Railroad representatives will be invited to the weekly construction meetings and included on the meeting summaries recipient list. Railroad entities will provide railroad flaggers while work is being performed within 25 feet of the crossing centerline. Notice for railroad flagging will be provided a number of days in advance, to be agreed upon during the pre-construction conference. Contact information:

Railroad	Location	Contact Information
Red River Valley and Western Railroad Company (RRVW)	RP 222.0 - RR MP 42.18 & RR MP 42.96	Kristin Nicholson VP of Finance & Administration Red River Valley and Western Railroad P.O. Box 608 Wahpeton, ND 58074 701-642-8257 off. kristin.nicholson@rrvw.net
Burlington Northern Santa Fe Railway Company (BNSF)	RP 20.6 – RR MP 14.147	Alex Fiorini, PE Manager Public Projects - North BNSF Railway Company 80 44th Avenue NE Minneapolis, MN 55421 612-391-9572 off. alexander.fiorini@bnsf.com
Canadian Pacific Kansas City Railway (CPKC)	RP 6.9 – RR MP 419.94 RP 120.5 – RR MP 443.37 RP 143.5 – RR MP 547.36	Brian Osborne Manager Public Works Canadian Pacific Railroad 120 South 6th Street, Suite 700, Minneapolis, MN 55402 612-330-4555 off. brian_osborne@cpr.ca
Northern Plains Railroad (NP)	RP 40.4 – RR MP 602.82	Jesse J. Chalich President Northern Plains Railroad P.O. Box 38 Fordville, ND 58231 701-229-3444 off. jesse_chalich@nprail.com

107-P03 RAILROAD FLAGGING: See SP 27(23) for information regarding the price bid for "Railroad Flagging".



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NOTES

107-P04 MAINTAINING TRAFFIC - DROP-OFFS: If a shoulder and the adjacent lane are uneven due to milling or paving operations, the requirements of Section 704.04 O, "Traffic Control for Uneven Pavement" apply.

If, at the end of the work-day, drop-offs greater than 2 inches and less than 18 inches or slopes steeper than 4:1 exist between the edge of a traffic lane and the outside edge of the proposed roadway, perform one of the following actions:

- Construct a traversable wedge in the area of the drop-off or steep slope; or
- Close the lane adjacent to the drop-off of steep slope and provide 24-hour flagging or pilot car operations.

When constructing a wedge, construct a wedge composed of aggregate or earthen materials with a 4:1 or flatter slope along the entire length of the area. Compact materials using Type C compaction, as specified in 203.04 G.4, "Compaction Control Type C".

Install stackable vertical panels that meet the requirements of Section 704.03 H, "Stackable Vertical Panels", along the edge of the driving lane closest to the wedge.

The Engineer will measure stackable vertical panels as specified in Section 704.05, "Method of Measurement" and will pay for panels as specified in Section 704.06, "Basis of Payment".

The Engineer will not measure material used to construct the wedge. Include the cost of materials, equipment, labor, and incidentals required for this operation in the price bid for aggregate or earthwork pay items.

If a 4:1 or flatter wedge is not installed, provide 24-hour flagging or pilot car operations and associated traffic control at no additional cost to the Department.

108-100 WEEKLY PLANNING & REPORTING MEETING: A weekly planning and reporting meeting is required, either in person or on a virtual platform.

108-P01 MINOT AIR FORCE BASE NOTIFICATION: US 52 is a mission essential route that is used by the 91st Missile Wing for convoy operations and may affect construction activities including work stoppage while convoys pass through the project area. Coordinate with Minot Air Force Base (MAFB) representatives to attend the pre-construction conference and provide a project schedule a minimum of 1 month prior to construction. Keep MAFB representatives informed of scheduling changes, changes in grading impacts including borrow sites, and lane or road closures/width restrictions occurring during construction. Contact information for the MAFB is below:

Mrs. Michelle Beavers, GS-11, DAFC
 Engineering Technician, Missile Engineering
 5 CES/CEM
 Minot AFB, ND
 Comm: (701) 723-3998, dsn: 453-3998

202-P01 REMOVE AGGREGATE BASE & SURFACING: The existing bituminous pavement thicknesses are averages based on previous construction plans and maintenance data. Actual thickness may vary.

203-010 SHRINKAGE: 25 percent additional volume is included for shrinkage in earth embankment.

203-385 AVERAGE HAUL: No average haul has been computed for this project.

203-P01 COMMON EXCAVATION-TYPE A: Common excavation will not be measured on the project and will be paid as plan quantity.

203-P02 CONTRACTOR FURNISHED BORROW CLUE: Contact information for a landowner with a potential borrow site, located in the vicinity of this project, has been provided below:

Landowner:

Herb Schwede

Ward County, ND

Township 158 North – Range 87 W – Section 9

The borrow site above has Certificate of Approval (COA) in accordance with Section 107.05 of the Standard Specifications. Contact the NDDOT Right of Way Section at 701-328-3649 for landowner's telephone contact information.

203-P03 COMMON EXCAVATION-WASTE: Excavated material from mitigation site 1 is to be wasted with landowners James P. Bohl and Kathleen Bohl. Coordinate with Jeff Bohl to construction.

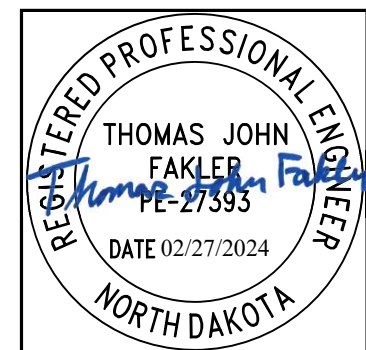
Jeff Bohl

Burke County, ND

Township 163 North – Range 89 W – Section 32: SE ¼

704-100 TRAFFIC CONTROL SUPERVISOR: Provide a Traffic Control Supervisor.

704-P01 STACKABLE VERTICAL PANELS: Provide two molded rubber bases for each stackable vertical panel. Include the cost for the additional base in the price bid for "Stackable Vertical Panels."



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NOTES

704-500 PORTABLE RUMBLE STRIPS (PRS): Use PRS made of rubber or engineered polymers.

Install PRS as part of the temporary traffic control when the following signs are also part of the required traffic control set up:

- "Be Prepared to Stop" (W3-4); and
- "Flagger" symbol (W20-7)

Install PRS that meet the following criteria:

- Have no adhesives or fasteners required for placement;
- Have a manufacture's speed rating that meets or exceeds the posted speed limit; and
- Each strip in the array must weigh a minimum of 100 pounds.

Use individual PRS constructed in one of the following manners:

- A single piece;
- Interlocking segments; or
- Two pieces hinged at the midpoint.

An installed array of PRS consists of a minimum of 3 individual strips.

Move rumble strips with the flagging operation. Do not place rumble strips on horizontal curves.

The Engineer will count and measure each array as one unit. Include the cost of providing, installing, maintaining, and relocating PRS in the unit price bid for "Portable Rumble Strips".

704-P01 TRAFFIC CONTROL DEVICES: Provide traffic control consisting of shoulder closures, temporary lane closures and flagging. Quantities for traffic control signs and devices are based on all work areas (9 locations) being constructed at the same time and following Standard Drawings:

1. D-704-19, Layout F
2. D-704-20, Layout G (ND 8, 102nd St NW, 464th St NW, 450th Ave NW, ND97, 42nd St N, 13th Ave N, Viking Ave, 6th Ave, 8th Ave, 9th Ave, 33rd St NE, 66th Ave NE, 11th Ave N, and 5th Ave N)
3. D-704-22, Layout K and L for construction trucks hauling material
4. D-704-24, Layout R, shoulder closures
5. D-704-26, Layout KK (450th Ave NW, 42nd St N, 13th Ave N, Viking Ave, 6th Ave, and Private Drives: Burke Divide Electric, Farmer's Union Oil, John Deer, Arthur Companies)
6. D-704-33, Two-Lane Roadway Portable Rumble Strips
7. D-704-56, For grinding shoulder rumble strips on two-lane roadway

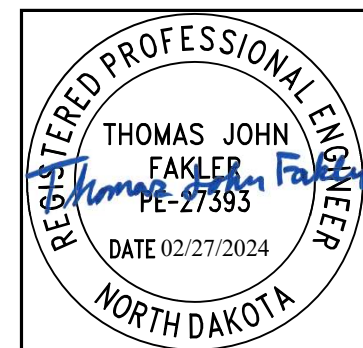
Reduce speeds in both directions when work is being performed.

Phase 1: Provide shoulder closures for pipe extensions and roadway widening. Follow standard drawing D-704-24 Type R and Work Zone Traffic Control Section (WZTC Section 100) for shoulder closure.

Phase 2: Provide one lane closures with flagging and a pilot car as shown in the Sec 100 Work Zone Traffic Control layout sheets for pavement removals, milling, base, paving, and operations that require a lane closure.

Roadway widening areas may remain under shoulder closure according to drawing D-704-24 Type R until paving, striping, and signing are complete.

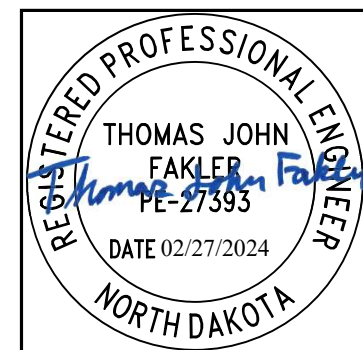
Place one Type III Barricade at the beginning of the work zone and one at every private drive approach and road intersection to keep the newly constructed passing lane closed. The Type III Barricade is not required at field approaches.



STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	HEN-9-052(485)006	6	4

NOTES

- 706-P01 AGGREGATE LABORATORY: One aggregate laboratory will be paid for. This laboratory may need to be moved throughout the project. Include all costs for moving the aggregate laboratory in the price bid for "Aggregate Laboratory".
- 706-P02 BITUMINOUS LABORATORY: One bituminous laboratory will be paid for. This laboratory may need to be moved throughout the project. Include all costs for moving the bituminous laboratory in the price bid for "Bituminous Laboratory".
- 706-P03 CONTRACTOR'S LABORATORY: One contractor's laboratory will be paid for. This laboratory may need to be moved throughout the project. Include all costs for moving the contractor's laboratory in the price bid for "Contractor's Laboratory".
- 754-P01 OBJECT MARKERS – CULVERTS: Remove existing object markers located at culvert end sections that are impacted by earthwork activities and pipe extensions. Include the cost for removal and disposal in the price bid for "Object Markers – Culverts."
- 762-050 PAVEMENT MARKING: If the Engineer and Contractor agree, plan quantity will be used as the measurement for payment for pavement marking items.
- 772-P01 REMOVE FLASHING BEACON SYSTEM: Remove the existing flashing beacon system at RP 120.5 including: pull boxes, underground conduit, signs, controller, and cabinet. Conduit under the existing roadway, conduit under the existing railroad, and loop detectors to remain in place. Include the cost for these items in the price bid for "Remove Flashing Beacon System."
- 900-P01 PIPE CLEANOUT: Remove all silt and debris from the pipe designated in the plans. Include all costs for pipe cleanout in the contract unit price for "Pipe Cleanout."



ENVIRONMENTAL NOTES

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	HEN-9-052(485)006	6	5

ENVIRONMENTAL NOTES (EN): The North Dakota Department of Transportation and the Federal Highway Administration have made environmental commitments to secure approval of this project. The following environmental notes are requirements to comply with these commitments:

EN-1 AQUATIC NUISANCE SPECIES (ANS): Equipment that was last used outside of North Dakota or within a Class I infested waterbody (identified on the North Dakota Game and Fish Department (NDGFD) website) requires an inspection by NDGFD. Notify the NDGFD at least 10 business days prior to pumps, watercraft, or any equipment entering a public water to allow the NDGFD sufficient time to inspect any and all such equipment for ANS. Contact the NDGFD ANS Coordinator, Ben Holen by e-mail - bholen@nd.gov for equipment inspections. Supply one of the following to the engineer as proof of compliance prior to work taking place in the water: (1) the NDGFD inspection report, (2) documented NDGFD correspondence (email or signed letter).

EN-2 THREATENED AND ENDANGERED SPECIES: The project is located near/within suitable habitat for the species listed in the following table.

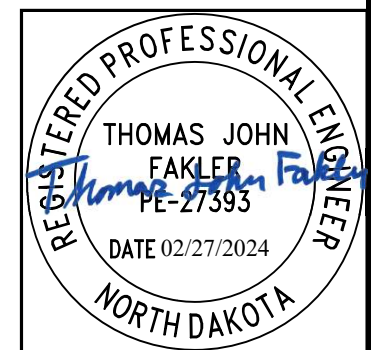
SPECIES	HABITAT	PRESENCE
Whooping Crane	Cropland/Wetland Associations	Spring: April 1 - May 15* Fall: September 10 – October 31
Gray Wolf	Forested/Wooded Areas, Open Areas	Year-Round – No known populations, sightings extremely rare

*Time frames can differ slightly, depending on the year

If any of the above threatened and endangered species are identified within 1 mile of the project, the Contractor will notify the Engineer immediately and cease construction activities in the vicinity until an avoidance area is established. The Engineer will establish an avoidance area that is at least a 0.5 mile and immediately coordinate with the USFWS (701-355-8513), FHWA (701-221-9464), and NDDOT Environmental and Transportation Services (701-328-2592). The Contractor will not resume work within the avoidance area until the Engineer has confirmed with the agencies that work may proceed (either the species have left the area, or approved avoidance/minimization measures have been implemented). A threatened and endangered species poster or pamphlet will be provided on all job sites.

EN-3 TEMPORARY WETLAND IMPACT: Temporary impact areas within wetlands and or other waters are incorporated into the plans for this project. Remove temporary fill placed and sedimentation in wetlands or other waters. Restore these wetlands to preconstruction contours.

EN-4 WETLAND MITIGATION: Wetland mitigation is required for unavoidable permanent wetland impacts. The wetland mitigation plan is incorporated into the plans for this project. After completion of the mitigation area, the Engineer will complete the Onsite Mitigation Certification Form SFN 61042. Any sedimentation occurring within the mitigation area will be removed.



Estimated Quantities

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	HEN-9-052(485)006	8	1

SPEC	CODE	ITEM DESCRIPTION	UNIT	Mainline: Funding A	TOTAL
103	0100	CONTRACT BOND	L SUM	1	1
107	0121	RAILWAY PROTECTION INSURANCE - COMPANY A	L SUM	1	1
107	0122	RAILWAY PROTECTION INSURANCE - COMPANY B	L SUM	1	1
107	0123	RAILWAY PROTECTION INSURANCE - COMPANY C	L SUM	1	1
107	0124	RAILWAY PROTECTION INSURANCE - COMPANY D	L SUM	1	1
107	0141	RAILROAD COORDINATION - COMPANY A	L SUM	1	1
107	0142	RAILROAD COORDINATION - COMPANY B	L SUM	1	1
107	0143	RAILROAD COORDINATION - COMPANY C	L SUM	1	1
107	0144	RAILROAD COORDINATION - COMPANY D	L SUM	1	1
107	0145	RAILROAD FLAGGING	DAY	1600	1600
109	1000	E-TICKETING	L SUM	1	1
202	0174	REMOVAL OF PIPE ALL TYPES AND SIZES	LF	747	747
203	0101	COMMON EXCAVATION-TYPE A	CY	33232	33232
203	0109	TOPSOIL	CY	64320	64320
203	0113	COMMON EXCAVATION-WASTE	CY	10108	10108
203	0140	BORROW-EXCAVATION	CY	42601	42601
216	0100	WATER	M GAL	2335	2335
251	0200	SEEDING CLASS II	ACRE	41.92	41.92
251	1000	WETLAND SEED	ACRE	3.85	3.85
251	2000	TEMPORARY COVER CROP	ACRE	46.11	46.11
253	0061	SOIL STABILIZATION	ACRE	90.63	90.63
255	0102	ECB TYPE 2	SY	3685	3685
255	0201	TRM TYPE 1	SY	54	54
260	0200	SILT FENCE SUPPORTED	LF	15332	15332
260	0201	REMOVE SILT FENCE SUPPORTED	LF	15332	15332
261	0112	FIBER ROLLS 12IN	LF	62437	62437
261	0113	REMOVE FIBER ROLLS 12IN	LF	23821	23821
261	0120	FIBER ROLLS 20IN	LF	280	280
261	0121	REMOVE FIBER ROLLS 20IN	LF	280	280
302	0120	AGGREGATE BASE COURSE CL 5	TON	79041	79041
401	0050	TACK COAT	GAL	6918	6918
401	0060	PRIME COAT	GAL	21639	21639
401	0160	BLOTTER MATERIAL CL 44	TON	466	466
411	0105	MILLING PAVEMENT SURFACE	SY	28088	28088
430	0045	SUPERPAVE FAA 45	TON	22131	22131
430	1000	CORED SAMPLE	EA	126	126
430	5818	PG 58H-34 ASPHALT CEMENT	TON	1328	1328
702	0100	MOBILIZATION	L SUM	1	1
704	0100	FLAGGING	MHR	3600	3600
704	1000	TRAFFIC CONTROL SIGNS	UNIT	5350	5350
704	1048	PORTABLE RUMBLE STRIPS	EA	10	10
704	1052	TYPE III BARRICADE	EA	10	10
704	1060	DELINEATOR DRUMS	EA	100	100
704	1080	STACKABLE VERTICAL PANELS	EA	363	363
704	1185	PILOT CAR	HR	1800	1800
704	1500	OBLITERATION OF PAVEMENT MARKING	SF	9518	9518
706	0500	AGGREGATE LABORATORY	EA	1	1

Estimated Quantities

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	HEN-9-052(485)006	8	2

SPEC	CODE	ITEM DESCRIPTION	UNIT	Mainline: Funding A	TOTAL
706	0550	BITUMINOUS LABORATORY	EA	1	1
706	0600	CONTRACTOR'S LABORATORY	EA	1	1
709	0100	GEOSYNTHETIC MATERIAL TYPE G	SY	98543	98543
714	0615	PIPE CONC REINF 24IN CL III	LF	236	236
714	0820	PIPE CONC REINF 30IN CL III	LF	34	34
714	1005	PIPE CONC REINF 42IN CL III	LF	180	180
714	1210	PIPE CONC REINF 54IN CL III	LF	30	30
714	1510	PIPE CONC REINF 72IN CL III	LF	28	28
714	4099	PIPE CONDUIT 18IN-APPROACH	LF	104	104
714	4106	PIPE CONDUIT 24IN-APPROACH	LF	440	440
714	4113	PIPE CONDUIT 30IN-APPROACH	LF	72	72
714	5035	PIPE CORR STEEL .064IN 24IN	LF	10	10
714	9660	REMOVE & RELAY END SECTION-ALL TYPE & SIZES	EA	35	35
720	0110	RIGHT OF WAY MARKERS	EA	35	35
720	0125	ALIGNMENT MONUMENTS	EA	22	22
720	0130	IRON PIN R/W MONUMENTS	EA	23	23
720	0135	IRON PIN REFERENCE MONUMENTS	EA	14	14
754	0110	FLAT SHEET FOR SIGNS-TYPE XI REFL SHEETING	SF	265	265
754	0112	FLAT SHEET FOR SIGNS-TYPE IV REFL SHEETING	SF	287	287
754	0206	STEEL GALV POSTS-TELESCOPING PERFORATED TUBE	LF	1048	1048
754	0561	REFERENCE MARKER-TYPE A	EA	1	1
754	0562	REFERENCE MARKER-TYPE B	EA	1	1
754	0563	REFERENCE MARKER-TYPE C	EA	2	2
754	0592	RESET SIGN PANEL	EA	7	7
754	0593	RESET SIGN SUPPORT	EA	1	1
754	0801	OBJECT MARKERS - TYPE I	EA	2	2
754	0805	OBJECT MARKERS - CULVERTS	EA	27	27
760	0005	RUMBLE STRIPS - ASPHALT SHOULDER	MILE	7.577	7.577
760	0007	RUMBLE STRIPS - ASPHALT CENTERLINE	MILE	1.531	1.531
760	0010	RUMBLE STRIPS - INTERSECTION	SET	1	1
762	0103	PVMT MK PAINTED-MESSAGE	SF	242	242
762	0112	EPOXY PVMT MK MESSAGE	SF	1674	1674
762	0114	EPOXY PVMT MK 6IN LINE	LF	93229	93229
762	0117	EPOXY PVMT MK 24IN LINE	LF	732	732
762	0119	EPOXY PVMT MK 10IN LINE	LF	5527	5527
762	0430	SHORT TERM 4IN LINE-TYPE NR	LF	99902	99902
762	0434	SHORT TERM 8IN LINE-TYPE NR	LF	5527	5527
762	1106	PVMT MK PAINTED 6IN LINE	LF	6673	6673
762	1124	PVMT MK PAINTED 24IN LINE	LF	144	144
766	0100	MAILBOX-ALL TYPES	EA	2	2
772	3150	REMOVE FLASHING BEACON SYSTEM	EA	2	2
990	0400	PIPE CLEANOUT	EA	1	1

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	HEN-9-052(485)006	10	1

430-1000 HMA Cored Samples							
Specification Section	A		B		C		Unit
	Distance (Ft)/1000	Lanes	Joints	Lifts	Sublots (AxBxC)	Quantity (1 per mile)	
430.04 I.2.b(2), "Pavement Density Cores"							
Site 1 - RP 6.9 - Acceleration and Deceleration Lanes	4840 / 1000 = 5	1	N/A	3	15	N/A	EA
Site 2 - RP 20.6 - Acceleration and Deceleration Lanes	4840 / 1000 = 5	1	N/A	3	15	N/A	EA
Site 3 - RP 40.4 - Acceleration and Deceleration Lanes	4842 / 1000 = 5	1	N/A	3	15	N/A	EA
Site 4 - RP 118.5 - EB Right and WB Left Turn Lanes	3734 / 1000 = 4	1	N/A	3	12	N/A	EA
Site 5 - RP 120.5 - Acceleration and Deceleration Lanes	7017 / 1000 = 7	1	N/A	3	21	N/A	EA
Site 6 - RP 127.6 - EB Right and WB Left Turn Lanes	3748 / 1000 = 4	1	N/A	3	12	N/A	EA
Site 7 - RP 143.5 - Acceleration and Deceleration Lanes	4842 / 1000 = 5	1	N/A	3	15	N/A	EA
Site 8 - RP 149.9 - EB Right and WB Left Turn Lanes	3738 / 1000 = 4	1	N/A	3	12	N/A	EA
Site 9 - RP 222.0 - Acceleration and Deceleration Lanes	2408 / 1000 = 3	1	N/A	3	9	N/A	EA
				Total	126	0	EA

766-0100 Mailboxes			
Station	Type	Quantity	Work
1108+80 Lt	Single	1	Replace
6262+52 Lt	Single	1	Replace
Total (EA)=		2	

Water

25 MGal/Mile for Dust Palliative
20 Gal/Ton for Aggregates
10 Gal/CY for Embankment

760-0005 Rumble Strips - Asphalt Shoulder	
Location	Length
Site 1 - RP 6.9 - Acceleration and Deceleration Lanes Sta 350+77 to Sta 384+35 Lt and Rt	4840
Site 2 - RP 20.6 - Acceleration and Deceleration Lanes Sta 1084+18 to Sta 1117+76 Lt and Rt	4840
Site 3 - RP 40.4 - Acceleration and Deceleration Lanes Sta 2119+67 to Sta 2153+25 Lt and Rt	4842
Site 4 - RP 118.5 - EB Right and WB Left Turn Lanes Sta 6247+49 to Sta 6267+76 Lt and Rt	3734
Site 5 - RP 120.5 - Acceleration and Deceleration Lanes Sta 6350+10 to Sta 6390+71 Lt and Rt	7017
Site 6 - RP 127.6 - EB Right and WB Left Turn Lanes Sta 6729+54 to Sta 6749+88 Lt and Rt	3748
Site 7 - RP 143.5 - Acceleration and Deceleration Lanes Sta 7565+51 to Sta 7598+62 Lt and Rt	4842
Site 8 - RP 149.9 - EB Right and WB Left Turn Lanes Sta 7907+60 to Sta 7927+89 Lt and Rt	3738
Site 9 - RP 222.0 - Acceleration and Deceleration Lanes Sta 11712+29 to Sta 11728+60 Lt and Rt	2408
Total (LF) =	40009
Total (MI) =	7.577

Short Term Line-Type NR				
Location		762-0430	762-0434	Units
		4" Quantity	8" Quantity	
Site 1 - RP 6.9 - Acceleration and Deceleration Lanes Sta 370+71 to Sta 384+49 Lt and Rt	4" Double Yellow Centerline	6696		LF
	4" White Lane Line Skips	965		LF
	4" White Edge Line	4821		LF
Site 2 - RP 20.6 - Acceleration and Deceleration Lanes Sta 1085+18 to Sta 1116+76 Lt and Rt	4" Double Yellow Centerline	6694		LF
	4" White Lane Line Skips	964		LF
	4" White Edge Line	4812		LF
Site 3 - RP 40.4 - Acceleration and Deceleration Lanes Sta 2119+92 to Sta 2153+00 Lt and Rt	4" Double Yellow Centerline	6690		LF
	4" White Lane Line Skips	964		LF
	4" White Edge Line	4818		LF
Site 4 - RP 118.5 - EB and WB Turn Lanes Sta 6247+49 to Sta 6267+76 Lt and Rt	4" Double Yellow Centerline	5744		LF
	4" White Edge Line	3619		LF
	8" White Channelization		1161	LF
Site 5 - RP 120.5 - Acceleration and Deceleration Lanes Sta 6350+60 to Sta 6390+06 Lt and Rt	4" Double Yellow Centerline	10592		LF
	4" White Lane Line Skips	1159		LF
	4" White Edge Line	6929		LF
Site 6 - RP 127.6 - EB and WB Turn Lanes Sta 6729+40 to Sta 6749+85 Lt and Rt	4" Double Yellow Centerline	5940		LF
	4" White Edge Line	3252		LF
	8" White Channelization		1160	LF
Site 7 - RP 143.5 - Acceleration and Deceleration Lanes Sta 7565+76 to Sta 7598+37 Lt and Rt	4" Double Yellow Centerline	6460		LF
	4" White Lane Line Skips	906		LF
	4" White Edge Line	4702		LF
Site 8 - RP 149.9 - EB and WB Turn Lanes Sta 7907+60 to Sta 7927+89 Lt and Rt	4" Double Yellow Centerline	2883		LF
	4" White Edge Line	3619		LF
	8" White Channelization		1160	LF
Site 9 - RP 222.0 - Acceleration and Deceleration Lanes Sta 11712+96 to Sta 11727+96 Lt and Rt	4" Double Yellow Centerline	3046		LF
	4" White Lane Line Skips	1453		LF
	4" White Edge Line	2174		LF
Total (LF) =		99902	5527	LF

760-0007 Rumble Strips - Asphalt Centerline	
Location	Length
Site 4 - RP 118.5 - EB Right and WB Left Turn Lanes Sta 6247+49 to Sta 6267+76 Lt and Rt	1707
Site 5 - RP 120.5 - Acceleration and Deceleration Lanes Sta 6361+15 to Sta 6390+71 Lt and Rt	2956
Site 6 - RP 127.6 - EB Right and WB Left Turn Lanes Sta 6729+54 to Sta 6749+88 Lt and Rt	1714
Site 8 - RP 149.9 - EB Right and WB Left Turn Lanes Sta 7907+60 to Sta 7927+89 Lt and Rt	1709
Total (LF) =	8086
Total (MI) =	1.531

760-0010 Rumble Strips - Intersection	
Location	Set
Site 1 - RP 6.9 - Acceleration and Deceleration Lanes Sta 350+77 to Sta 384+35 Lt and Rt	1



Basis of Estimate

US 52
South of Portal to Carrington

Site 1 - RP 6.9				Typ 1 Station			Transition From Typ 1 to Typ 3 Station			Typ 3 Station			Transition From Typ 3 to Typ 1 Station			Typ 1 Station		
				350+77 to 350+77		350+77 to 353+77		353+77 to 373+17		373+17 to 374+97		374+97 to 374+97						
				Length (LF)= 0		Length (LF)= 300		Length (LF)= 1940		Length (LF)= 180		Length (LF)= 0						
Spec	Code	Description	Unit	Cross Sectional Area (SF) or Width (LF)	Quantity (Ton/Gal/SY)	Cross Sectional Area (SF) or Width (LF)	Quantity (Ton/Gal/SY)	Cross Sectional Area (SF) or Width (LF)	Quantity (Ton/Gal/SY)	Cross Sectional Area (SF) or Width (LF)	Quantity (Ton/Gal/SY)	Cross Sectional Area (SF) or Width (LF)	Quantity (Ton/Gal/SY)					
302	0120	Aggregate Base Course CI 5 @ 1.875 Ton/CY	Ton	13.89	SF	23.14	SF	32.39	SF	23.14	SF	13.89	SF					
401	0060	Prime Coat @ 0.35 Gal/SY	Gal	3.72	LF	9.72	LF	15.72	LF	9.72	LF	3.72	LF					
401	0160	Blotter Material CI 44 @ 15 lbs/SY	Ton	3.72	LF	9.72	LF	15.72	LF	9.72	LF	3.72	LF					
401	0050	Tack Coat @ 0.05 Gal/SY (2nd Lift)	Gal	3.14	LF	9.14	LF	15.14	LF	9.14	LF	3.14	LF					
401	0050	Tack Coat @ 0.05 Gal/SY (3rd Lift)	Gal	6.81	LF	12.81	LF	18.81	LF	12.81	LF	6.81	LF					
430	0045	Superpave FAA 45 @ 2 Ton/CY	Ton	1.84	SF	5.09	SF	8.34	SF	5.09	SF	1.84	SF					
430	5818	PG 58H-34 Asphalt Cement @ 6.0%	Ton	0.11	-	0.31	-	0.50	-	0.31	-	0.11	-					
709	0100	Geosynthetic Material Type G	SY	14.31	LF	20.31	LF	26.31	LF	20.31	LF	14.31	LF					

Site 1 - RP 6.9				Typ 2 Station			Transition From Typ 2 to Typ 4 Station			Typ 4 Station			Transition From Typ 4 to Typ 2 Station			Typ 2 Station		
				360+15 to 360+15		360+15 to 361+95		361+95 to 381+35		381+35 to 384+35		384+35 to 384+35						
				Length (LF)= 0		Length (LF)= 180		Length (LF)= 1940		Length (LF)= 300		Length (LF)= 0						
Spec	Code	Description	Unit	Cross Sectional Area (SF) or Width (LF)	Quantity (Ton/Gal/SY)	Cross Sectional Area (SF) or Width (LF)	Quantity (Ton/Gal/SY)	Cross Sectional Area (SF) or Width (LF)	Quantity (Ton/Gal/SY)	Cross Sectional Area (SF) or Width (LF)	Quantity (Ton/Gal/SY)	Cross Sectional Area (SF) or Width (LF)	Quantity (Ton/Gal/SY)					
302	0120	Aggregate Base Course CI 5 @ 1.875 Ton/CY	Ton	13.89	SF	23.14	SF	32.39	SF	23.14	SF	13.89	SF					
401	0060	Prime Coat @ 0.35 Gal/SY	Gal	3.72	LF	9.72	LF	15.72	LF	9.72	LF	3.72	LF					
401	0160	Blotter Material CI 44 @ 15 lbs/SY	Ton	3.72	LF	9.72	LF	15.72	LF	9.72	LF	3.72	LF					
401	0050	Tack Coat @ 0.05 Gal/SY (2nd Lift)	Gal	3.14	LF	9.14	LF	15.14	LF	9.14	LF	3.14	LF					
401	0050	Tack Coat @ 0.05 Gal/SY (3rd Lift)	Gal	6.81	LF	12.81	LF	18.81	LF	12.81	LF	6.81	LF					
430	0045	Superpave FAA 45 @ 2 Ton/CY	Ton	1.84	SF	5.09	SF	8.34	SF	5.09	SF	1.84	SF					
430	5818	PG 58H-34 Asphalt Cement @ 6.0%	Ton	0.11	-	0.31	-	0.50	-	0.31	-	0.11	-					
709	0100	Geosynthetic Material Type G	SY	14.31	LF	20.31	LF	26.31	LF	20.31	LF	14.31	LF					

Site 2 - RP 20.6				Typ 5 Station			Typ 7 Station			Transition From Typ 7 to Typ 9 Station			Typ 9 Station			Transition From Typ 9 to Typ 7 Station		
				1084+18 to 1085+24		1085+24 to 1085+24		1085+24 to 1087+18		1087+18 to 1106+58		1106+58 to 1107+74						
				Length (LF)= 106		Length (LF)= 0		Length (LF)= 194		Length (LF)= 1940		Length (LF)= 116						
Spec	Code	Description	Unit	Cross Sectional Area (SF) or Width (LF)	Quantity (Ton/Gal/SY)	Cross Sectional Area (SF) or Width (LF)	Quantity (Ton/Gal/SY)	Cross Sectional Area (SF) or Width (LF)	Quantity (Ton/Gal/SY)	Cross Sectional Area (SF) or Width (LF)	Quantity (Ton/Gal/SY)	Cross Sectional Area (SF) or Width (LF)	Quantity (Ton/Gal/SY)					
302	0120	Aggregate Base Course CI 5 @ 1.875 Ton/CY	Ton	0.00	SF	19.64	SF	25.77	SF	31.91	SF	25.77	SF					
401	0060	Prime Coat @ 0.35 Gal/SY	Gal	0.00	LF	6.97	LF	10.85	LF	14.72	LF	10.85	LF					
401	0160	Blotter Material CI 44 @ 15 lbs/SY	Ton	0.00	LF	6.97	LF	10.85	LF	14.72	LF	10.85	LF					
401	0050	Tack Coat @ 0.05 Gal/SY (2nd Lift)	Gal	10.69	LF	6.39	LF	10.27	LF	14.14	LF	10.27	LF					
401	0050	Tack Coat @ 0.05 Gal/SY (3rd Lift)	Gal	0.00	LF	11.06	LF	14.94	LF	18.81	LF	14.94	LF					
430	0045	Superpave FAA 45 @ 2 Ton/CY	Ton	1.61	SF	3.77	SF	5.87	SF	7.97	SF	5.87	SF					
430	5818	PG 58H-34 Asphalt Cement @ 6.0%	Ton	0.10	-	0.23	-	0.35	-	0.48	-	0.35	-					
709	0100	Geosynthetic Material Type G	SY	0.00	LF	17.84	LF	21.72	LF	25.59	LF	21.72	LF					



Basis of Estimate
Paving Quantities

US 52
South of Portal to Carrington

Site 2 - RP 20.6				Typ 7 Station			Typ 5 Station			Typ 6 Station			Typ 8 Station			Transition From Typ 8 to Typ 10 Station							
				1107+74		to	1107+74		1107+74		to	1108+38		1093+56		to	1094+20		1094+20		to	1095+36	
				Length (LF)=			0		Length (LF)=			64		Length (LF)=			64		Length (LF)=			116	
Spec	Code	Description	Unit	Cross Sectional Area (SF) or Width (LF)		Quantity (Ton/Gal/SY)	Cross Sectional Area (SF) or Width (LF)		Quantity (Ton/Gal/SY)	Cross Sectional Area (SF) or Width (LF)		Quantity (Ton/Gal/SY)	Cross Sectional Area (SF) or Width (LF)		Quantity (Ton/Gal/SY)	Cross Sectional Area (SF) or Width (LF)		Quantity (Ton/Gal/SY)					
302	0120	Aggregate Base Course CI 5 @ 1.875 Ton/CY	Ton	19.64	SF	-	0.00	SF	-	0.00	SF	-	19.64	SF	-	25.77	SF	207.6					
401	0060	Prime Coat @ 0.35 Gal/SY	Gal	6.97	LF	-	0.00	LF	-	0.00	LF	-	6.97	LF	-	10.85	LF	49.0					
401	0160	Blotter Material CI 44 @ 15 lbs/SY	Ton	6.97	LF	-	0.00	LF	-	0.00	LF	-	6.97	LF	-	10.85	LF	1.1					
401	0050	Tack Coat @ 0.05 Gal/SY (2nd Lift)	Gal	6.39	LF	-	10.69	LF	4.1	10.69	LF	4.1	6.39	LF	-	10.27	LF	7.1					
401	0050	Tack Coat @ 0.05 Gal/SY (3rd Lift)	Gal	11.06	LF	-	0.00	LF	0.3	0.00	LF	0.3	11.06	LF	-	14.94	LF	10.1					
430	0045	Superpave FAA 45 @ 2 Ton/CY	Ton	3.77	SF	-	1.61	SF	7.7	1.61	SF	7.7	3.77	SF	-	5.87	SF	50.5					
430	5818	PG 58H-34 Asphalt Cement @ 6.0%	Ton	0.23		-	0.10		0.5	0.10		0.5	0.23		-	0.35		3.0					
709	0100	Geosynthetic Material Type G	SY	17.84	LF	-	0.00	LF	-	0.00	LF	-	17.84	LF	-	21.72	LF	280.0					

Site 2 - RP 20.6				Typ 10 Station			Transition From Typ 10 to Typ 8 Station			Typ 8 Station			Typ 6 Station					
				1095+36		to	1114+76		1114+76		to	1116+70		1116+70		to	1117+76	
				Length (LF)=			1940		Length (LF)=			194		Length (LF)=			106	
Spec	Code	Description	Unit	Cross Sectional Area (SF) or Width (LF)		Quantity (Ton/Gal/SY)	Cross Sectional Area (SF) or Width (LF)		Quantity (Ton/Gal/SY)	Cross Sectional Area (SF) or Width (LF)		Quantity (Ton/Gal/SY)	Cross Sectional Area (SF) or Width (LF)		Quantity (Ton/Gal/SY)			
302	0120	Aggregate Base Course CI 5 @ 1.875 Ton/CY	Ton	31.91	SF	4299.0	25.77	SF	347.2	19.64	SF	-	0.00	SF	-			
401	0060	Prime Coat @ 0.35 Gal/SY	Gal	14.72	LF	1110.7	10.85	LF	81.9	6.97	LF	-	0.00	LF	-			
401	0160	Blotter Material CI 44 @ 15 lbs/SY	Ton	14.72	LF	23.9	10.85	LF	1.8	6.97	LF	-	0.00	LF	-			
401	0050	Tack Coat @ 0.05 Gal/SY (2nd Lift)	Gal	14.14	LF	159.7	10.27	LF	11.8	6.39	LF	-	10.69	LF	6.7			
401	0050	Tack Coat @ 0.05 Gal/SY (3rd Lift)	Gal	18.81	LF	210.0	14.94	LF	16.9	11.06	LF	-	0.00	LF	0.4			
430	0045	Superpave FAA 45 @ 2 Ton/CY	Ton	7.97	SF	1144.7	5.87	SF	84.4	3.77	SF	-	1.61	SF	12.7			
430	5818	PG 58H-34 Asphalt Cement @ 6.0%	Ton	0.48		68.7	0.35		5.1	0.23		-	0.10		0.8			
709	0100	Geosynthetic Material Type G	SY	25.59	LF	5516.9	21.72	LF	468.2	17.84	LF	-	0.00	LF	-			

Site 3 - RP 40.4				Typ 11 Station			Typ 13 Station			Transition From Typ 13 to Typ 15 Station			Typ 15 Station			Transition From Typ 15 to Typ 13 Station												
				2119+67		to	2119+92		2119+92		to	2119+92		2119+92		to	2122+67		2122+67		to	2142+08		2142+08		to	2143+73	
				Length (LF)=			25		Length (LF)=			0		Length (LF)=			275		Length (LF)=			1941		Length (LF)=			165	
Spec	Code	Description	Unit	Cross Sectional Area (SF) or Width (LF)		Quantity (Ton/Gal/SY)	Cross Sectional Area (SF) or Width (LF)		Quantity (Ton/Gal/SY)	Cross Sectional Area (SF) or Width (LF)		Quantity (Ton/Gal/SY)	Cross Sectional Area (SF) or Width (LF)		Quantity (Ton/Gal/SY)	Cross Sectional Area (SF) or Width (LF)		Quantity (Ton/Gal/SY)	Cross Sectional Area (SF) or Width (LF)		Quantity (Ton/Gal/SY)							
302	0120	Aggregate Base Course CI 5 @ 1.875 Ton/CY	Ton	0.00	SF	-	13.30	SF	-	21.55	SF	411.6	29.80	SF	4017.0	21.55	SF	247.0										
401	0060	Prime Coat @ 0.35 Gal/SY	Gal	0.00	LF	-	3.72	LF	-	9.22	LF	98.7	14.72	LF	1111.3	9.22	LF	59.2										
401	0160	Blotter Material CI 44 @ 15 lbs/SY	Ton	0.00	LF	-	3.72	LF	-	9.22	LF	2.2	14.72	LF	23.9	9.22	LF	1.3										
401	0050	Tack Coat @ 0.05 Gal/SY (2nd Lift)	Gal	8.89	LF	1.4	3.14	LF	-	8.64	LF	14.3	14.14	LF	159.7	8.64	LF	8.6										
401	0050	Tack Coat @ 0.05 Gal/SY (3rd Lift)	Gal	0.00	LF	0.1	7.81	LF	-	13.31	LF	21.4	18.81	LF	210.1	13.31	LF	12.9										
430	0045	Superpave FAA 45 @ 2 Ton/CY	Ton	1.31	SF	2.5	2.07	SF	-	5.04	SF	102.7	8.02	SF	1153.7	5.04	SF	61.6										
430	5818	PG 58H-34 Asphalt Cement @ 6.0%	Ton	0.08		0.2	0.12		-	0.30		6.2	0.48		69.2	0.30		3.7										
709	0100	Geosynthetic Material Type G	SY	0.00	LF	-	14.02	LF	-	19.52	LF	596.5	25.02	LF	5396.4	19.52	LF	357.9										



Basis of Estimate
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US 52
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Site 3 - RP 40.4				Typ 13 Station			Typ 11 Station			Typ 12 Station			Typ 14 Station			Transition From Typ 14 to Typ 16 Station			
				2143+73 to 2143+73		2143+73		2143+73 to 2143+88		2129+04 to 2129+19		2129+19 to 2129+19		2129+19 to 2130+84					
				Length (LF)=		0		Length (LF)=		15		Length (LF)=		0		Length (LF)=		165	
Spec	Code	Description	Unit	Cross Sectional Area (SF) or Width (LF)		Quantity (Ton/Gal/SY)		Cross Sectional Area (SF) or Width (LF)		Quantity (Ton/Gal/SY)		Cross Sectional Area (SF) or Width (LF)		Quantity (Ton/Gal/SY)		Cross Sectional Area (SF) or Width (LF)		Quantity (Ton/Gal/SY)	
302	0120	Aggregate Base Course CI 5 @ 1.875 Ton/CY	Ton	13.30	SF	-	0.00	SF	-	0.00	SF	-	13.30	SF	-	21.55	SF	247.0	
401	0060	Prime Coat @ 0.35 Gal/SY	Gal	3.72	LF	-	0.00	LF	-	0.00	LF	-	3.72	LF	-	9.22	LF	59.2	
401	0160	Blotter Material CI 44 @ 15 lbs/SY	Ton	3.72	LF	-	0.00	LF	-	0.00	LF	-	3.72	LF	-	9.22	LF	1.3	
401	0050	Tack Coat @ 0.05 Gal/SY (2nd Lift)	Gal	3.14	LF	-	8.89	LF	0.8	8.89	LF	0.8	3.14	LF	-	8.64	LF	8.6	
401	0050	Tack Coat @ 0.05 Gal/SY (3rd Lift)	Gal	7.81	LF	-	0.00	LF	0.1	0.00	LF	0.1	7.81	LF	-	13.31	LF	12.9	
430	0045	Superpave FAA 45 @ 2 Ton/CY	Ton	2.07	SF	-	1.31	SF	1.5	1.31	SF	1.5	2.07	SF	-	5.04	SF	61.6	
430	5818	PG 58H-34 Asphalt Cement @ 6.0%	Ton	0.12	-	-	0.08	-	0.1	0.08	-	0.1	0.12	-	-	0.30	-	3.7	
709	0100	Geosynthetic Material Type G	SY	14.02	LF	-	0.00	LF	-	0.00	LF	-	14.02	LF	-	19.52	LF	357.9	

Site 3 - RP 40.4				Typ 16 Station			Transition From Typ 16 to Typ 14 Station			Typ 14 Station			Typ 12 Station						
				2130+84 to 2150+25		2150+25		2150+25 to 2153+00		2153+00 to 2153+00		2153+00 to 2153+25							
				Length (LF)=		1941		Length (LF)=		275		Length (LF)=		-		Length (LF)=		25	
Spec	Code	Description	Unit	Cross Sectional Area (SF) or Width (LF)		Quantity (Ton/Gal/SY)		Cross Sectional Area (SF) or Width (LF)		Quantity (Ton/Gal/SY)		Cross Sectional Area (SF) or Width (LF)		Quantity (Ton/Gal/SY)		Cross Sectional Area (SF) or Width (LF)		Quantity (Ton/Gal/SY)	
302	0120	Aggregate Base Course CI 5 @ 1.875 Ton/CY	Ton	29.80	SF	4017.0	21.55	SF	411.6	13.30	SF	-	0.00	SF	-				
401	0060	Prime Coat @ 0.35 Gal/SY	Gal	14.72	LF	1111.3	9.22	LF	98.7	3.72	LF	-	0.00	LF	-				
401	0160	Blotter Material CI 44 @ 15 lbs/SY	Ton	14.72	LF	23.9	9.22	LF	2.2	3.72	LF	-	0.00	LF	-				
401	0050	Tack Coat @ 0.05 Gal/SY (2nd Lift)	Gal	14.14	LF	159.7	8.64	LF	14.3	3.14	LF	-	8.89	LF	1.4				
401	0050	Tack Coat @ 0.05 Gal/SY (3rd Lift)	Gal	18.81	LF	210.1	13.31	LF	21.4	7.81	LF	-	0.00	LF	0.1				
430	0045	Superpave FAA 45 @ 2 Ton/CY	Ton	8.02	SF	1153.7	5.04	SF	102.7	2.07	SF	-	1.31	SF	2.5				
430	5818	PG 58H-34 Asphalt Cement @ 6.0%	Ton	0.48	-	69.2	0.30	-	6.2	0.12	-	-	0.08	-	0.2				
709	0100	Geosynthetic Material Type G	SY	25.02	LF	5396.4	19.52	LF	596.5	14.02	LF	-	0.00	LF	-				

Site 7 - RP 143.5				Typ 30 Station			Typ 32 Station			Transition From Typ 32 to Typ 34 Station			Typ 34 Station			Transition From Typ 34 to Typ 32 Station			
				7565+51 to 7565+76		7565+76		7565+76 to 7565+76		7565+76 to 7568+51		7568+51 to 7587+92		7587+92 to 7589+57					
				Length (LF)=		25		Length (LF)=		0		Length (LF)=		275		Length (LF)=		1941	
Spec	Code	Description	Unit	Cross Sectional Area (SF) or Width (LF)		Quantity (Ton/Gal/SY)		Cross Sectional Area (SF) or Width (LF)		Quantity (Ton/Gal/SY)		Cross Sectional Area (SF) or Width (LF)		Quantity (Ton/Gal/SY)		Cross Sectional Area (SF) or Width (LF)		Quantity (Ton/Gal/SY)	
302	0120	Aggregate Base Course CI 5 @ 1.875 Ton/CY	Ton	0.00	SF	-	13.30	SF	-	21.55	SF	411.6	29.80	SF	4017.0	21.55	SF	247.0	
401	0060	Prime Coat @ 0.35 Gal/SY	Gal	0.00	LF	-	3.72	LF	-	9.22	LF	98.7	14.72	LF	1111.3	9.22	LF	59.2	
401	0160	Blotter Material CI 44 @ 15 lbs/SY	Ton	0.00	LF	-	3.72	LF	-	9.22	LF	2.2	14.72	LF	23.9	9.22	LF	1.3	
401	0050	Tack Coat @ 0.05 Gal/SY (2nd Lift)	Gal	8.33	LF	1.3	3.14	LF	-	8.64	LF	14.3	14.14	LF	159.7	8.64	LF	8.6	
401	0050	Tack Coat @ 0.05 Gal/SY (3rd Lift)	Gal	0.00	LF	0.1	7.81	LF	-	13.31	LF	21.4	18.81	LF	210.1	13.31	LF	12.9	
430	0045	Superpave FAA 45 @ 2 Ton/CY	Ton	1.14	SF	2.2	2.01	SF	-	4.99	SF	101.7	7.97	SF	1145.3	4.99	SF	61.0	
430	5818	PG 58H-34 Asphalt Cement @ 6.0%	Ton	0.07	-	0.1	0.12	-	-	0.30	-	6.1	0.48	-	68.7	0.30	-	3.7	
709	0100	Geosynthetic Material Type G	SY	0.00	LF	-	14.02	LF	-	19.52	LF	596.5	25.02	LF	5396.4	19.52	LF	357.9	



Basis of Estimate
Paving Quantities

US 52
South of Portal to Carrington

Site 7 - RP 143.5				Typ 32 Station			Typ 30 Station			Typ 31 Station			Typ 33 Station			Transition From Typ 33 to Typ 35 Station		
				7589+57 to 7589+57		7589+57 to 7589+72		7574+41 to 7574+56		7574+56 to 7574+56		7574+56 to 7576+21						
				Length (LF)= 0		Length (LF)= 15		Length (LF)= 15		Length (LF)= -		Length (LF)= 165						
Spec	Code	Description	Unit	Cross Sectional Area (SF) or Width (LF)	Quantity (Ton/Gal/SY)	Cross Sectional Area (SF) or Width (LF)	Quantity (Ton/Gal/SY)	Cross Sectional Area (SF) or Width (LF)	Quantity (Ton/Gal/SY)	Cross Sectional Area (SF) or Width (LF)	Quantity (Ton/Gal/SY)	Cross Sectional Area (SF) or Width (LF)	Quantity (Ton/Gal/SY)	Cross Sectional Area (SF) or Width (LF)	Quantity (Ton/Gal/SY)			
302	0120	Aggregate Base Course CI 5 @ 1.875 Ton/CY	Ton	13.30	SF	0.00	SF	0.00	SF	13.30	SF	21.55	SF	247.0				
401	0060	Prime Coat @ 0.35 Gal/SY	Gal	3.72	LF	0.00	LF	0.00	LF	3.72	LF	9.22	LF	59.2				
401	0160	Blotter Material CI 44 @ 15 lbs/SY	Ton	3.72	LF	0.00	LF	0.00	LF	3.72	LF	9.22	LF	1.3				
401	0050	Tack Coat @ 0.05 Gal/SY (2nd Lift)	Gal	3.14	LF	8.33	LF	8.33	LF	3.14	LF	8.64	LF	8.6				
401	0050	Tack Coat @ 0.05 Gal/SY (3rd Lift)	Gal	7.81	LF	0.00	LF	0.00	LF	7.81	LF	13.31	LF	12.9				
430	0045	Superpave FAA 45 @ 2 Ton/CY	Ton	2.01	SF	1.14	SF	1.14	SF	2.01	SF	4.99	SF	61.0				
430	5818	PG 58H-34 Asphalt Cement @ 6.0%	Ton	0.12		0.07		0.07		0.12		0.30		3.7				
709	0100	Geosynthetic Material Type G	SY	14.02	LF	0.00	LF	0.00	LF	14.02	LF	19.52	LF	357.9				

Site 7 - RP 143.5				Typ 35 Station			Transition From Typ 35 to Typ 33 Station			Typ 33 Station			Typ 31 Station		
				7576+21 to 7595+62		7595+62 to 7598+37		7598+37 to 7598+37		7598+37 to 7598+62					
				Length (LF)= 1941		Length (LF)= 275		Length (LF)= -		Length (LF)= 25					
Spec	Code	Description	Unit	Cross Sectional Area (SF) or Width (LF)	Quantity (Ton/Gal/SY)	Cross Sectional Area (SF) or Width (LF)	Quantity (Ton/Gal/SY)	Cross Sectional Area (SF) or Width (LF)	Quantity (Ton/Gal/SY)	Cross Sectional Area (SF) or Width (LF)	Quantity (Ton/Gal/SY)	Cross Sectional Area (SF) or Width (LF)	Quantity (Ton/Gal/SY)		
302	0120	Aggregate Base Course CI 5 @ 1.875 Ton/CY	Ton	29.80	SF	21.55	SF	13.30	SF	0.00	SF	29.80	SF	4017.0	
401	0060	Prime Coat @ 0.35 Gal/SY	Gal	14.72	LF	9.22	LF	3.72	LF	0.00	LF	14.72	LF	1111.3	
401	0160	Blotter Material CI 44 @ 15 lbs/SY	Ton	14.72	LF	9.22	LF	3.72	LF	0.00	LF	14.72	LF	23.9	
401	0050	Tack Coat @ 0.05 Gal/SY (2nd Lift)	Gal	14.14	LF	8.64	LF	3.14	LF	8.33	LF	14.14	LF	159.7	
401	0050	Tack Coat @ 0.05 Gal/SY (3rd Lift)	Gal	18.81	LF	13.31	LF	7.81	LF	0.00	LF	18.81	LF	210.1	
430	0045	Superpave FAA 45 @ 2 Ton/CY	Ton	7.97	SF	4.99	SF	2.01	SF	1.14	SF	7.97	SF	1145.3	
430	5818	PG 58H-34 Asphalt Cement @ 6.0%	Ton	0.48		0.30		0.12		0.07		0.48		68.7	
709	0100	Geosynthetic Material Type G	SY	25.02	LF	19.52	LF	14.02	LF	0.00	LF	25.02	LF	5396.4	

Site 9 - RP 222.0				Typ 37 Station			Typ 39 Station			Transition From Typ 39 to Typ 41 Station			Typ 41 Station			Transition From Typ 41 to Typ 39 Station		
				11712+29 to 11713+04		11713+04 to 11713+04		11713+04 to 11715+29		11715+29 to 11722+89		11722+89 to 11723+97						
				Length (LF)= 75		Length (LF)= 0		Length (LF)= 225		Length (LF)= 760		Length (LF)= 108						
Spec	Code	Description	Unit	Cross Sectional Area (SF) or Width (LF)	Quantity (Ton/Gal/SY)	Cross Sectional Area (SF) or Width (LF)	Quantity (Ton/Gal/SY)	Cross Sectional Area (SF) or Width (LF)	Quantity (Ton/Gal/SY)	Cross Sectional Area (SF) or Width (LF)	Quantity (Ton/Gal/SY)	Cross Sectional Area (SF) or Width (LF)	Quantity (Ton/Gal/SY)					
302	0120	Aggregate Base Course CI 5 @ 1.875 Ton/CY	Ton	0.00	SF	13.30	SF	20.05	SF	26.80	SF	20.05	SF	150.4				
401	0060	Prime Coat @ 0.35 Gal/SY	Gal	0.00	LF	10.22	LF	14.72	LF	19.22	LF	14.72	LF	61.9				
401	0160	Blotter Material CI 44 @ 15 lbs/SY	Ton	0.00	LF	10.22	LF	14.72	LF	19.22	LF	14.72	LF	1.4				
401	0050	Tack Coat @ 0.05 Gal/SY (2nd Lift)	Gal	10.96	LF	10.96	LF	15.46	LF	19.96	LF	15.46	LF	9.7				
401	0050	Tack Coat @ 0.05 Gal/SY (3rd Lift)	Gal	9.81	LF	9.81	LF	14.31	LF	18.81	LF	14.31	LF	9.0				
430	0045	Superpave FAA 45 @ 2 Ton/CY	Ton	3.05	SF	5.03	SF	7.46	SF	9.90	SF	7.46	SF	59.7				
430	5818	PG 58H-34 Asphalt Cement @ 6.0%	Ton	0.18		0.30		0.45		0.59		0.45		3.6				
709	0100	Geosynthetic Material Type G	SY	0.00	LF	14.02	LF	18.52	LF	23.02	LF	18.52	LF	222.3				



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Site 9 - RP 222.0				Typ 39 Station			Typ 37 Station			Typ 38 Station			Typ 40 Station			Transition From Typ 40 to Typ 42 Station		
				11723+97	to	11723+97	11723+97	to	11724+33	11716+56	to	11716+92	11716+92	to	11716+92	11716+92	to	11718+00
				Length (LF)=		0	Length (LF)=		36	Length (LF)=		36	Length (LF)=		-	Length (LF)=		108
Spec	Code	Description	Unit	Cross Sectional Area (SF) or Width (LF)		Quantity (Ton/Gal/SY)	Cross Sectional Area (SF) or Width (LF)		Quantity (Ton/Gal/SY)	Cross Sectional Area (SF) or Width (LF)		Quantity (Ton/Gal/SY)	Cross Sectional Area (SF) or Width (LF)		Quantity (Ton/Gal/SY)	Cross Sectional Area (SF) or Width (LF)		Quantity (Ton/Gal/SY)
302	0120	Aggregate Base Course CI 5 @ 1.875 Ton/CY	Ton	13.30	SF	-	0.00	SF	-	0.00	SF	-	13.30	SF	-	20.05	SF	150.4
401	0060	Prime Coat @ 0.35 Gal/SY	Gal	10.22	LF	-	0.00	LF	-	0.00	LF	-	10.22	LF	-	14.72	LF	61.9
401	0160	Blotter Material CI 44 @ 15 lbs/SY	Ton	10.22	LF	-	0.00	LF	-	0.00	LF	-	10.22	LF	-	14.72	LF	1.4
401	0050	Tack Coat @ 0.05 Gal/SY (2nd Lift)	Gal	10.96	LF	-	10.96	LF	2.4	10.96	LF	2.4	10.96	LF	-	15.46	LF	9.7
401	0050	Tack Coat @ 0.05 Gal/SY (3rd Lift)	Gal	9.81	LF	-	9.81	LF	2.1	9.81	LF	2.1	9.81	LF	-	14.31	LF	9.0
430	0045	Superpave FAA 45 @ 2 Ton/CY	Ton	5.03	SF	-	3.05	SF	8.2	3.05	SF	8.2	5.03	SF	-	7.46	SF	59.7
430	5818	PG 58H-34 Asphalt Cement @ 6.0%	Ton	0.30		-	0.18		0.5	0.18		0.5	0.30		-	0.45		3.6
709	0100	Geosynthetic Material Type G	SY	14.02	LF	-	0.00	LF	-	0.00	LF	-	14.02	LF	-	18.52	LF	222.3

Site 9 - RP 222.0				Typ 42 Station			Transition From Typ 42 to Typ 40 Station			Typ 40 Station			Typ 38 Station		
				11718+00	to	11725+60	11725+60	to	11727+85	11727+85	to	11727+85	11727+85	to	11728+60
				Length (LF)=		760	Length (LF)=		225	Length (LF)=		-	Length (LF)=		75
Spec	Code	Description	Unit	Cross Sectional Area (SF) or Width (LF)		Quantity (Ton/Gal/SY)	Cross Sectional Area (SF) or Width (LF)		Quantity (Ton/Gal/SY)	Cross Sectional Area (SF) or Width (LF)		Quantity (Ton/Gal/SY)	Cross Sectional Area (SF) or Width (LF)		Quantity (Ton/Gal/SY)
302	0120	Aggregate Base Course CI 5 @ 1.875 Ton/CY	Ton	26.80	SF	1414.7	20.05	SF	313.3	13.30	SF	-	0.00	SF	-
401	0060	Prime Coat @ 0.35 Gal/SY	Gal	19.22	LF	568.2	14.72	LF	128.8	10.22	LF	-	0.00	LF	-
401	0160	Blotter Material CI 44 @ 15 lbs/SY	Ton	19.22	LF	12.2	14.72	LF	2.8	10.22	LF	-	0.00	LF	-
401	0050	Tack Coat @ 0.05 Gal/SY (2nd Lift)	Gal	19.96	LF	87.1	15.46	LF	20.2	10.96	LF	-	10.96	LF	4.9
401	0050	Tack Coat @ 0.05 Gal/SY (3rd Lift)	Gal	18.81	LF	82.3	14.31	LF	18.8	9.81	LF	-	9.81	LF	4.4
430	0045	Superpave FAA 45 @ 2 Ton/CY	Ton	9.90	SF	557.5	7.46	SF	124.4	5.03	SF	-	3.05	SF	17.0
430	5818	PG 58H-34 Asphalt Cement @ 6.0%	Ton	0.59		33.5	0.45		7.5	0.30		-	0.18		1.0
709	0100	Geosynthetic Material Type G	SY	23.02	LF	1944.2	18.52	LF	463.0	14.02	LF	-	0.00	LF	-

Spec	Code	Description	Unit	Sub-Total	Approach Sub-Total (See Sheet 20-3)	Additional Sites (See Sec 90)	Total
302	0120	Aggregate Base Course CI 5 @ 1.875 Ton/CY*	Ton	42438	6323	30280	79041
401	0060	Prime Coat @ 0.35 Gal/SY	Gal	11814	1860	7965	21639
401	0160	Blotter Material CI 44 @ 15 lbs/SY	Ton	255	40	171	466
401	0050	Tack Coat @ 0.05 Gal/SY	Gal	3939	257	2722	6918
430	0045	Superpave FAA 45 @ 2 Ton/CY	Ton	12160	1585	8386	22131
430	5818	PG 58H-34 Asphalt Cement @ 6.0%	Ton	730	95	503	1328
709	0100	Geosynthetic Material Type G	SY	56701		41842	98543

*Quantity shown does not account for salvaged material.



Basis of Estimate
Paving Quantities

US 52
South of Portal to Carrington

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	HEN-9-052(485)006	11	1

Earthwork Summary							
Location	Common Excavation - Earthwork	Common Excavation - Removals*	Common Excavation - Type A (Pay Item)	Embankment Volume**	Borrow-Excavation (Pay Item)	Common Excavation - Waste (Pay Item)	Topsoil (Pay Item)
	CY	CY	CY	CY	CY	CY	CY
Site 1 - RP 6.9 - LT	53	979	1,032	5,465	4,433	-	7,961
Site 1 - RP 6.9 - RT	79	914	993	4,905	3,912	-	
Site 2 - RP 20.6 - LT	283	1,636	1,919	2,986	1,067	-	7,298
Site 2 - RP 20.6 - RT	47	1,560	1,607	2,498	891	-	
Site 2 - RP 20.6 - Mitigation Site 1	10,108	-	10,108	-	-	10,108	4,234
Site 3 - RP 40.4 - LT	983	301	1,284	4,641	3,357	-	8,752
Site 3 - RP 40.4 - RT	1,251	347	1,598	4,445	2,847	-	
Site 4 - RP 118.5 - LT	195	861	1,056	3,505	2,449	-	6,126
Site 4 - RP 118.5 - RT	194	1,169	1,363	3,133	1,770	-	
Site 5 - RP 120.5 - LT	562	2,074	2,636	3,495	859	-	8,504
Site 5 - RP 120.5 - RT	299	1,581	1,880	3,056	1,176	-	
Site 6 - RP 127.6 - LT	565	438	1,003	1,604	601	-	5,396
Site 6 - RP 127.6 - RT	1,694	507	2,201	3,618	1,417	-	
Site 7 - RP 143.5 - LT	385	379	764	6,571	5,807	-	7,500
Site 7 - RP 143.5 - RT	362	348	710	7,121	6,411	-	
Site 8 - RP 149.9 - LT	98	572	670	2,265	1,595	-	5,675
Site 8 - RP 149.9 - RT	199	720	919	3,239	2,320	-	
Site 9 - RP 222.0 - LT	53	598	651	1,144	493	-	2,874
Site 9 - RP 222.0 - RT	121	717	838	2,034	1,196	-	
Totals=	17,531	15,701	33,232	65,725	42,601	10,108	64,320

*Removal of Aggregate Base and Surfacing to be paid for as Common Excavation - Type A. See Section 40.

**Embankment Volume has been increased by 25%



Earthwork Summary

US 52
South of Portal to Carrington

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	HEN-9-052(485)006	11	2

Iron Pin R/W Monument (Station & offsets from Chain EX_HWY52_RP215)

Point	Northing	Easting	Station	Offset	Desc	Include Iron Pin	Include R/W Marker
6010	700585.11	1476444.88	363+55.96	100.00	IPN R/W MON	x	
6011	700218.78	1476984.33	367+06.38	-450.02	IPN R/W MON	x	x
6012	700118.82	1476981.40	368+06.38	-450.00	IPN R/W MON	x	x
6013	700245.76	1476084.73	367+05.79	449.98	IPN R/W MON	x	x
6014	700145.80	1476081.80	368+05.63	450.00	IPN R/W MON	x	x
6015	698437.46	1476392.16	385+04.19	90.00	IPN R/W MON	x	x

Iron Pin R/W Monument (Station & offsets from Chain SCL52_RP20.6)

Point	Northing	Easting	Station	Offset	Desc	Include Iron Pin	Include R/W Marker
6020	695738.18	1548004.12	1107+03.44	101.00	TS R/W MON	x	x
6025	695725.82	1548305.28	1110+11.17	101.00	IPN R/W MON	x	x
6026	695716.85	1548304.52	1110+11.15	110.00	IPN R/W MON	x	x
6027	695707.85	1548391.64	1111+03.44	110.00	SC R/W MON	x	x
6028	695926.13	1548419.13	1111+03.44	-110.00	SC R/W MON	x	x

Iron Pin R/W Monument (Station & offsets from Chain SCL_HWY52_RP117)

Point	Northing	Easting	Station	Offset	Desc	Include Iron Pin	Include R/W Marker
6042	378682.04	1870451.98	6265+26.57	150.00	1/16 XING MON	x	x
6043	378611.61	1870451.08	6265+70.14	205.35	SEC XING MON	x	x
6044	378544.32	1870622.38	6267+45.67	150.00	SEC XING MON	x	x

Iron Pin R/W Monument (Station & offsets from Chain SCL_HWY52_RP118)

Point	Northing	Easting	Station	Offset	Desc	Include Iron Pin	Include R/W Marker
6051	372507.39	1878657.34	6367+77.81	140.00	CS R/W MON	x	x
6052	372463.39	1878920.01	6370+37.81	140.00	ST R/W MON	x	x
6053	372667.52	1879174.40	6372+58.68	-100.00	IPN R/W MON	x	x
6057	372305.78	1879491.80	6376+26.78	210.00	IPN R/W MON	x	x
6058	372298.54	1879539.47	6376+75.00	210.00	IPN R/W MON	x	x
6059	372407.30	1879555.98	6376+75.00	100.00	IPN R/W MON	x	x
6061	372823.32	1879544.25	6376+00.95	-309.55	IPN R/W MON	x	x
6062	372621.63	1879543.29	6376+30.28	-110.00	IPN R/W MON	x	x

Iron Pin R/W Monument (Station & offsets from Chain EX_HWY52_RP215)

Point	Northing	Easting	Station	Offset	Desc	Include Iron Pin	Include R/W Marker
6090	169220.80	2304757.56	11699+20.63	100.00	SC R/W MON	x	x
Total						23	22

Iron Pin Reference Monument (Station & offsets from Chain SCL52_RP40.4)

Point	Northing	Easting	Station	Offset	Desc	Include Iron Pin	Include R/W Marker
6030	628839.92	1586579.59	2133+62.85	100.00	1/4 XING MON	x	x
6031	628835.85	1586779.55	2133+62.85	-100.00	1/4 XING MON	x	x

Iron Pin Reference Monument (Station & offsets from Chain SCL_HWY52_RP117)

Point	Northing	Easting	Station	Offset	Desc	Include Iron Pin	Include R/W Marker
6040	380230.05	1869253.17	6245+82.88	-150.00	POT R/W MON	x	x
6041	380036.61	1869023.86	6245+82.88	150.00	POT R/W MON	x	x
6045	378692.47	1870916.33	6268+81.15	-150.00	POT R/W MON	x	x

Iron Pin Reference Monument (Station & offsets from Chain SCL_HWY52_RP118)

Point	Northing	Easting	Station	Offset	Desc	Include Iron Pin	Include R/W Marker
6050	373644.17	1877082.68	6348+50.26	-100.00	POT R/W MON	x	x
6060	372805.96	1879502.78	6375+62.56	-286.16	POT R/W MON	x	x
6070	365979.39	1916177.06	6748+61.31	200.00	SEC XING R/W	x	x

Iron Pin Reference Monument (Station & offsets from Chain SCL_HWY52_RP141)

Point	Northing	Easting	Station	Offset	Desc	Include Iron Pin	Include R/W Marker
6071	335717.96	1992527.01	7578+51.82	-100.02	PI R/W MON	x	x
6072	335517.96	1992526.71	7578+51.82	99.98	PI R/W MON	x	x
6073	335514.08	1995073.88	7603+99.00	100.00	SEC XING MON	x	

Iron Pin Reference Monument (Station & offsets from Chain SCL_HWY52_RP149)

Point	Northing	Easting	Station	Offset	Desc	Include Iron Pin	Include R/W Marker
6080	325128.22	2025797.56	7936+13.25	-100.00	POT R/W MON	x	x
6081	324984.64	2025658.33	7936+13.25	100.00	POT R/W MON	x	x

Iron Pin Reference Monument (Station & offsets from Chain EX_HWY52_RP215)

Point	Northing	Easting	Station	Offset	Desc	Include Iron Pin	Include R/W Marker
6091	169330.11	2305539.76	11706+86.24	-100.00	SEC XING R/W	x	x
Total						14	13



Iron Pin R/W & Reference Monuments

US 52
South of Portal to Carrington

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	HEN-9-052(485)006	11	3

Alignment Monument (Station & offsets from Chain SCL52_RP20.6)

Point	Northing	Easting	Station	Offset	Desc	Include Iron Pin
8020	695839.16	1548006.19	1107+03.44	0.00	TS MON	x
8021	695816.99	1548405.38	1111+03.44	0.00	SC MON	x

Alignment Monument (Station & offsets from Chain SCL_HWY52_RP117)

Point	Northing	Easting	Station	Offset	Desc	Include Iron Pin
8040	380133.33	1869138.51	6245+82.88	0.00	POT MON	x
8041	380111.96	1869156.54	6246+10.84	0.00	PC MON	x
8042	379514.86	1869660.23	6253+89.65	37.19	PI MON	x
8043	379023.82	1870267.76	6261+68.46	0.00	PT MON	x
8044	378575.81	1870822.04	6268+81.15	0.00	POT MON	x

Alignment Monument (Station & offsets from Chain SCL_HWY52_RP118)

Point	Northing	Easting	Station	Offset	Desc	Include Iron Pin
8050	373566.40	1877019.82	6348+50.26	0.00	POT MON	x
8051	373307.58	1877340.04	6352+61.99	0.00	TS MON	x
8052	373250.75	1877410.35	6353+52.40	0.17	TWP XING MON	x
8053	373147.24	1877544.67	6355+21.99	0.00	SC MON	x
8054	372644.71	1878684.61	6367+77.81	0.00	CS MON	x
8055	372523.04	1879459.83	6375+62.56	0.00	POT MON	x
8070	366176.25	1916212.31	6748+61.31	0.00	POT MON	x
8071	366122.16	1916514.43	6751+68.23	0.00	PC MON	x

Alignment Monument (Station & offsets from Chain SCL_HWY52_RP149)

Point	Northing	Easting	Station	Offset	Desc	Include Iron Pin
8080	325056.43	2025727.94	7936+13.25	0.00	POT MON	x

Alignment Monument (Station & offsets from Chain EX_HWY52_RP215)

Point	Northing	Easting	Station	Offset	Desc	Include Iron Pin
8090	169390.44	2304487.78	11696+20.63	0.00	TS MON	x
8091	169318.48	2304779.00	11699+20.63	0.00	SC MON	x
8092	169129.50	2305487.40	11706+38.29	101.71	SEC XING MON	x
8093	169107.72	2305570.86	11707+19.74	122.04	PI MON	x
8094	169307.58	2306365.55	11715+18.85	0.00	CS MON	x
8095	169375.54	2306657.73	11718+18.85	0.00	ST MON	x
Total						22

Removals (Station & offsets from Chain SCL_HWY52_RP118)

Point	Northing	Easting	Station	Offset	Iron Pin	R/W Marker
70500	372410.44	1879536.94	6376+55.70	99.75	x	x
Total					1	1

SPEC	CODE	BID ITEM	QTY	UNIT
720	0110	Right of Way Markers	35	EA
720	0125	Alignment Monuments	22	EA
720	0130	Iron Pin R/W Monuments	23	EA
720	0135	Iron Pin Reference Monuments	14	EA

Note:

1. See Standard Drawing D-720-1 for additional information
2. Removal of Iron Pins & R/W Markers are included in unit price bid for "Iron Pin R/W Markers" and "Right of Way Markers"



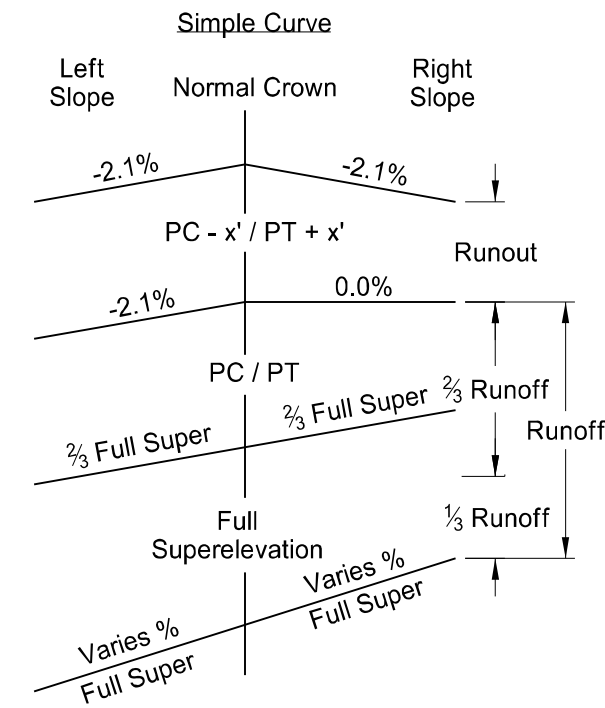
R/W Monuments
US 52
South of Portal to Carrington

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	HEN-9-052(485)006	20	1

Site 2 - RP 20.6		
Curve 52_1		65 mph
T.S. Station	1107+03.44	
S.C. Station	1111+03.44	
P.I. Station (Total Combination)	1128+20.90	
Delta (Total Combination)	90° 07' 07.03" RT	
Degree	2° 59' 58.75"	
Tangent	2117.46	
Length (Simple Curve)	2604.3	
L	400.00	
Radius	1,910.08	
C.S. Station	1137+07.74	
S.T. Station	1141+07.74	
Station	Left Slope	Right Slope
1105+63.44	-2.1%	-2.1%
1107+03.44	0.0%	-2.1%
1108+43.44	2.1%	-2.1%
1109+70.11	4.0%	-4.0%
1111+03.44	6.0%	-6.0%
1137+07.74	6.0%	-6.0%
1138+41.07	4.0%	-4.0%
1139+67.74	2.1%	-2.1%
1141+07.74	0.0%	-2.1%
1142+47.74	-2.1%	-2.1%
		eProposed = 6%
Runoff Length = 400 ft		Runout Length = 140 ft

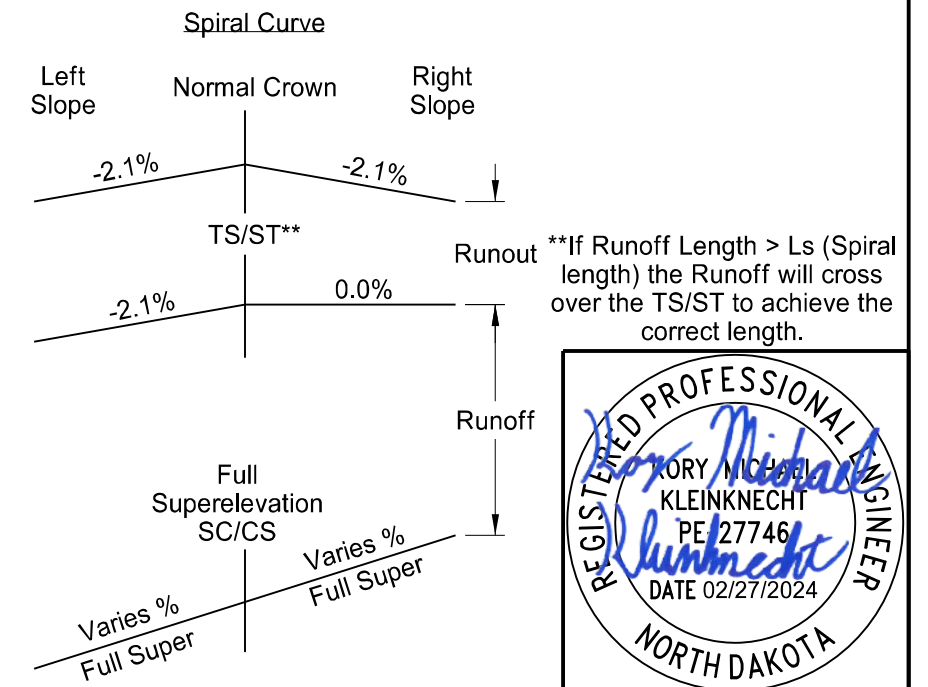
Site 3 - RP 40.4		
Curve SCS1001		65 mph
T.S. Station	2104+30.33	
S.C. Station	2107+30.33	
P.I. Station (Total Combination)	2111+98.87	
Delta (Total Combination)	30° 11' 16.89" RT	
Degree	2° 30' 00.00"	
Tangent	768.55	
Length (Simple Curve)	907.52	
L	300.00	
Radius	2,291.83	
C.S. Station	2116+37.85	
S.T. Station	2119+37.85	
Station	Left Slope	Right Slope
2103+17.83	-2.1%	-2.1%
2104+30.33	0.0%	-2.1%
2105+42.83	2.1%	-2.1%
2106+30.33	3.7%	-3.7%
2107+30.33	5.6%	-5.6%
2116+37.85	5.6%	-5.6%
2117+37.85	3.7%	-3.7%
2118+25.35	2.1%	-2.1%
2119+37.85	0.0%	-2.1%
2120+50.35	-2.1%	-2.1%
		eProposed = 5.6%
Runoff Length = 300 ft		Runout Length = 112.5 ft

Site 4 - RP 118.5		
Curve C203		65 mph
P.C. Station	6246+10.84	
P.I. Station	6253+92.00	
Delta	10° 54' 11.81" LT	
Degree	0° 41' 59.99"	
Tangent	781.17	
Length	1557.62	
Radius	8,185.16	
P.T. Station	6261+68.46	
Station	Left Slope	Right Slope
6244+56.43	-2.1%	-2.1%
6245+44.07	-2.1%	0.0%
6246+31.71	-2.1%	2.1%
6246+44.23	-2.4%	2.4%
6261+35.07	-2.4%	2.4%
6261+47.59	-2.1%	2.1%
6262+35.23	-2.1%	0.0%
6263+22.87	-2.1%	-2.1%
		eProposed = 2.4%
Runoff Length = 100.2 ft		Runout Length = 87.6 ft



Site 5 - RP 120.5		
Curve SCS27658		65 mph
T.S. Station	6352+61.99	
S.C. Station	6355+21.99	
P.I. Station (Total Combination)	6361+68.35	
Delta (Total Combination)	30° 18' 53.59" LT	
Degree	1° 59' 59.65"	
Tangent	906.36	
Length (Simple Curve)	1255.82	
L	260.00	
Radius	2,864.93	
C.S. Station	6367+77.81	
S.T. Station	6370+37.81	
Station	Left Slope	Right Slope
6351+52.79	-2.1%	-2.1%
6352+61.99	-2.1%	0.0%
6353+71.19	-2.1%	2.1%
6354+35.32	-3.3%	3.3%
6355+21.99	-5.0%	5.0%
6367+77.81	-5.0%	5.0%
*6369+91.01	0.0%	0.0%
		eProposed = 5%
Runoff Length = 260 ft		Runout Length = 109.2 ft

Site 9 - RP 222.0		
Curve C200408		45 mph
T.S. Station	11696+20.63	
S.C. Station	11699+20.63	
P.I. Station (Total Combination)	11707+40.01	
Delta (Total Combination)	28° 28' 20.53" LT	
Degree	1° 29' 59.84"	
Tangent	1119.37	
Length (Simple Curve)	1598.21	
L	300.00	
Radius	3,819.83	
C.S. Station	11715+18.85	
S.T. Station	11718+18.85	
Station	Left Slope	Right Slope
11693+58.13	-2.1%	-2.1%
11696+20.63	-2.1%	0.0%
11698+83.13	-2.1%	2.1%
11699+20.63	-2.4%	2.4%
11715+18.85	-2.4%	2.4%
11715+56.35	-2.1%	2.1%
*11716+92.00	-2.1%	0.0%
*11717+98.00	-2.1%	-2.1%
		eProposed = 2.4%
Runoff Length = 300 ft		Runout Length = 262.5 ft



*Transition rates adjusted to match existing grades/railroad crossing

*Transition rates adjusted to match existing grades/railroad crossing

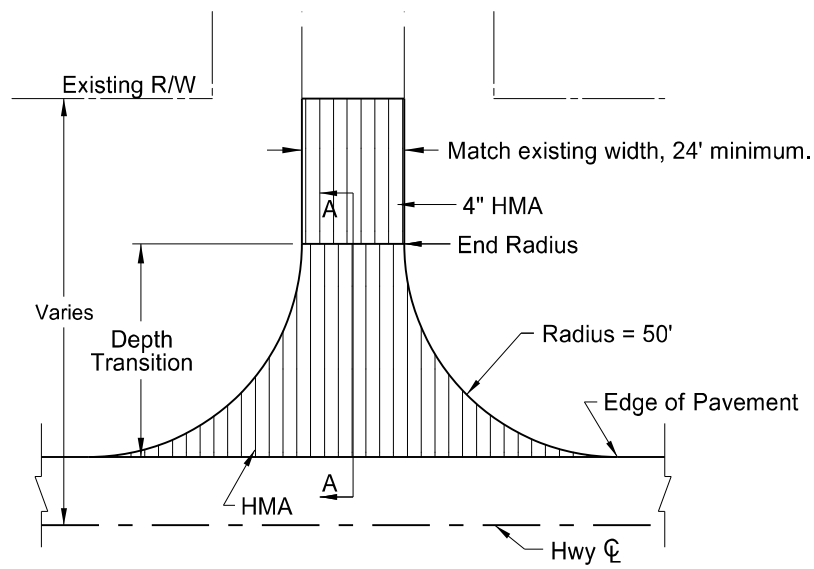
NOTES:

Calculations are based on AASHTO method five, a mainline design speed of 65mph (Sites 1-8) or 45mph (Site 9), and a maximum superelevation of 6%.

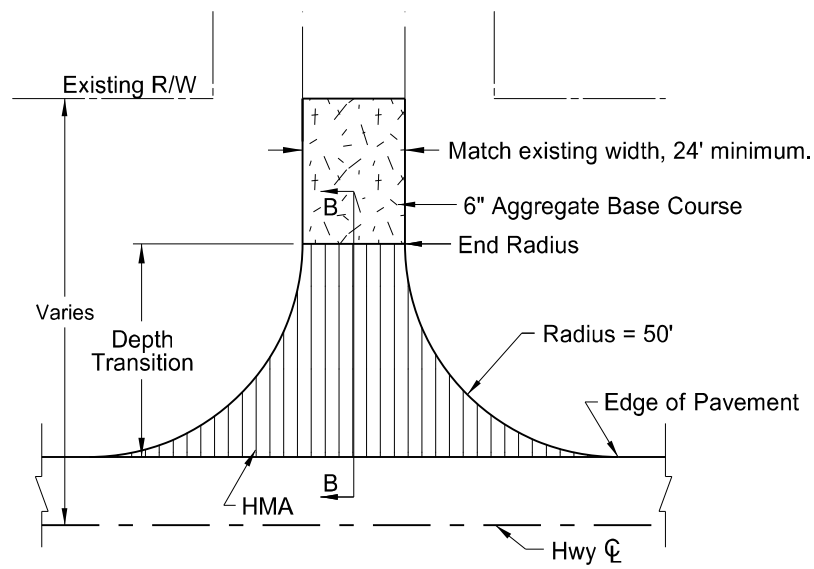
Match existing slopes through railroad crossings.

Superelevation Tables
US 52
South of Portal to Carrington

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	HEN-9-052(485)006	20	2



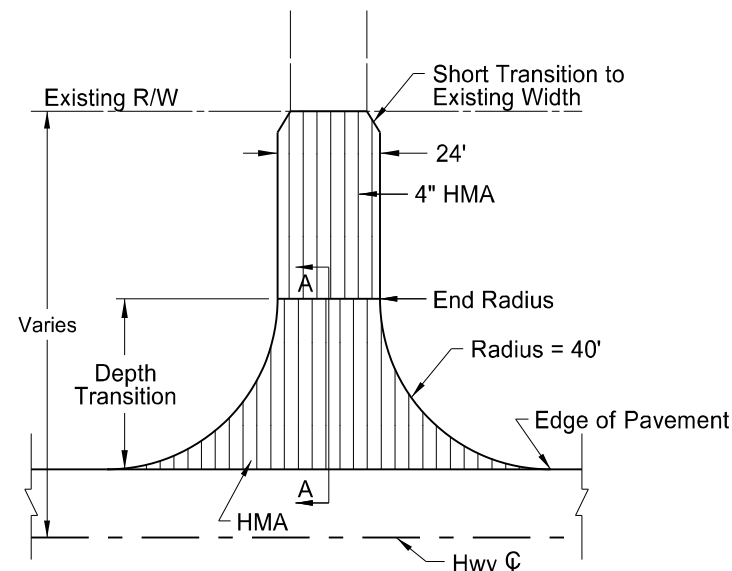
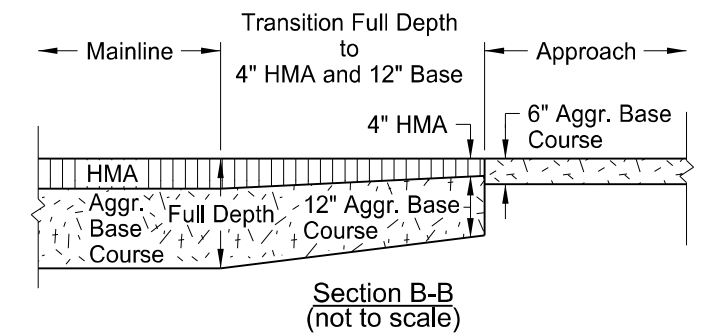
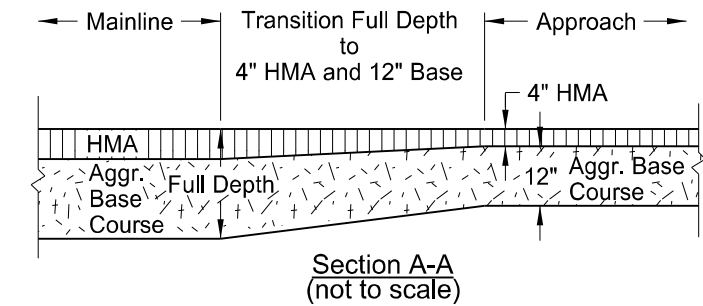
(1) Paved Section Line, County Road, or Street Approach



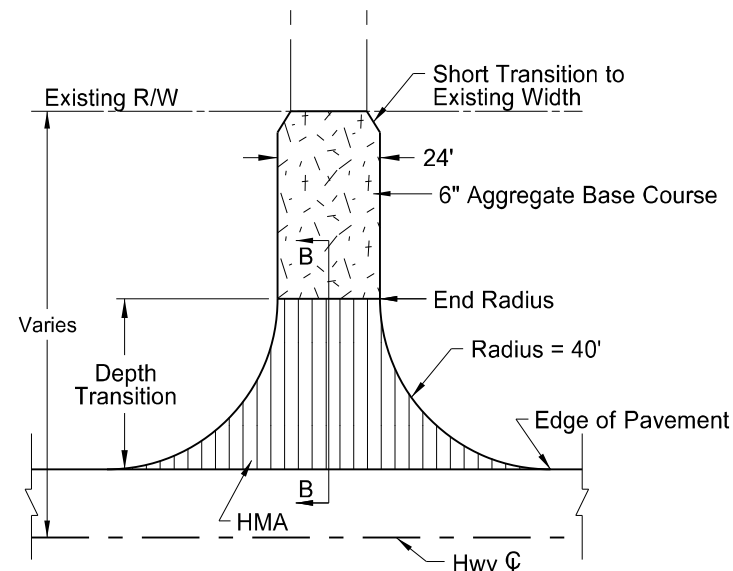
(2) Gravel Section Line, County Road, or Street Approach

Notes:

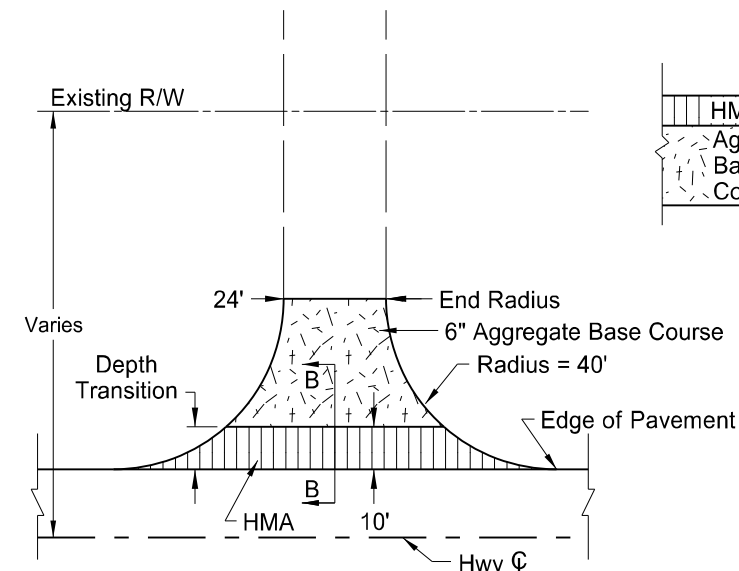
- Actual HMA paving and aggregate base course locations may vary in the field, as approved by the Engineer.
- Quantity totals have been included in the bid items of the "Estimate of Quantities" of the plans.



(3) Paved Private Drive Approach



(4) Gravel Private Drive Approach



(5) Field Drive Approach



Approach Paving Details for
New or Regrading Rural Approaches
(Approach Grading)
US 52
South of Portal to Carrington

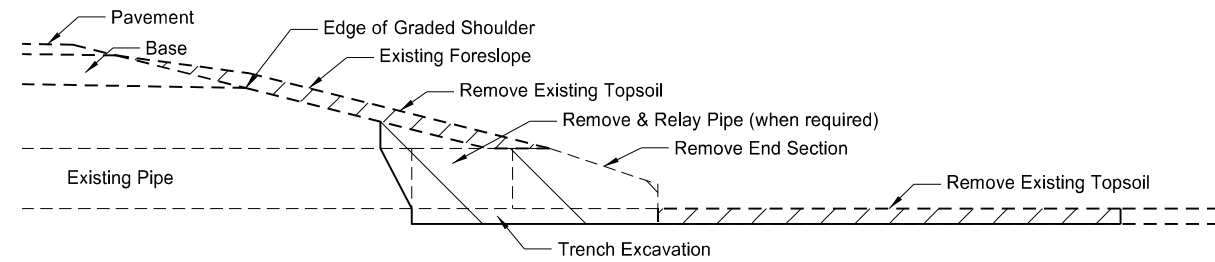
	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	HEN-9-052(485)006	20	3

Approach				302-0120	401-0050	401-0060	401-0160	430-0045	430-5818
Station	Offset	Type	Description	Aggregate Base Course CI 5	Tack Coat	Prime Coat	Blotter Material CI 44	Superpave FAA 45	PG 58H-34 Asphalt Cement
				TON	GAL	GAL	TON	TON	TON
363+93.00	RT	Type 5	Field Drive	146	3.9	28	0.6	26	1.6
363+94.00	LT	Type 5	Field Drive	169	3.9	28	0.6	26	1.6
371+19.00	RT	Type 5	Field Drive	155	3.9	28	0.6	26	1.6
1099+78.00	LT	Type 5	Field Drive	131	3.9	28	0.6	26	1.6
1109+09.00	RT	Type 5	Field Drive	159	3.9	28	0.6	26	1.6
1109+20.00	LT	Type 3	Paved Private Drive	291	15.3	113	2.4	86	5.1
2133+63.00	RT	Type 5	Field Drive	150	3.9	28	0.6	26	1.6
2141+69.00	RT	Type 5	Field Drive	141	3.9	28	0.6	26	1.6
2149+12.00	RT	Type 4	Gravel Private Drive	234	9.6	70	1.5	61	3.7
6255+14.00	RT	Type 4	Gravel Private Drive	333	11.4	83	1.8	71	4.2
6262+69.00	LT	Type 4	Gravel Private Drive	278	9.6	70	1.5	61	3.7
6354+78.00	LT	Type 1	Paved Section Line	598	30.0	219	4.7	190	11.4
6375+63.00	LT	Type 1	Paved Section Line	460	21.5	155	3.3	135	8.1
6375+79.00	RT	Type 1	Paved Section Line	702	27.9	200	4.3	173	10.4
6734+36.00	LT	Type 4	Gravel Private Drive	287	14.2	104	2.2	83	5.0
6737+08.00	LT		Recovery Approach	0	0.0	0	0.0	0	0.0
6737+26.00	RT	Type 1	Paved Street	297	15.3	112	2.4	89	5.3
6748+52.00	LT	Type 1	Paved Section Line	359	18.0	131	2.8	111	6.6
6748+70.00	RT	Type 1	Paved Section Line	528	27.9	203	4.3	160	9.6
7580+80.00	LT	Type 5	Field Drive	149	4.1	29	0.6	27	1.6
7594+16.00	RT	Type 5	Field Drive	155	3.9	28	0.6	26	1.6
7915+30.00	LT	Type 5	Field Drive	149	3.9	28	0.6	26	1.5
7915+30.00	RT	Type 4	Gravel Private Drive	280	12.7	92	2.0	78	4.7
11725+21.00	RT	Type 5	Field Drive	172	3.9	28	0.6	26	1.5
Total=				6323	257	1860	40	1585	95

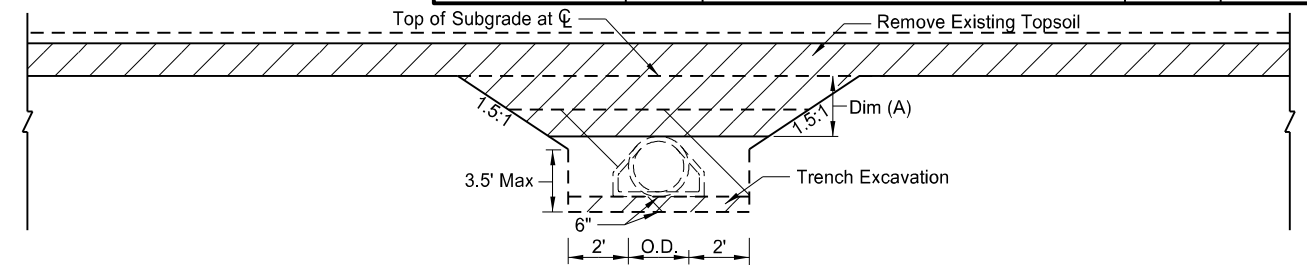


Approach Paving Quantities

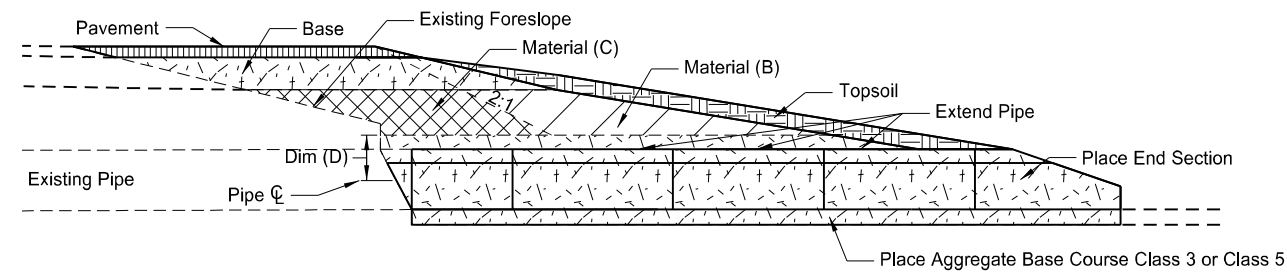
US 52
South of Portal to Carrington



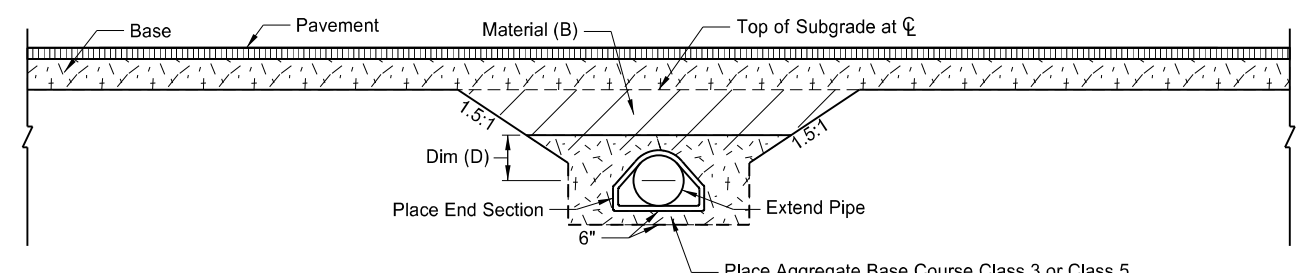
Removal Section
Cross Section View



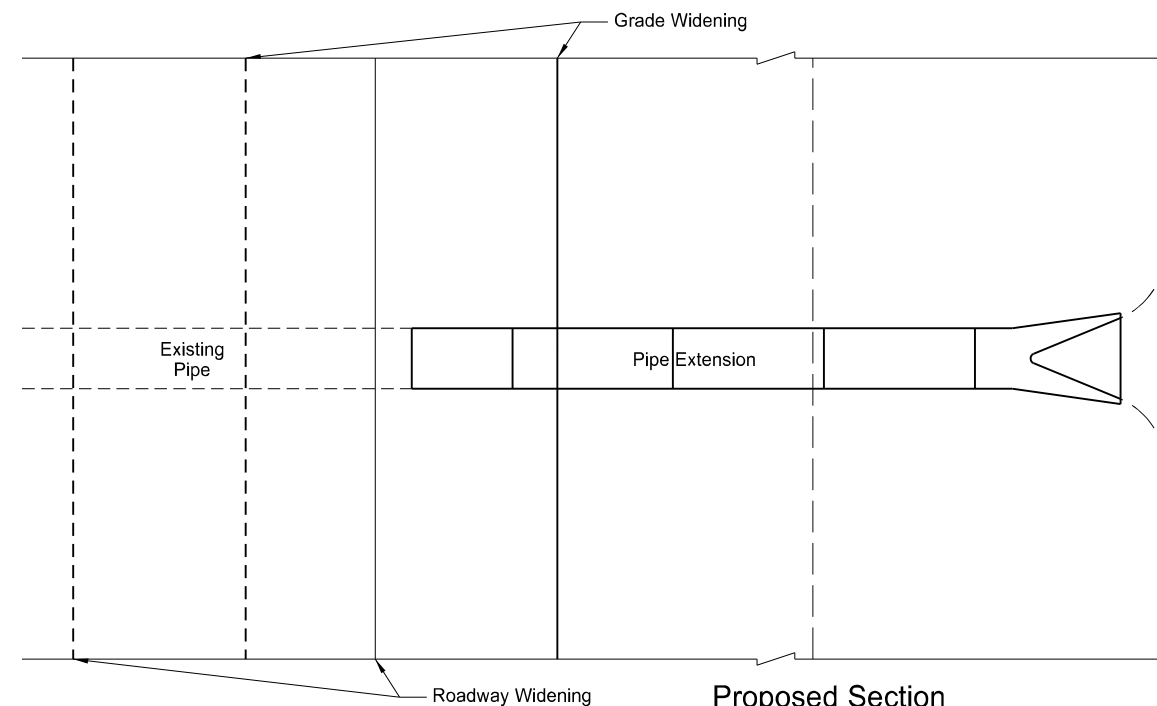
Removal Detail
Side View



Proposed Section
Cross Section View



Backfill Detail
Side View (Topsoil not shown)



Proposed Section
Plan View

Pay Items

- 1) Pipe*
- 2) Remove & Relay Pipe - All Types & Sizes (when required)
- 3) Remove & Reset End Section or Remove End Section and Place New End Section
- 4) Borrow Excavation or Common Excavation
- 5) Topsoil
- 6) Seeding
- 7) Mulching

***Included in Pipe Pay Item**

- 1) Pipe
- 2) Trench excavation
- 3) Aggregate Base Course Class 3 or Class 5

Pipe Materials	Dim (A) ≤ 4 Feet		Backfill Dimension
	Material (B)	Material (C)	Dim (D)
Concrete	Embank or Aggr	Aggregate	0.5 O.D.
Metal	Embank or Aggr	Aggregate	0.5 O.D.+1 Foot

Pipe Materials	Dim (A) > 4 Feet		Backfill Dimension
	Material (B)	Material (C)	Dim (D)
Concrete	Embankment	Embankment	0.5 O.D.
Metal	Embankment	Embankment	0.5 O.D.+1 Foot

NOTES:

1. Embankment may be either Borrow Excavation or Common Excavation
2. Aggregate may be either Class 3 or Class 5 Aggregate Base Course.

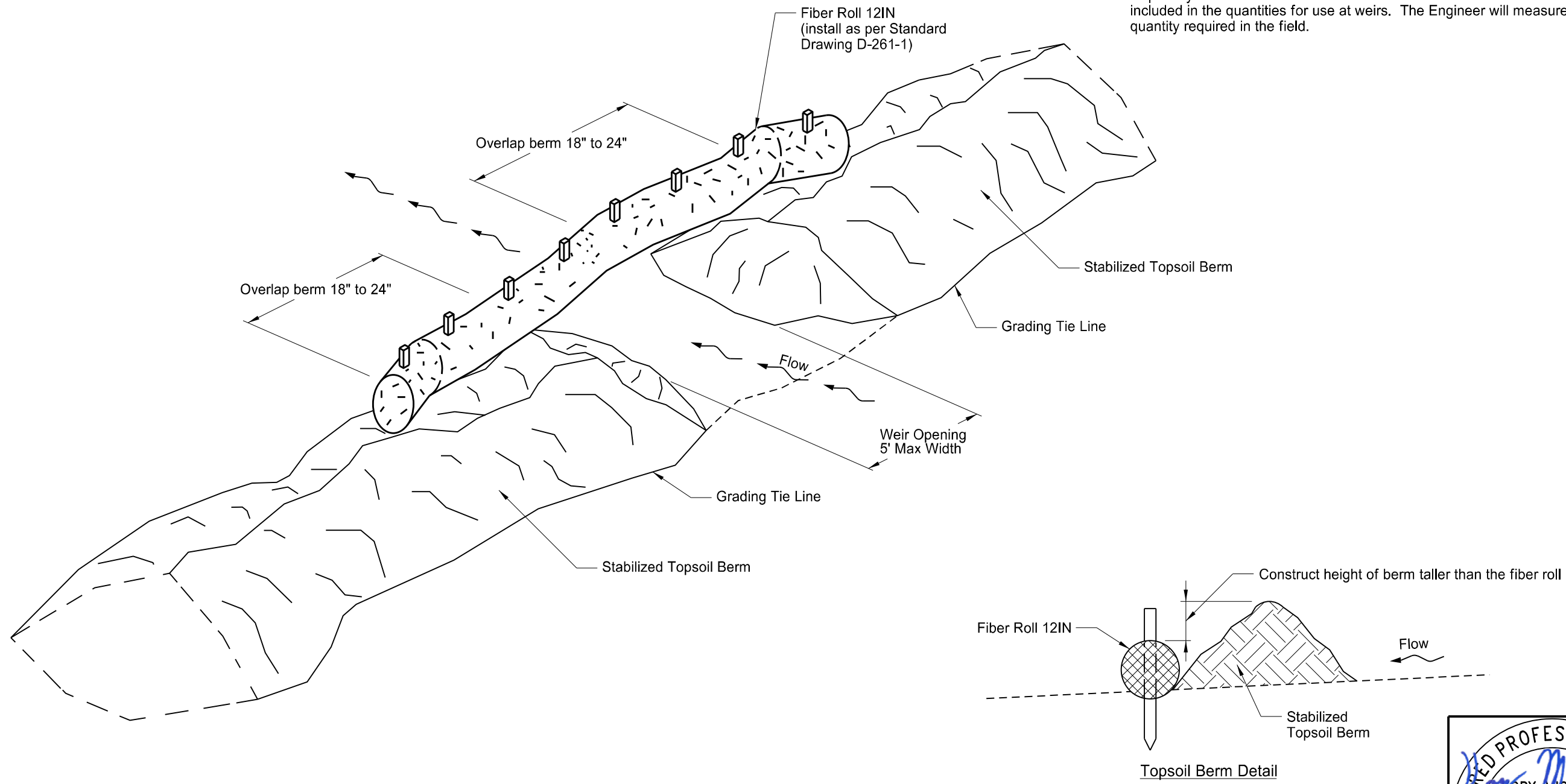


Mainline Widening CL Pipe Extension Detail

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A quantity of 350 LF of "Fiber Roll 12IN" and "Remove Fiber Rolls 12IN" has been included in the quantities for use at weirs. The Engineer will measure the actual quantity required in the field.



Notes:

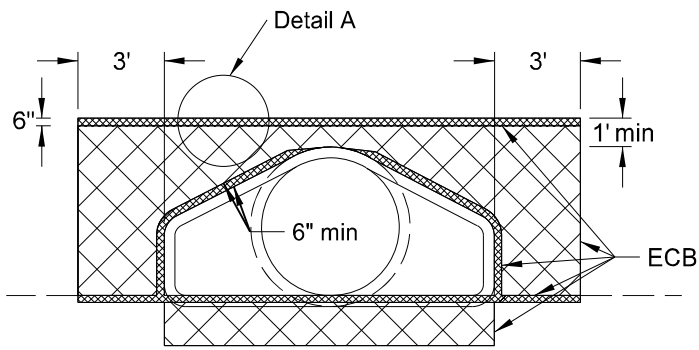
1. Windrow the existing topsoil from the foreslope to create a berm at the grading tie line.
2. Stabilize berms in accordance with the Construction General Permit.
3. Place weirs intermittently throughout the length of the berm to allow stormwater to drain through the berm.
4. Avoid placing weirs adjacent to waterbodies.
5. Install fiber rolls as the weirs are created in the topsoil berm.
6. Include costs to create, stabilize, maintain, and dismantle the berm in the unit price bid for "Topsoil".
7. Include costs for fiber rolls in the unit price bid for "Fiber Rolls 12IN".



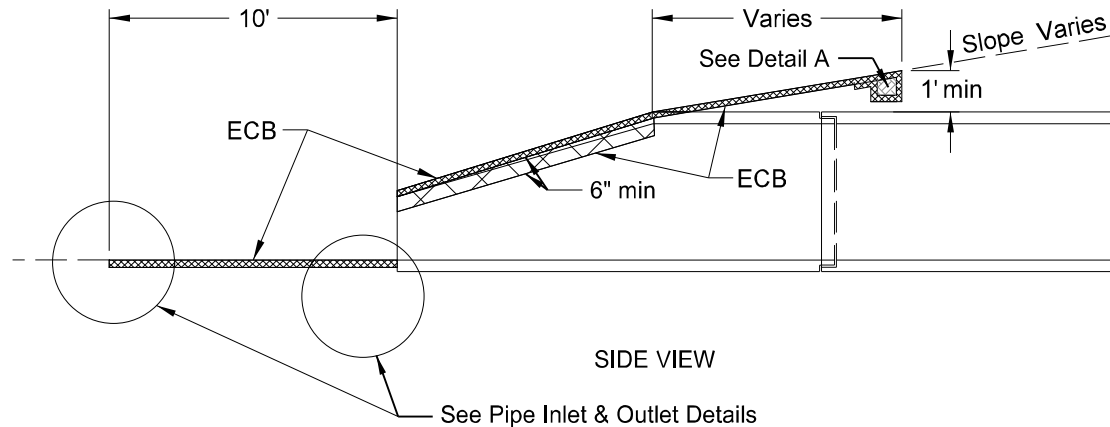
Temporary Topsoil Berm and Weir Detail

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South of Portal to Carrington

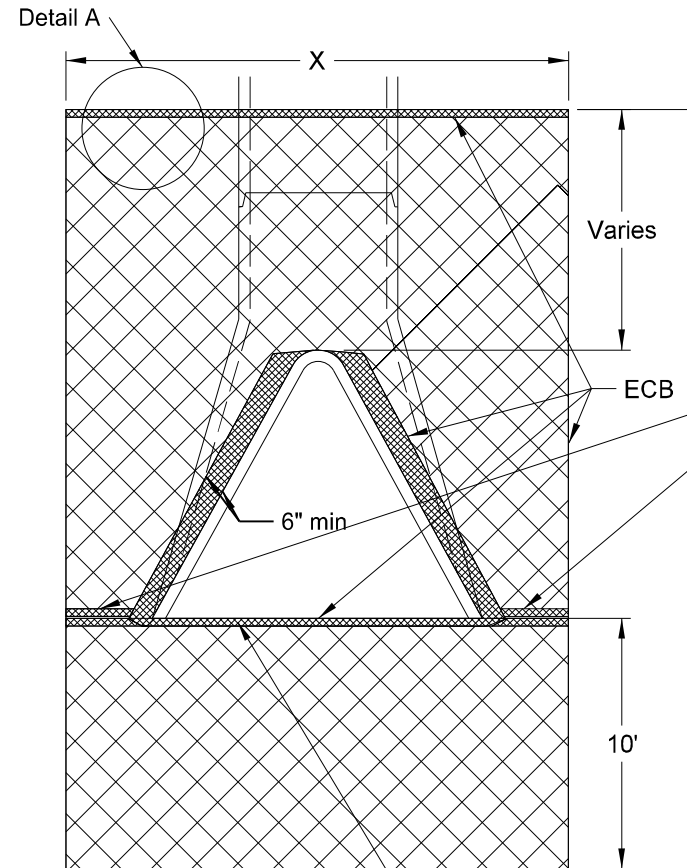
STATE	PROJECT NO.	SECTION NO.	SHEET NO.
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FRONT VIEW



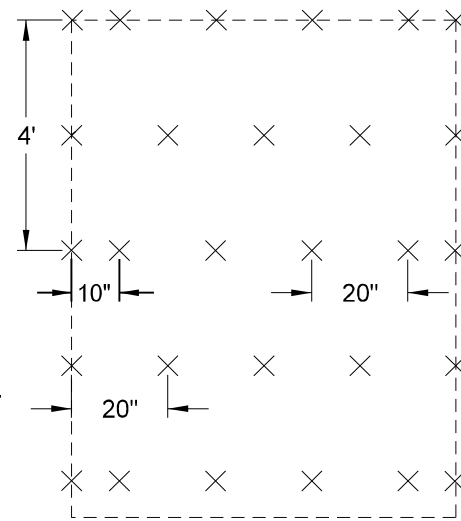
SIDE VIEW



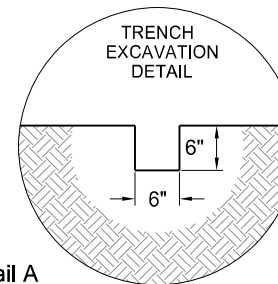
TOP VIEW

Inlet side - see applicable detail for pipe inlet.
Outlet side - see applicable detail for pipe outlet.

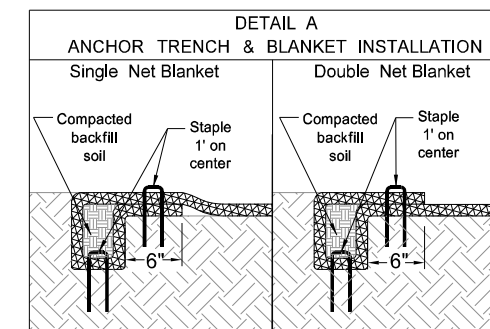
Tuck this end a minimum of 6" into the embankment.



STAPLE PATTERN



TRENCH EXCAVATION DETAIL



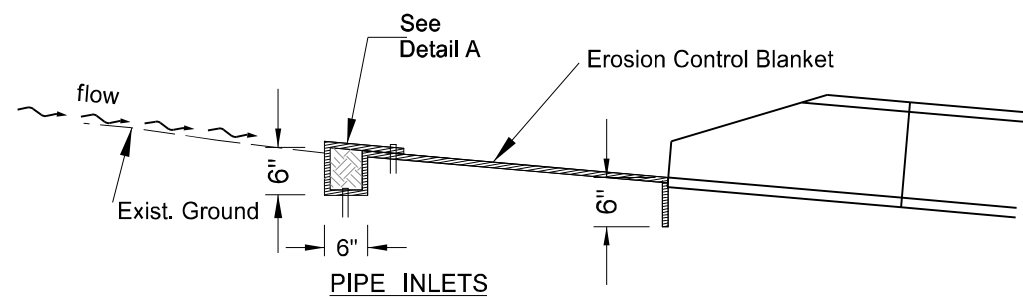
DETAIL A

ANCHOR TRENCH & BLANKET INSTALLATION

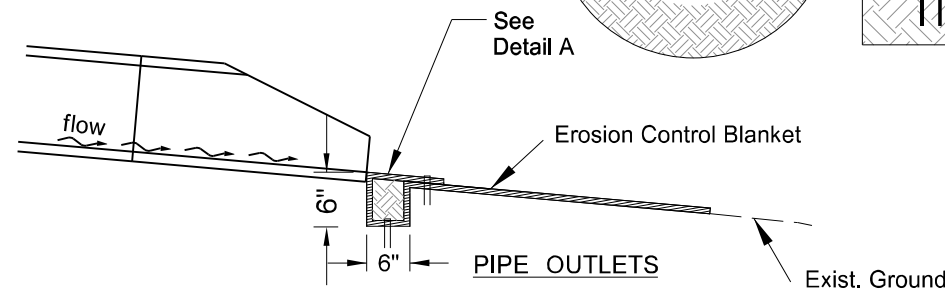
Single Net Blanket Double Net Blanket



NOTE: Tuck the ECB a minimum of 6" into the embankment (against the flared end section) around the opening of the flared end section.



PIPE INLETS



PIPE OUTLETS

Erosion Control at Culvert Flared End Sections

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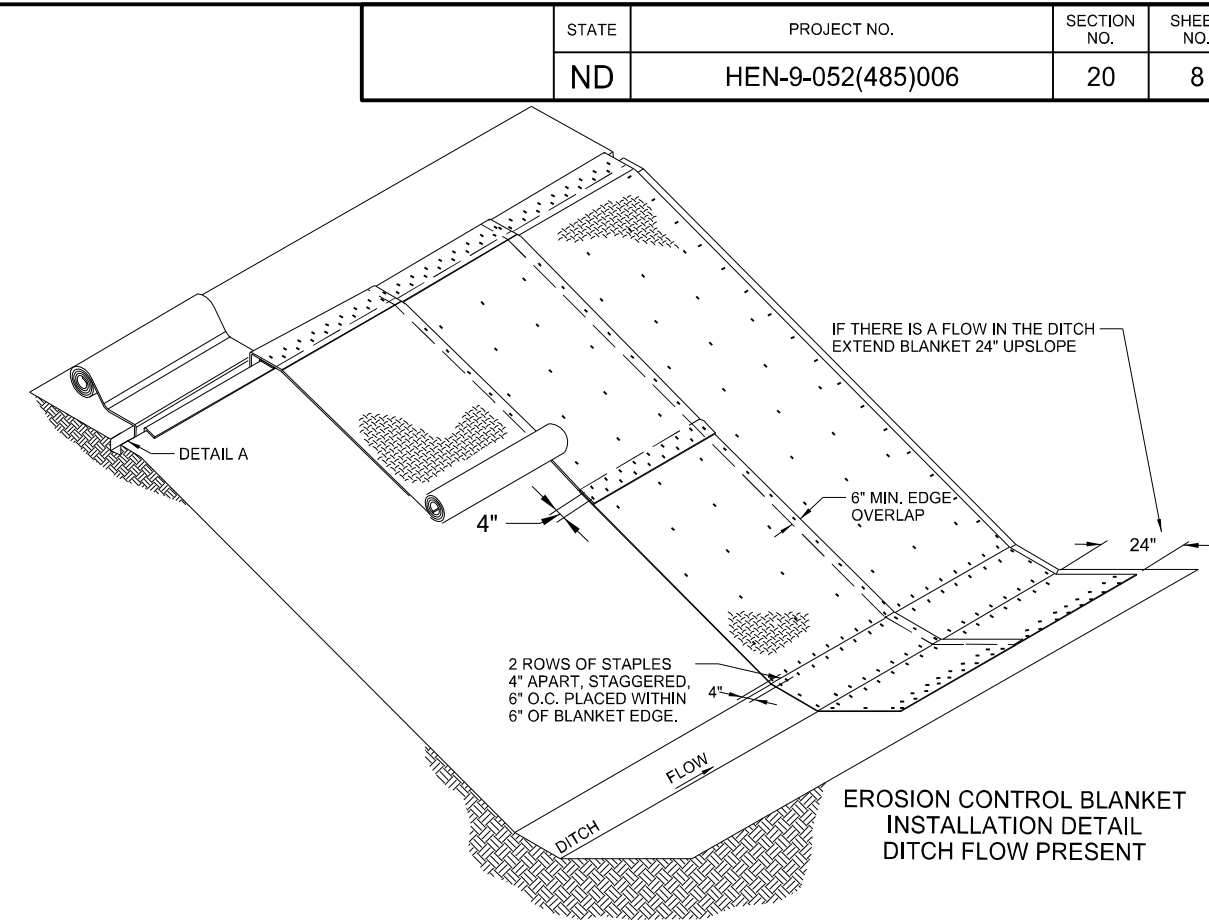
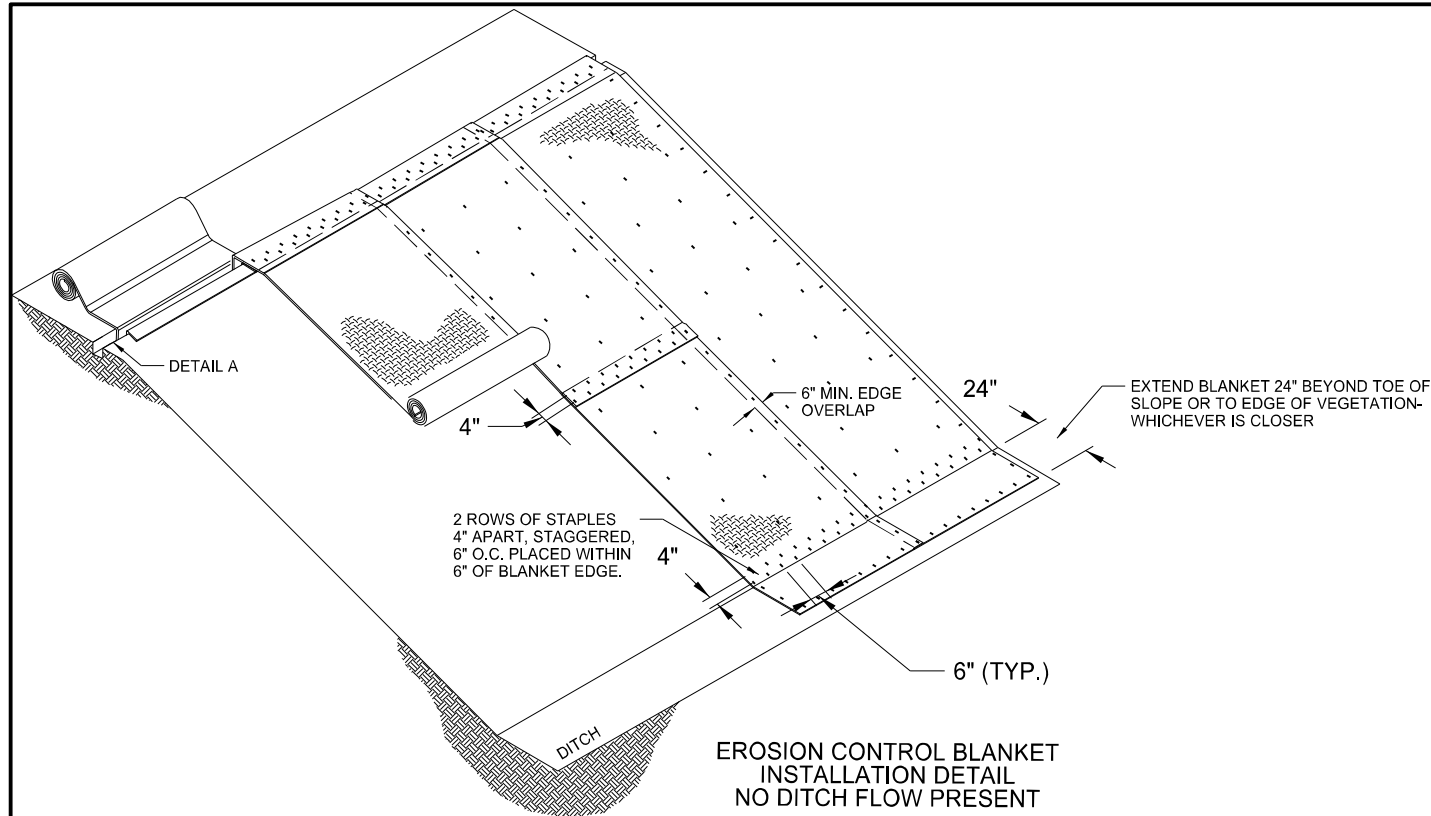
Erosion Control at Culvert End Sections															
Location to be Protected	Culvert Type	Pipe Diam.	No.	Unit Quantity	Total Quantity	Total Quantity	Location to be Protected	Culvert Type	Pipe Diam.	No.	Unit Quantity	Total Quantity	Total Quantity		
Station	Appr/CL	(inch)		(SY)	ECB Type 2 (SY)	TRM Type I (SY)	Station	Appr/CL	(inch)		(SY)	ECB Type 2 (SY)	ECB Type 2 (SY)		
Site 1 - RP 6.9: Acceleration and Deceleration Lanes							Site 6 - RP 127.6: EB and WB Turn Lanes								
358+19	CL	30	1	25	25	-	6734+36	Appr	24	2	24	48	-		
363+92	Appr	18	2	22	44	-	6736+67	CL	24	2	22	44	-		
371+19	Appr	24	2	24	48	-	6736+72	CL	24	2	22	44	-		
373+50	CL	30	2	25	50	-	6746+43	CL	42	2	28	56	-		
					SITE 1 TOTAL =	167	0	6746+51	CL	42	2	28	56	-	
							6746+59	CL	42	2	28	56	-		
							6746+70	CL	42	2	28	56	-		
							6748+84	Appr	24	2	24	48	-		
					SITE 2 TOTAL =	162	0						SITE 6 TOTAL =	408	0
							Site 7 - RP 143.5: Acceleration and Deceleration Lanes								
1091+05	CL	24	1	22	22	-	7576+02	CL	24	2	22	48	-		
1100+29	CL	24	2	22	44	-	7580+81	Appr	24	2	24	48	-		
1109+09	Appr	24	2	24	48	-	7589+84	CL	42	1	28	42	-		
1109+20	Appr	24	2	24	48	-	7594+16	Appr	24	2	24	48	-		
					SITE 2 TOTAL =	162	0						SITE 7 TOTAL =	186	0
							Site 8 - RP 149.9: EB and WB Turn Lanes								
							7923+38	CL	24	2	22	48	-		
					SITE 3 TOTAL =	154	54						SITE 8 TOTAL =	48	0
							Site 9 - RP 222.0: Acceleration and Deceleration Lanes								
2133+63	Appr	30	2	27	-	54	11719+34	CL	24	2	22	48	-		
2137+92	CL	54	2	31	62	-						SITE 9 TOTAL =	48	0	
2141+68	Appr	18	2	22	44	-									
2149+12	Appr	24	2	24	48	-									
					SITE 3 TOTAL =	154	54								
							Site 4 - RP 118.5: EB and WB Turn Lanes								
6256+64	CL	72	2	35	70	-									
					SITE 4 TOTAL =	70	0								
							Site 5 - RP 120.5: Acceleration and Deceleration Lanes								
6352+63	CL	24	1	22	22	-									
6357+56	CL	24	1	22	22	-									
6374+47	CL	24	2	24	48	-									
					SITE 5 TOTAL =	92	0								
ECB TYPE 2 TOTAL = 1335 SY															
TRM TYPE 1 TOTAL = 54 SY															



Erosion Control at Culvert Flared End Sections

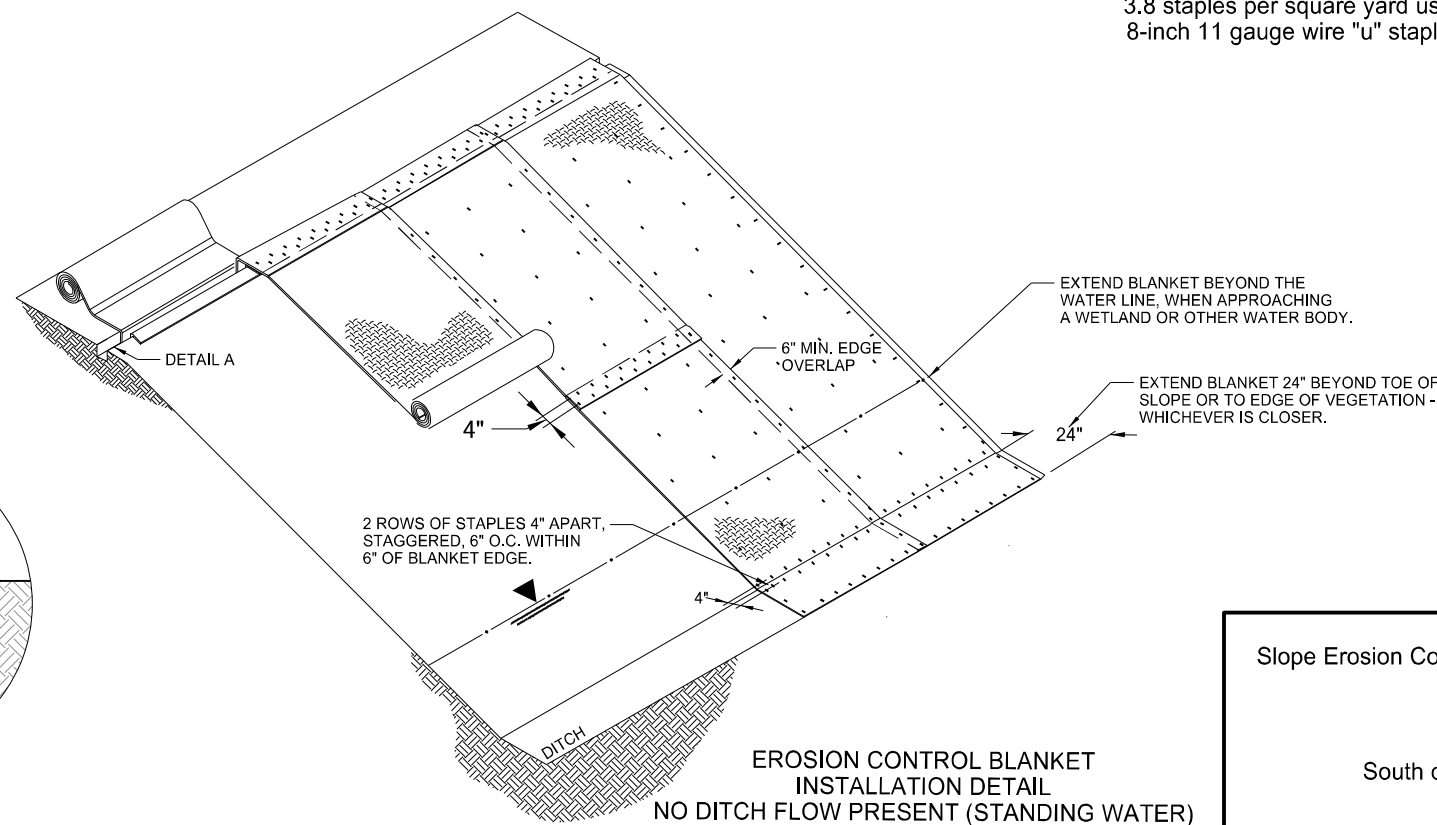
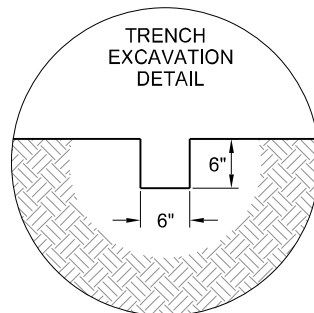
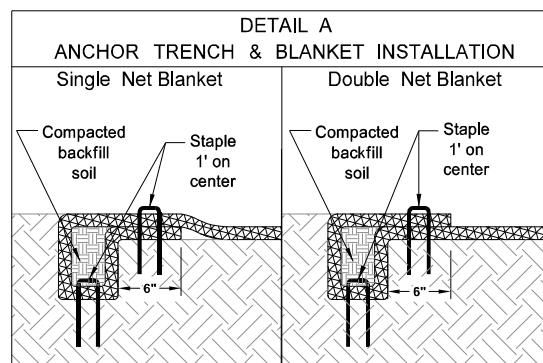
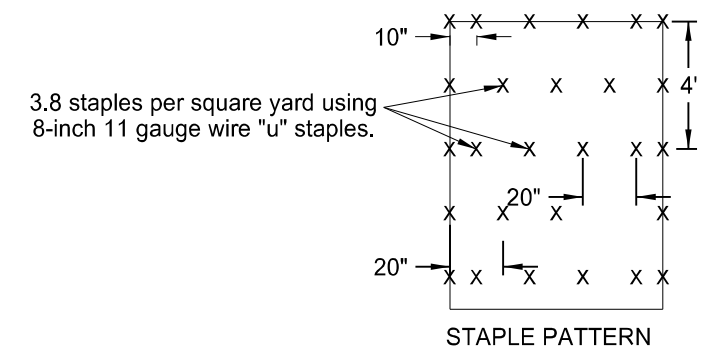
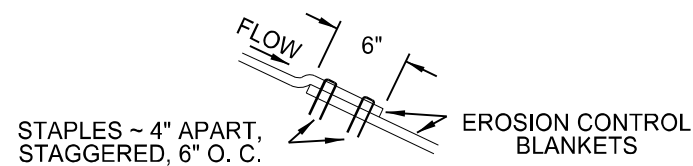
US 52
South of Portal to Carrington

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INSTALLATION STEPS:

1. Prepare smooth slope per spec. section 255
2. Amend soil and seed, as specified.
3. Dig anchor trench. Set aside native soil removed from trench.
4. Secure blanket in anchor trench, staking or stapling blanket as shown.
5. Replace native soil previously removed from trench.
6. Staple blanket as shown so there are no gaps between the blanket and the soil.
Staple while unrolling blanket to minimize walking on blanket.
7. Install splices a minimum 24 inches prior to toe of slope.



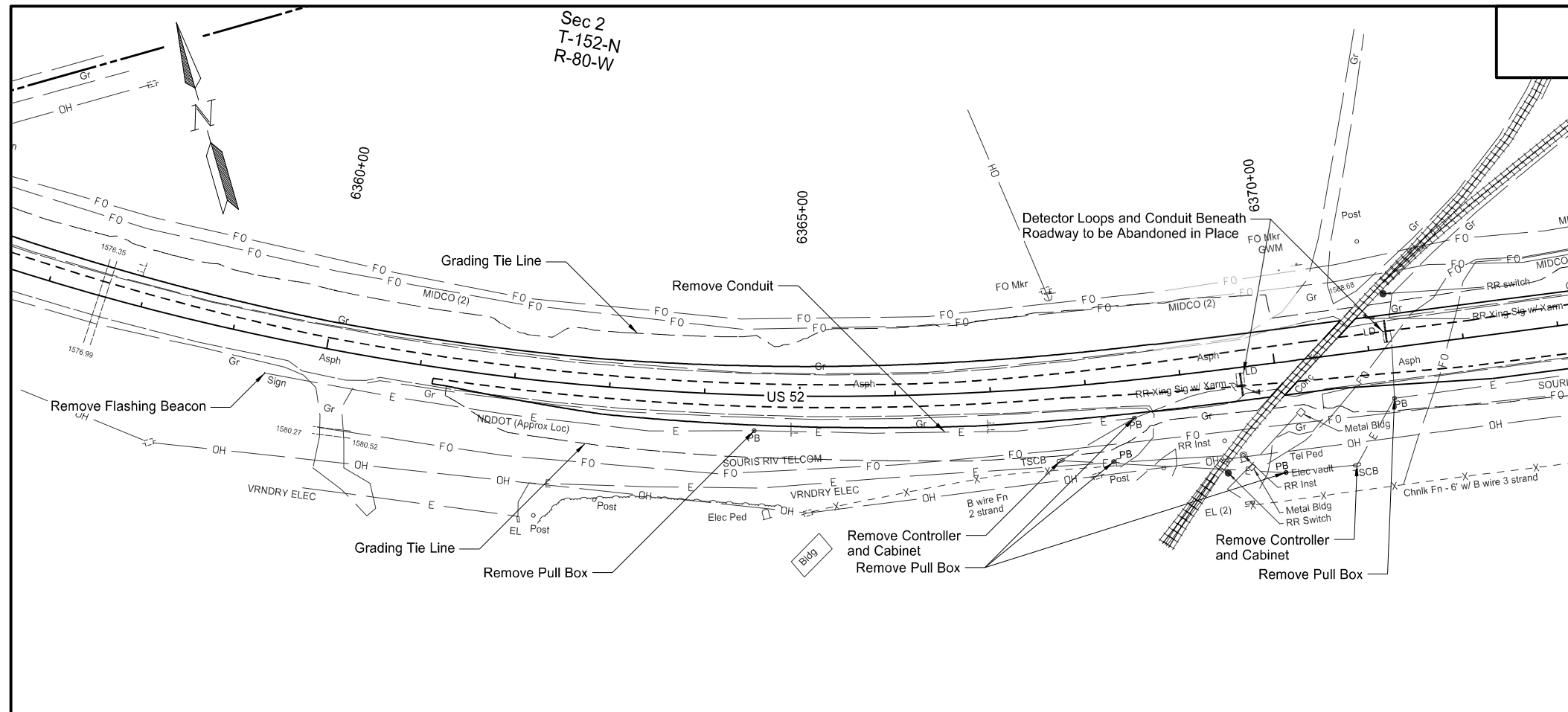
NOTE:
Install Single Net Blanket with netting on top of installed blanket.

Slope Erosion Control Blanket Installation Details

US 52
South of Portal to Carrington

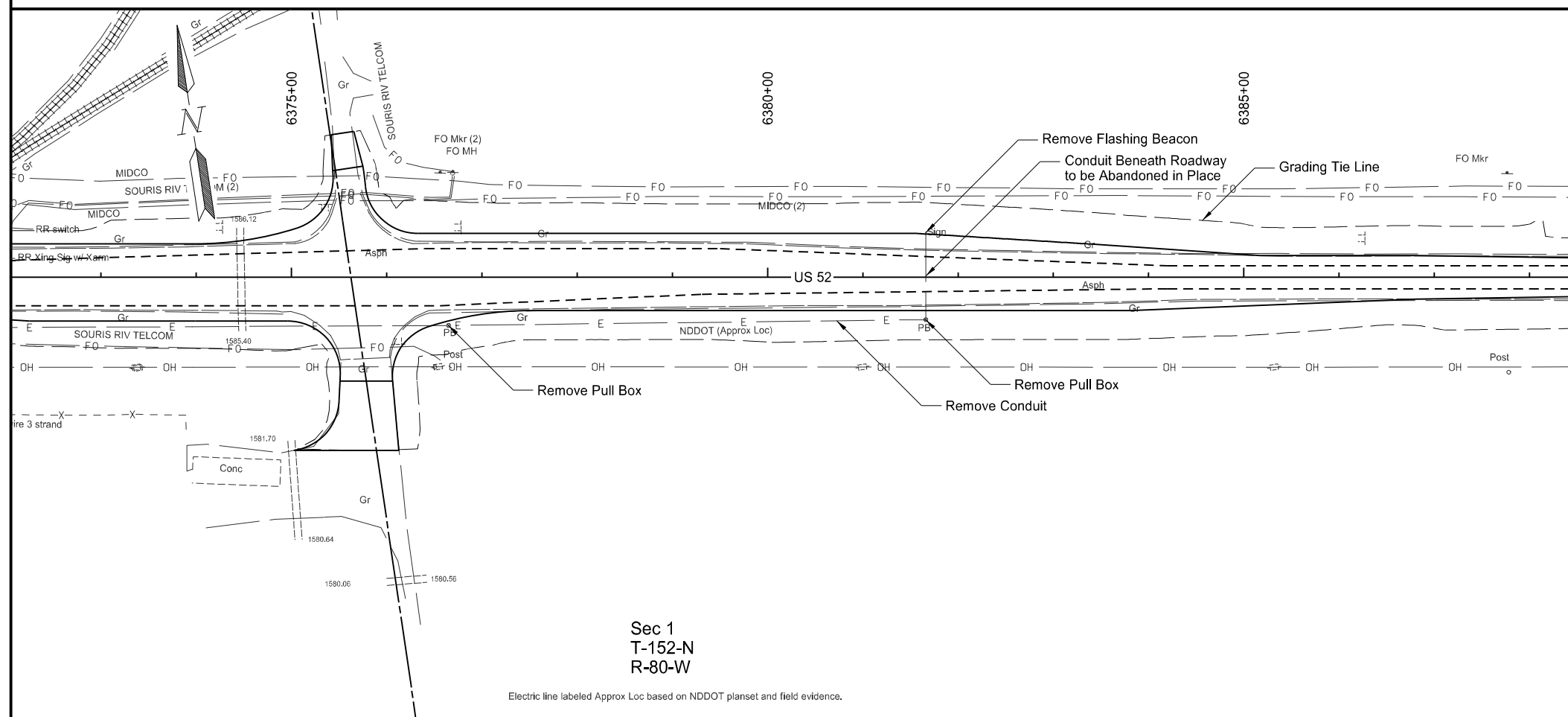
Sec 2
T-152-N
R-80-W

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	HEN-9-052(485)006	20	9



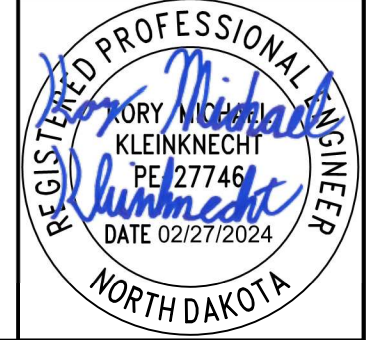
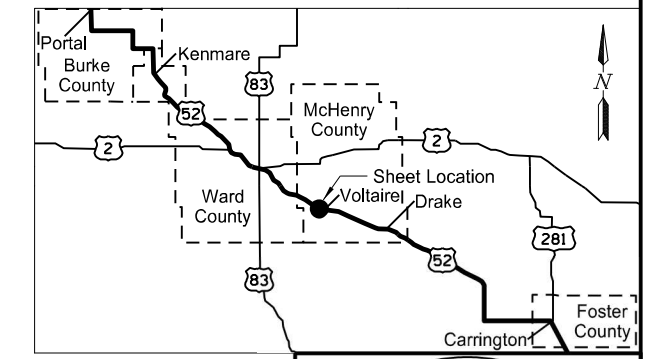
Remove Flashing Beacon System	*Quantity		
Remove Pull Box	7	EA	
Remove Controller and Cabinet	2	EA	
Remove Flashing Beacon	2	EA	
Remove Conduit	2485	LF	

*Quantities shown for informational purposes only. Include all costs in price bid for 772-3150 Remove Flashing Beacon.



Sec 1
T-152-N
R-80-W

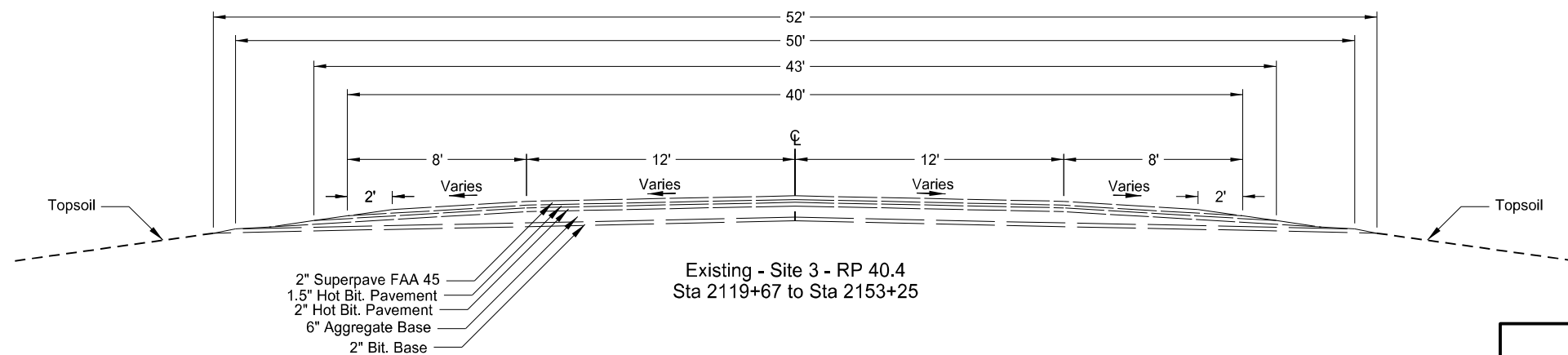
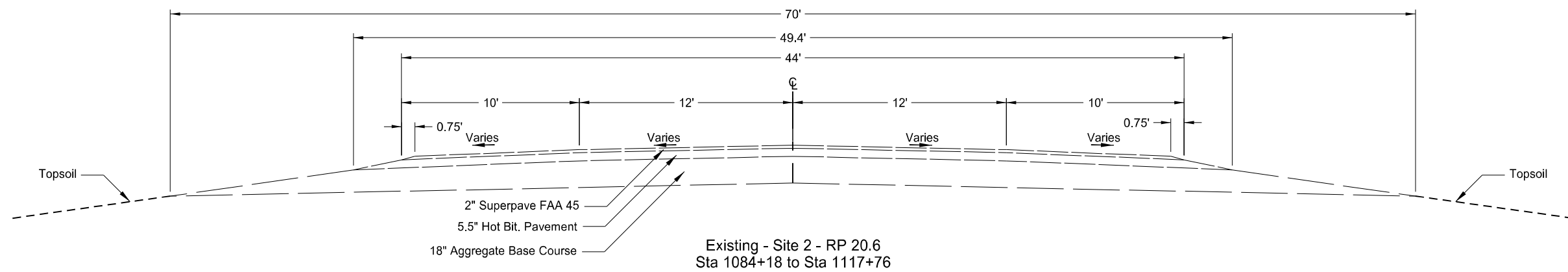
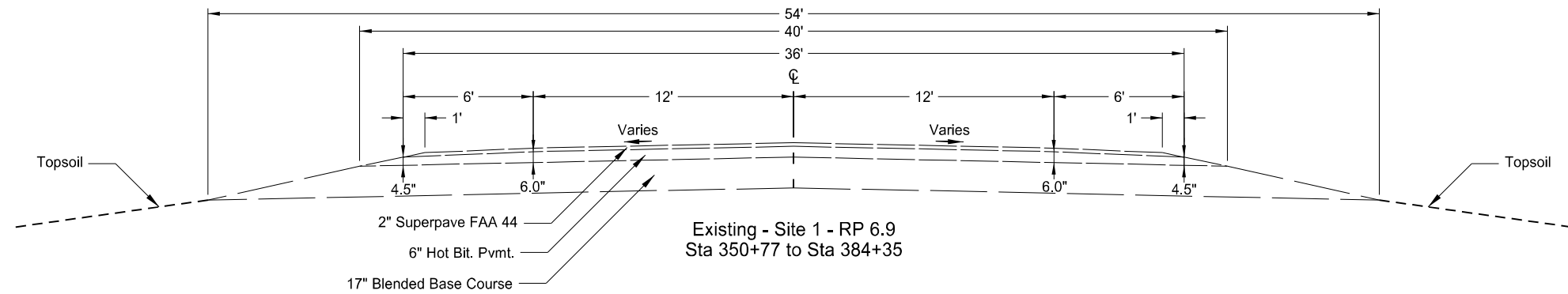
Electric line labeled Approx Loc based on NDDOT planset and field evidence.



Remove Flashing Beacon System
RP 120.5

US 52
South of Portal to Carrington
McHenry County

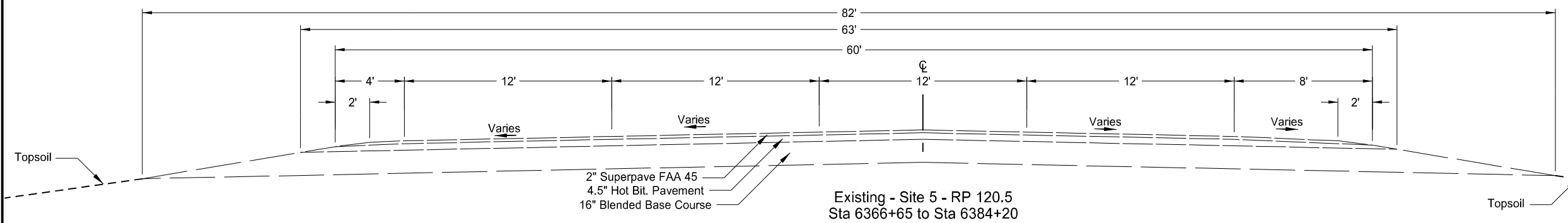
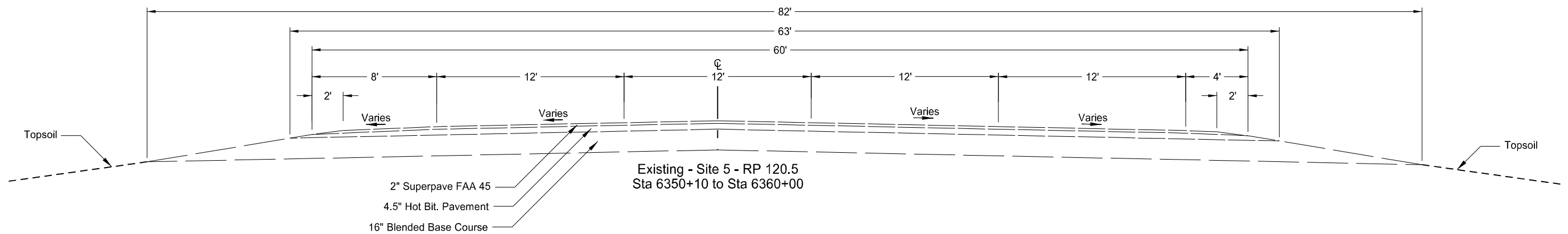
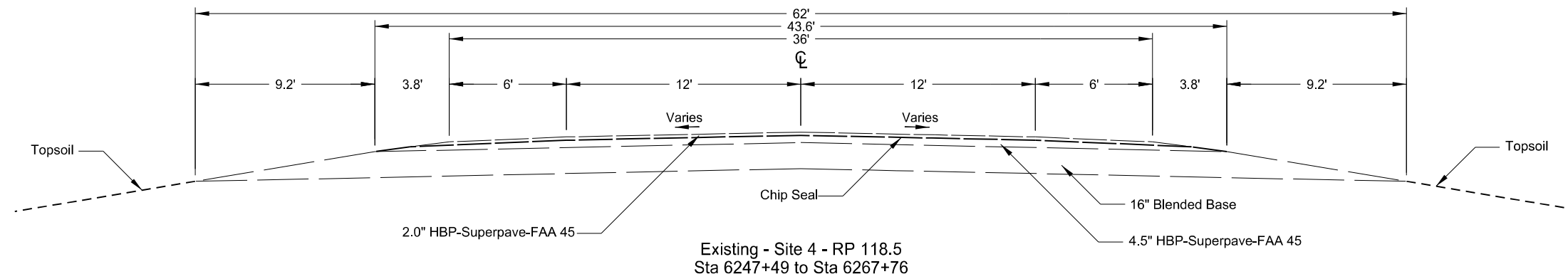
STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	HEN-9-052(485)006	30	1



Existing Typical Sections

US 52
South of Portal to Carrington

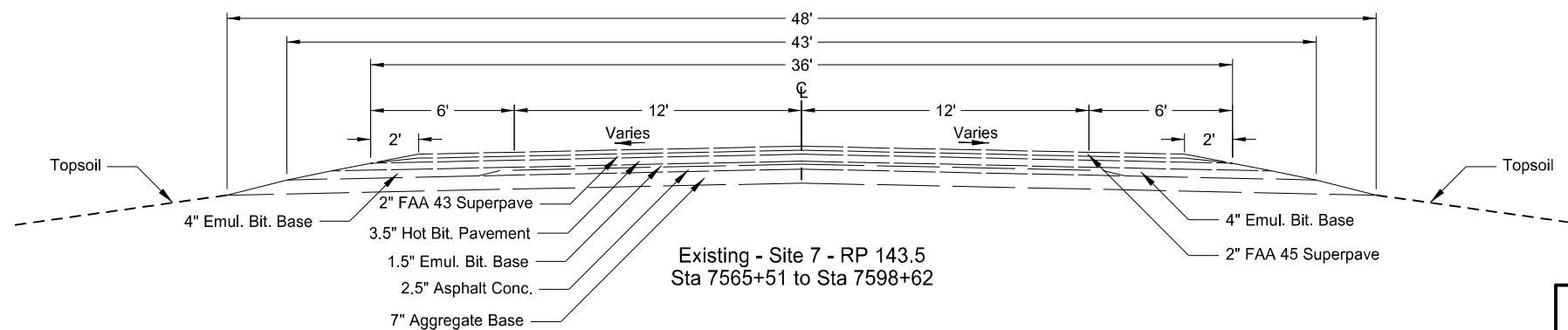
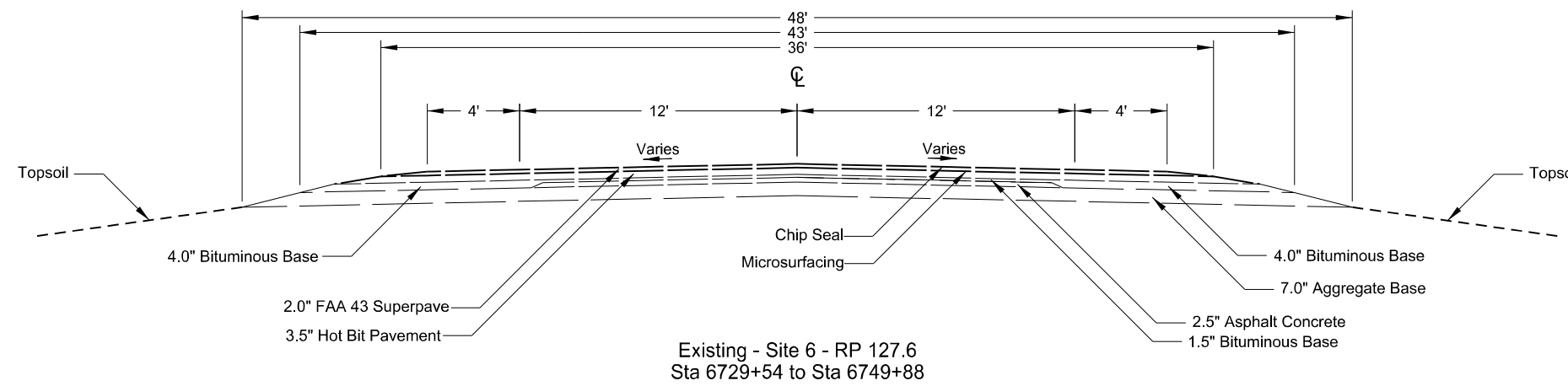
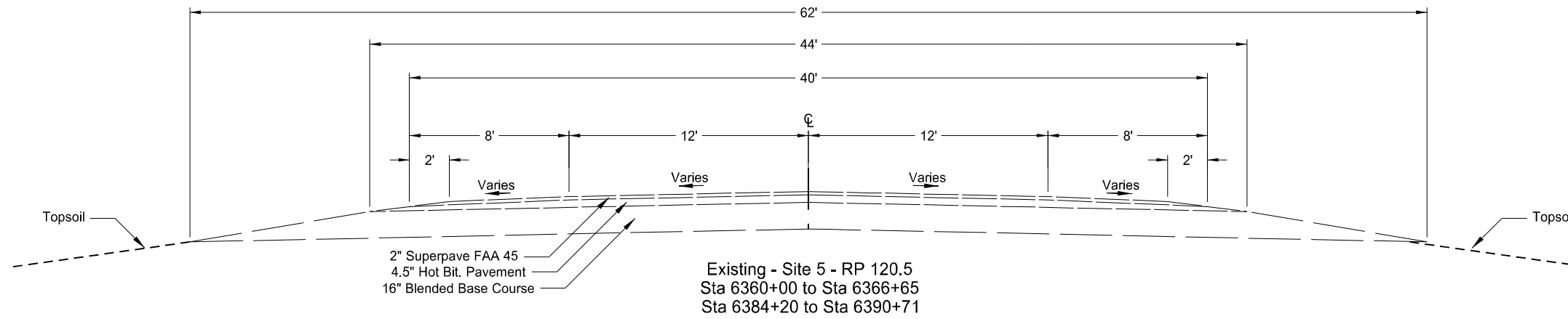
STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	HEN-9-052(485)006	30	2



Existing Typical Sections

US 52
South of Portal to Carrington

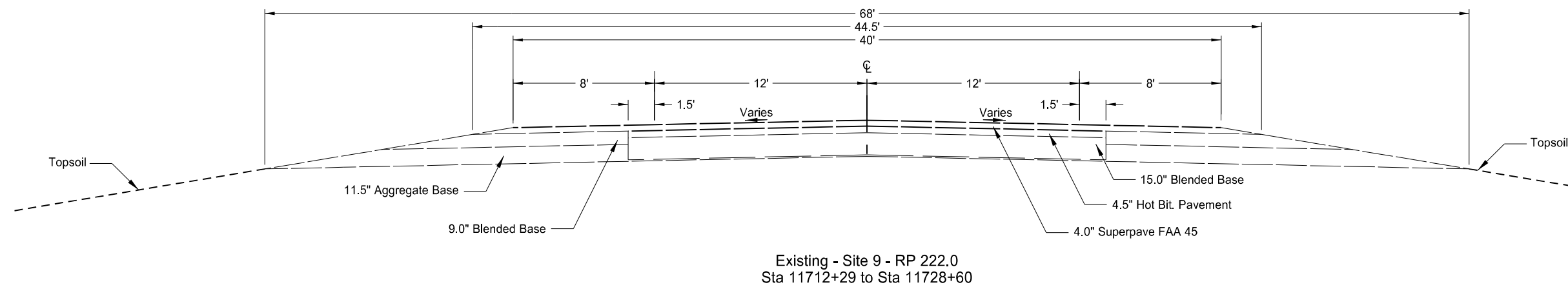
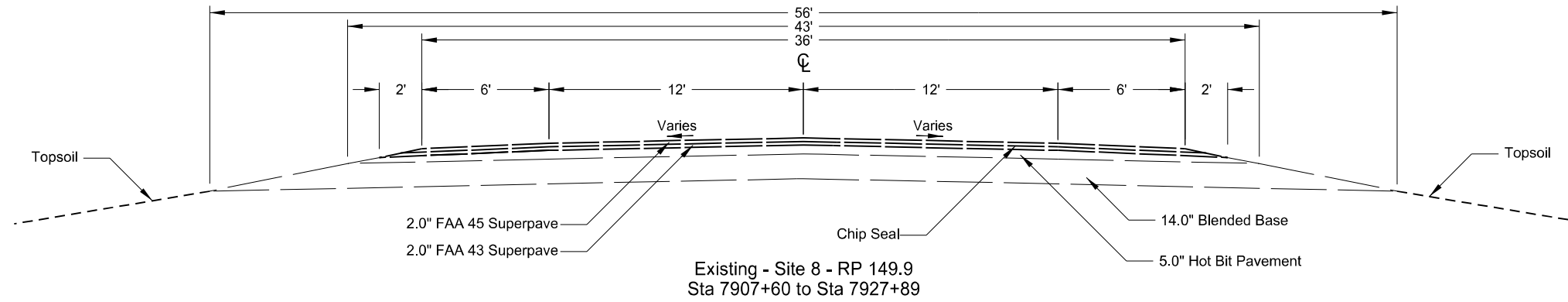
STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	HEN-9-052(485)006	30	3



Existing Typical Sections

US 52
South of Portal to Carrington

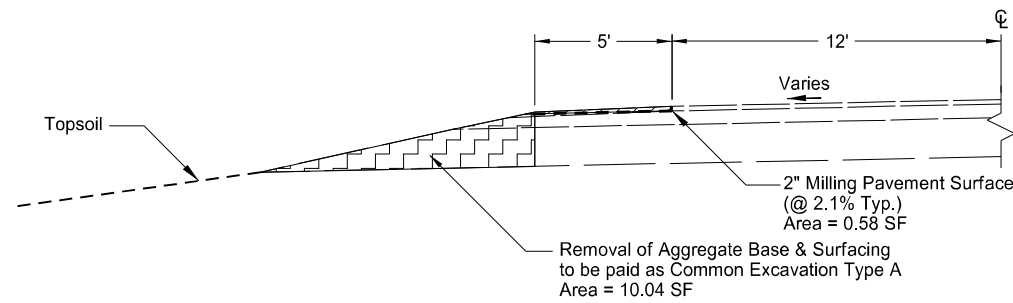
STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	HEN-9-052(485)006	30	4



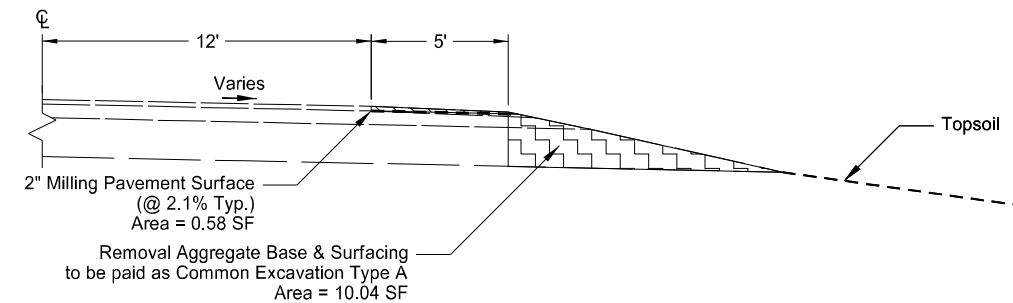
Existing Typical Sections

US 52
South of Portal to Carrington

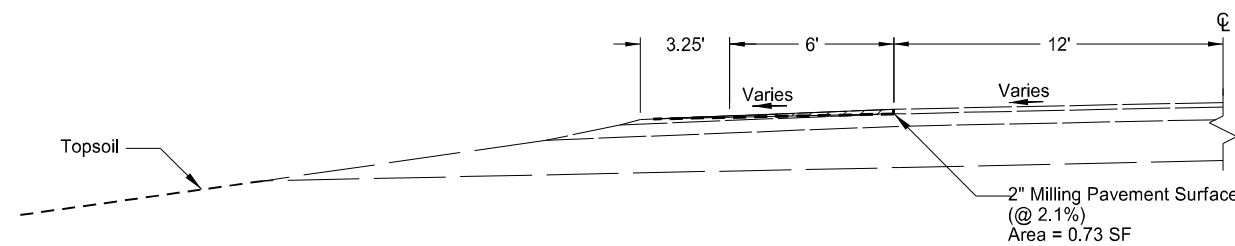
STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	HEN-9-052(485)006	30	5



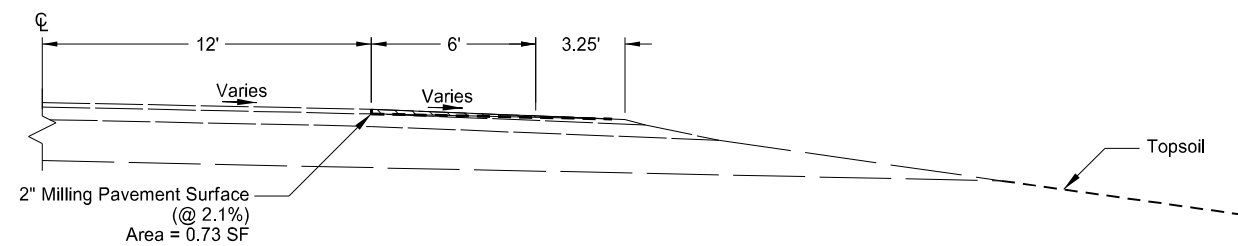
Removals - Left - Site 1 - RP 6.9
Sta 350+77 to Sta 374+97



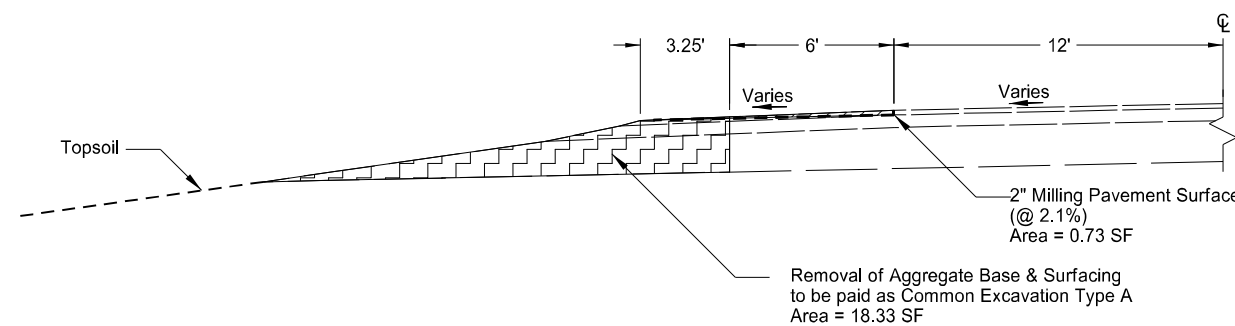
Removals - Right - Site 1 - RP 6.9
Sta 360+15 to Sta 384+35



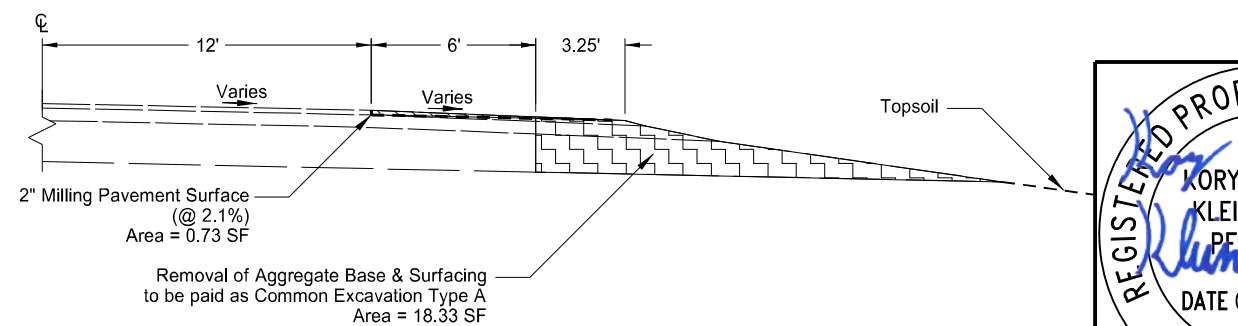
Removals - Left - Site 2 - RP 20.6
Sta 1084+18 to Sta 1085+24
Sta 1107+74 to Sta 1108+38



Removals - Right - Site 2 - RP 20.6
Sta 1093+56 to Sta 1094+20
Sta 1116+70 to Sta 1117+76



Removals - Left - Site 2 - RP 20.6
Sta 1085+24 to Sta 1107+74



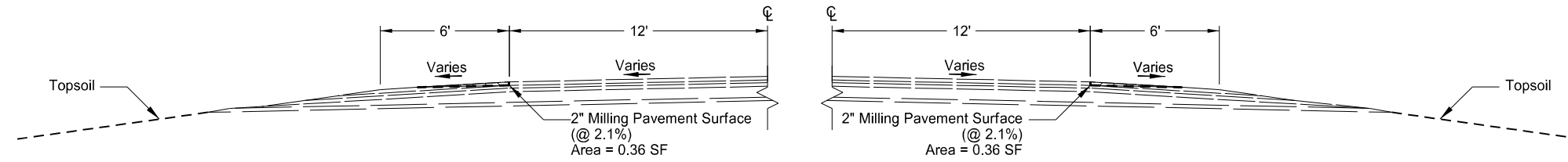
Removals - Right - Site 2 - RP 20.6
Sta 1094+20 to Sta 1116+70



Removal Typical Sections

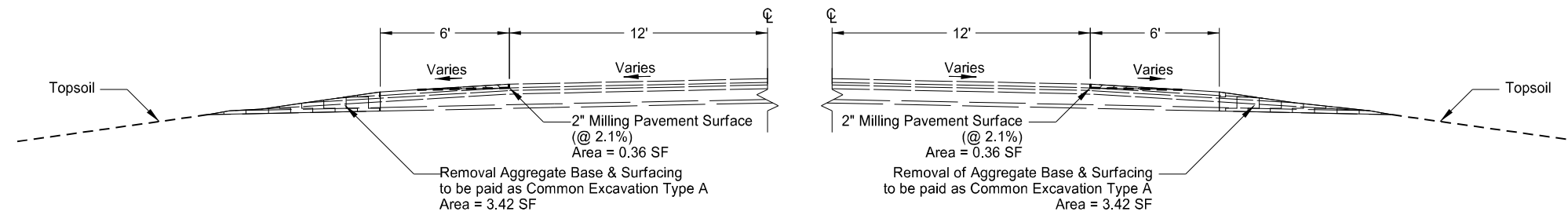
US 52
South of Portal to Carrington

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
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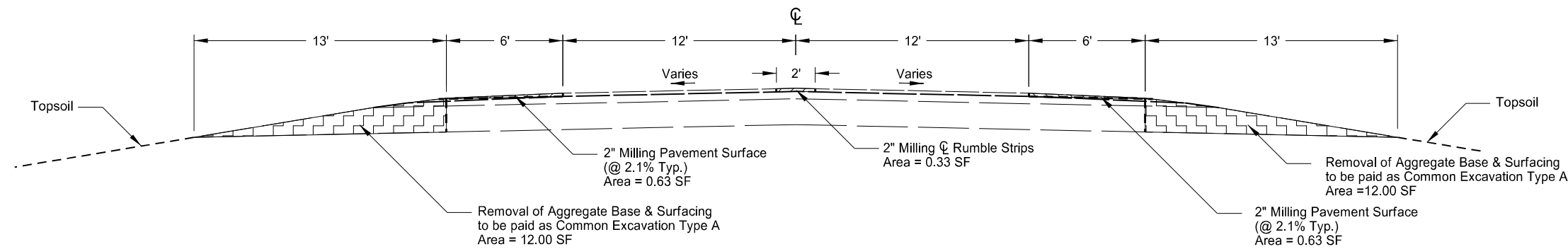
Removals - Left - Site 3 - RP 40.4
Sta 2119+67 to Sta 2119+92
Sta 2143+73 to Sta 2143+88

Removals - Right - Site 3 - RP 40.4
Sta 2129+04 to Sta 2129+19
Sta 2153+00 to Sta 2153+25



Removals - Left - Site 3 - RP 40.4
Sta 2119+92 to Sta 2143+73

Removals - Right - Site 3 - RP 40.4
Sta 2129+19 to Sta 2153+00

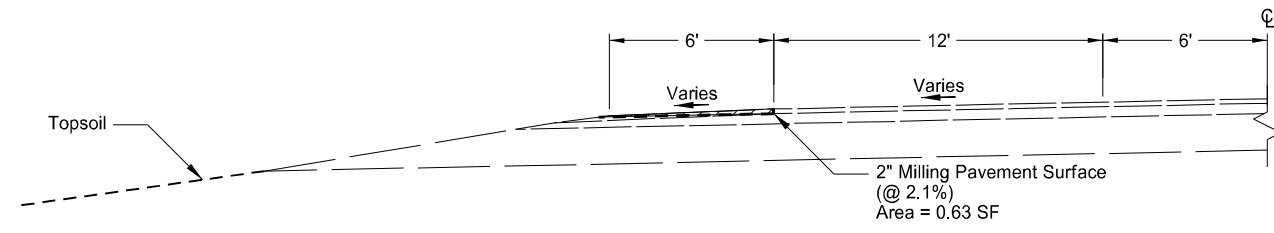


Removals - Site 4 - RP 118.5*
Sta 6247+49 to Sta 6267+76

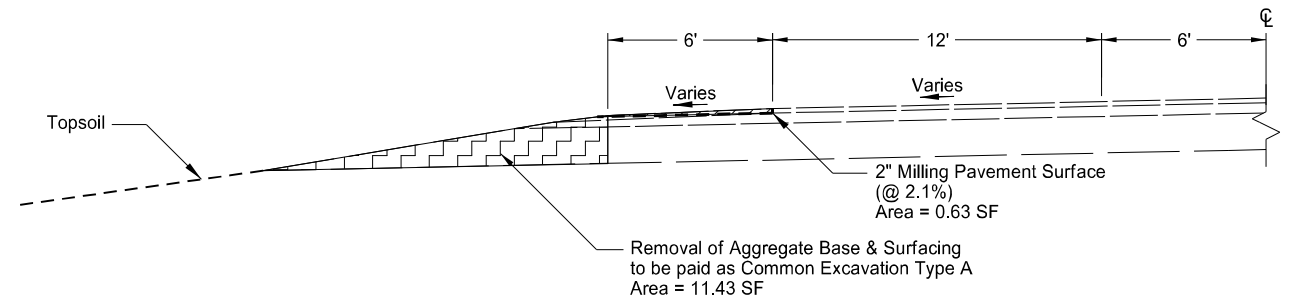


Removal Typical Sections
US 52
South of Portal to Carrington

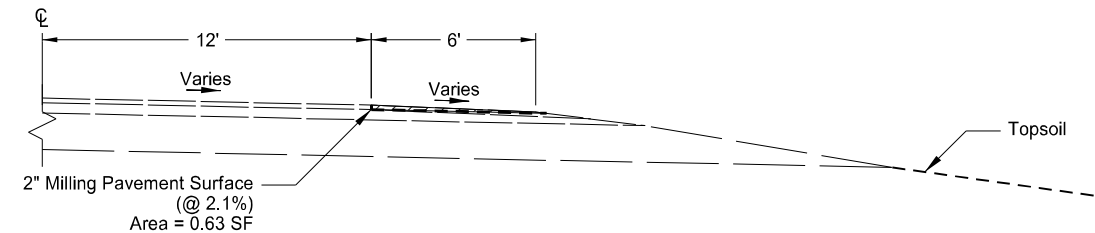
STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	HEN-9-052(485)006	30	7



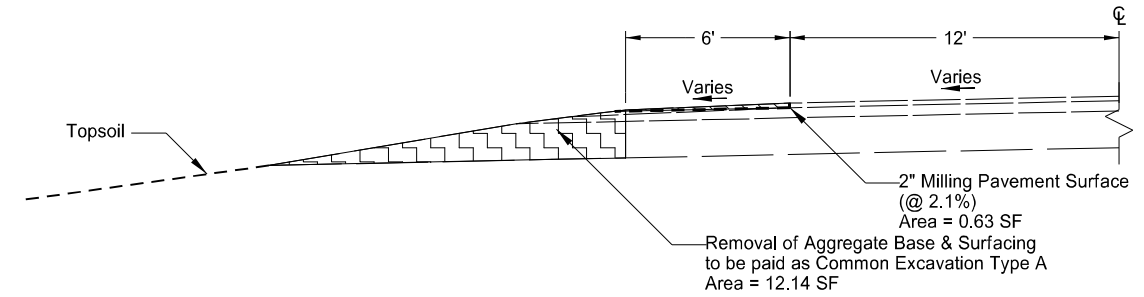
Removals - Left - Site 5 - RP 120.5*
Sta 6350+10 to Sta 6350+60



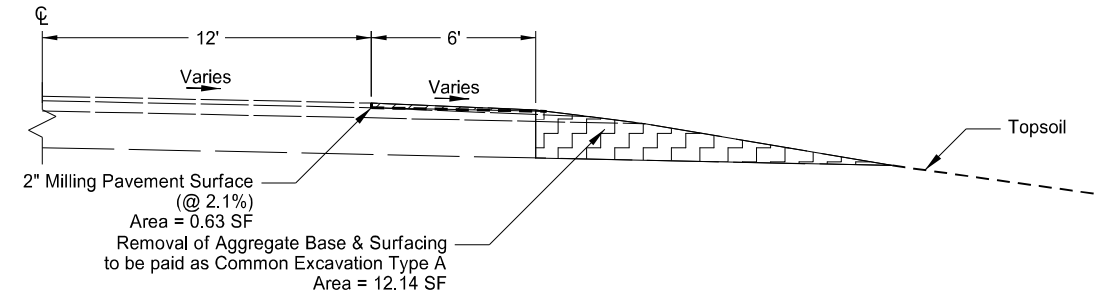
Removals - Left - Site 5 - RP 120.5*
Sta 6350+60 to Sta 6360+00



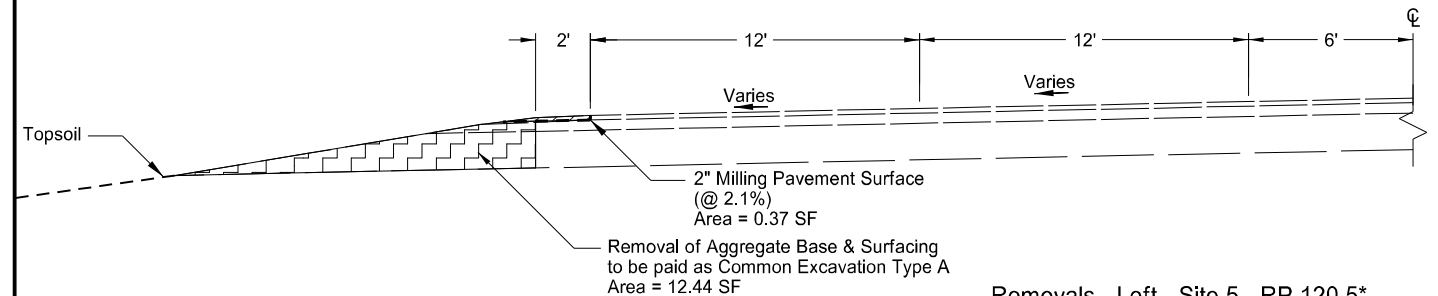
Removals - Right - Site 5 - RP 120.5*
Sta 6361+15 to Sta 6361+30
Sta 6390+06 to Sta 6390+71



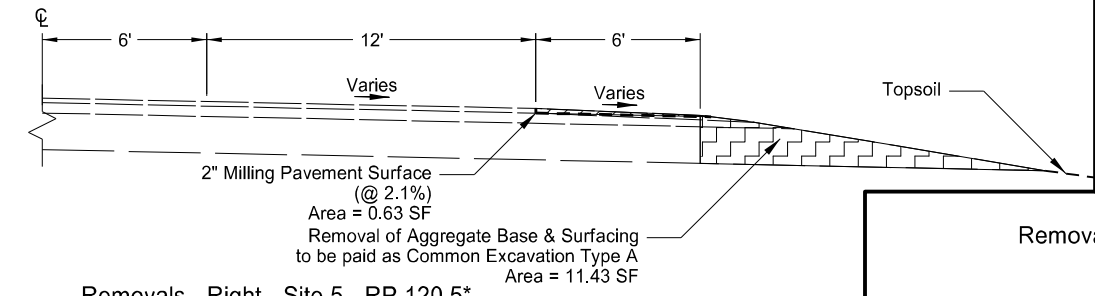
Removals - Left - Site 5 - RP 120.5*
Sta 6360+00 to Sta 6366+65
Sta 6384+20 to Sta 6390+06



Removals - Right - Site 5 - RP 120.5*
Sta 6361+30 to Sta 6366+65
Sta 6384+20 to Sta 6390+06



Removals - Left - Site 5 - RP 120.5*
Sta 6366+65 to Sta 6384+20



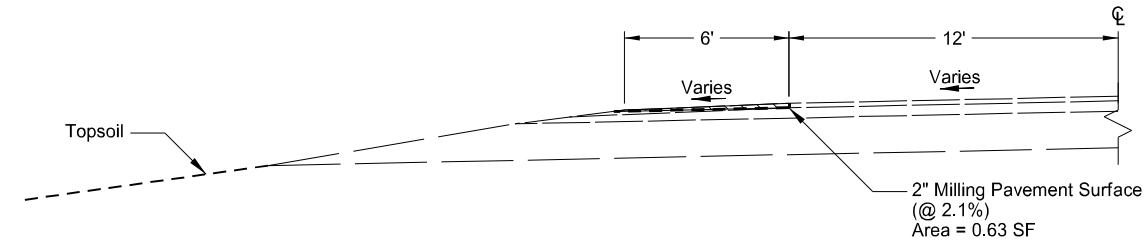
Removals - Right - Site 5 - RP 120.5*
Sta 6366+65 to Sta 6384+20



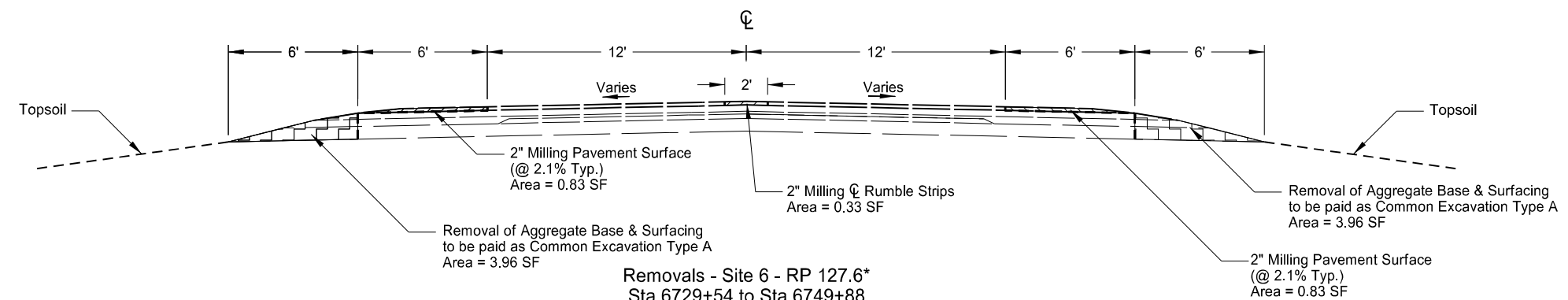
Removal Typical Sections
US 52
South of Portal to Carrington

*Mill and removal widths vary. See Section 90 for details.

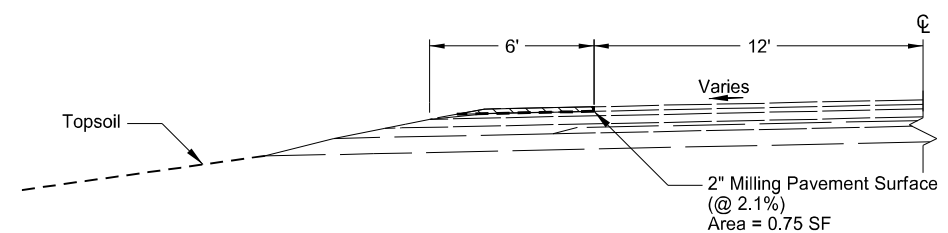
STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	HEN-9-052(485)006	30	8



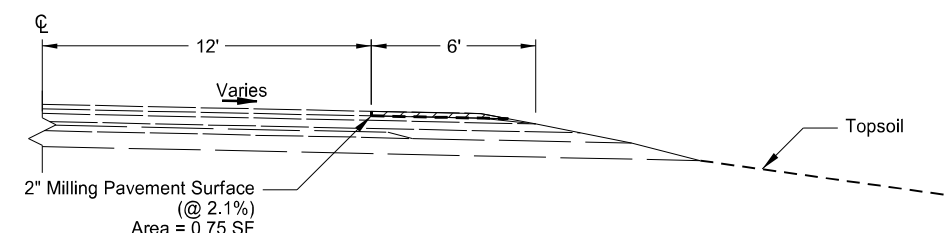
Removals - Left - Site 5 - RP 120.5*
Sta 6390+06 to Sta 6390+71



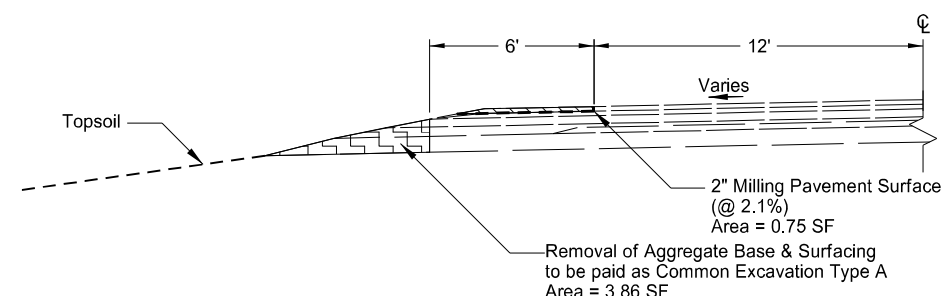
Removals - Site 6 - RP 127.6*
Sta 6729+54 to Sta 6749+88



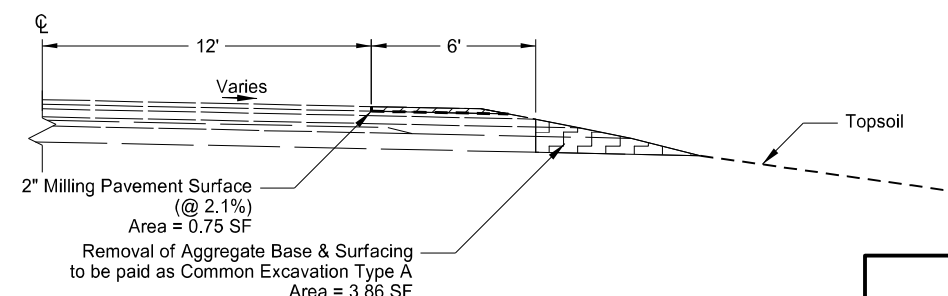
Removals - Left - Site 7 - RP 143.5
Sta 7565+51 to Sta 7565+76
Sta 7589+57 to Sta 7589+72



Removals - Right - Site 7 - RP 143.5
Sta 7574+41 to Sta 7574+56
Sta 7598+37 to Sta 7598+62



Removals - Left - Site 7 - RP 143.5
Sta 7565+76 to Sta 7589+57



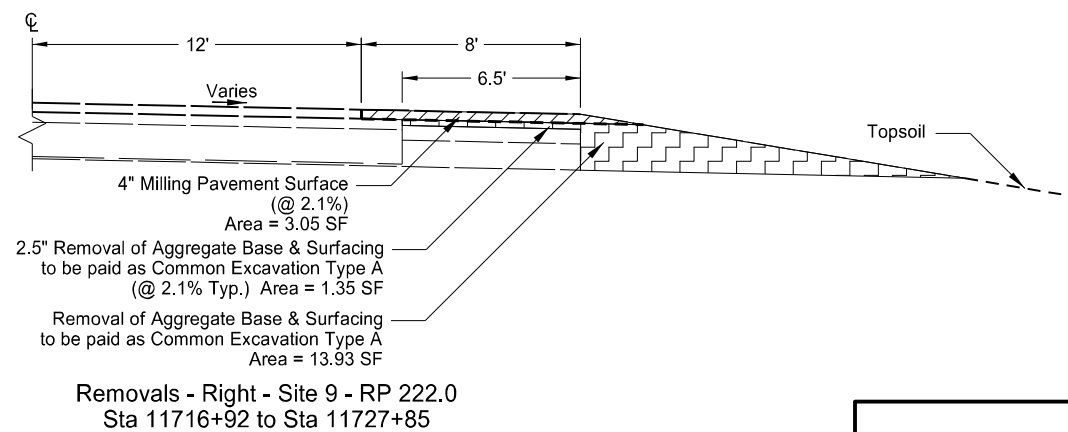
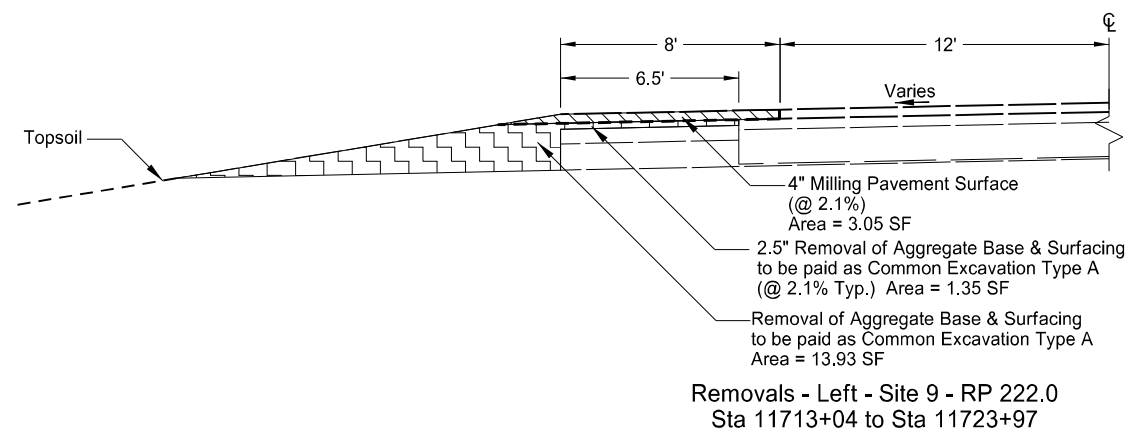
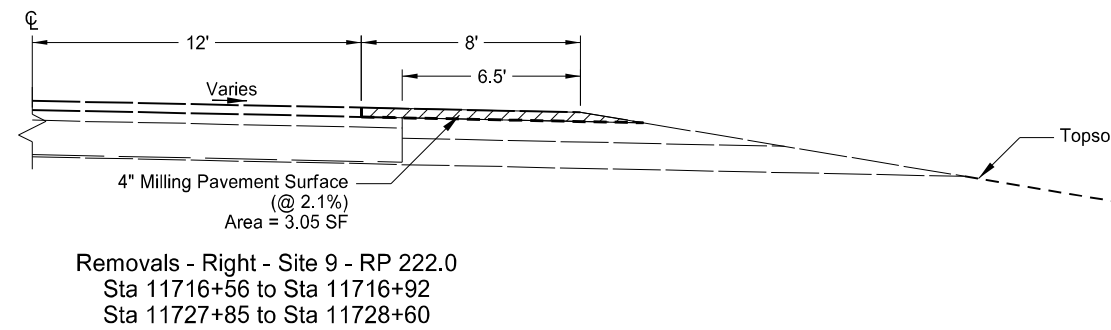
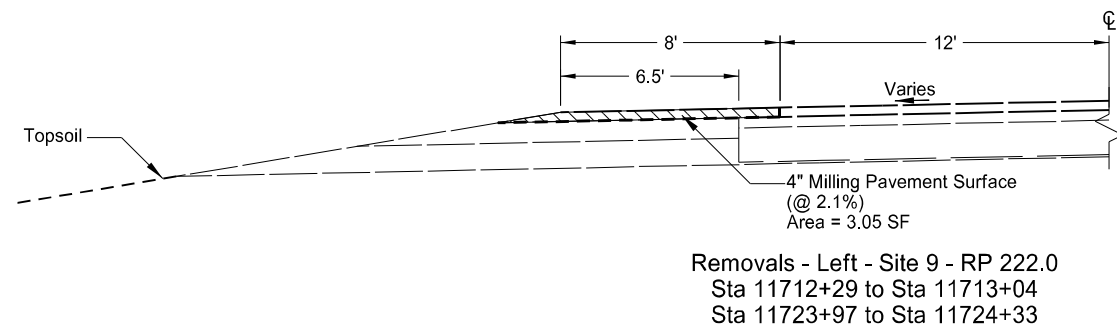
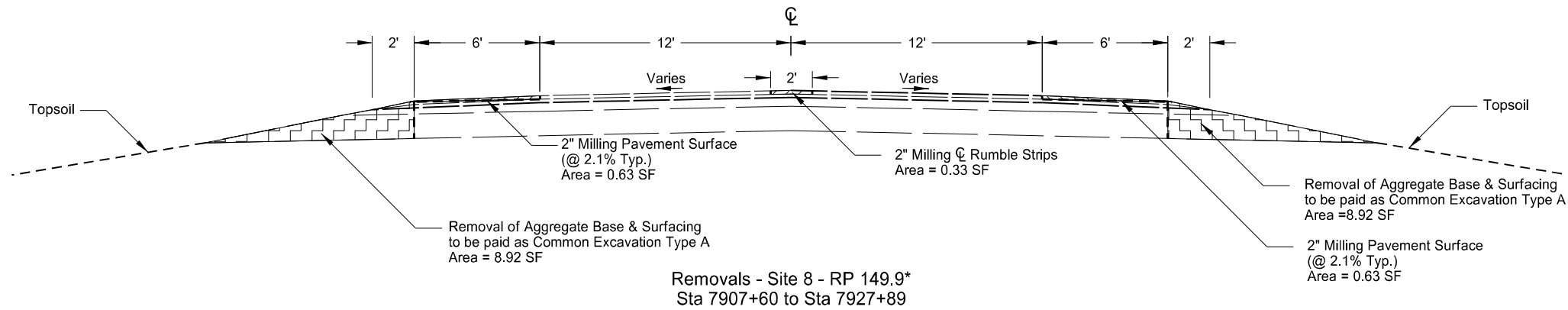
Removals - Right - Site 7 - RP 143.5
Sta 7574+56 to Sta 7598+37



Removal Typical Sections
US 52
South of Portal to Carrington

*Mill and removal widths vary. See Section 90 for details.

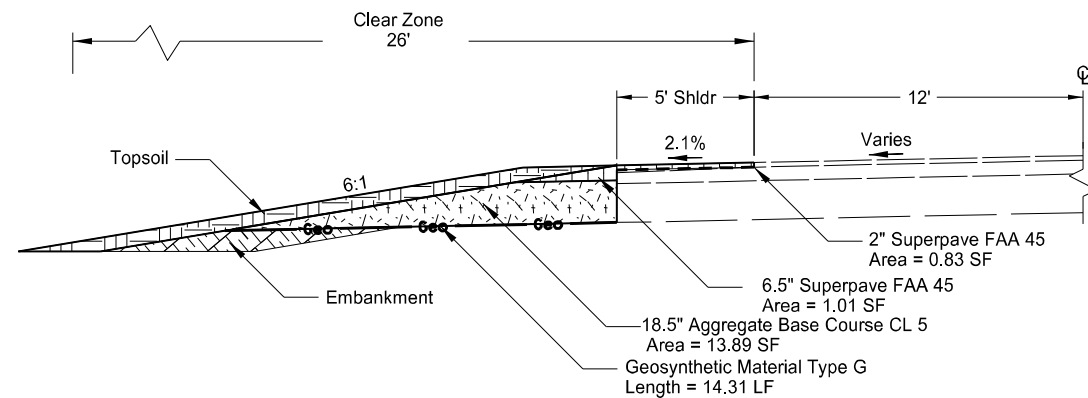
STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	HEN-9-052(485)006	30	9



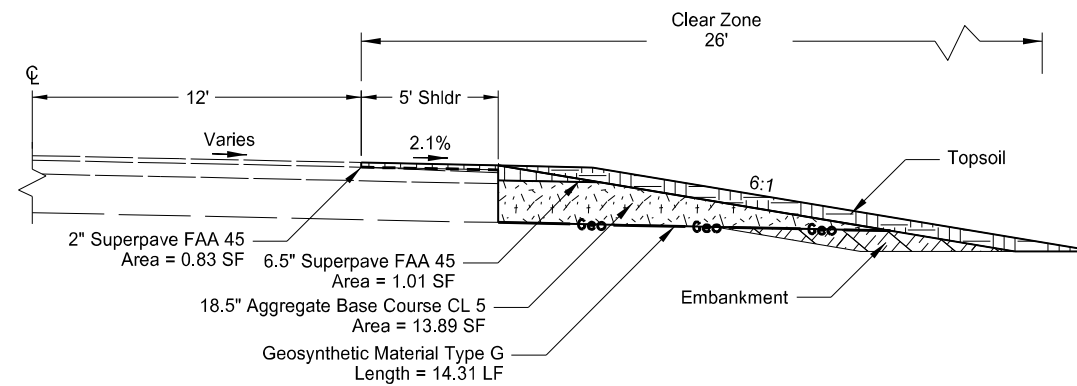
Removal Typical Sections
US 52
South of Portal to Carrington

*Mill and removal widths vary. See Section 90 for details.

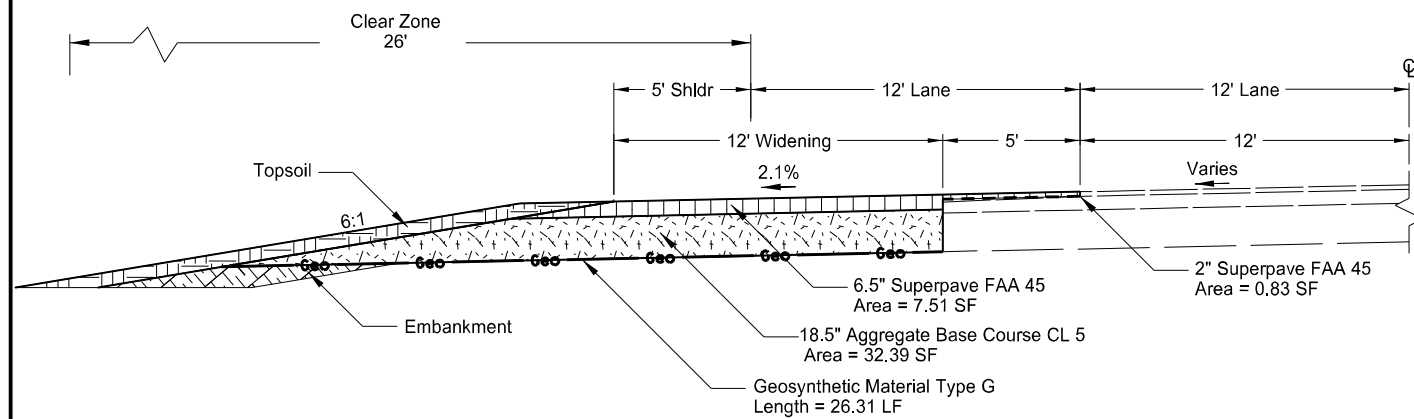
STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	HEN-9-052(485)006	30	10



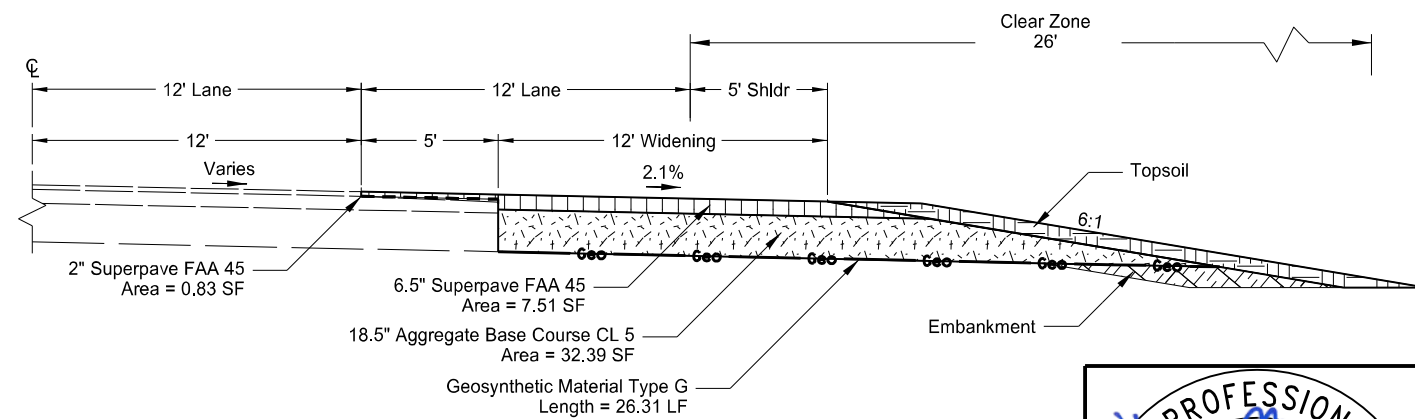
Typical 1 - Left - Site 1 - RP 6.9
Sta 350+77
Sta 374+97



Typical 2 - Right - Site 1 - RP 6.9
Sta 360+15
Sta 384+35



Typical 3 - Left - Site 1 - RP 6.9
Sta 353+77 to Sta 373+17

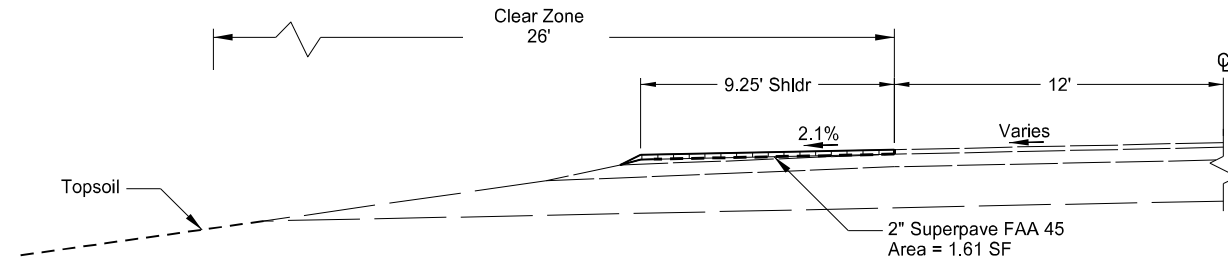


Typical 4 - Right - Site 1 - RP 6.9
Sta 361+95 to Sta 381+35

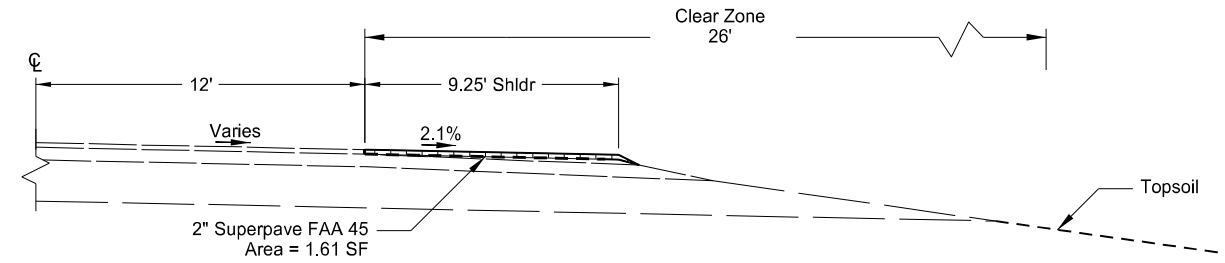


Proposed Typical Sections
US 52
South of Portal to Carrington

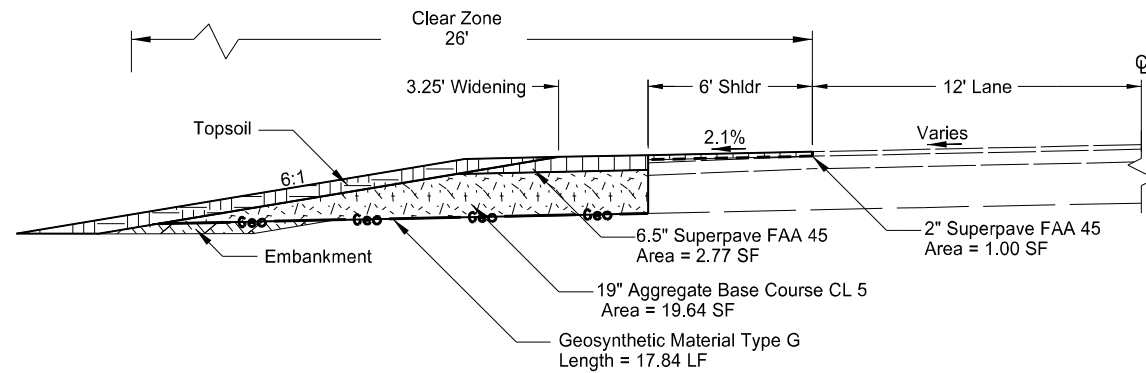
STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	HEN-9-052(485)006	30	11



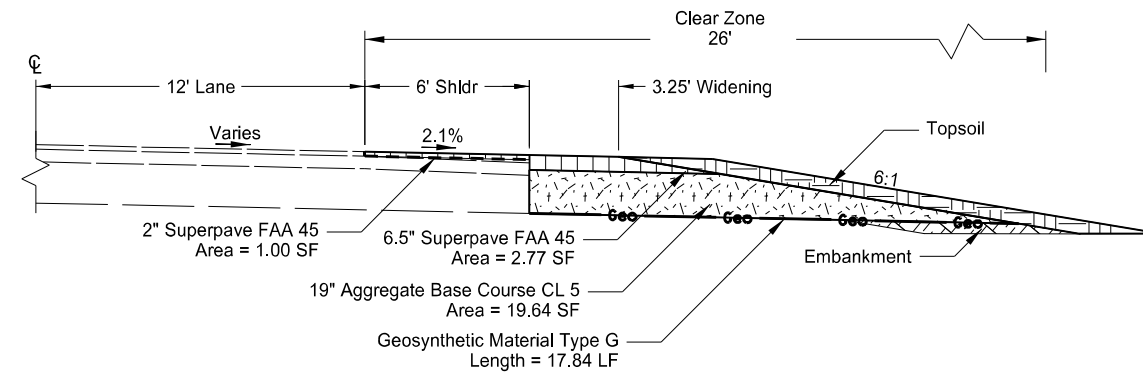
Typical 5 - Left - Site 2 - RP 20.6
Sta 1084+18 to Sta 1085+24
Sta 1107+74 to Sta 1108+38



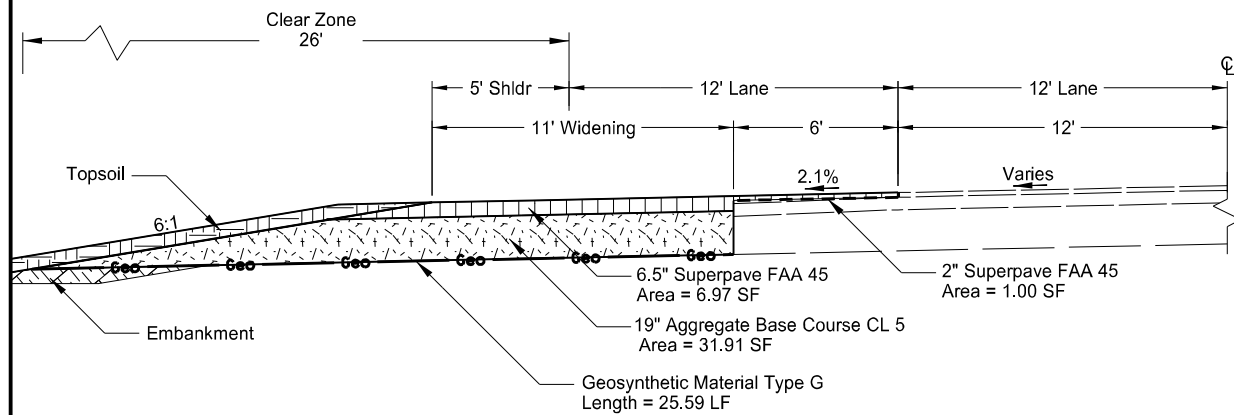
Typical 6 - Right - Site 2 - RP 20.6
Sta 1093+56 to Sta 1094+20
Sta 1116+70 to Sta 1117+76



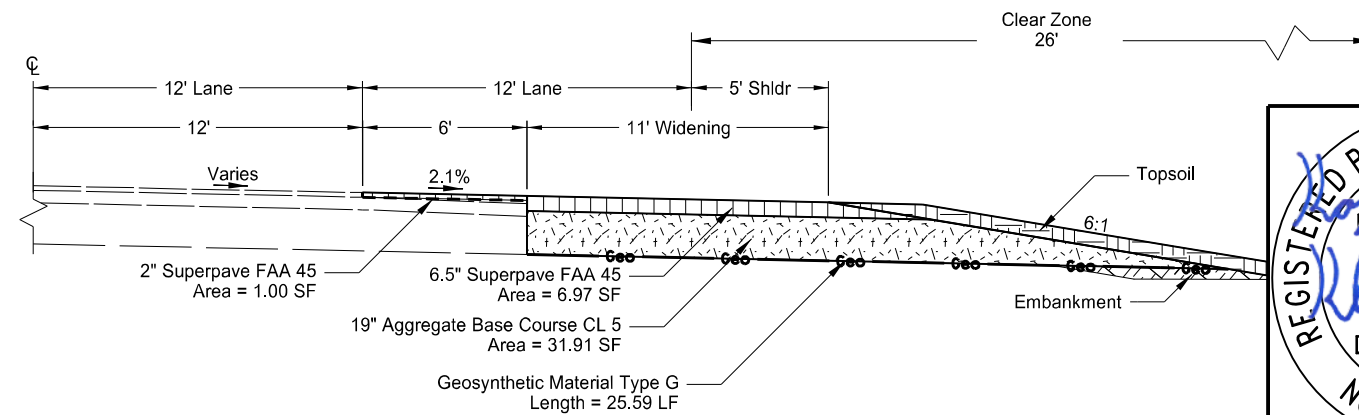
Typical 7 - Left - Site 2 - RP 20.6
Sta 1085+24
Sta 1107+74



Typical 8 - Right - Site 2 - RP 20.6
Sta 1094+20
Sta 1116+70



Typical 9 - Left - Site 2 - RP 20.6
Sta 1087+18 to Sta 1106+58

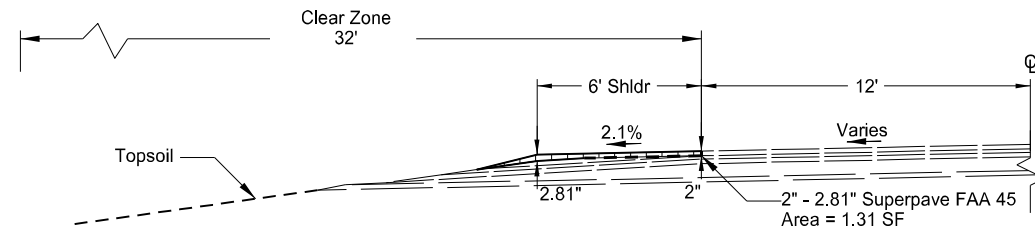


Typical 10 - Right - Site 2 - RP 20.6
Sta 1095+36 to Sta 1114+76

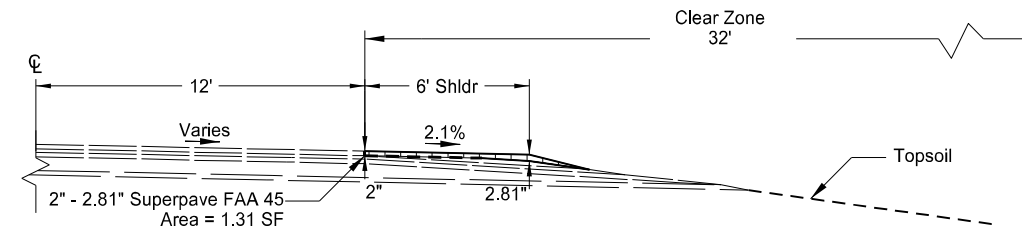


Proposed Typical Sections
US 52
South of Portal to Carrington

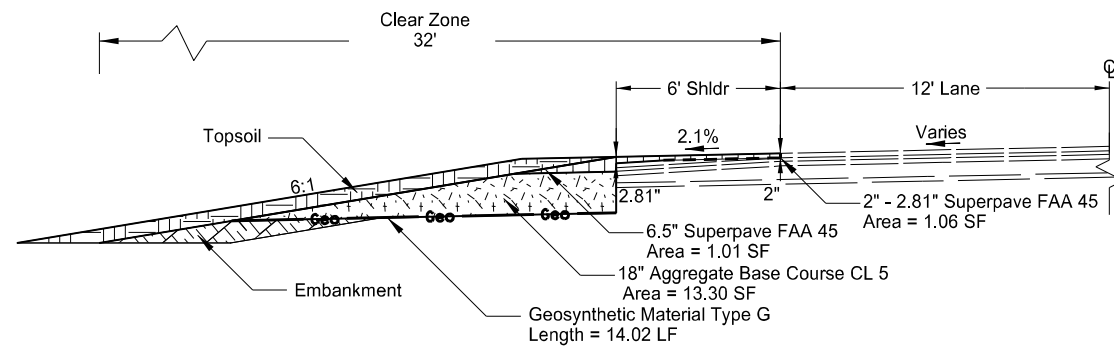
STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	HEN-9-052(485)006	30	12



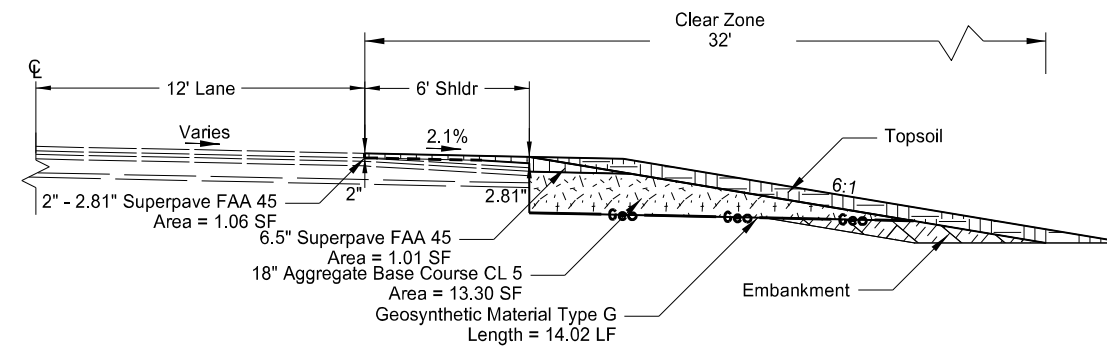
Typical 11 - Left - Site 3 - RP 40.4
Sta 2119+67 to Sta 2119+92
Sta 2143+73 to Sta 2143+88



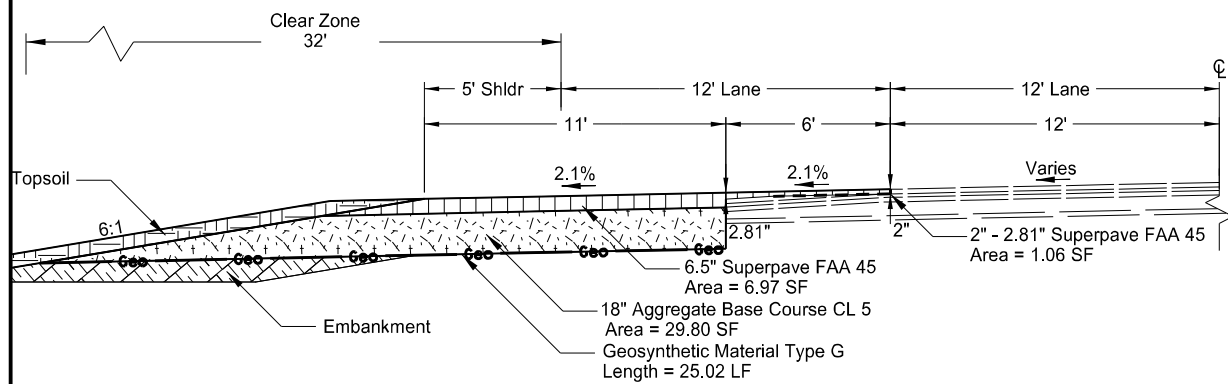
Typical 12 - Right - Site 3 - RP 40.4
Sta 2129+04 to Sta 2129+19
Sta 2153+00 to Sta 2153+25



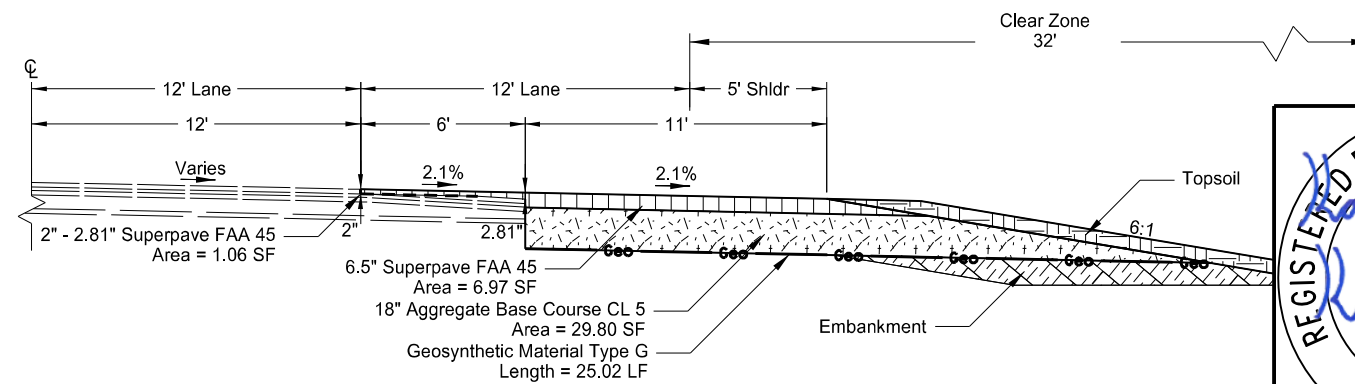
Typical 13 - Left - Site 3 - RP 40.4
Sta 2119+92
Sta 2143+73



Typical 14 - Right - Site 3 - RP 40.4
Sta 2129+19
Sta 2153+00



Typical 15 - Left - Site 3 - RP 40.4
Sta 2122+67 to Sta 2142+08

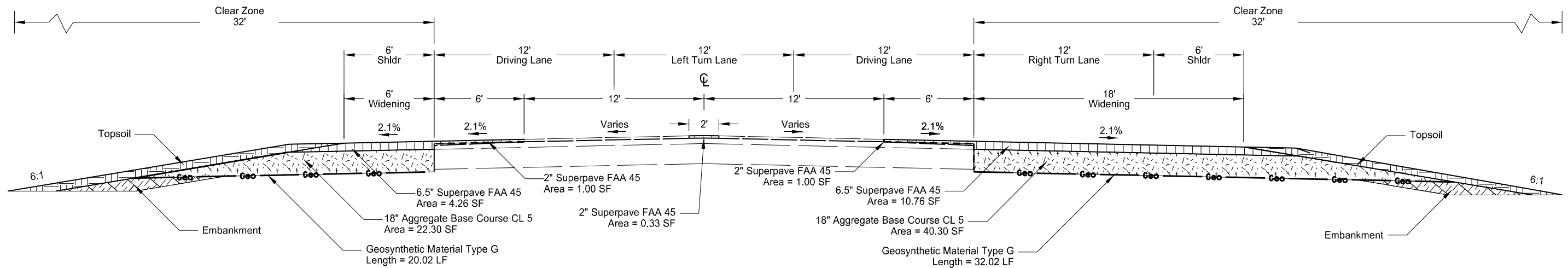


Typical 16 - Right - Site 3 - RP 40.4
Sta 2130+84 to Sta 2150+25

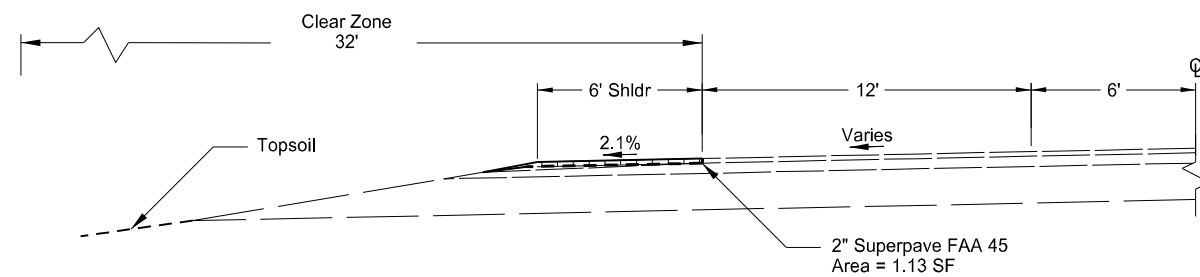


Proposed Typical Sections
US 52
South of Portal to Carrington

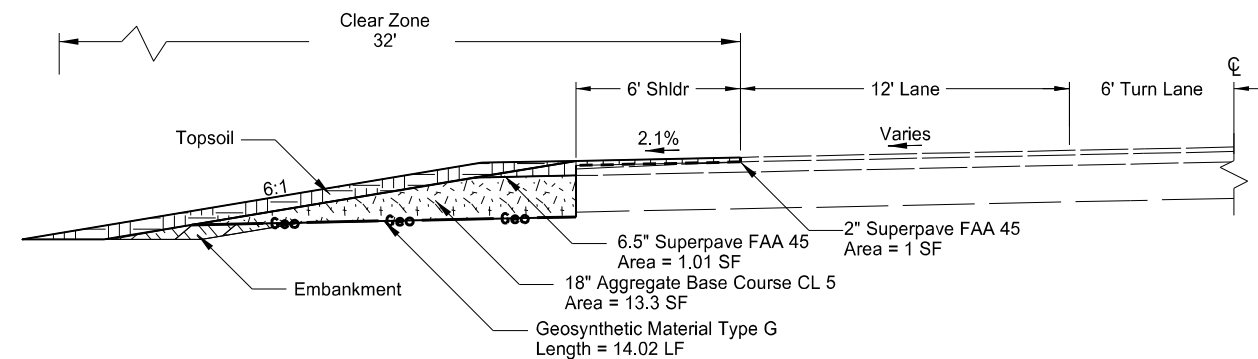
STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	HEN-9-052(485)006	30	13



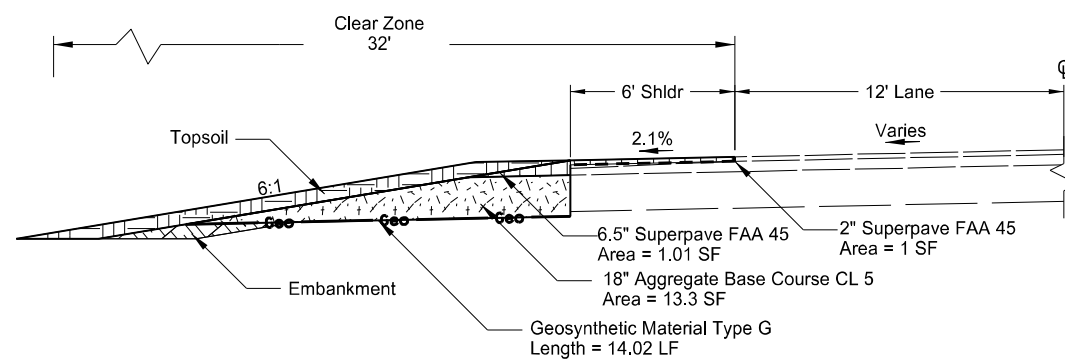
Typical 17 - Site 4 - RP 118.5*
Sta 6247+49 to Sta 6267+76



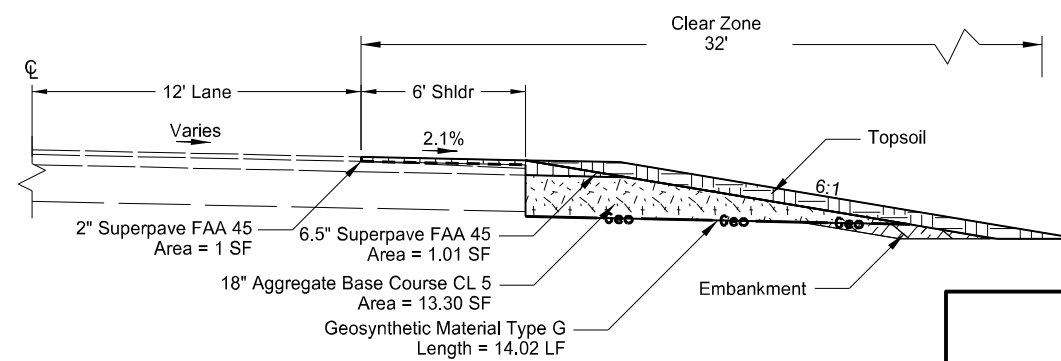
Typical 18 - Left - Site 5 - RP 120.5*
Sta 6350+10 to Sta 6350+60



Typical 19 - Left - Site 5 - RP 120.5*
Sta 6350+60



Typical 20 - Left - Site 5 - RP 120.5*
Sta 6390+06



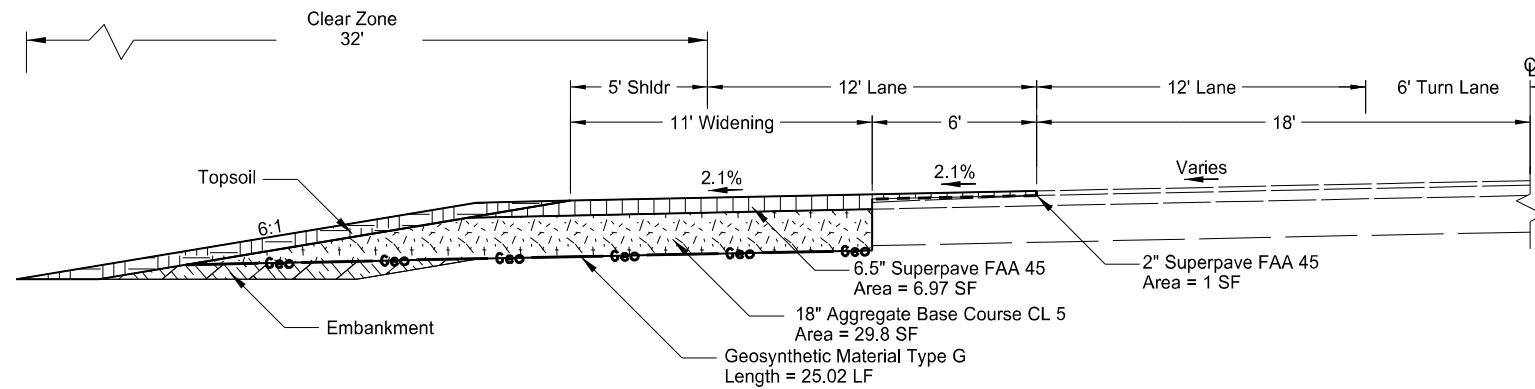
Typical 21 - Right - Site 5 - RP 120.5*
Sta 6361+30
Sta 6390+06



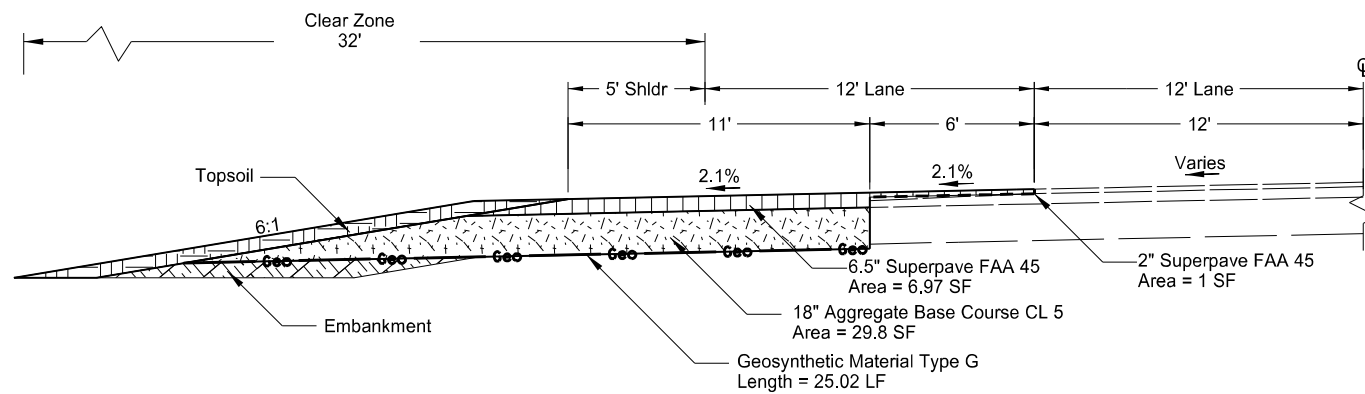
Proposed Typical Sections
US 52
South of Portal to Carrington

*Paving widths vary. See Section 90 for details.

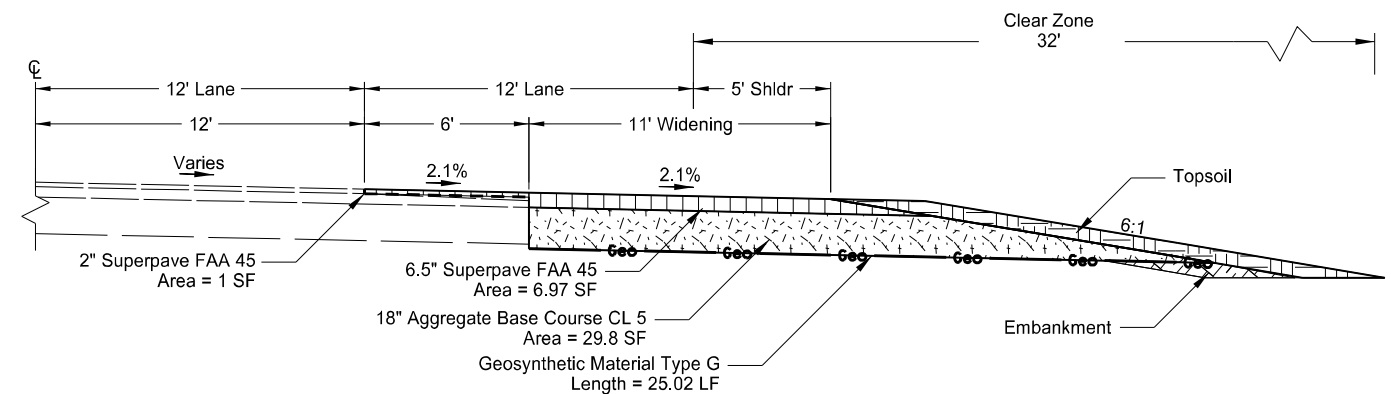
STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	HEN-9-052(485)006	30	14



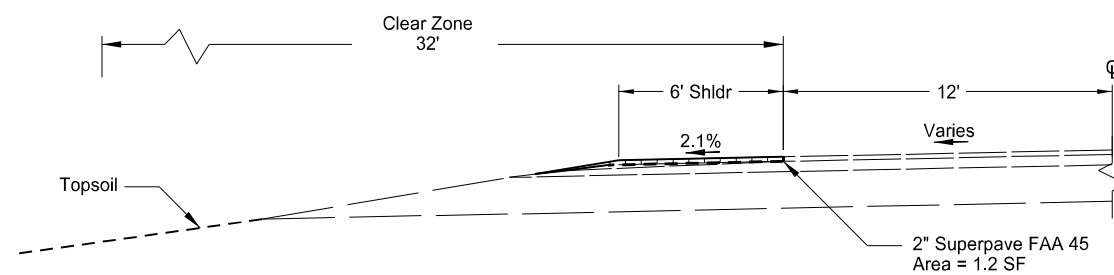
Typical 22 - Left - Site 5 - RP 120.5*
Sta 6353+10 to Sta 6360+00



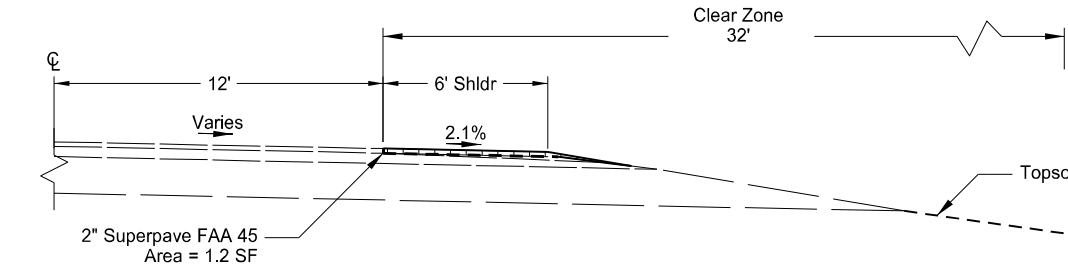
Typical 23 - Left - Site 5 - RP 120.5*
Sta 6360+00 to Sta 6366+65
Sta 6384+20 to Sta 6386+81



Typical 24 - Right - Site 5 - RP 120.5*
Sta 6362+95 to Sta 6366+65
Sta 6384+20 to Sta 6386+81



Typical 25 - Left - Site 5 - RP 120.5*
Sta 6390+06 to Sta 6390+71



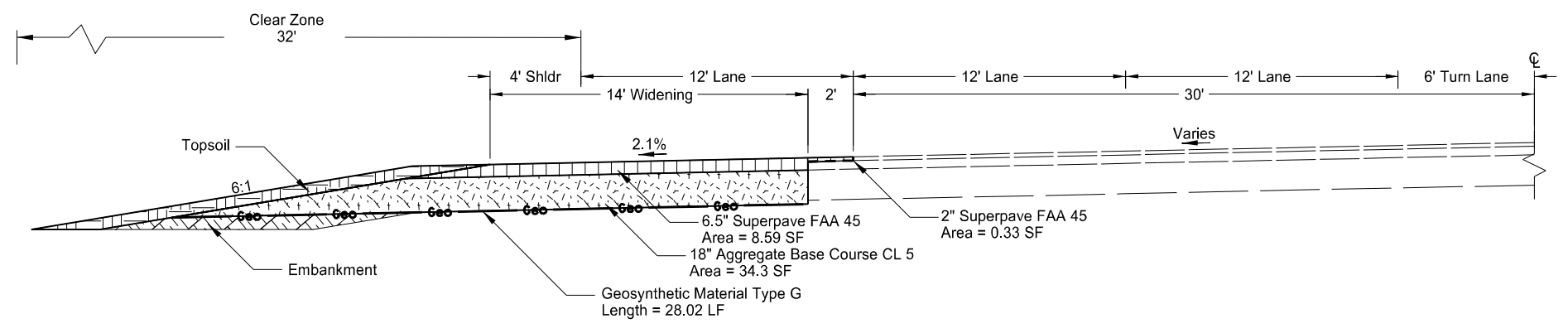
Typical 26 - Right - Site 5 - RP 120.5*
Sta 6361+15 to Sta 6361+30
Sta 6390+06 to Sta 6390+71



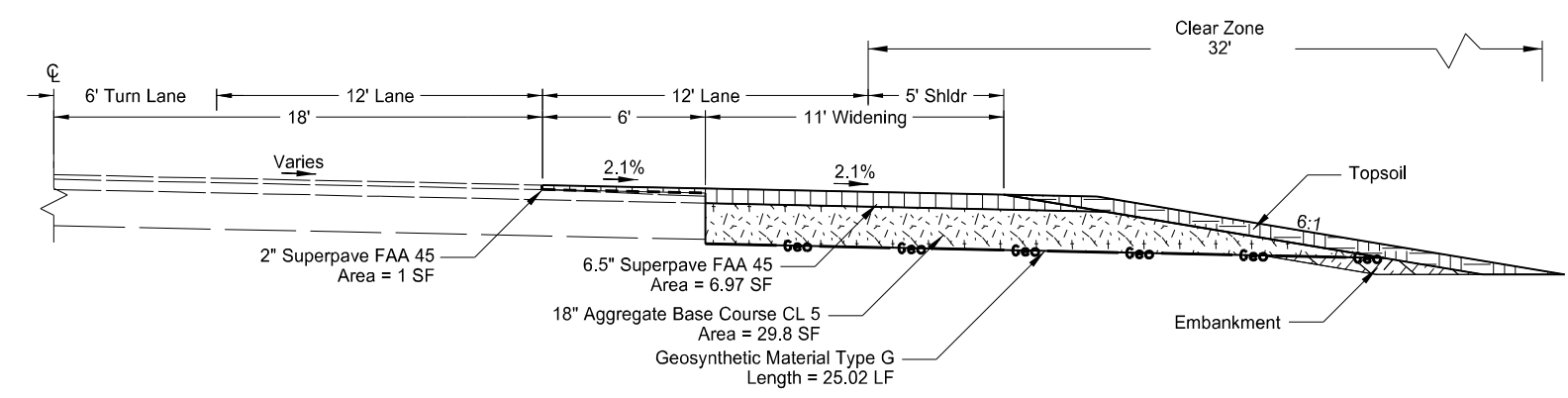
Proposed Typical Sections
US 52
South of Portal to Carrington

*Paving widths vary. See Section 90 for details.

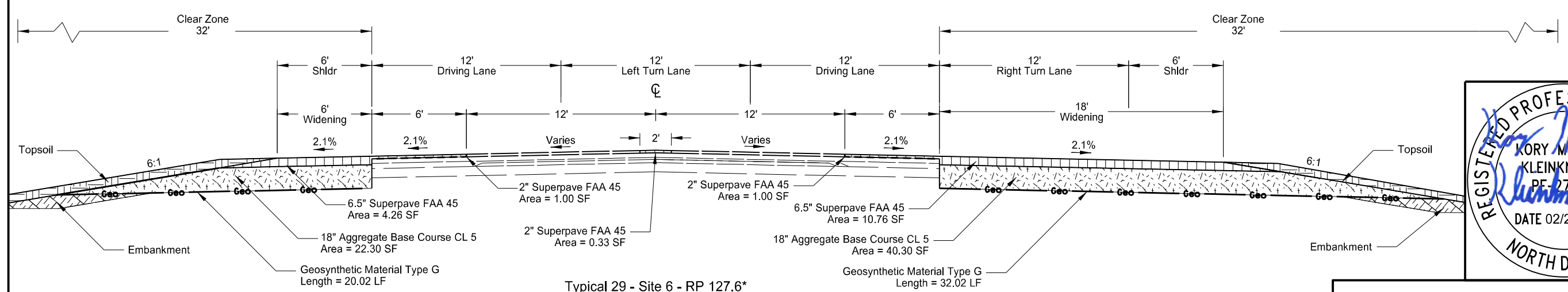
STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	HEN-9-052(485)006	30	15



Typical 27 - Left - Site 5 - RP 120.5*
Sta 6366+65 to Sta 6384+20



Typical 28 - Right - Site 5 - RP 120.5*
Sta 6366+65 to Sta 6384+20



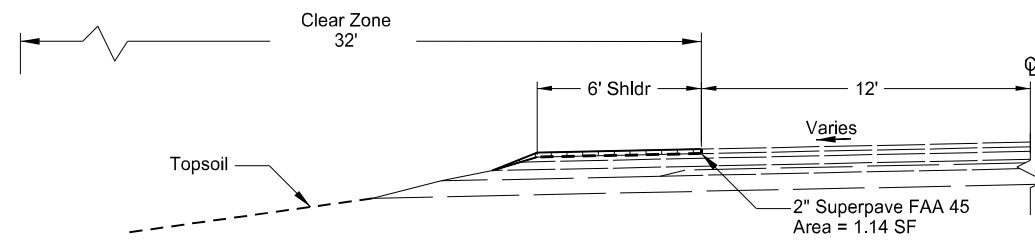
Typical 29 - Site 6 - RP 127.6*
Sta 6729+54 to Sta 6749+88



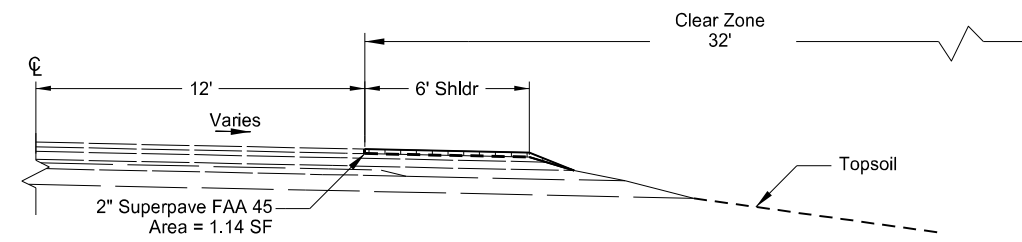
Proposed Typical Sections
US 52
South of Portal to Carrington

*Paving widths vary. See Section 90 for details.

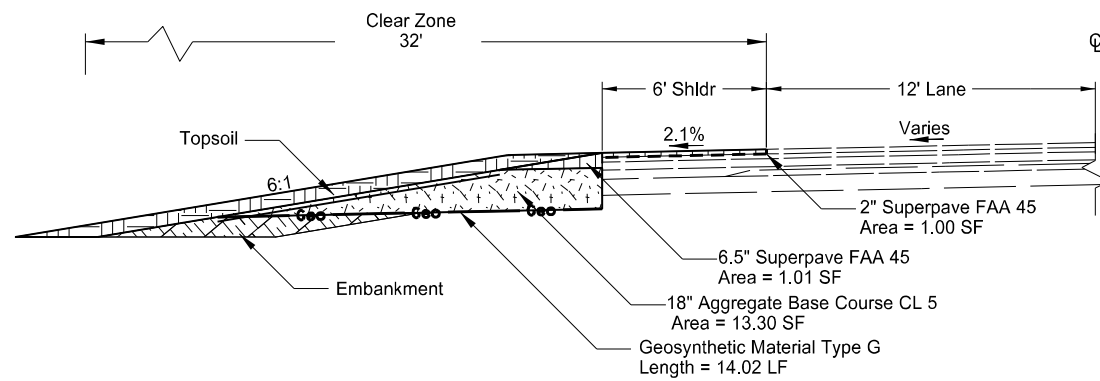
STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	HEN-9-052(485)006	30	16



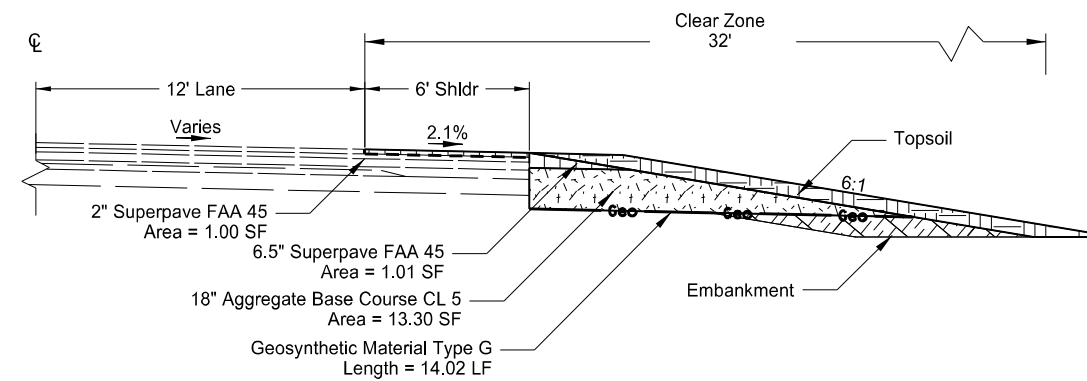
Typical 30 - Left - Site 7 - RP 143.5
Sta 7565+51 to Sta 7565+76
Sta 7589+57 to Sta 7589+72



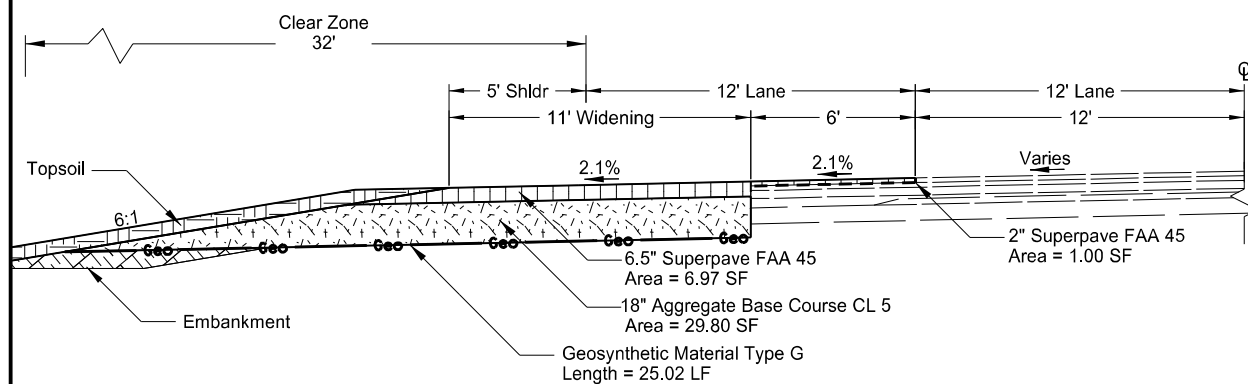
Typical 31 - Right - Site 7 - RP 143.5
Sta 7574+41 to Sta 7574+56
Sta 7598+37 to Sta 7598+62



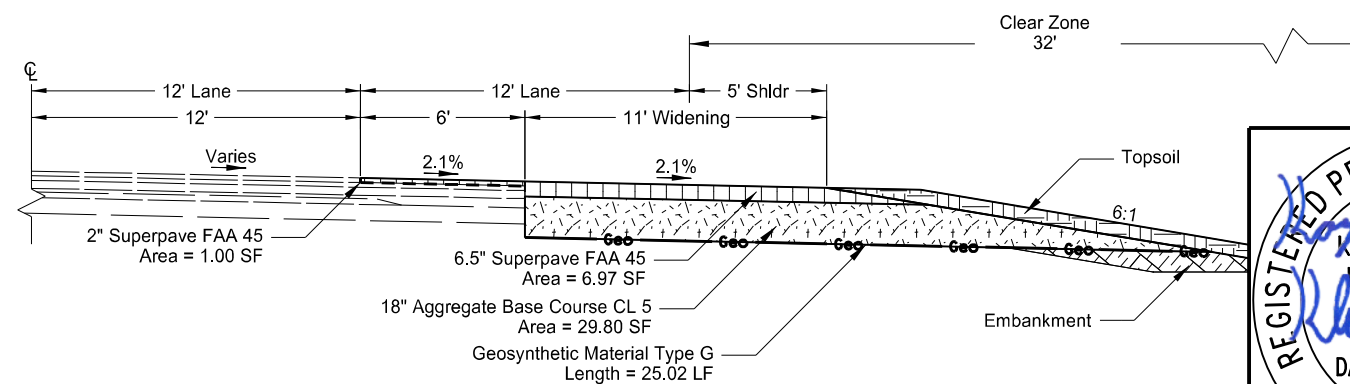
Typical 32 - Left - Site 7 - RP 143.5
Sta 7565+76
Sta 7589+57



Typical 33 - Right - Site 7 - RP 143.5
Sta 7574+56
Sta 7598+37



Typical 34 - Left - Site 7 - RP 143.5
Sta 7568+51 to Sta 7587+92

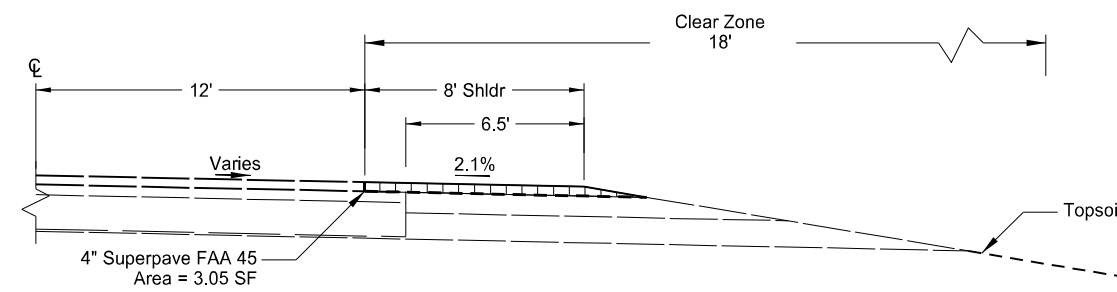
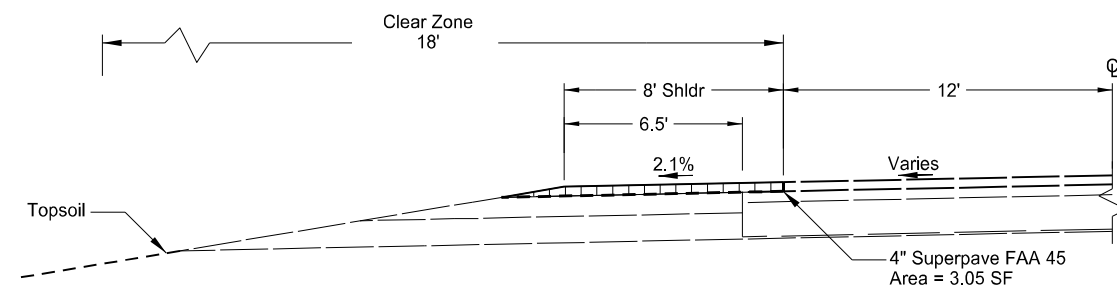
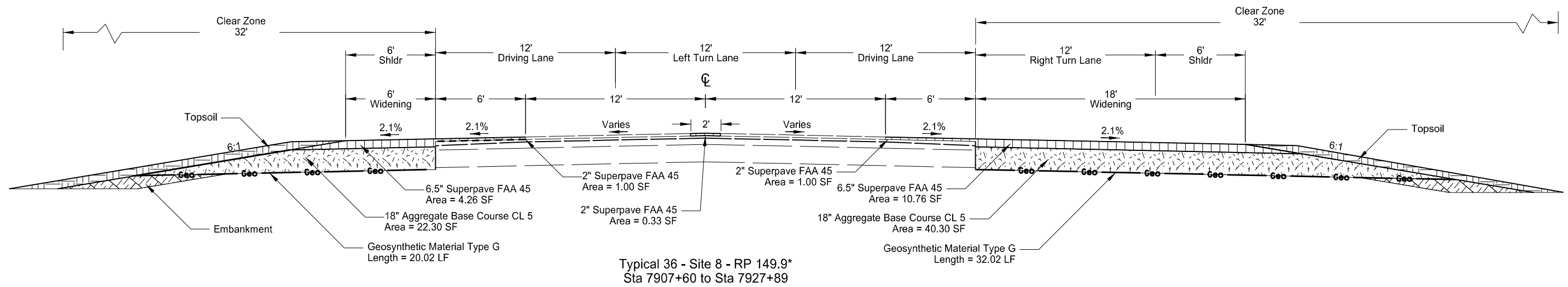


Typical 35 - Right - Site 7 - RP 143.5
Sta 7576+21 to Sta 7595+62



Proposed Typical Sections
US 52
South of Portal to Carrington

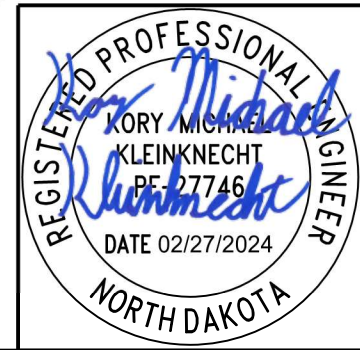
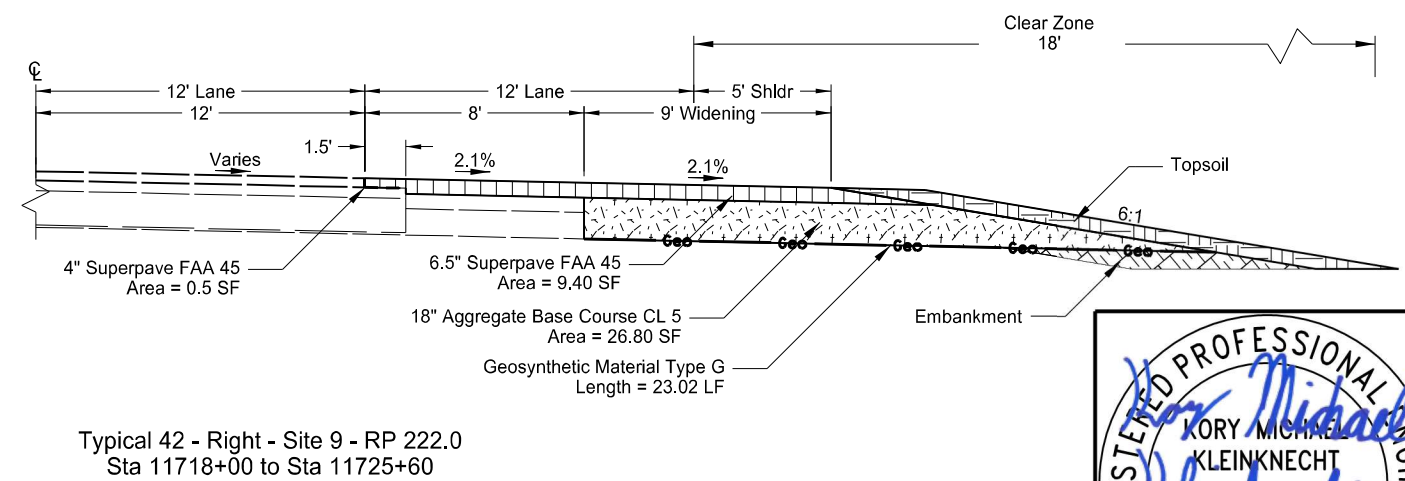
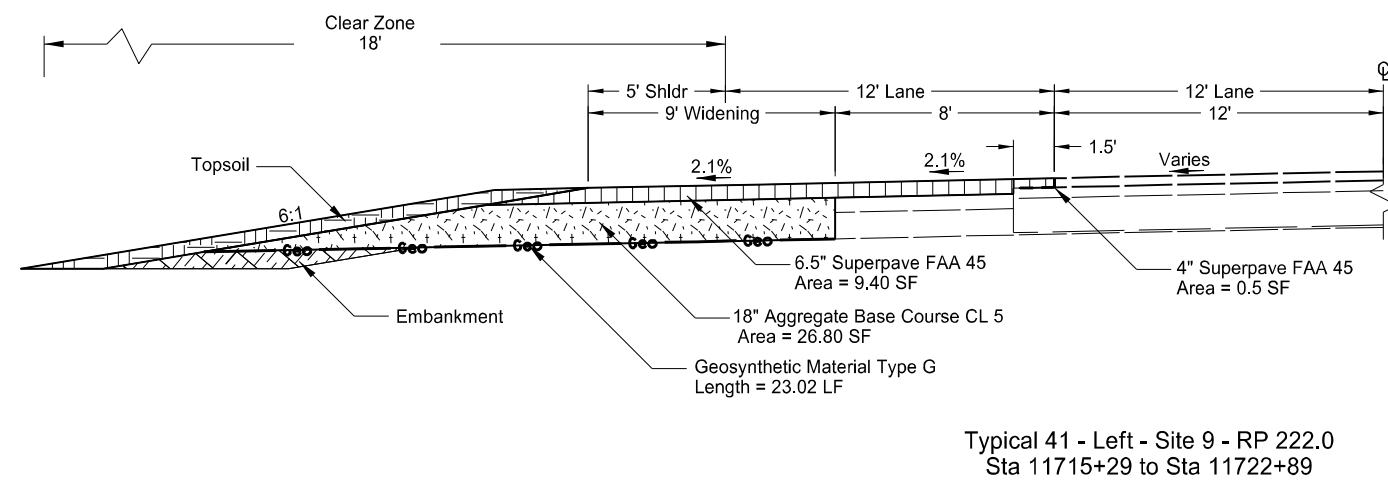
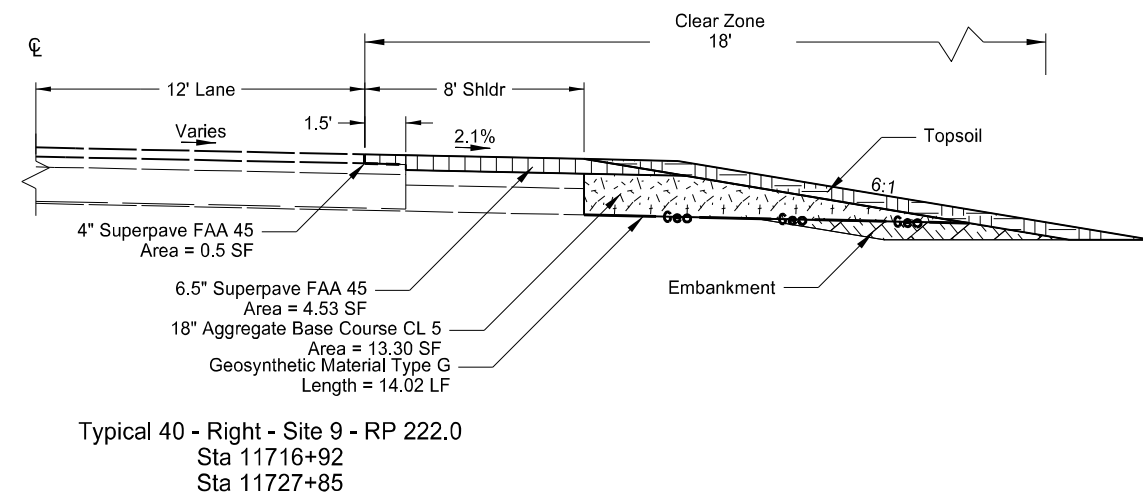
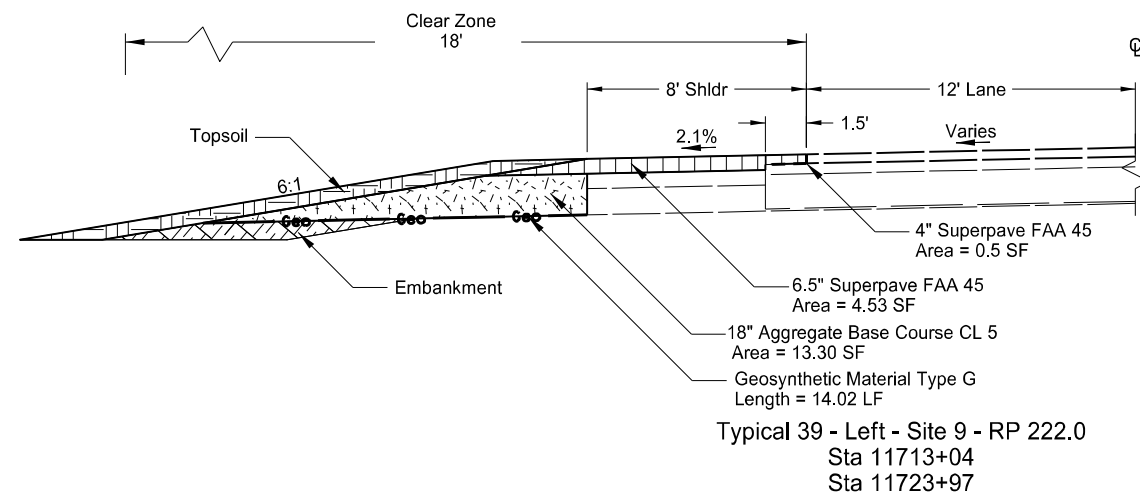
STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	HEN-9-052(485)006	30	17



Proposed Typical Sections
US 52
South of Portal to Carrington

*Paving widths vary. See Section 90 for details.

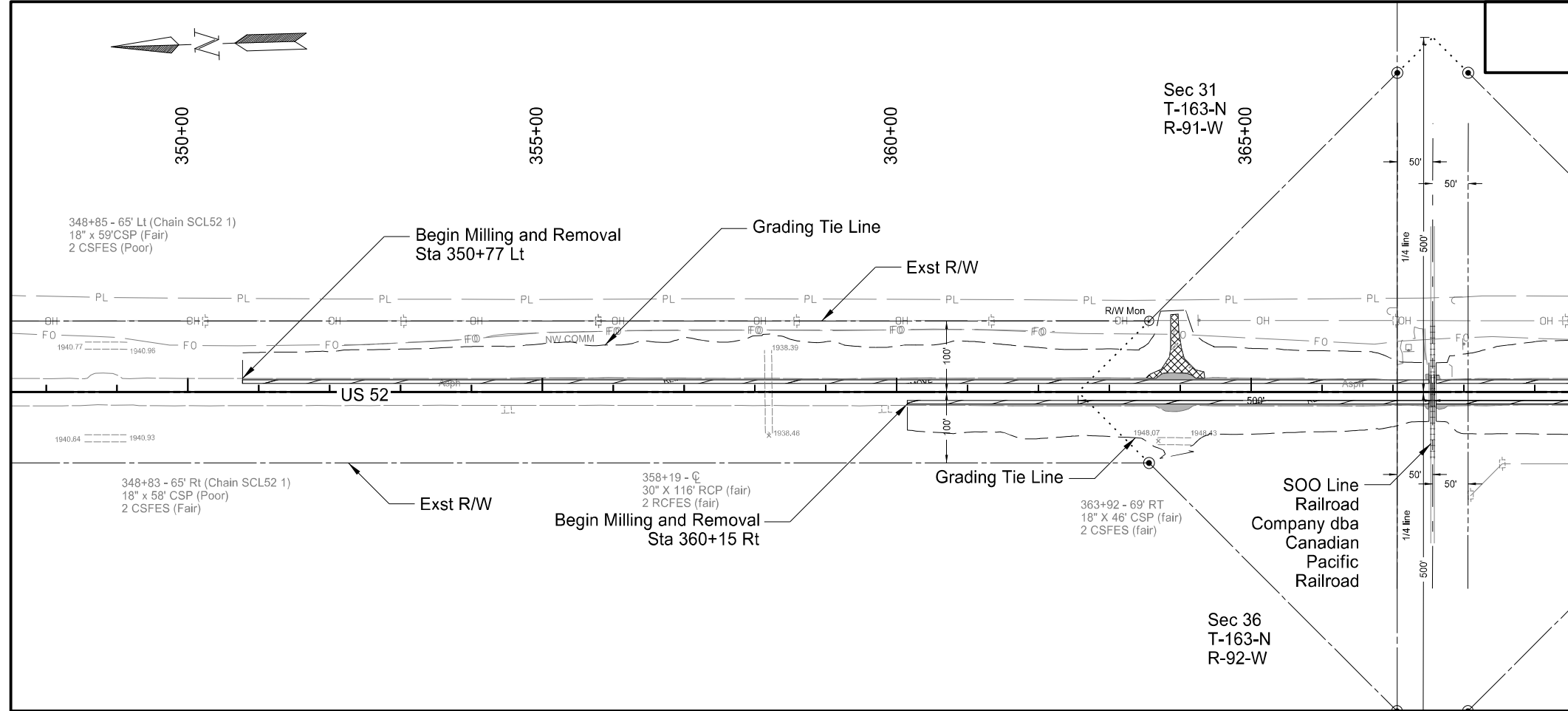
STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	HEN-9-052(485)006	30	18



Proposed Typical Sections

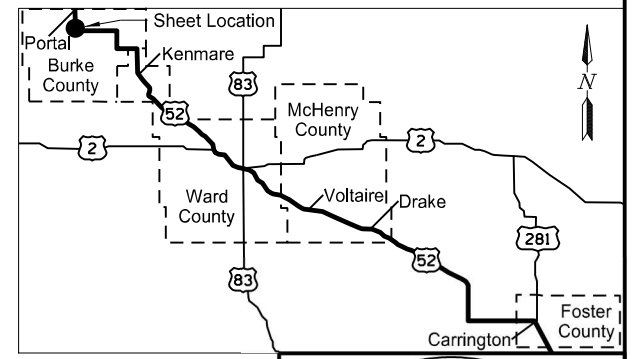
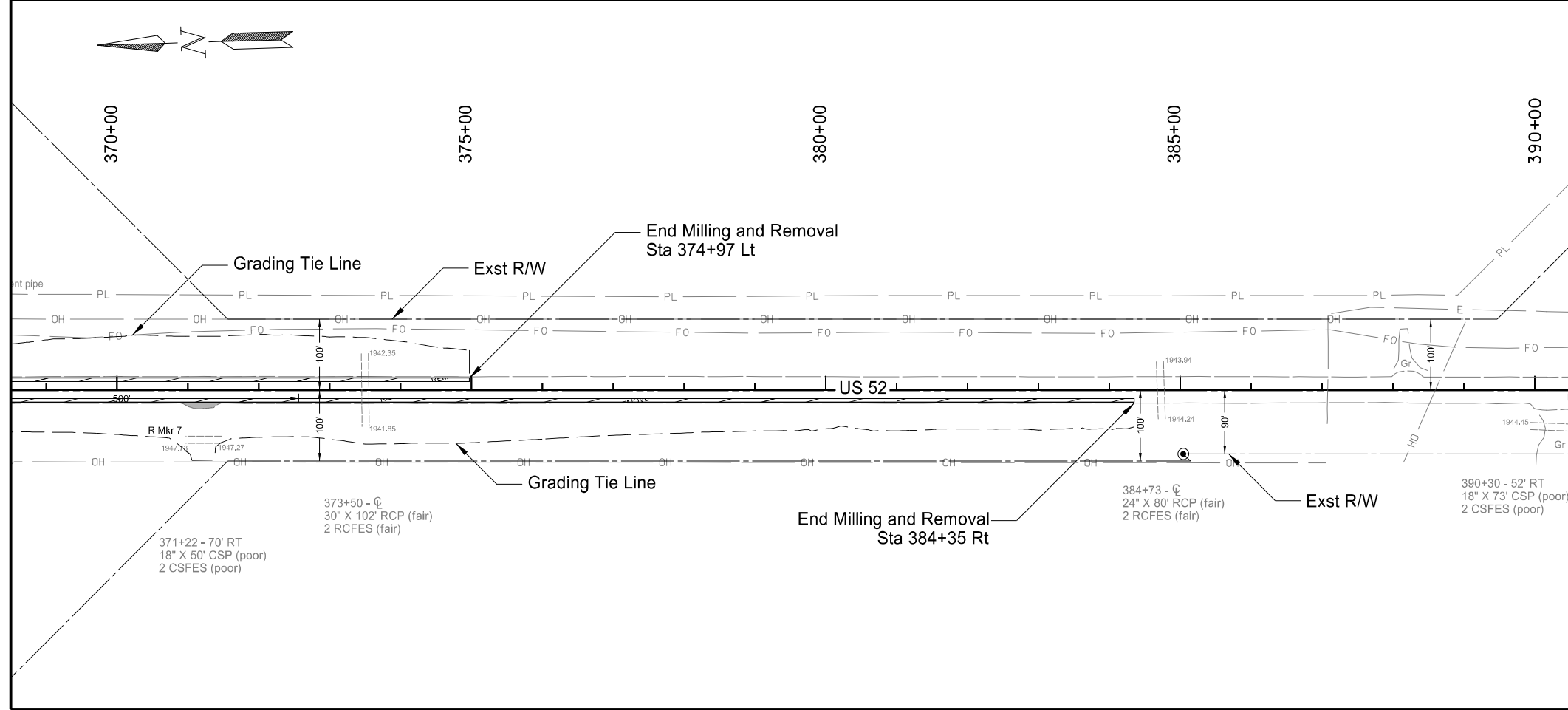
US 52
South of Portal to Carrington

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	HEN-9-052(485)006	40	1



SPEC	CODE	BID ITEM	QTY	UNIT
203	0101	Common Excavation-Type A*		
		350+77 to 374+97 Lt	897	CY
		360+15 to 384+35 Rt	897	CY
		Approach		
		363+93 Lt	82	CY
		363+94 Rt	9	CY
		371+19 Rt	8	CY
411	0105	Milling Pavement Surface		
		350+77 to 374+97 Lt	1428	SY
		360+15 to 384+35 Rt	1428	SY

*Note: Removal of Aggregate Base & Surfacing to be paid as Common Excavation Type A



Legend

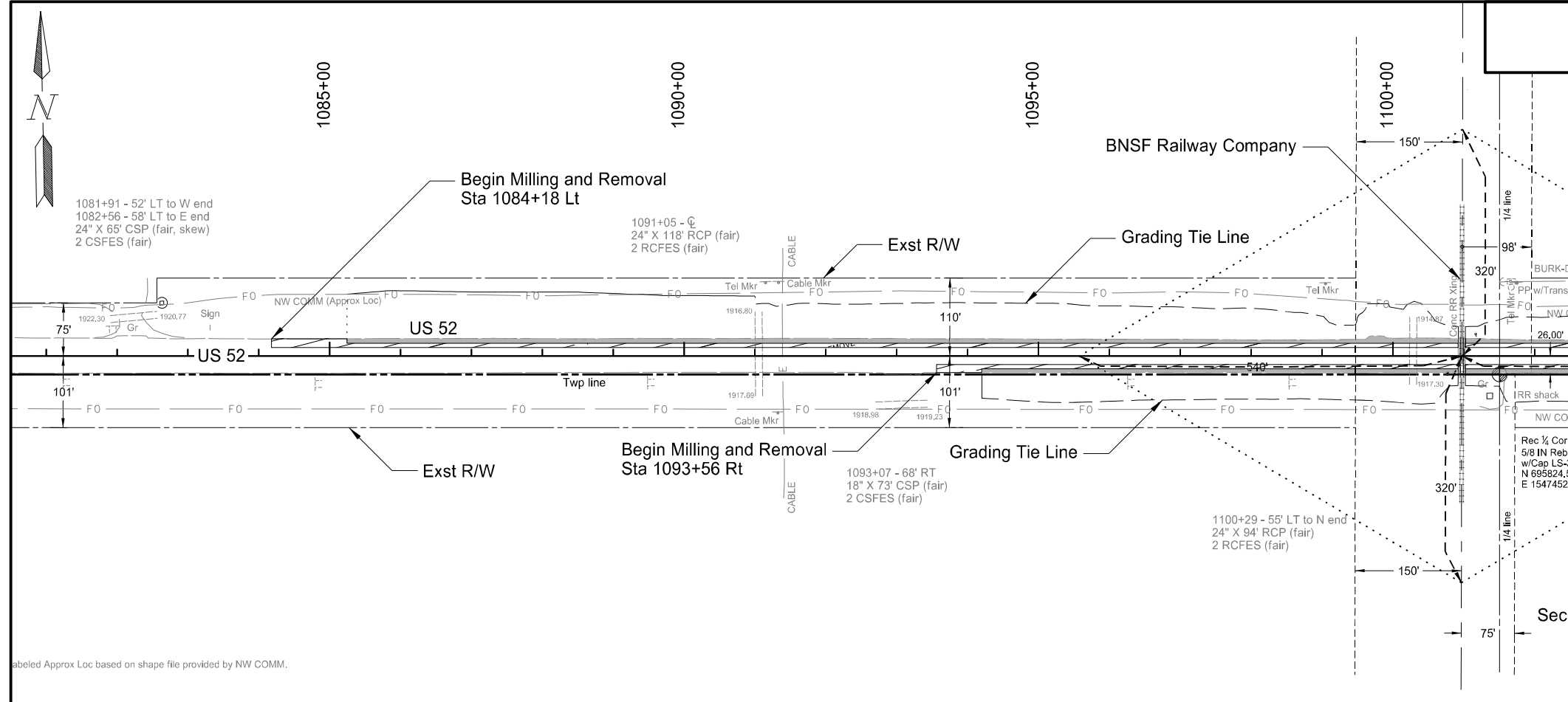
- Milling Pavement Surface
- Remove Aggregate Base & Surfacing - Paved
- Remove Aggregate Base & Surfacing - Gravel
- Grading Tie Line (Cut)
- Grading Tie Line (Fill)
- Grading Tie Line (Transition)



Removals
RP 6.9

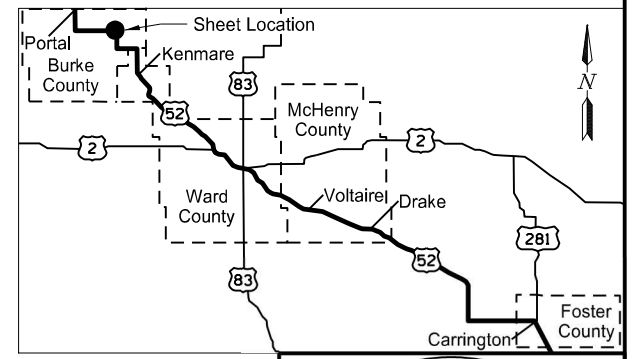
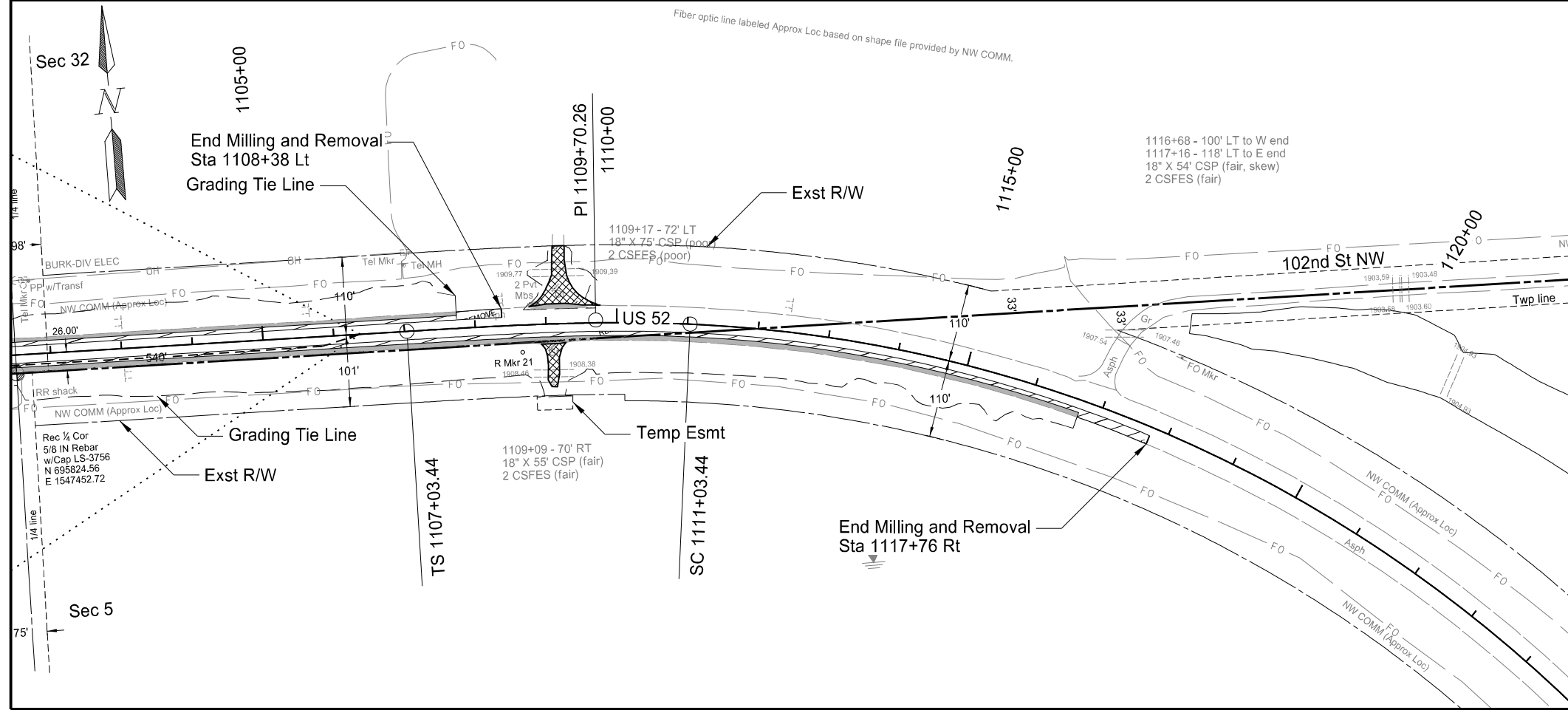
US 52
South of Portal to Carrington
Burke County

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	HEN-9-052(485)006	40	2



SPEC	CODE	BID ITEM	QTY	UNIT
203	0101	Common Excavation-Type A*		
		1085+24 to 1107+74 Lt	1521	CY
		1094+20 to 1116+70 Rt	1517	CY
		Approach		
		1099+78 Lt	3	CY
		1109+09 Rt	43	CY
		1109+20 Lt	112	CY
411	0105	Milling Pavement Surface		
		1085+18 to 1108+38 Lt	2349	SY
		1093+56 to 1117+76 Rt	2344	SY

*Note: Removal of Aggregate Base & Surfacing to be paid as Common Excavation Type A



Legend

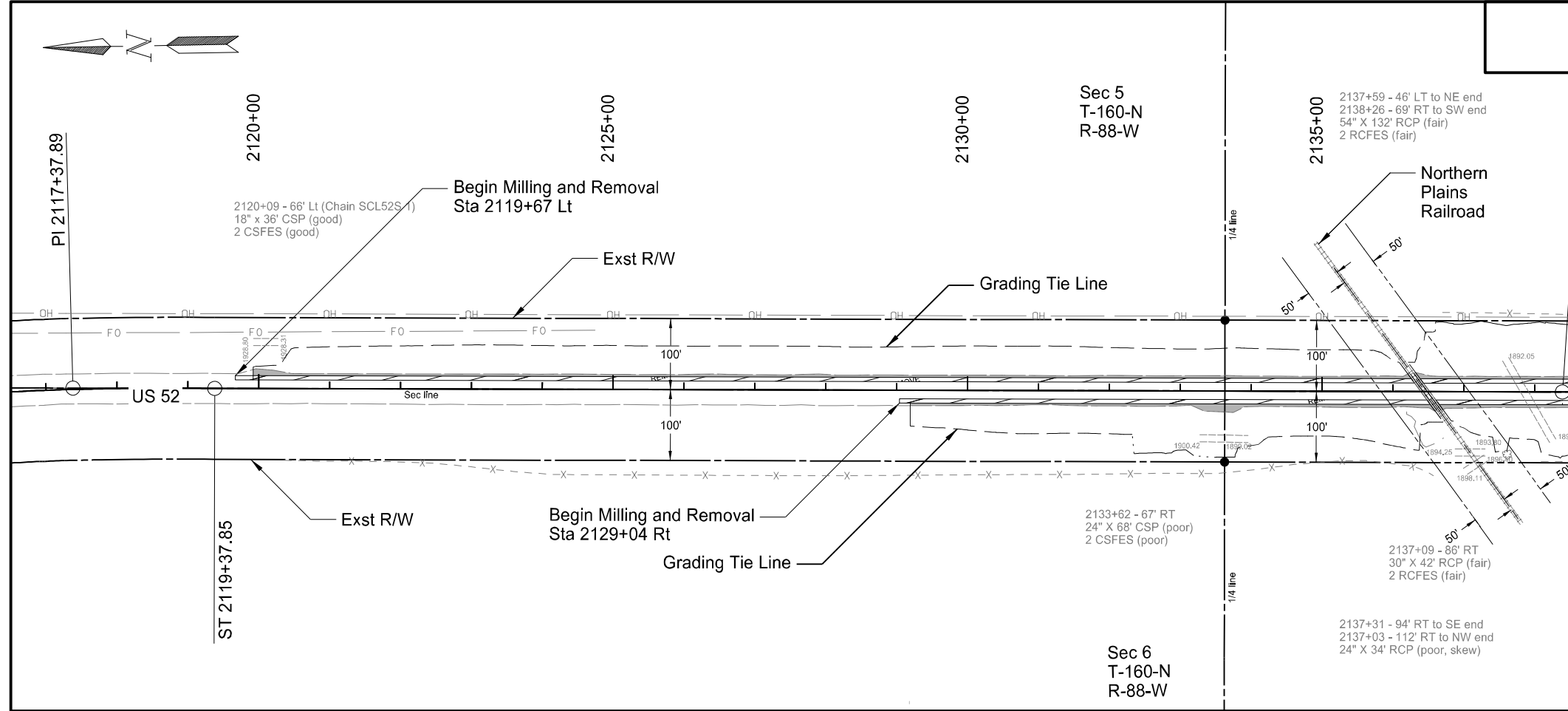
- Milling Pavement Surface
- Remove Aggregate Base & Surfacing - Paved
- Remove Aggregate Base & Surfacing - Gravel
- Grading Tie Line (Cut)
- Grading Tie Line (Fill)
- Grading Tie Line (Transition)



Removals
RP 20.6

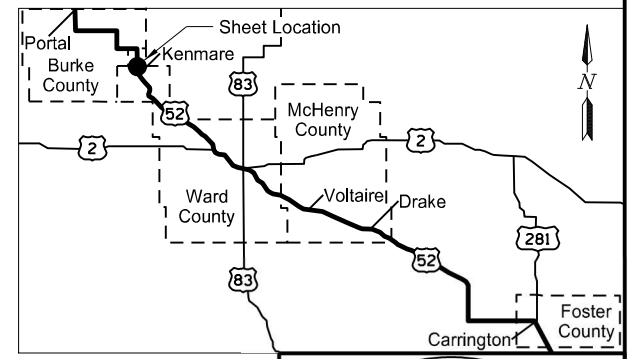
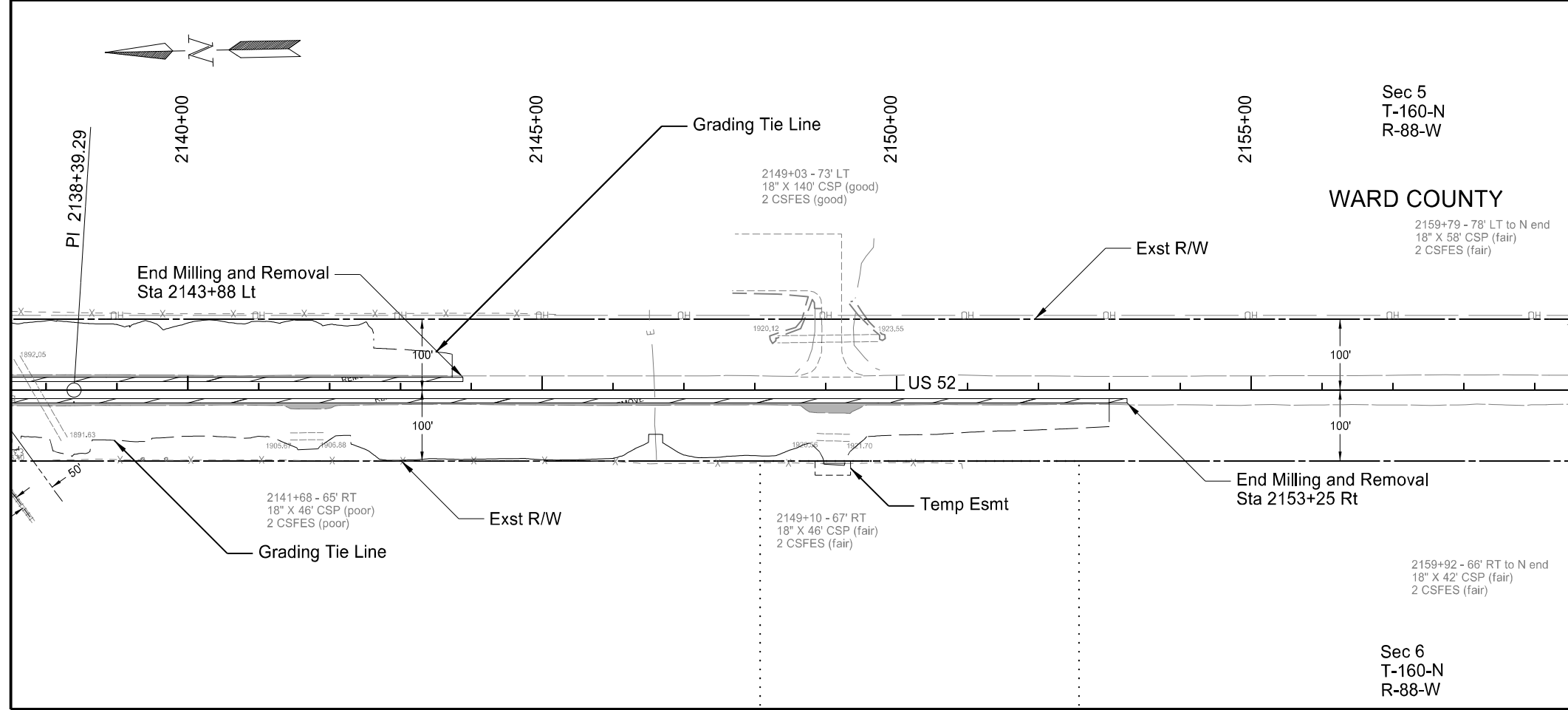
US 52
South of Portal to Carrington
Burke County

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	HEN-9-052(485)006	40	3



SPEC	CODE	BID ITEM	QTY	UNIT
203	0101	Common Excavation-Type A*		
		2119+92 to 2143+73 Lt	301	CY
		2129+19 to 2153+00 Rt	301	CY
		Approach		
		2133+63 Rt	14	CY
		2141+69 Rt	9	CY
		2149+12 Rt	23	CY
411	0105	Milling Pavement Surface		
		2119+67 to 2143+88 Lt	1144	SY
		2129+04 to 2153+25 Rt	1144	SY

*Note: Removal of Aggregate Base & Surfacing to be paid as Common Excavation Type A



Legend

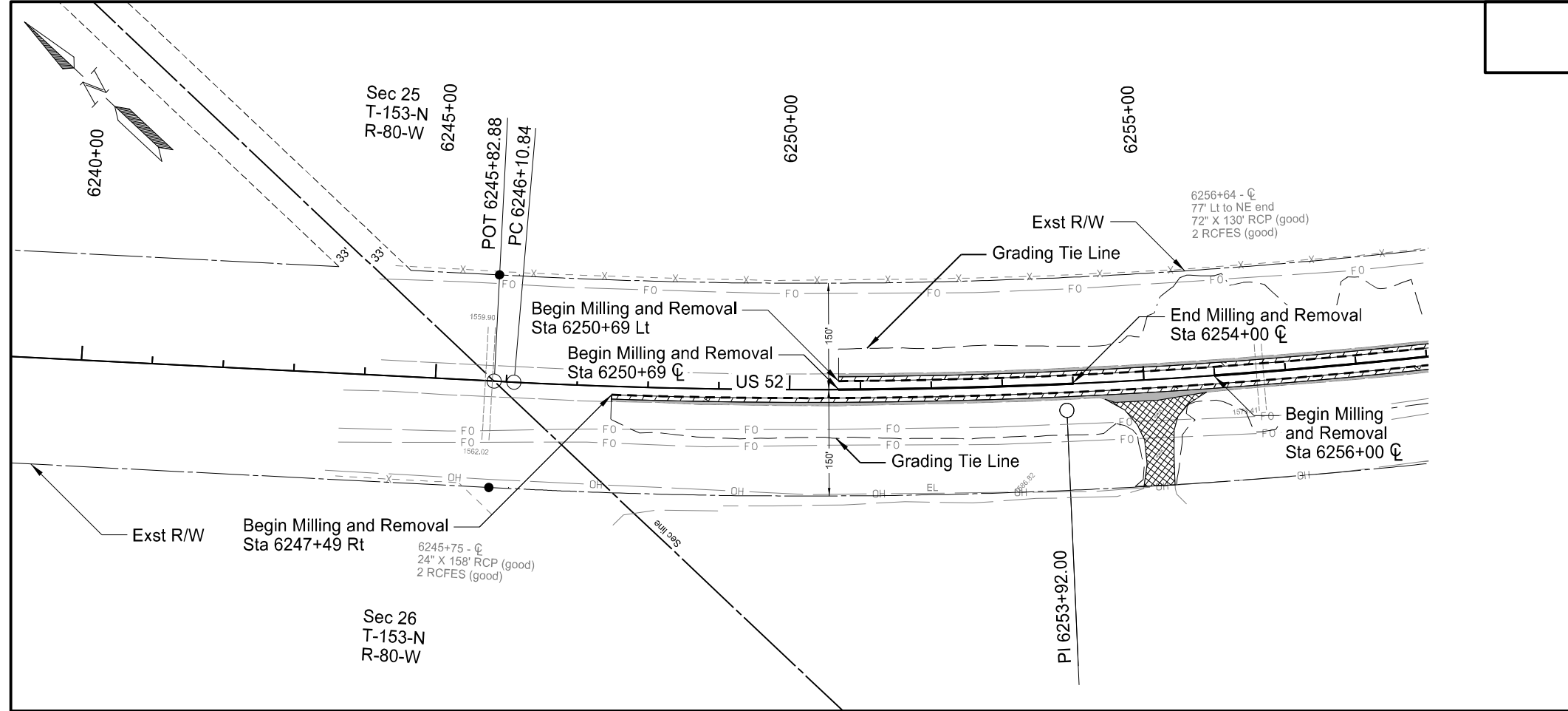
- Milling Pavement Surface
- Remove Aggregate Base & Surfacing - Paved
- Remove Aggregate Base & Surfacing - Gravel
- Grading Tie Line (Cut)
- Grading Tie Line (Fill)
- Grading Tie Line (Transition)



Removals
RP 40.4

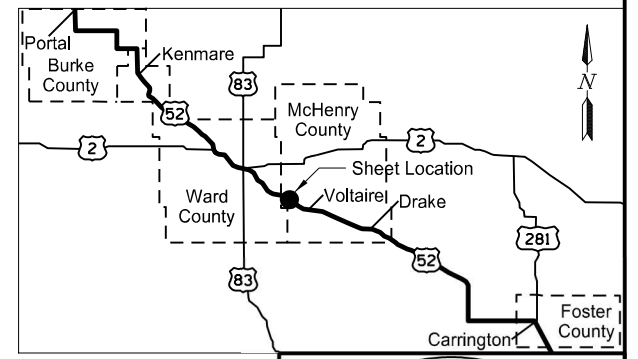
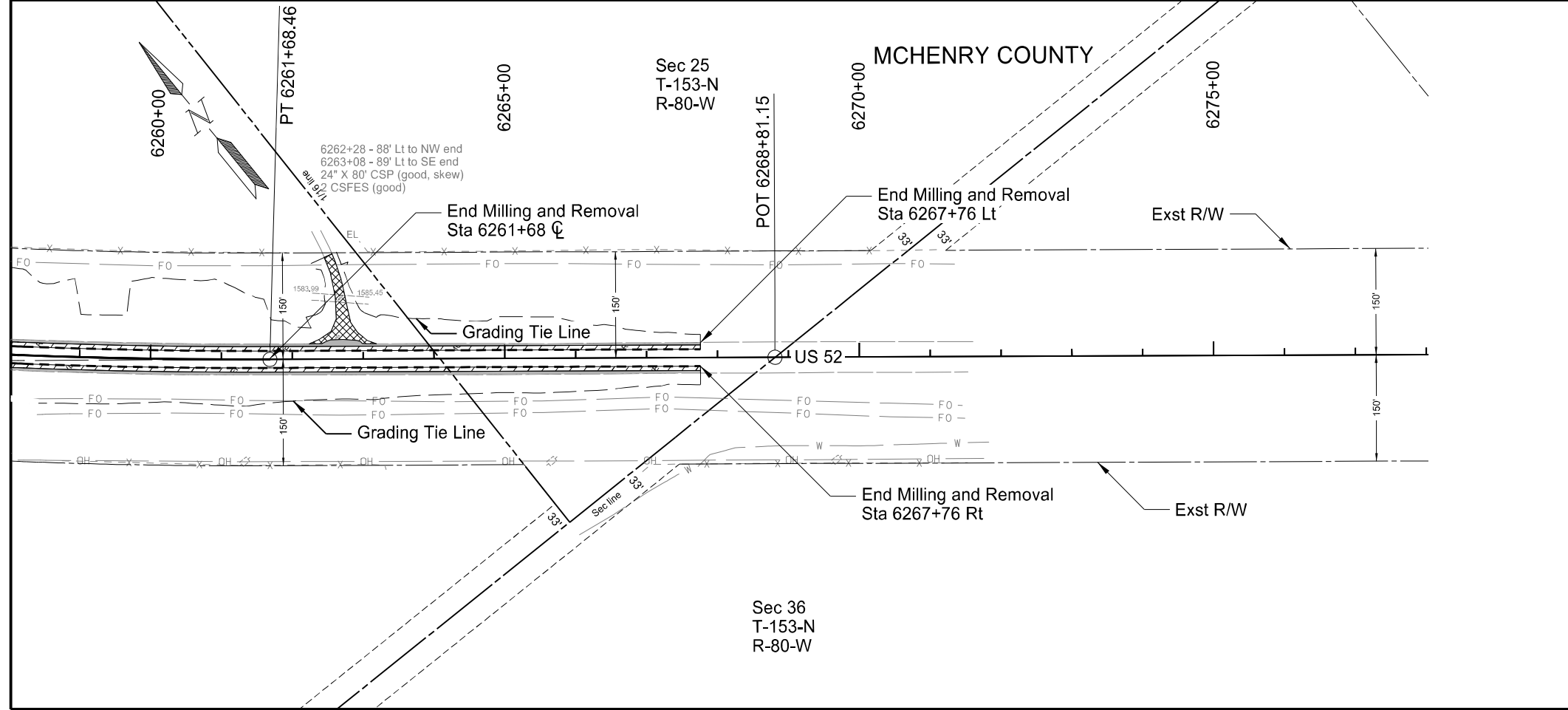
US 52
South of Portal to Carrington
Ward County

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	HEN-9-052(485)006	40	4



SPEC	CODE	BID ITEM	QTY	UNIT
203	0101	Common Excavation-Type A*		
		6250+69 to 6267+76 Lt	759	CY
		6247+49 to 6267+76 Rt	902	CY
		Approach		
		6255+14 Rt	267	CY
		6262+69 Lt	102	CY
411	0105	Milling Pavement Surface		
		6250+69 to 6267+76 Lt	1212	SY
		6250+69 to 6267+76 CL	200	SY
		6247+49 to 6267+76 Rt	1439	SY

*Note: Removal of Aggregate Base & Surfacing to be paid as Common Excavation Type A



Legend

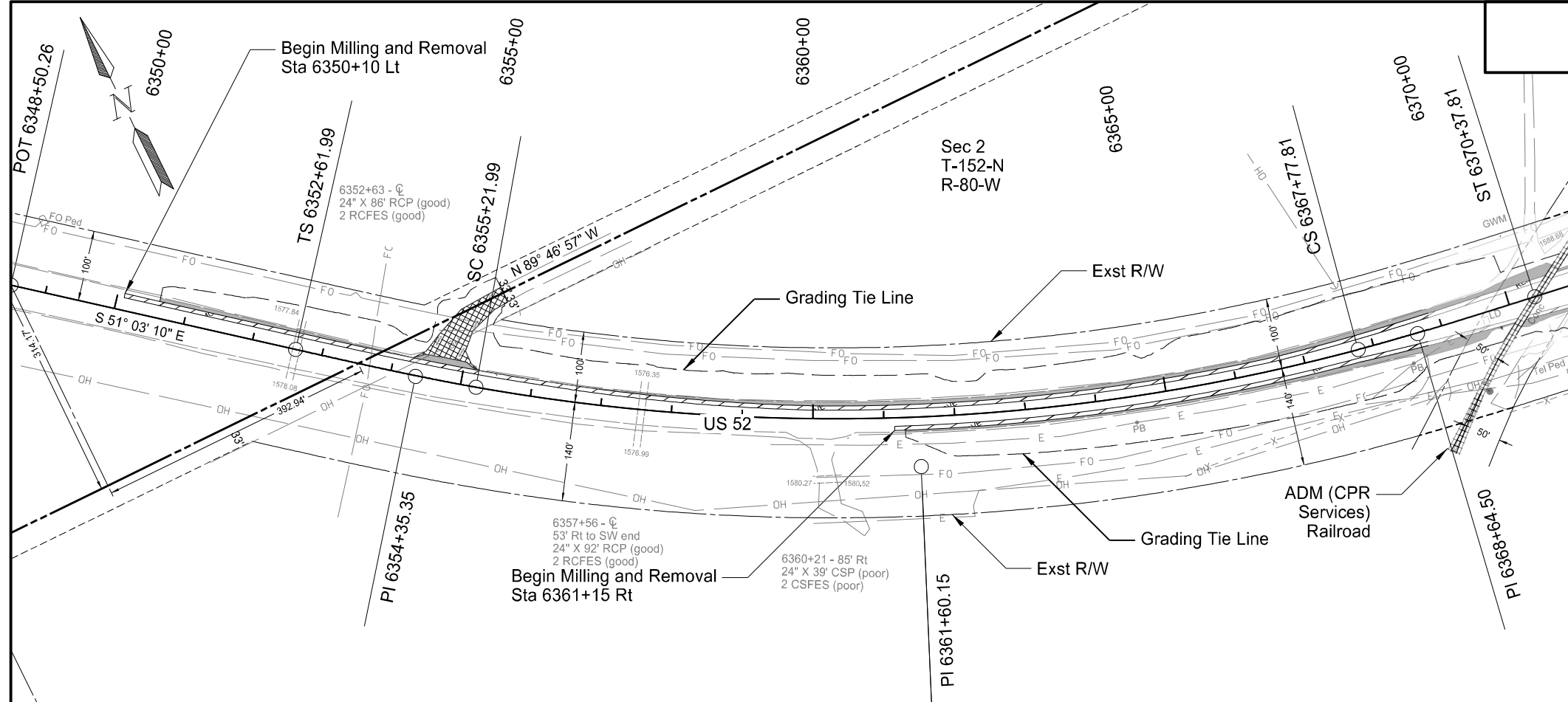
- Milling Pavement Surface
- Remove Aggregate Base & Surfacing - Paved
- Remove Aggregate Base & Surfacing - Gravel
- Grading Tie Line (Cut)
- Grading Tie Line (Fill)
- Grading Tie Line (Transition)



Removals
RP 118.5

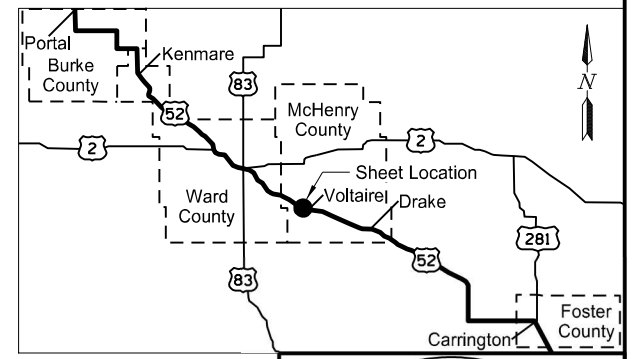
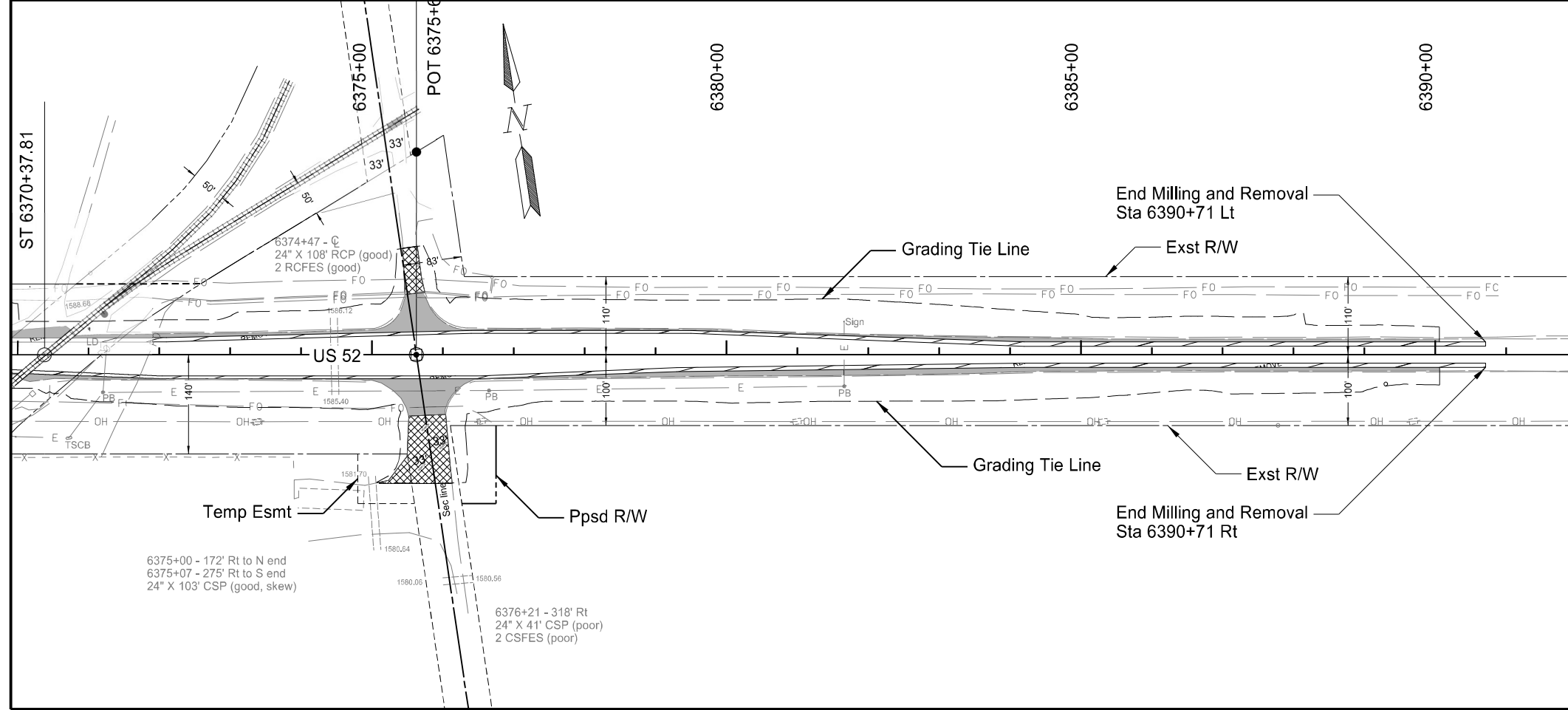
US 52
South of Portal to Carrington
McHenry County

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	HEN-9-052(485)006	40	5



SPEC	CODE	BID ITEM	QTY	UNIT
203	0101	Common Excavation-Type A*		
		6350+60 to 6390+06 Lt	1759	CY
		6361+30 to 6390+06 Rt	1244	CY
		Approach		
		6354+78 Lt	182	CY
		6375+63 Lt	133	CY
		6375+79 Rt	337	CY
411	0105	Milling Pavement Surface		
		6350+10 to 6390+71 Lt	2254	SY
		6361+15 to 6390+71 Rt	1471	SY

*Note: Removal of Aggregate Base & Surfacing to be paid as Common Excavation Type A



Legend

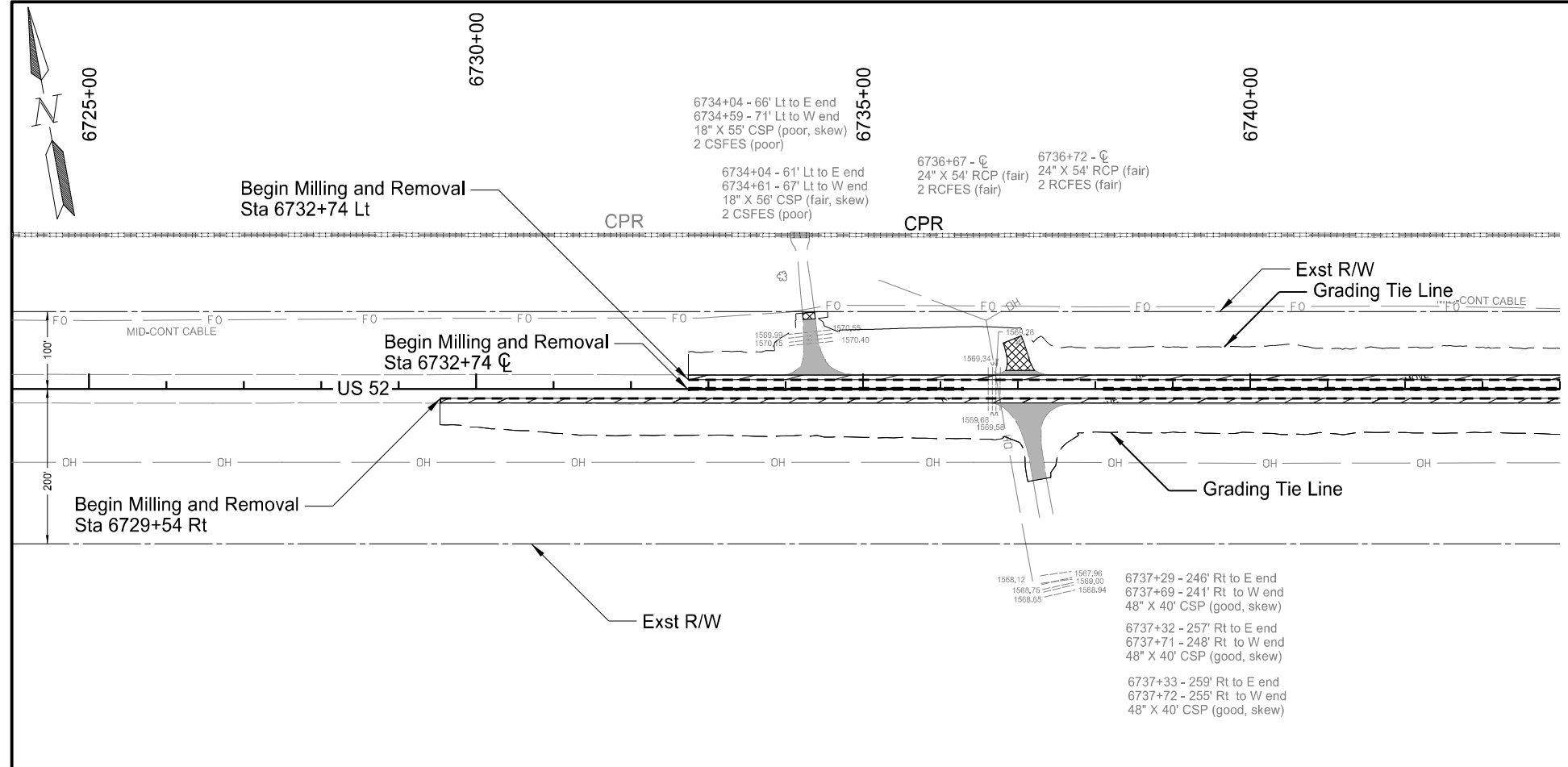
- Milling Pavement Surface
- Remove Aggregate Base & Surfacing - Paved
- Remove Aggregate Base & Surfacing - Gravel
- Grading Tie Line (Cut)
- Grading Tie Line (Fill)
- Grading Tie Line (Transition)



Removals
RP 120.5

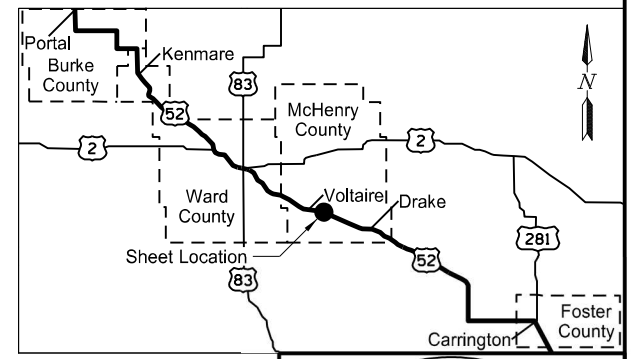
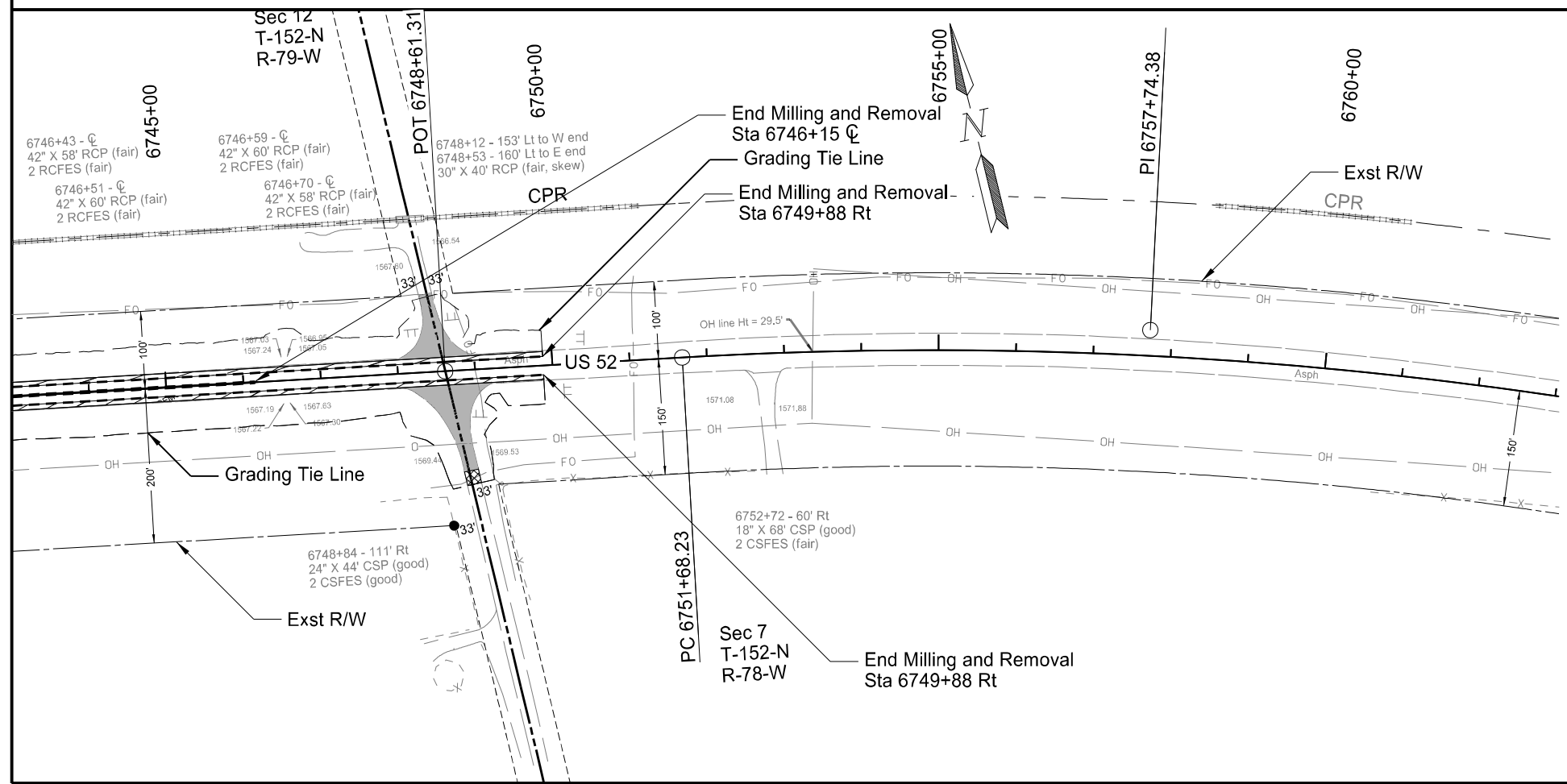
US 52
South of Portal to Carrington
McHenry County

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	HEN-9-052(485)006	40	6



SPEC	CODE	BID ITEM	QTY	UNIT
203	0101	Common Excavation-Type A*		
		6732+74 to 6749+88 Lt	252	CY
		6729+54 to 6749+88 Rt	299	CY
		Approach		
		6734+36 Lt	59	CY
		6737+26 Rt	79	CY
		6737+26 Lt	51	CY
		6748+52 Lt	76	CY
		6748+70 Rt	129	CY
411	0105	Milling Pavement Surface		
		6732+74 to 6749+88 Lt	1174	SY
		6732+74 to 6746+15 CL	258	SY
		6729+54 to 6749+88 Rt	1393	SY

*Note: Removal of Aggregate Base & Surfacing to be paid as Common Excavation Type A



Legend

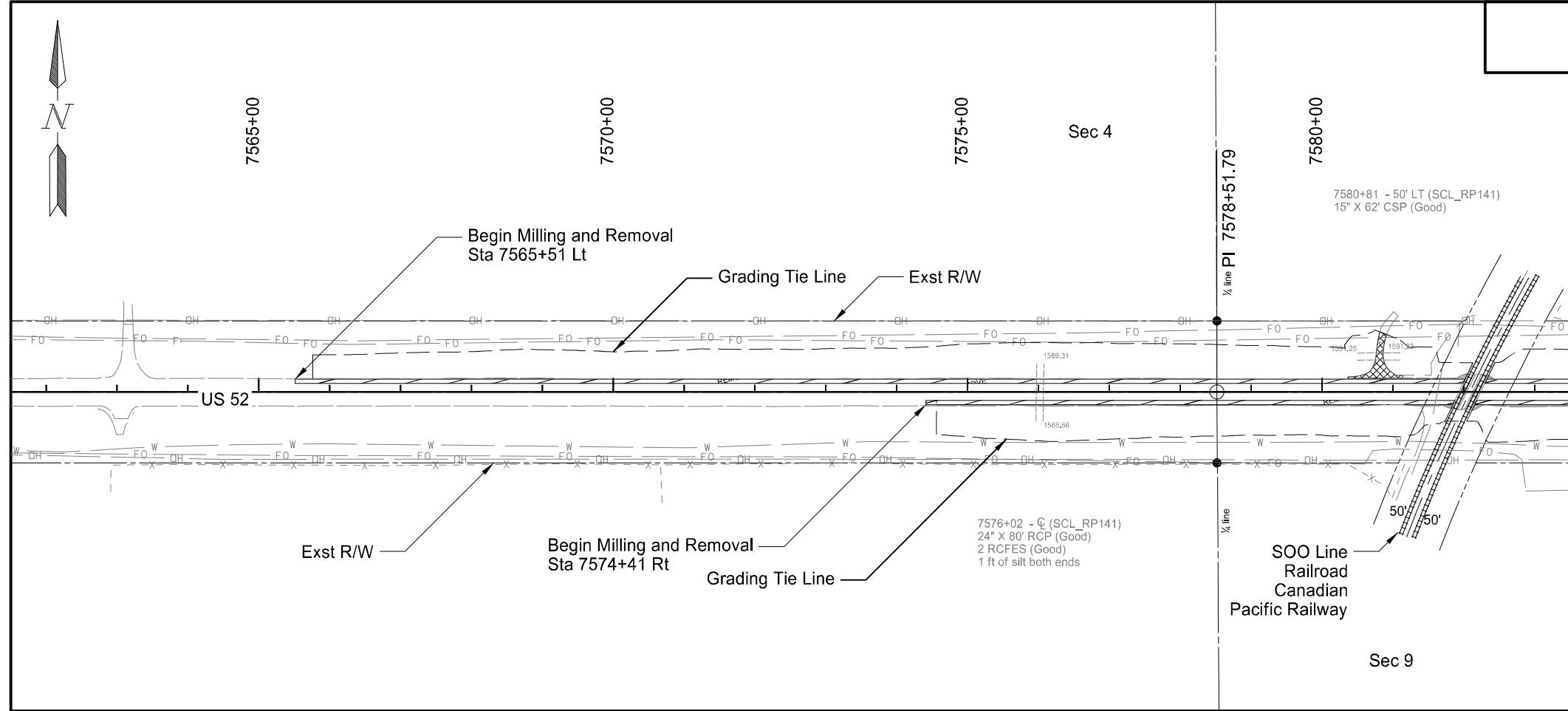
- Milling Pavement Surface
- Remove Aggregate Base & Surfacing - Paved
- Remove Aggregate Base & Surfacing - Gravel
- Grading Tie Line (Cut)
- Grading Tie Line (Fill)
- Grading Tie Line (Transition)



Removals
RP 127.6

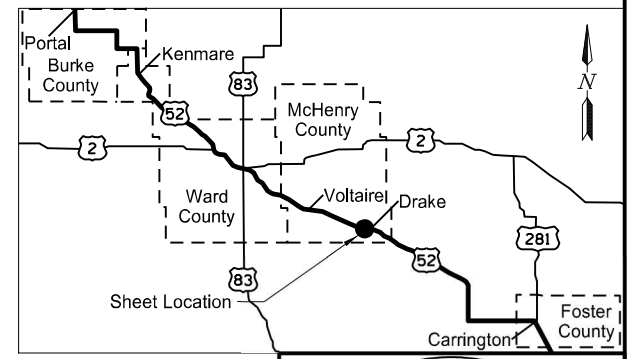
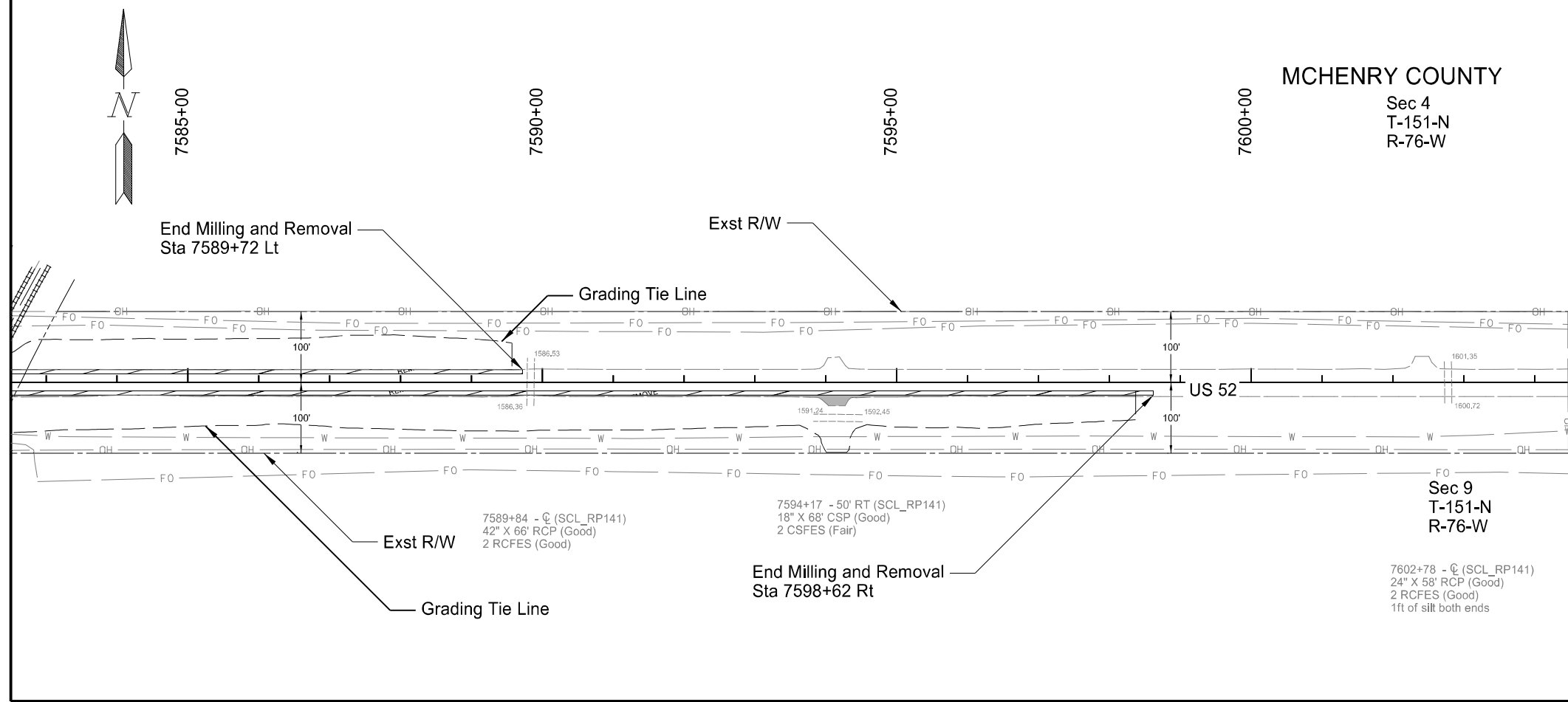
US 52
South of Portal to Carrington
McHenry County

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	HEN-9-052(485)006	40	7



SPEC	CODE	BID ITEM	QTY	UNIT
203	0101	Common Excavation-Type A*		
		7565+76 to 7589+57 Lt	336	CY
		7574+56 to 7598+37 Rt	336	CY
		Approach		
		7580+80 Lt	43	CY
		7594+16 Rt	12	CY
411	0105	Milling Pavement Surface		
		7565+51 to 7589+72 Lt	1594	SY
		7574+41 to 7598+62 Rt	1594	SY

*Note: Removal of Aggregate Base & Surfacing to be paid as Common Excavation Type A



Legend

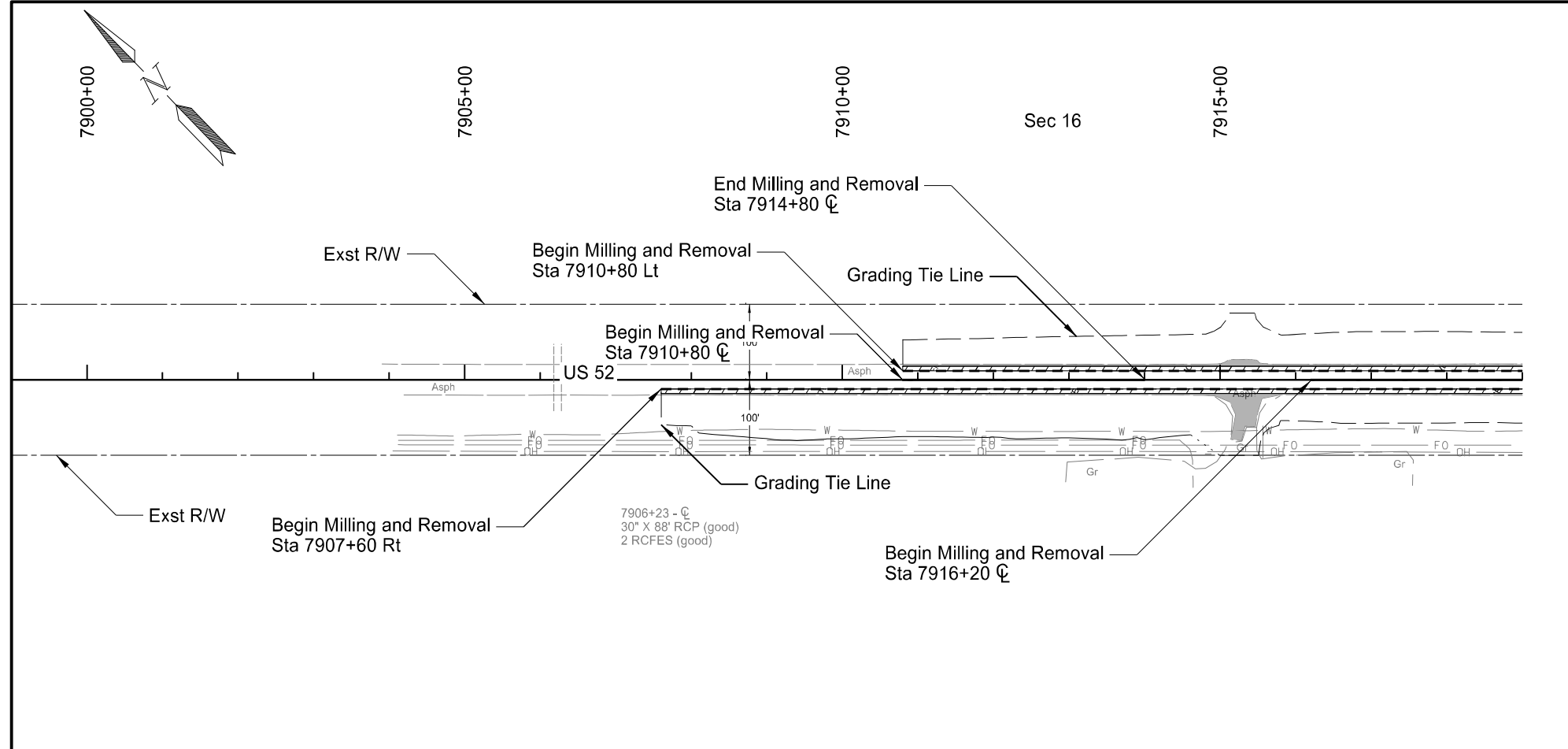
- Milling Pavement Surface
- Remove Aggregate Base & Surfacing - Paved
- Remove Aggregate Base & Surfacing - Gravel
- Grading Tie Line (Cut)
- Grading Tie Line (Fill)
- Grading Tie Line (Transition)



Removals
RP 143.5

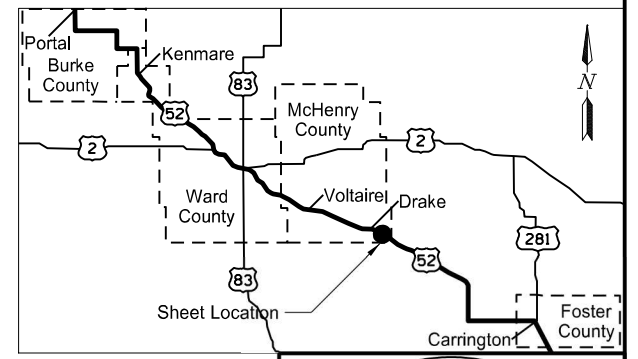
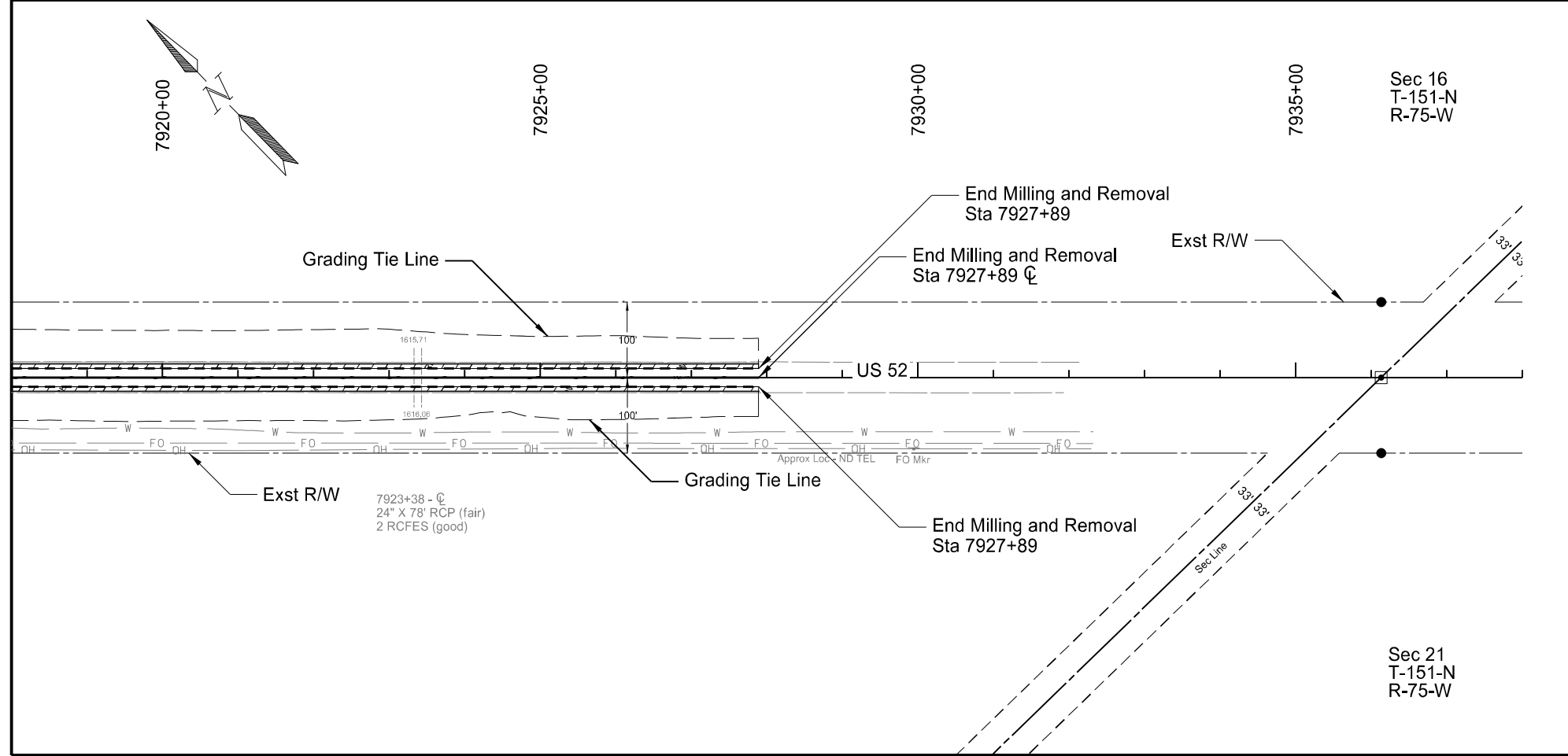
US 52
South of Portal to Carrington
McHenry County

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	HEN-9-052(485)006	40	8



SPEC	CODE	BID ITEM	QTY	UNIT
203	0101	Common Excavation-Type A*		
		7910+80 to 7927+89 Lt	565	CY
		7907+60 to 7927+89 Rt	671	CY
		Approach		
		7915+30 Lt	7	CY
		7915+30 Rt	49	CY
411	0105	Milling Pavement Surface		
		7910+80 to 7927+89 Lt	1214	SY
		7910+80 to 7927+89 CL	331	SY
		7907+60 to 7927+89 Rt	1441	SY

*Note: Removal of Aggregate Base & Surfacing to be paid as Common Excavation Type A



Legend

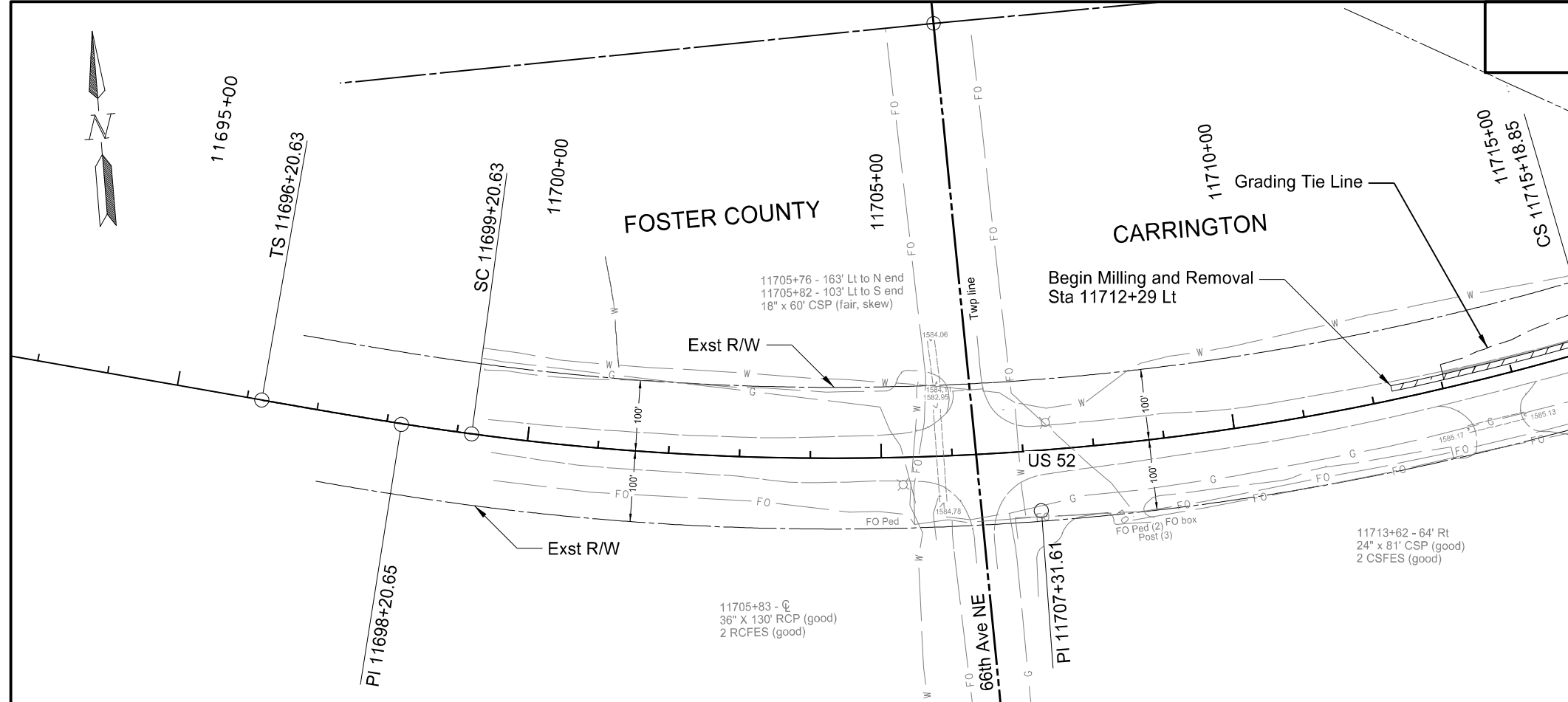
- Milling Pavement Surface
- Remove Aggregate Base & Surfacing - Paved
- Remove Aggregate Base & Surfacing - Gravel
- Grading Tie Line (Cut)
- Grading Tie Line (Fill)
- Grading Tie Line (Transition)



Removals
RP 149.9

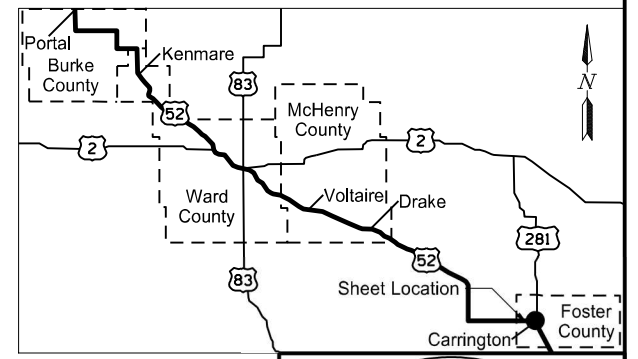
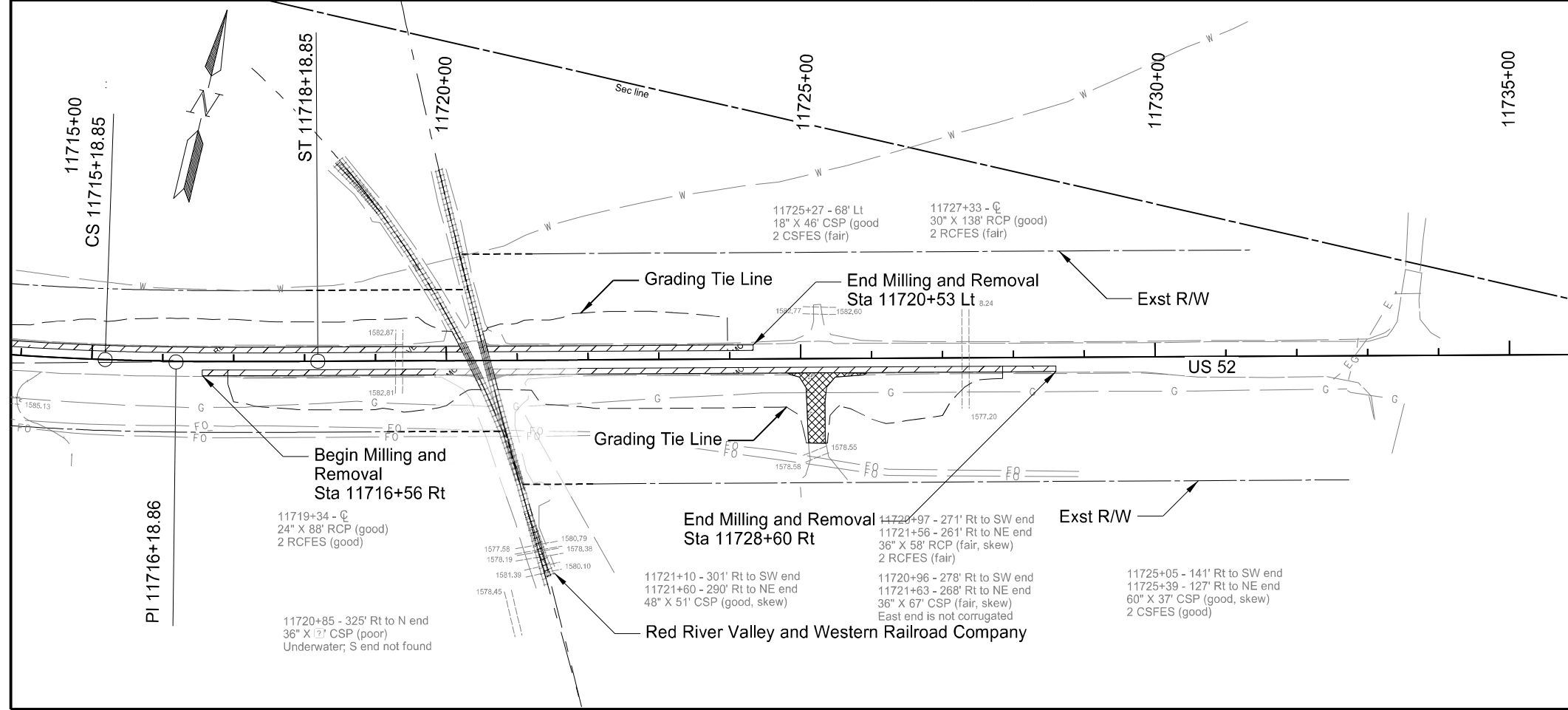
US 52
South of Portal to Carrington
McHenry County

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	HEN-9-052(485)006	40	9



SPEC	CODE	BID ITEM	QTY	UNIT
203	0101	Common Excavation-Type A*		
		11713+04 to 11723+97 Lt	598	CY
		11716+92 to 11727+85 Rt	602	CY
		Approach		
		11725+21 Rt	115	CY
411	0105	Milling Pavement Surface		
		11712+29 to 11724+33 Lt	1334	SY
		11716+56 to 11728+60 Rt	1342	SY

*Note: Removal of Aggregate Base & Surfacing to be paid as Common Excavation Type A



Legend

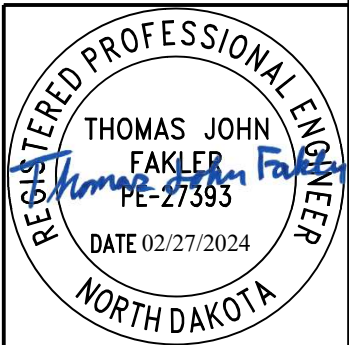
- Milling Pavement Surface
- Remove Aggregate Base & Surfacing - Paved
- Remove Aggregate Base & Surfacing - Gravel
- Grading Tie Line (Cut)
- Grading Tie Line (Fill)
- Grading Tie Line (Transition)



Removals
RP 222.0

US 52
South of Portal to Carrington
Foster County

Begin Station / Location	Begin Offset	End Station / Location	End Offset	Pipe Installation (Pay Item)		Allowable Material	Required Diameter	Steel Pipe Coatings	Steel Pipe Corrugations or Spiral Ribs	Steel Pipe Minimum Thickness	Geosynthetic Material Type R1 (Pay Item)	(*) End Sections		Applicable Backfill	
				IN	Bid Item							LF	In		Type
358+18.4	70.7' Lt	358+18.5	60.7' Lt	30	Reinforced Concrete Pipe (Extension)	10	Reinforced Concrete Pipe - Class III (barrel length = 10 LF)	30						*Remove and Relay	Section 20 Sheet 4
363+65.8	74.2' Rt	364+15.8	72.0' Rt	18	Pipe Conduit - Approach	50	Reinforced Concrete Pipe - Class III (barrel length = 42 LF)	18				FES	FES	Specification 714.04 A	
							Corrugated Steel Pipe	18	Z, A, P	2	0.064				
							Spiral Rib Steel Pipe	18	Z, A, P	3/4, 1	0.064				
							High-Density Polyethylene (HDPE)	18							
							Polypropylene Pipe (AASHTO M330, Type S)	18							
370+92.7	74.0' Rt	371+44.7	74.0' Rt	24	Pipe Conduit - Approach	52	Reinforced Concrete Pipe - Class III (barrel length = 48 LF)	24				FES	FES	Specification 714.04 A	
							Corrugated Steel Pipe	24	Z, A, P	2	0.064				
							Spiral Rib Steel Pipe	24	Z, A, P	3/4, 1	0.064				
							High-Density Polyethylene (HDPE)	24							
							Polypropylene Pipe (AASHTO M330, Type S)	24							
373+49.7	63.5' Lt	373+49.7	53.5' Lt	30	Reinforced Concrete Pipe (Extension)	10	Reinforced Concrete Pipe - Class III (barrel length = 10 LF)	30					*Remove and Relay	Section 20 Sheet 4	
373+50.7	53.1' Rt	373+50.8	67.1' Rt	30	Reinforced Concrete Pipe (Extension)	14	Reinforced Concrete Pipe - Class III (barrel length = 14 LF)	30					*Remove and Relay	Section 20 Sheet 4	
1091+05.1	72.5' Lt	1091+05.1	62.5' Lt	24	Reinforced Concrete Pipe (Extension)	10	Reinforced Concrete Pipe - Class III (barrel length = 10 LF)	24					*Remove and Relay	Section 20 Sheet 4	
1100+28.4	39.9' Rt	1100+28.2	58.0' Rt	24	Reinforced Concrete Pipe (Extension)	18	Reinforced Concrete Pipe - Class III (barrel length = 18 LF)	24					*Remove and Relay	Section 20 Sheet 4	
1100+29.0	68.6' Lt	1100+28.9	54.6' Lt	24	Reinforced Concrete Pipe (Extension)	14	Reinforced Concrete Pipe - Class III (barrel length = 14 LF)	24					*Remove and Relay	Section 20 Sheet 4	
1108+80.0	72.6' Lt	1109+54.5	72.1' Lt	24	Pipe Conduit - Approach	76	Reinforced Concrete Pipe - Class III (barrel length = 72 LF)	24				FES	FES	Specification 714.04 A	
							Corrugated Steel Pipe	24	Z, A, P	2	0.064				
							Spiral Rib Steel Pipe	24	Z, A, P	3/4, 1	0.064				
							High-Density Polyethylene (HDPE)	24							
							Polypropylene Pipe (AASHTO M330, Type S)	24							
1108+82.6	73.8' Rt	1109+37.7	74.0' Rt	24	Pipe Conduit - Approach	54	Reinforced Concrete Pipe - Class III (barrel length = 50 LF)	24				FES	FES	Specification 714.04 A	
							Corrugated Steel Pipe	24	Z, A, P	2	0.064				
							Spiral Rib Steel Pipe	24	Z, A, P	3/4, 1	0.064				
							High-Density Polyethylene (HDPE)	24							
							Polypropylene Pipe (AASHTO M330, Type S)	24							
2133+28.2	73.0' Rt	2134+00.2	73.0' Rt	30	Pipe Conduit - Approach	72	Reinforced Concrete Pipe - Class III (barrel length = 68 LF)	30				FES	FES	Specification 714.04 A	
							Corrugated Steel Pipe	30	Z, A, P	2	0.064				
							Spiral Rib Steel Pipe	30	Z, A, P	3/4, 1	0.064				
							High-Density Polyethylene (HDPE)	30							
							Polypropylene Pipe (AASHTO M330, Type S)	30							



Allowable Pipe List

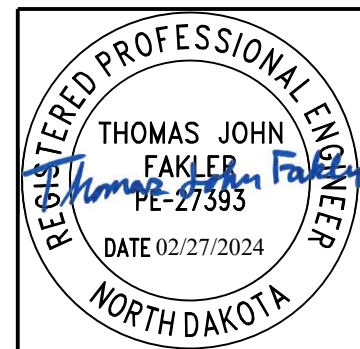
US 52
South of Portal to Carrington

Coatings: Z = Zinc Corrugations: 2 = 2-2/3"x1/2" Spiral Ribs: 3/4 = 3/4"x3/4"@7-1/2"
 A = Aluminum 3 = 3"x1" 1 = 3/4"x1"@11-1/2"
 P = Polymeric (over Zinc or Aluminum) 5 = 5"x1"

(*) End sections are measured and paid for separately for pipe extensions.
 FES = Flared End Section
 TES = Traversable End Section

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	HEN-9-052(485)006	51	2

Begin Station / Location	Begin Offset	End Station / Location	End Offset	Pipe Installation (Pay Item)			Allowable Material	Required Diameter	Steel Pipe Coatings	Steel Pipe Corrugations or Spiral Ribs	Steel Pipe Minimum Thickness	Geosynthetic Material Type R1 (Pay Item)	(*) End Sections		Applicable Backfill
				IN	Bid Item	LF							Begin	End	
				IN	Bid Item	LF		In	Type		In	SY	EA	EA	
2137+46.9	66.6' Lt	2137+59.0	45.8' Lt	54	Reinforced Concrete Pipe (Extension)	24	Reinforced Concrete Pipe - Class III (barrel length = 24 LF)	54					*Remove and Relay		Section 20 Sheet 4
2138+25.6	68.8' Rt	2138+28.6	74.0' Rt	54	Reinforced Concrete Pipe (Extension)	6	Reinforced Concrete Pipe - Class III (barrel length = 6 LF)	54						*Remove and Relay	Section 20 Sheet 4
2141+39.8	73.1' Rt	2141+93.7	71.1' Rt	18	Pipe Conduit - Approach	54	Reinforced Concrete Pipe - Class III (barrel length = 46 LF)	18					FES	FES	Specification 714.04 A
							Corrugated Steel Pipe	18	Z, A, P	2	0.064				
							Spiral Rib Steel Pipe	18	Z, A, P	3/4, 1	0.064				
							High-Density Polyethylene (HDPE)	18							
							Polypropylene Pipe (AASHTO M330, Type S)	18							
2148+75.5	68.9' Rt	2149+43.5	68.9' Rt	24	Pipe Conduit - Approach	68	Reinforced Concrete Pipe - Class III (barrel length = 64 LF)	24					FES	FES	Specification 714.04 A
							Corrugated Steel Pipe	24	Z, A, P	2	0.064				
							Spiral Rib Steel Pipe	24	Z, A, P	3/4, 1	0.064				
							High-Density Polyethylene (HDPE)	24							
							Polypropylene Pipe (AASHTO M330, Type S)	24							
6256+64.1	54.0' Rt	6256+64.0	66.0' Rt	72	Reinforced Concrete Pipe (Extension)	12	Reinforced Concrete Pipe - Class III (barrel length = 12 LF)	72					*Remove and Relay	Section 20 Sheet 4	
6256+64.2	92.9' Lt	6256+64.2	76.9' Lt	72	Reinforced Concrete Pipe (Extension)	16	Reinforced Concrete Pipe - Class III (barrel length = 16 LF)	72					*Remove and Relay	Section 20 Sheet 4	
6352+63.1	49.5' Lt	6352+63.0	43.5' Lt	24	Reinforced Concrete Pipe (Extension)	6	Reinforced Concrete Pipe - Class III (barrel length = 6 LF)	24					*Remove and Relay	Section 20 Sheet 4	
6357+59.9	55.7' Lt	6357+59.3	39.7' Lt	24	Reinforced Concrete Pipe (Extension)	16	Reinforced Concrete Pipe - Class III (barrel length = 16 LF)	24					*Remove and Relay	Section 20 Sheet 4	
6374+46.0	53.8' Lt	6374+46.0	51.8' Lt	24	Reinforced Concrete Pipe (Extension)	2	Reinforced Concrete Pipe - Class III (barrel length = 2 LF)	24					*Remove and Relay	Section 20 Sheet 4	
6374+48.3	56.3' Rt	6374+48.5	66.3' Rt	24	Reinforced Concrete Pipe (Extension)	10	Reinforced Concrete Pipe - Class III (barrel length = 10 LF)	24					*Remove and Relay	Section 20 Sheet 4	
6734+06.9	66.3' Lt	6734+64.9	66.3' Lt	24	Pipe Conduit - Approach	58	Reinforced Concrete Pipe - Class III (barrel length = 54 LF)	24					FES	FES	Specification 714.04 A
							Corrugated Steel Pipe	24	Z, A, P	2	0.064				
							Spiral Rib Steel Pipe	24	Z, A, P	3/4, 1	0.064				
							High-Density Polyethylene (HDPE)	24							
							Polypropylene Pipe (AASHTO M330, Type S)	24							
6736+66.7	27.7' Lt	6737+66.8	47.7' Lt	24	Reinforced Concrete Pipe (Extension)	20	Reinforced Concrete Pipe - Class III (barrel length = 20 LF)	24					*Remove and Relay	Section 20 Sheet 4	
6736+66.7	27.8' Rt	6736+66.6	53.8' Rt	24	Reinforced Concrete Pipe (Extension)	26	Reinforced Concrete Pipe - Class III (barrel length = 26 LF)	24					*Remove and Relay	Section 20 Sheet 4	
6736+71.8	27.5' Rt	6736+71.6	53.5' Rt	24	Reinforced Concrete Pipe (Extension)	26	Reinforced Concrete Pipe - Class III (barrel length = 26 LF)	24					*Remove and Relay	Section 20 Sheet 4	
6736+72.1	28.1' Lt	6736+72.2	48.1' Lt	24	Reinforced Concrete Pipe (Extension)	20	Reinforced Concrete Pipe - Class III (barrel length = 20 LF)	24					*Remove and Relay	Section 20 Sheet 4	



Allowable Pipe List

US 52
South of Portal to Carrington

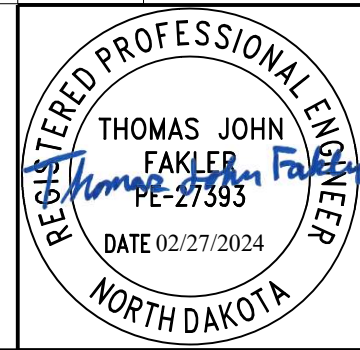
Coatings: Z = Zinc
A = Aluminum
P = Polymeric (over Zinc or Aluminum)

Corrugations: 2 = 2-2/3"x1/2"
3 = 3"x1"
5 = 5"x1"

Spiral Ribs: 3/4 = 3/4"x3/4"@7-1/2"
1 = 3/4"x1"@11-1/2"

(*) End sections are measured and paid for separately for pipe extensions.
FES = Flared End Section
TES = Traversable End Section

Begin Station / Location	Begin Offset	End Station / Location	End Offset	Pipe Installation (Pay Item)		Allowable Material	Required Diameter	Steel Pipe Coatings	Steel Pipe Corrugations or Spiral Ribs	Steel Pipe Minimum Thickness	Geosynthetic Material Type R1 (Pay Item)	(*) End Sections		Applicable Backfill
				IN	LF							Begin	End	
					Bid Item		In	Type		In	SY	EA	EA	
6746+42.6	54.4' Lt	6746+42.6	30.4' Lt	42	Reinforced Concrete Pipe (Extension)	24	42					*Remove and Relay		Section 20 Sheet 4
6746+42.6	29.9' Rt	6746+42.5	45.9' Rt	42	Reinforced Concrete Pipe (Extension)	16	42						*Remove and Relay	Section 20 Sheet 4
6746+50.7	54.8' Lt	6746+50.7	30.8' Lt	42	Reinforced Concrete Pipe (Extension)	24	42					*Remove and Relay		Section 20 Sheet 4
6746+50.7	29.8' Rt	6746+50.7	45.8' Rt	42	Reinforced Concrete Pipe (Extension)	16	42						*Remove and Relay	Section 20 Sheet 4
6746+58.8	54.9' Lt	6746+58.8	30.9' Lt	42	Reinforced Concrete Pipe (Extension)	24	42					*Remove and Relay		Section 20 Sheet 4
6746+58.9	29.6' Rt	6746+59.0	45.6' Rt	42	Reinforced Concrete Pipe (Extension)	16	42						*Remove and Relay	Section 20 Sheet 4
6746+70.0	29.2' Rt	6746+69.9	45.2' Rt	42	Reinforced Concrete Pipe (Extension)	16	42						*Remove and Relay	Section 20 Sheet 4
6746+70.4	54.1' Lt	6746+70.3	30.1' Lt	42	Reinforced Concrete Pipe (Extension)	24	42					*Remove and Relay		Section 20 Sheet 4
6748+55.9	112.6' Rt	6748+61.9	112.2' Rt	24	Pipe Corr. Steel - Approach (Extension)	6	24	Z, A, P	2	0.064		FES		Section 20 Sheet 4
6749+06.4	109.4' Rt	6749+10.4	109.1' Rt	24	Pipe Corr. Steel - Approach (Extension)	4	24	Z, A, P	2	0.064			FES	Section 20 Sheet 4
7576+01.5	41.4' Rt	7576+01.2	61.4' Rt	24	Reinforced Concrete Pipe (Extension)	20	24						*Remove and Relay	Section 20 Sheet 4
7576+02.7	59.7' Lt	7576+02.5	39.7' Lt	24	Reinforced Concrete Pipe (Extension)	20	24					*Remove and Relay		Section 20 Sheet 4
7580+44.6	65.0' Lt	7581+12.6	65.0' Lt	24	Pipe Conduit - Approach	68	Reinforced Concrete Pipe - Class III (barrel length = 64 LF)	24				FES	FES	Specification 714.04 A
							Corrugated Steel Pipe	24	Z, A, P	2	0.064			
							Spiral Rib Steel Pipe	24	Z, A, P	3/4, 1	0.064			
							High-Density Polyethylene (HDPE)	24						
							Polypropylene Pipe (AASHTO M330, Type S)	24						
7589+83.2	33.0' Rt	7589+83.0	53.0' Rt	42	Reinforced Concrete Pipe (Extension)	20	42					*Remove and Relay	Section 20 Sheet 4	
7593+79.3	61.0' Rt	7594+43.3	61.0' Rt	24	Pipe Conduit - Approach	64	Reinforced Concrete Pipe - Class III (barrel length = 60 LF)	24				FES	FES	Specification 714.04 A
							Corrugated Steel Pipe	24	Z, A, P	2	0.064			
							Spiral Rib Steel Pipe	24	Z, A, P	3/4, 1	0.064			
							High-Density Polyethylene (HDPE)	24						
							Polypropylene Pipe (AASHTO M330, Type S)	24						
7923+38.1	45.1' Lt	7923+38.1	39.1' Lt	24	Reinforced Concrete Pipe (Extension)	6	24				*Remove and Relay		Section 20 Sheet 4	
7923+38.2	39.4' Rt	7923+38.2	41.4' Rt	24	Reinforced Concrete Pipe (Extension)	2	24					*Remove and Relay		Section 20 Sheet 4
11719+33.0	45.8' Rt	11719+32.8	57.8' Rt	24	Reinforced Concrete Pipe (Extension)	12	24					*Remove and Relay		Section 20 Sheet 4
11719+34.2	51.6' Lt	11719+34.1	43.6' Lt	24	Reinforced Concrete Pipe (Extension)	8	24					*Remove and Relay		Section 20 Sheet 4



Coatings: Z = Zinc
 A = Aluminum
 P = Polymeric (over Zinc or Aluminum)

Corrugations: 2 = 2-2/3"x1/2"
 3 = 3"x1"
 5 = 5"x1"

Spiral Ribs: 3/4 = 3/4"x3/4"@7-1/2"
 1 = 3/4"x1"@11-1/2"

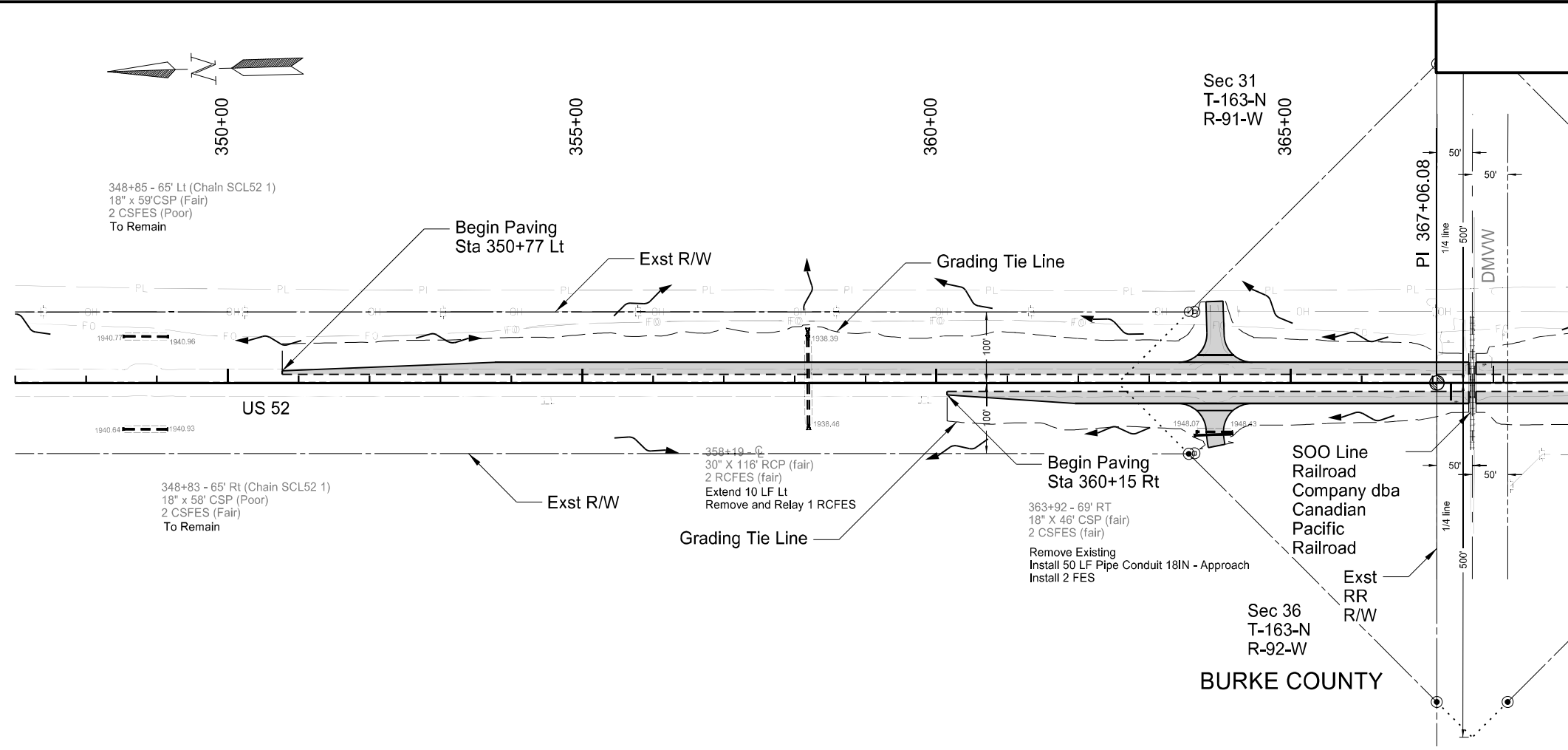
(*) End sections are measured and paid for separately for pipe extensions.
 FES = Flared End Section
 TES = Traversable End Section

Allowable Pipe List

US 52
 South of Portal to Carrington

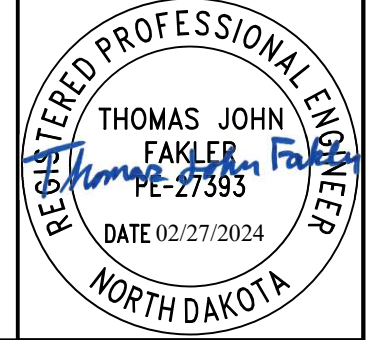
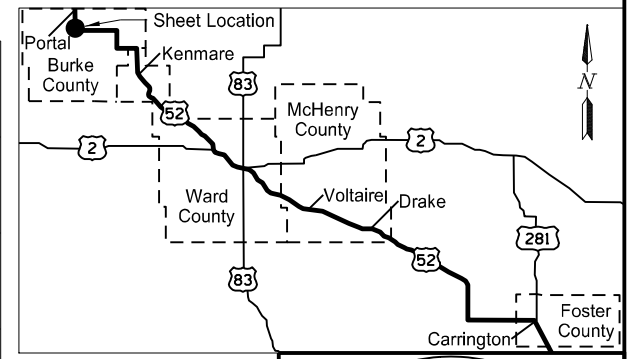
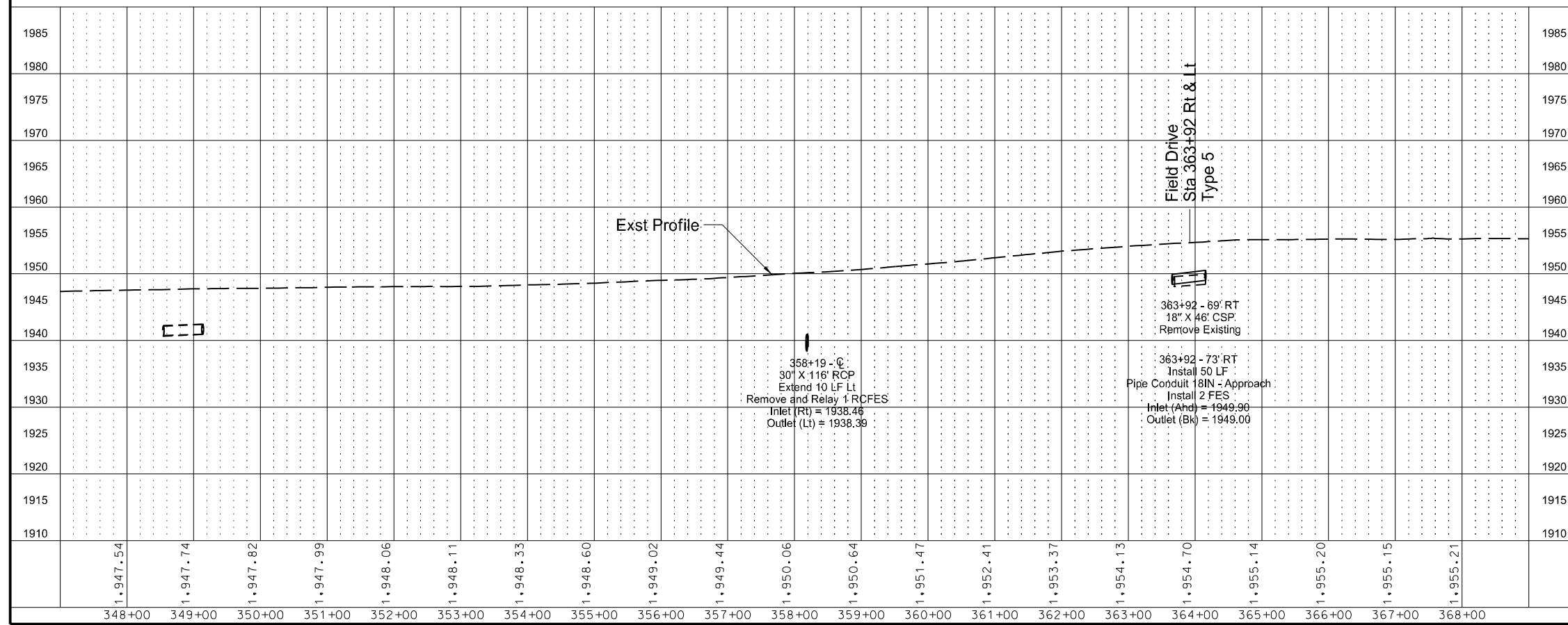
STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	HEN-9-052(485)006	60	1

SPEC	CODE	BID ITEM	QTY	UNIT
202	0174	Removal of Pipe-All Types & Sizes		
		363+92 - 69' Rt	46	LF
714	0820	Pipe Conc Reinf 30IN CL III		
		358+19 - Lt	10	LF
714	4099	Pipe Conduit 18IN-Approach		
		363+92 - 73' Rt	50	LF
714	9660	Remove & Relay End Section - All Types & Sizes		
		358+19 - Lt	1	EA
754	0805	Object Markers - Culverts		
		358+19 - Lt	1	EA



Legend

- Surfacing Improvements
- Grading Tie Line (Cut)
- Grading Tie Line (Fill)
- Grading Tie Line (Transition)
- Flow Direction

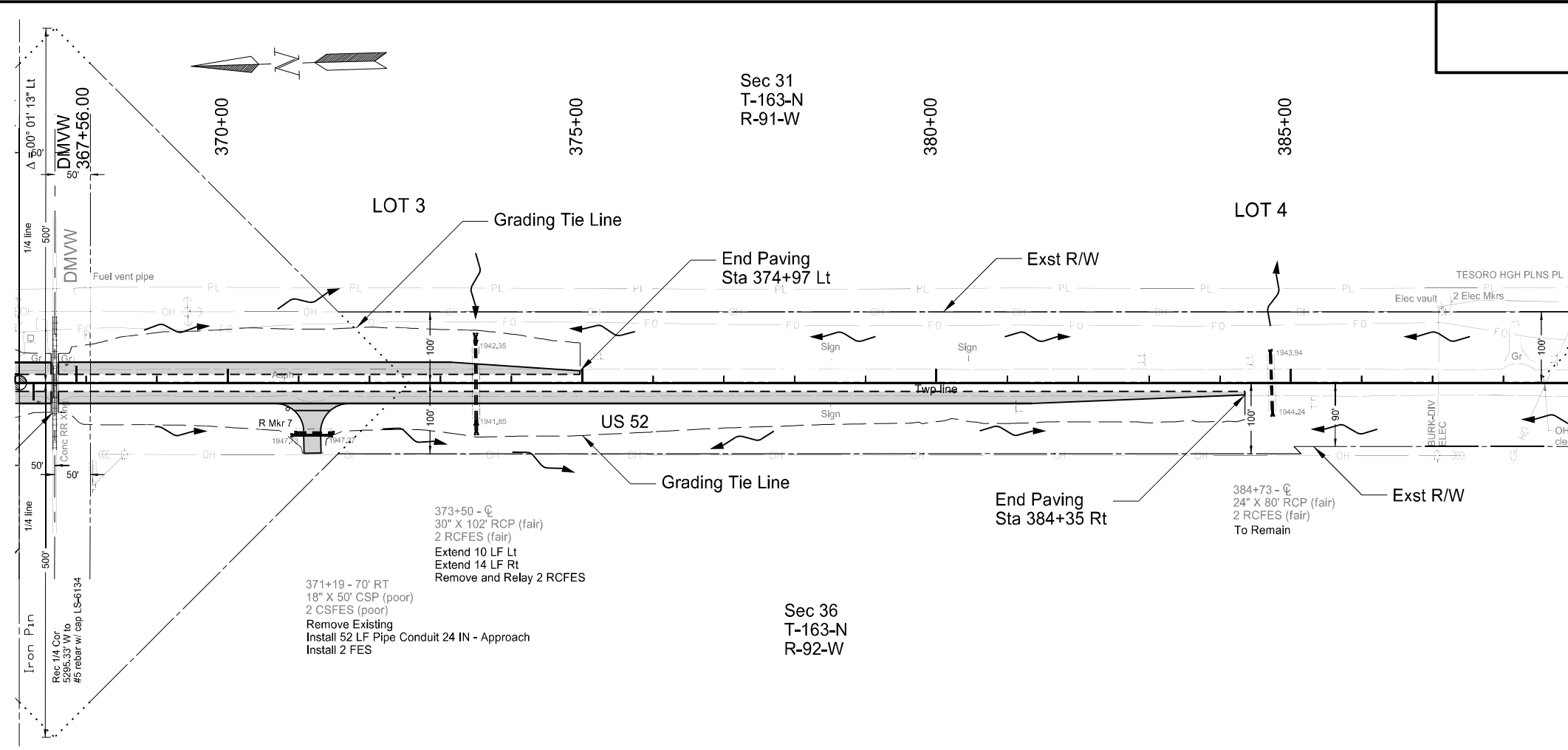


Plan and Profile
RP 6.9

US 52
South of Portal to Carrington
Burke County

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	HEN-9-052(485)006	60	2

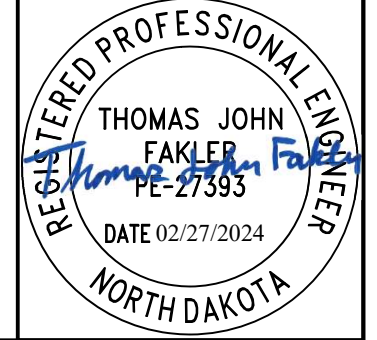
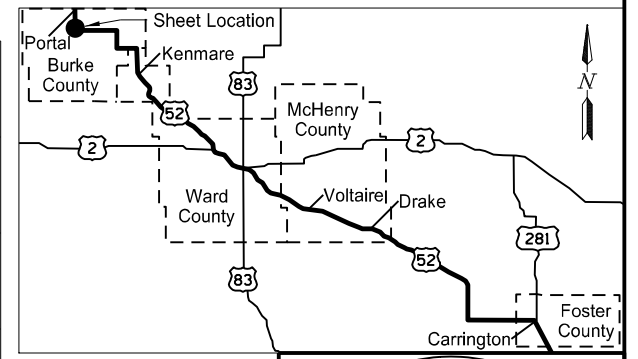
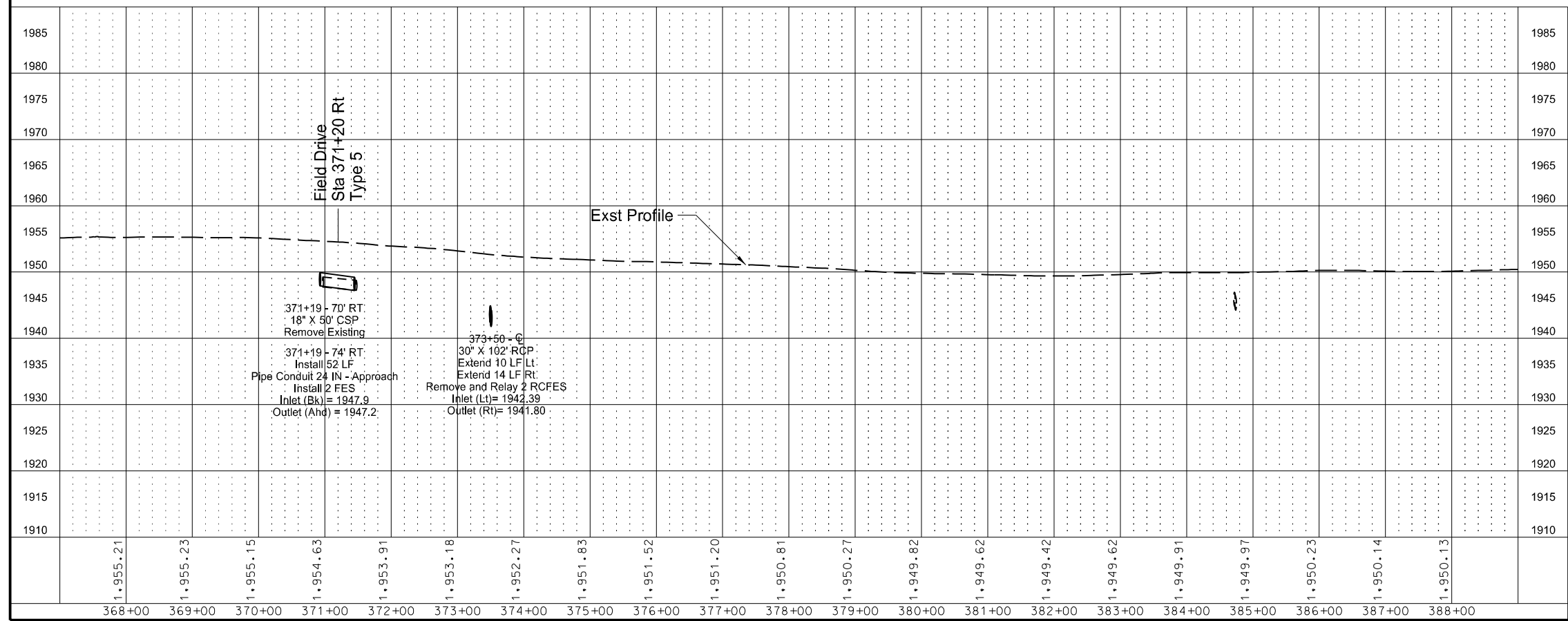
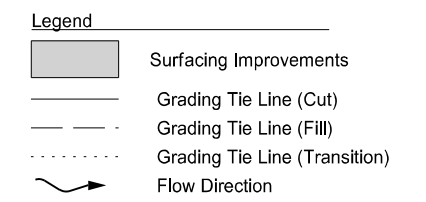
SPEC	CODE	BID ITEM	QTY	UNIT
202	0174	Removal of Pipe-All Types & Sizes		
		371+19 - 70' Rt	50	LF
714	0820	Pipe Conc Reinf 30IN CL III		
		373+50 - Lt	10	LF
		373+50 - Rt	14	LF
714	4106	Pipe Conduit 24IN-Approach		
		371+19 - 74' Rt	52	LF
714	9660	Remove & Relay End Section - All Types & Sizes		
		373+50 - Lt & Rt	2	EA
754	0805	Object Markers - Culverts		
		373+50 - Lt & Rt	2	EA



371+19 - 70' RT
18" X 50' CSP (poor)
2 CSFES (poor)
Remove Existing
Install 52 LF Pipe Conduit 24 IN - Approach
Install 2 FES

373+50 - C
30" X 102' RCP (fair)
2 RCFES (fair)
Extend 10 LF Lt
Extend 14 LF Rt
Remove and Relay 2 RCFES

Sec 36
T-163-N
R-92-W

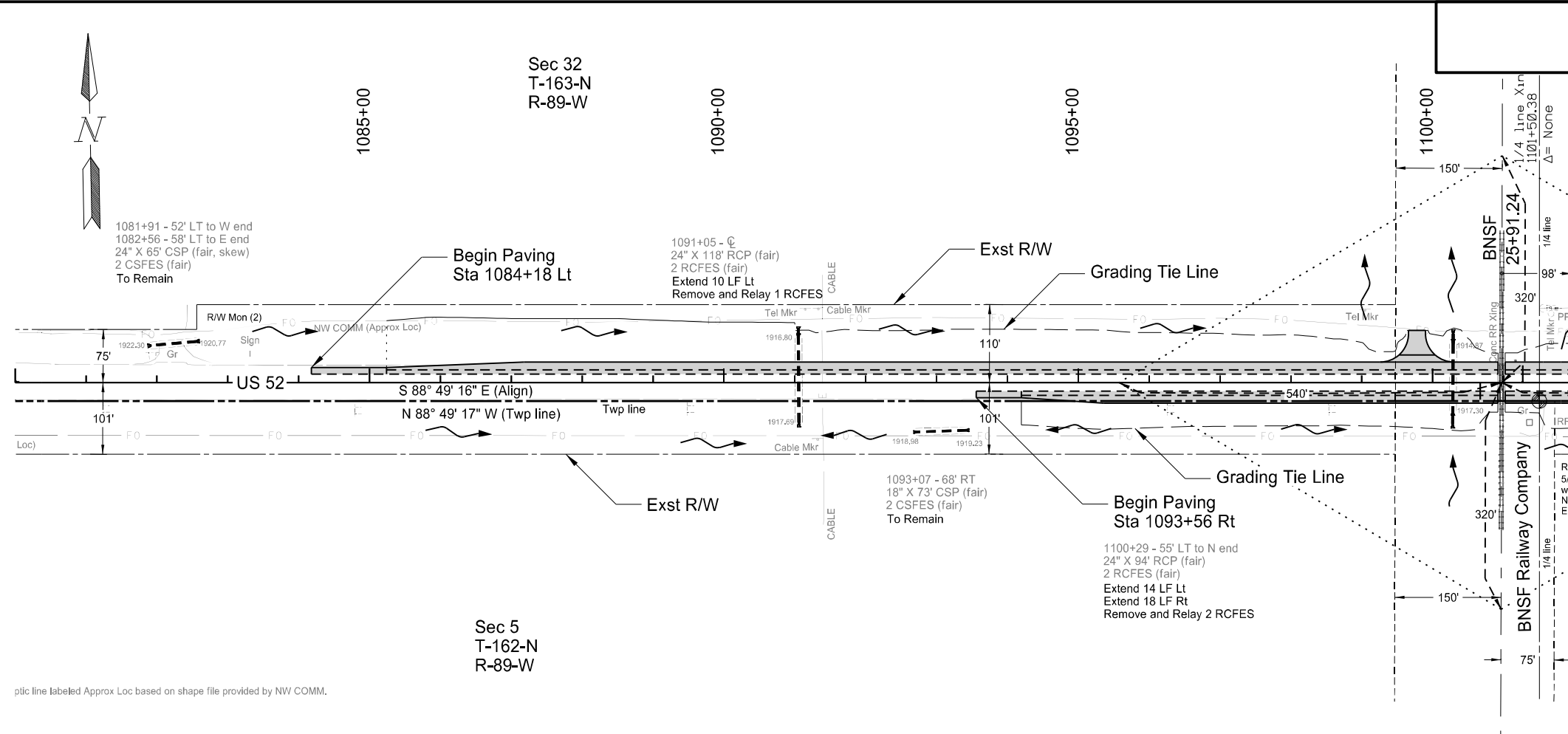


Plan and Profile
RP 6.9

US 52
South of Portal to Carrington
Burke County

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	HEN-9-052(485)006	60	3

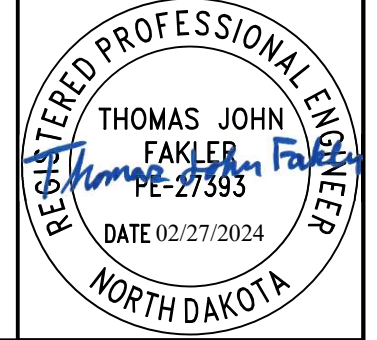
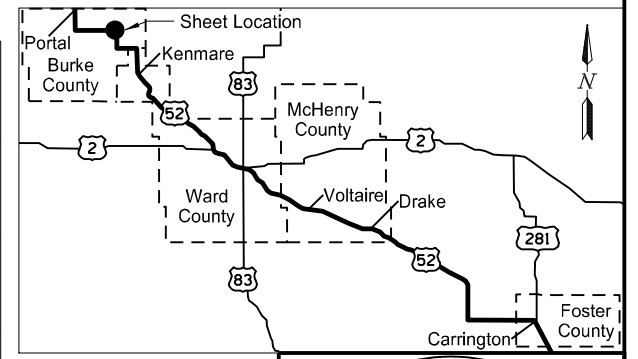
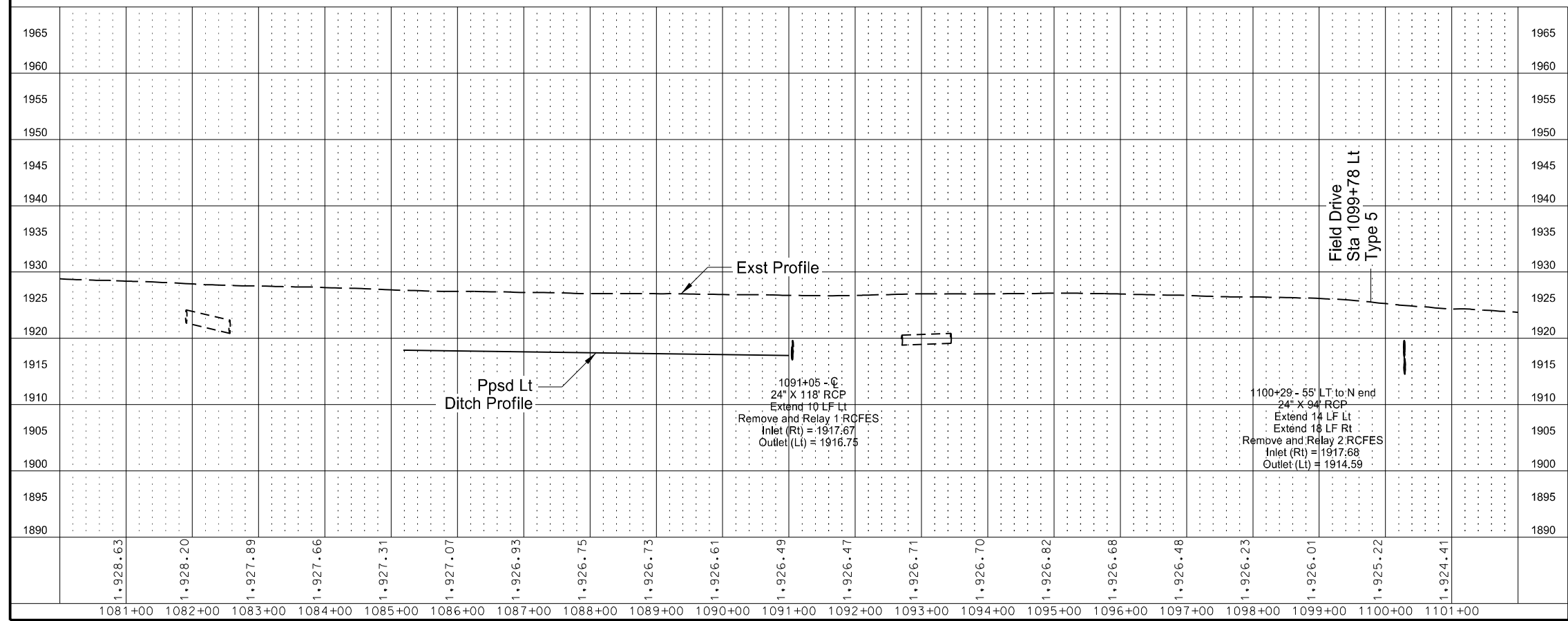
SPEC	CODE	BID ITEM	QTY	UNIT
714	0615	Pipe Conc Reinf 24IN CL III		
		1091+05 - Lt	10	LF
		1100+29 - Lt	14	LF
		1100+29 - Rt	18	LF
714	9660	Remove and Relay End Section - All Types & Sizes		
		1091+05 - Lt	1	EA
		1100+29 - Lt & Rt	2	EA
754	0805	Object Markers - Culverts		
		1091+05 - Lt	1	EA
		1100+29 - Lt & Rt	2	EA



pic line labeled Approx Loc based on shape file provided by NW COMM.

Legend

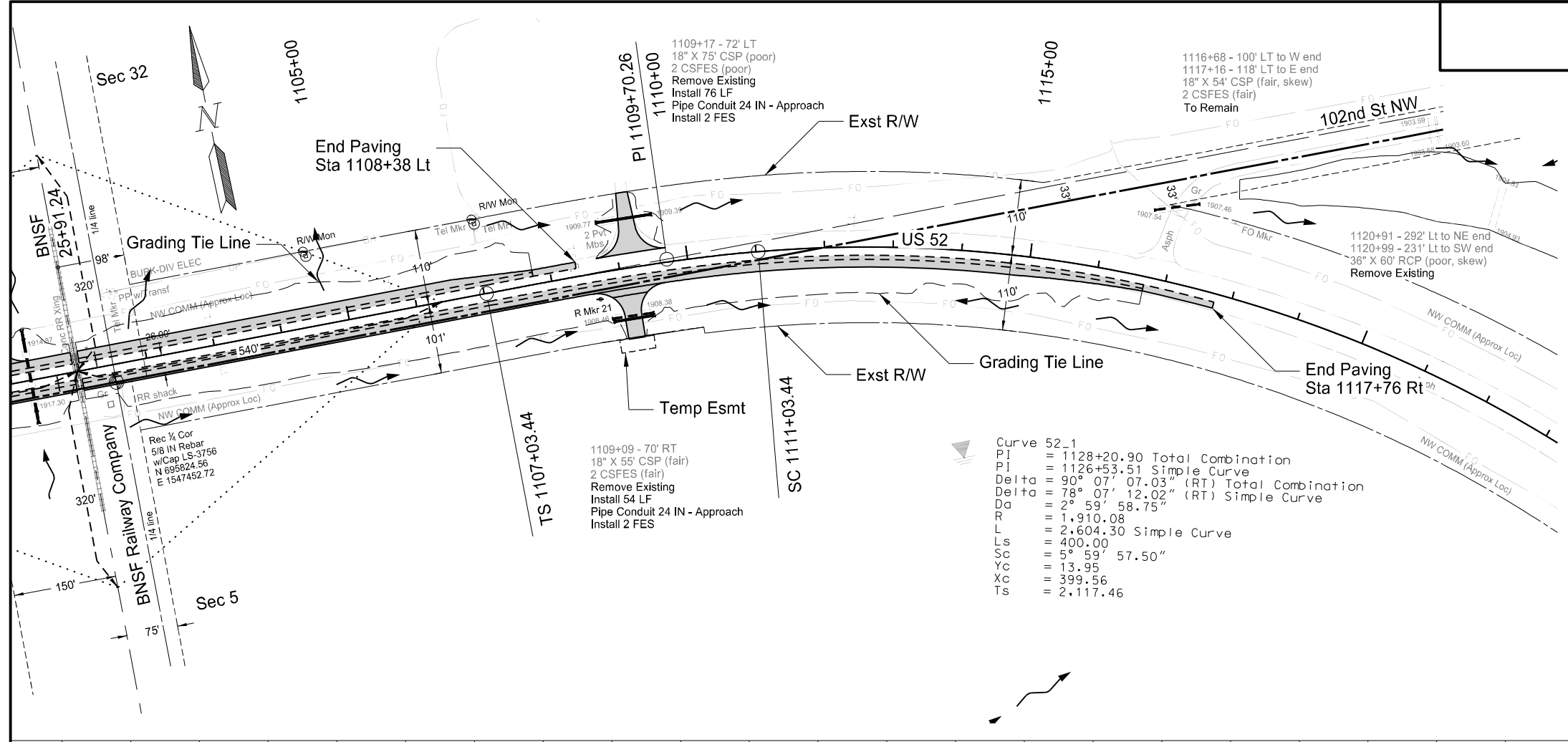
- Surfacing Improvements
- Grading Tie Line (Cut)
- Grading Tie Line (Fill)
- Grading Tie Line (Transition)
- Flow Direction



Plan and Profile
RP 20.6

US 52
South of Portal to Carrington
Burke County

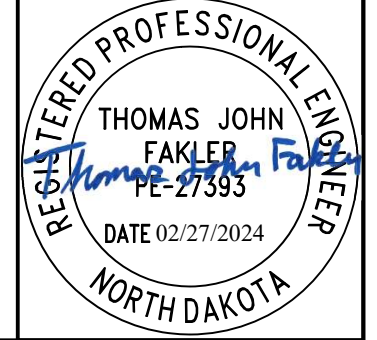
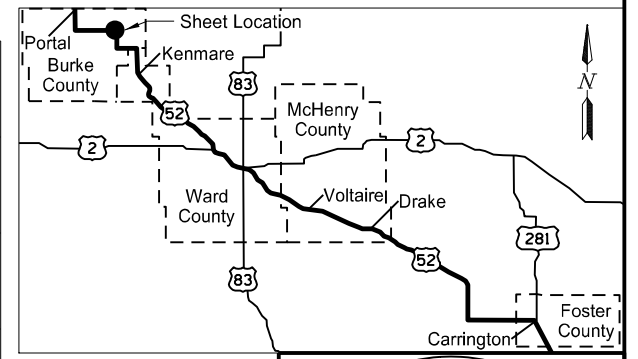
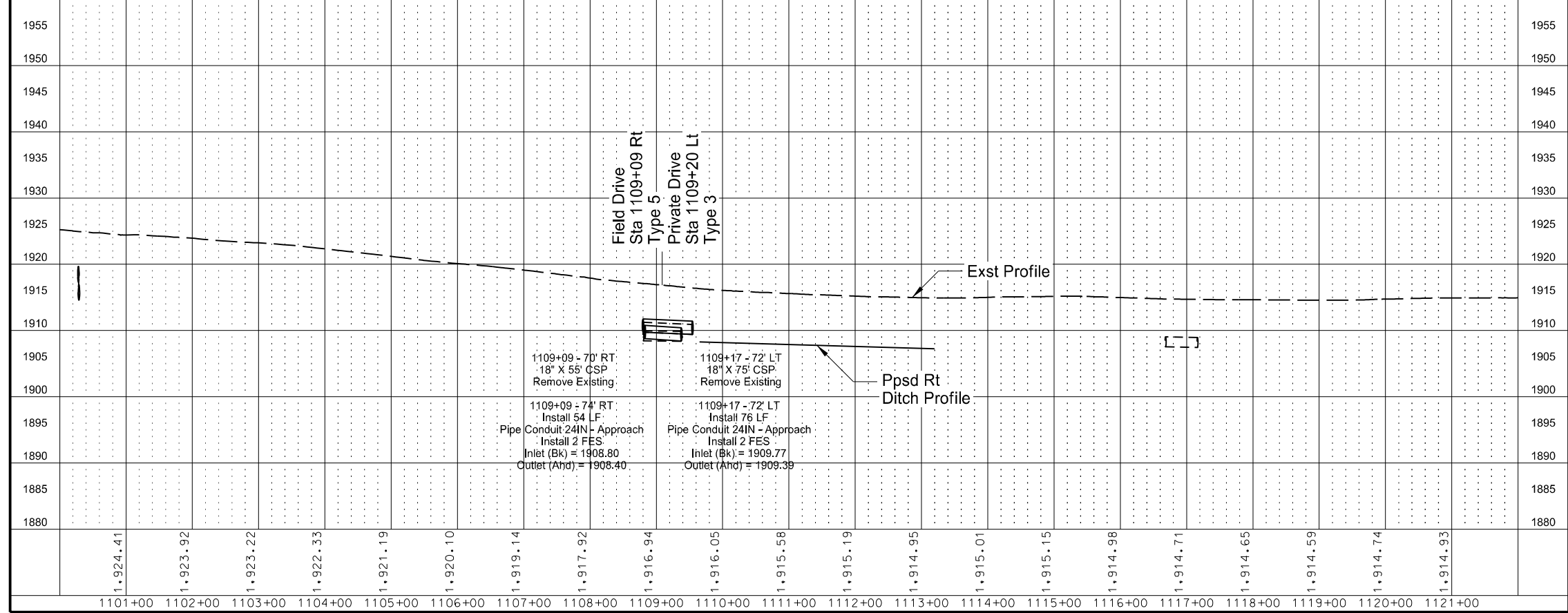
STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	HEN-9-052(485)006	60	4



SPEC	CODE	BID ITEM	QTY	UNIT
202	0174	Removal of Pipe-All Types & Sizes		
		1109+09 - 70' Rt	55	LF
		1109+17 - 72' LT	75	LF
		1120+91 to 1120+99 - 262' Lt	60	LF
714	4106	Pipe Conduit 24IN-Approach		
		1109+09 - 74' Rt	54	LF
		1109+17 - 72' Lt	76	LF

Legend

- Surfacing Improvements
- Grading Tie Line (Cut)
- Grading Tie Line (Fill)
- Grading Tie Line (Transition)
- Flow Direction

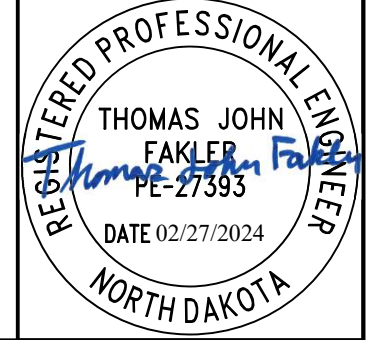
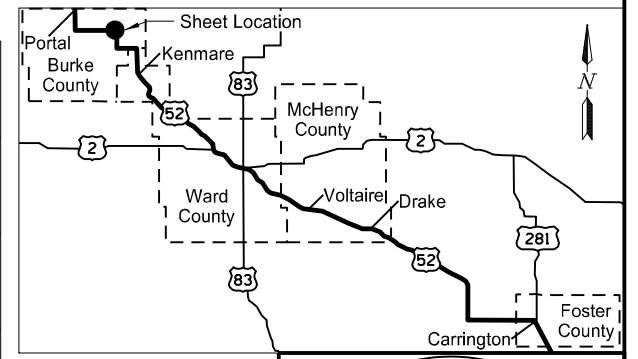
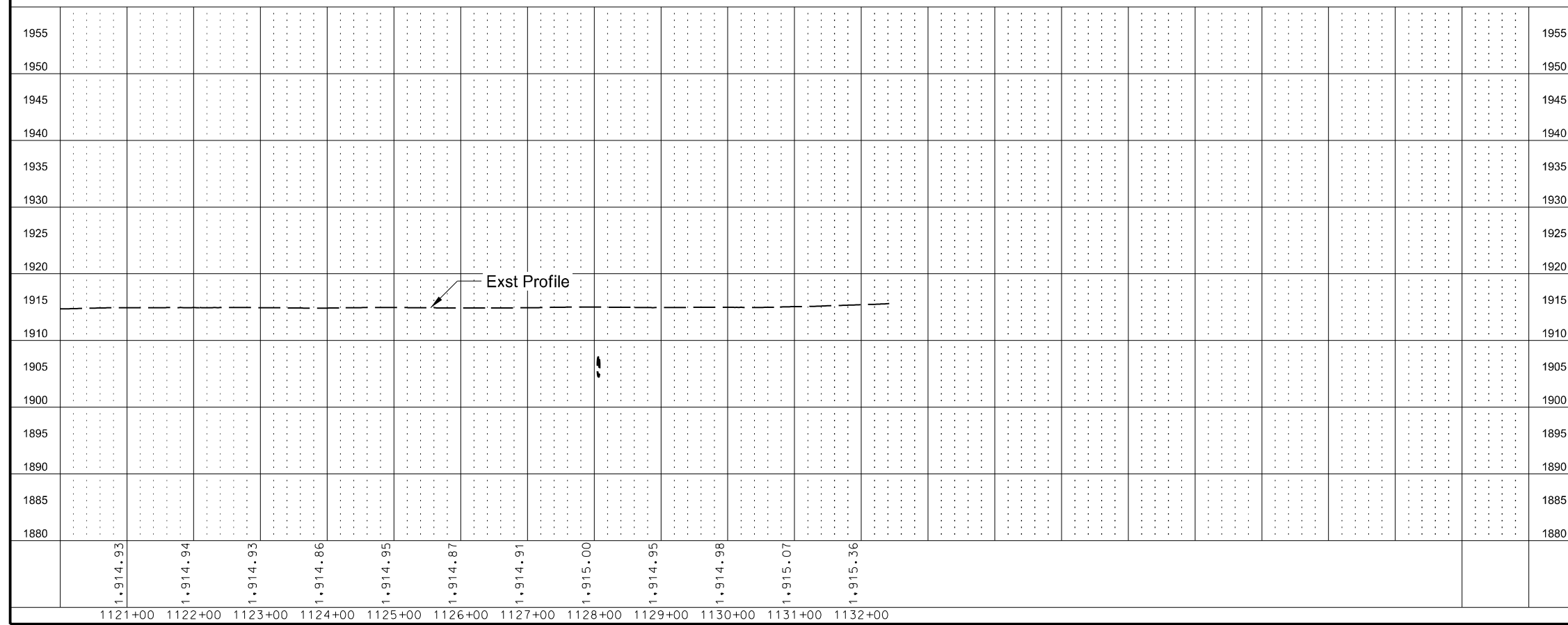
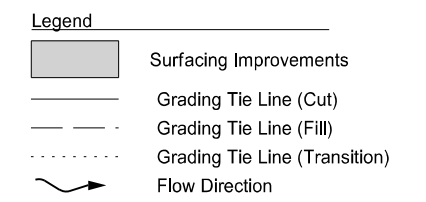
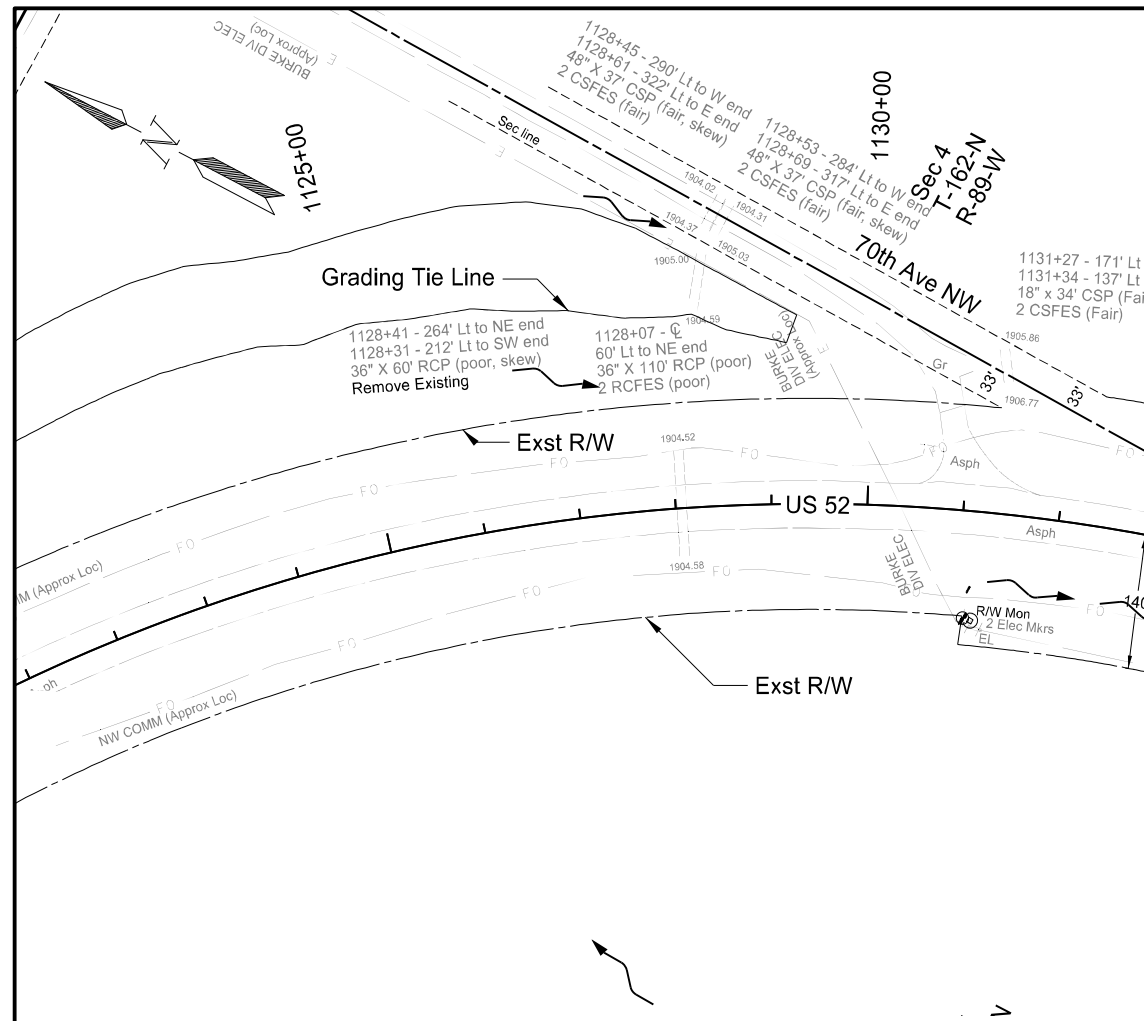


Plan and Profile
 RP 20.6

US 52
 South of Portal to Carrington
 Burke County

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	HEN-9-052(485)006	60	5

SPEC	CODE	BID ITEM	QTY	UNIT
202	0174	Removal of Pipe-All Types & Sizes		
		1128+31 to 1128+41 - 238' Lt	60	LF

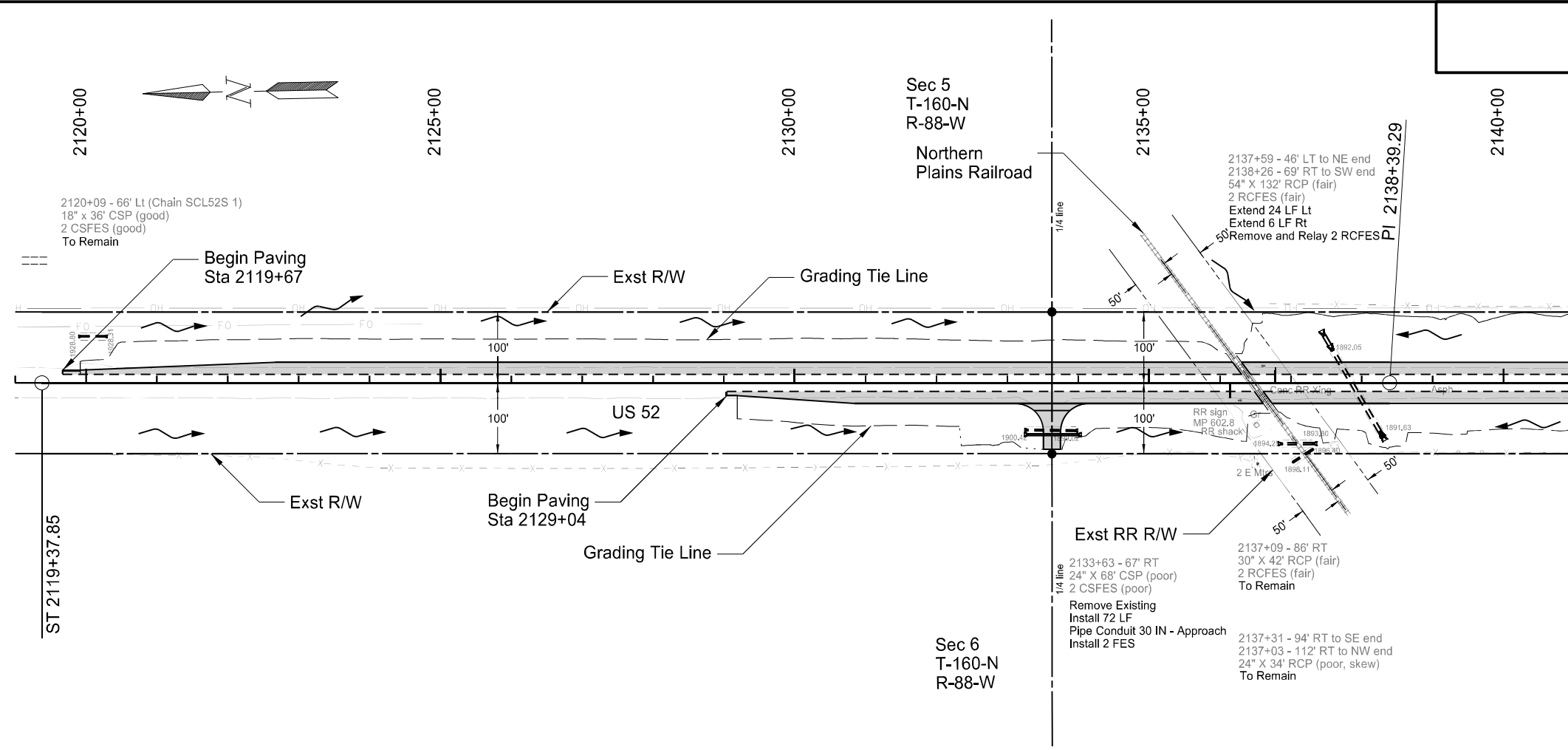


Plan and Profile
RP 20.6

US 52
South of Portal to Carrington
Burke County

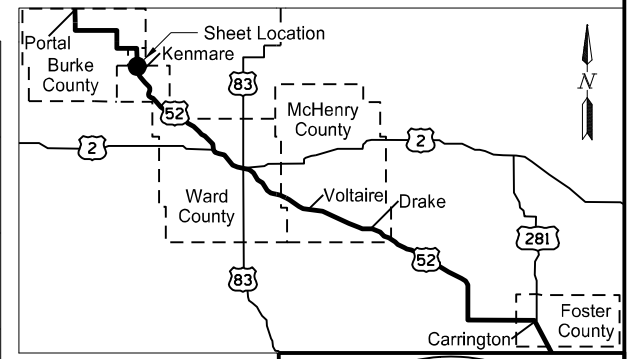
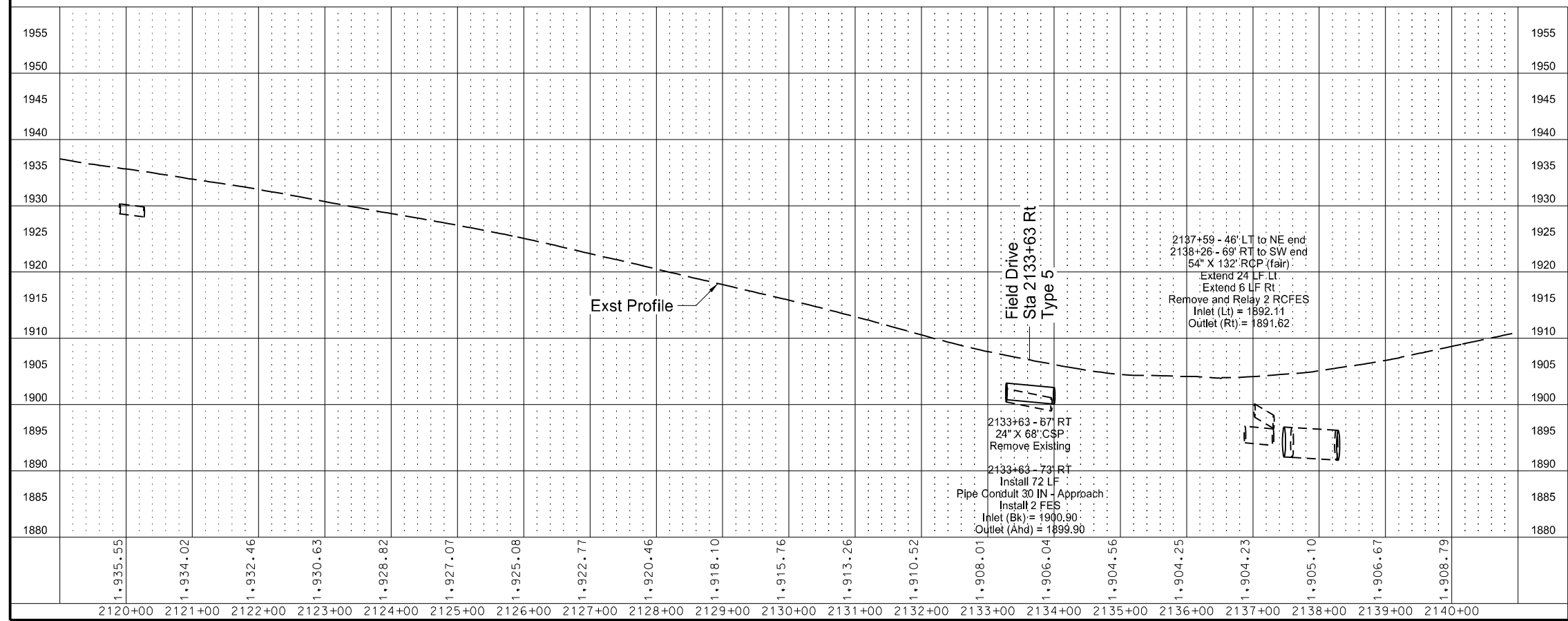
STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	HEN-9-052(485)006	60	6

SPEC	CODE	BID ITEM	QTY	UNIT
202	0174	Removal of Pipe-All Types & Sizes		
		2133+63 - 67' Rt	68	LF
714	1210	Pipe Conc Reinf 54IN CL III		
		2137+59 - Lt	24	LF
		2138+26 - Rt	6	LF
714	4113	Pipe Conduit 30IN-Approach		
		2133+63 - 73' Rt	72	LF
714	9660	Remove and Relay End Section - All Types & Sizes		
		2137+59 - Lt	1	EA
		2138+26 - Rt	1	EA
754	0805	Object Markers - Culverts		
		2137+59 - Lt	1	EA
		2138+26 - Rt	1	EA



Legend

- Surfacing Improvements
- Grading Tie Line (Cut)
- Grading Tie Line (Fill)
- Grading Tie Line (Transition)
- Flow Direction

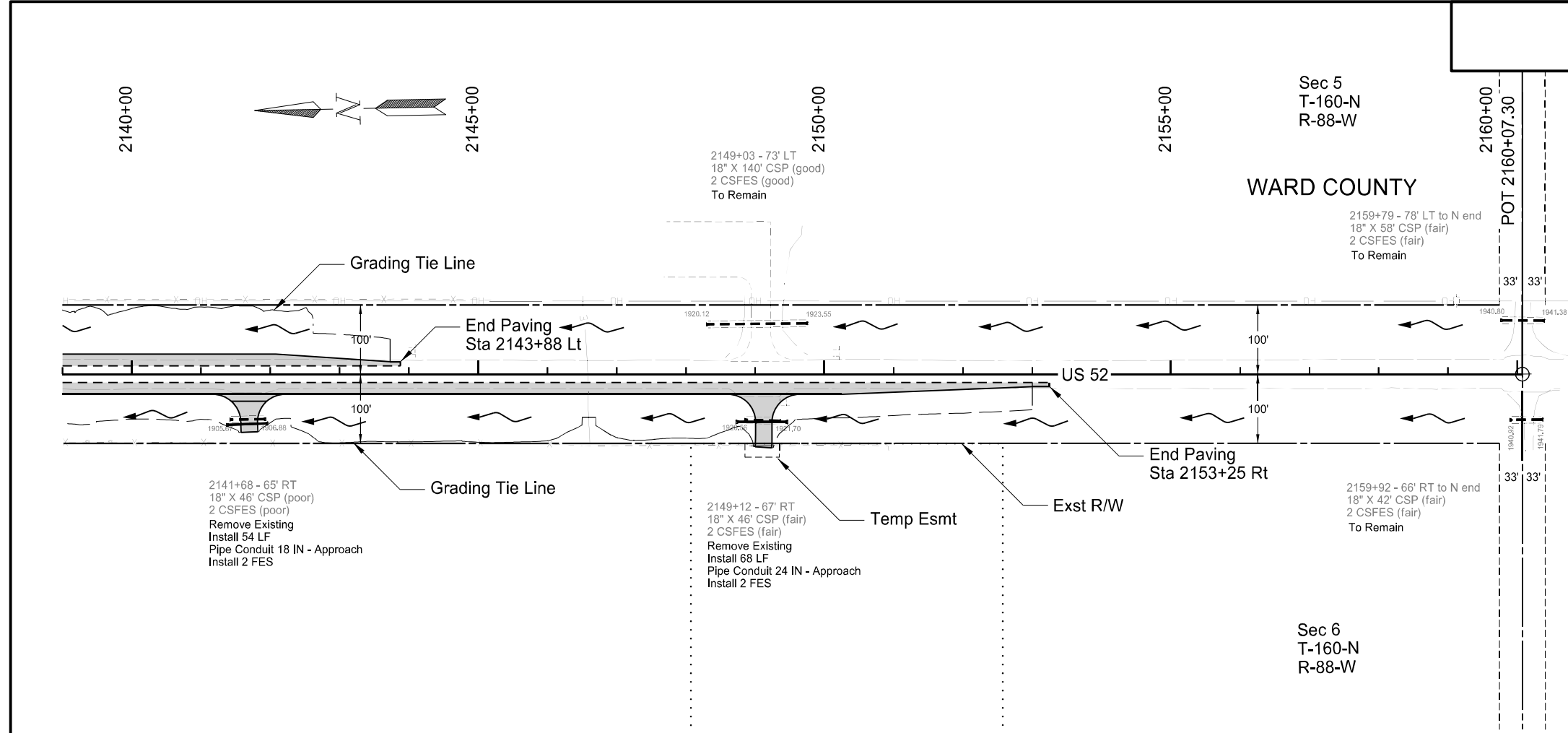


Plan and Profile
RP 40.4

US 52
South of Portal to Carrington
Ward County

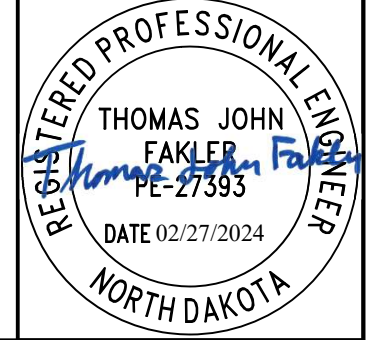
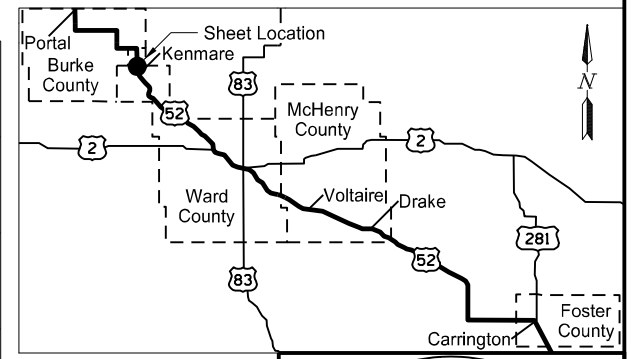
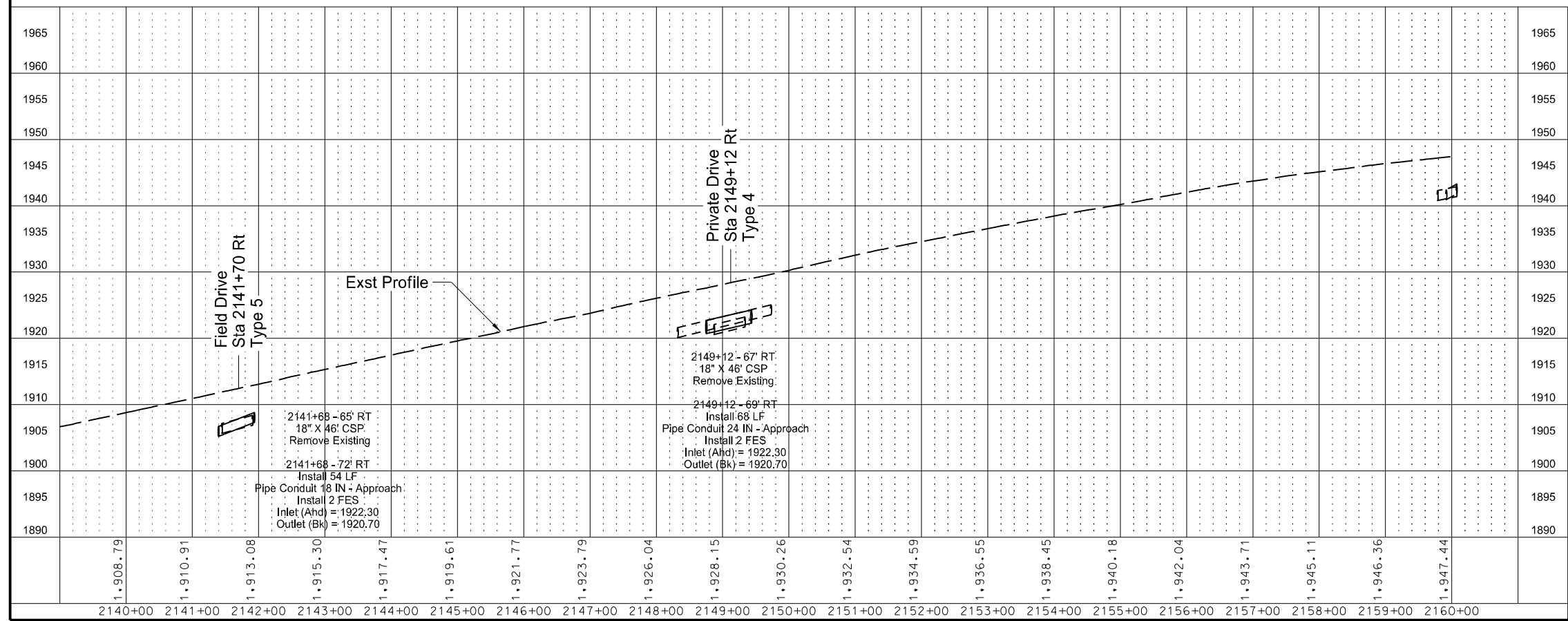
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ND	HEN-9-052(485)006	60	7

SPEC	CODE	BID ITEM	QTY	UNIT
202	0174	Removal of Pipe-All Types & Sizes		
		2141+68 - 65' Rt	46	LF
		2149+12 - 67' Rt	46	LF
714	4099	Pipe Conduit 18IN-Approach		
		2141+68 - 72' Rt	54	LF
714	4106	Pipe Conduit 24IN-Approach		
		2149+12 - 69' Rt	68	LF



Legend

- Surfacing Improvements
- Grading Tie Line (Cut)
- Grading Tie Line (Fill)
- Grading Tie Line (Transition)
- Flow Direction

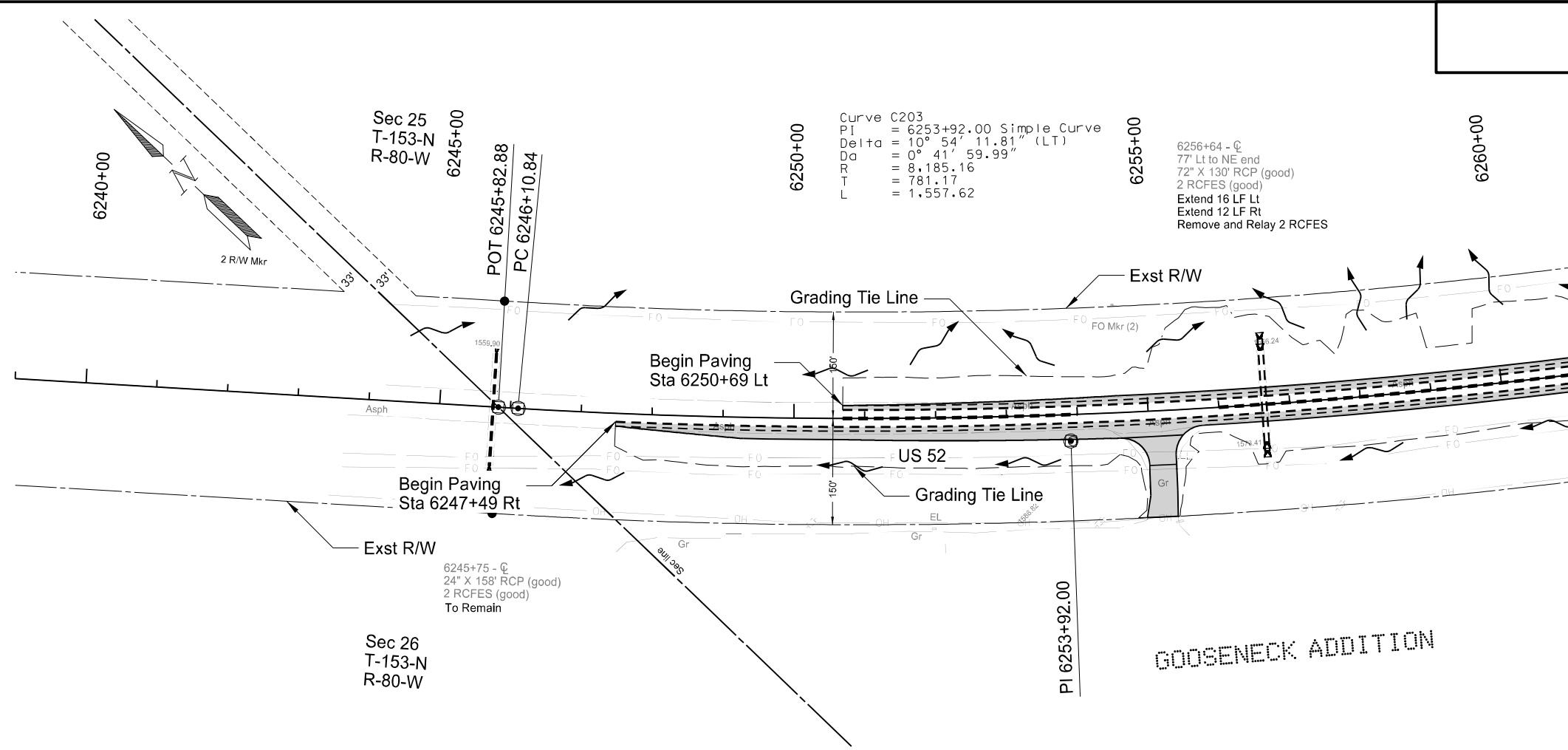


Plan and Profile
RP 40.4

US 52
South of Portal to Carrington
Ward County

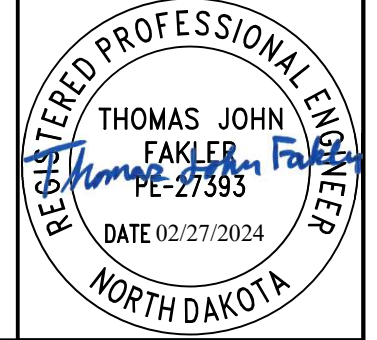
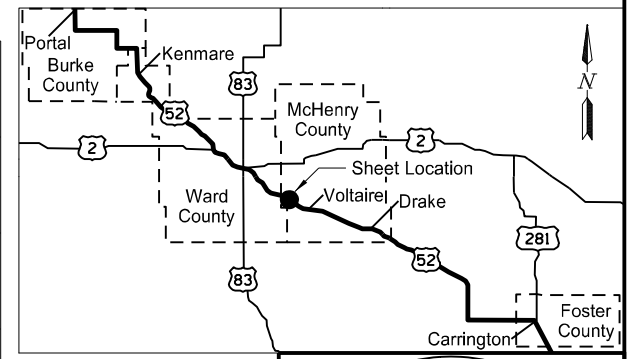
STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	HEN-9-052(485)006	60	8

SPEC	CODE	BID ITEM	QTY	UNIT
714	1510	Pipe Conc Reinf 72IN CL III		
		6256+64 - Lt	16	LF
		6256+64 - Rt	12	LF
714	9660	Remove and Relay End Section - All Types & Sizes		
		6256+64 - Lt & Rt	2	EA
754	0805	Object Marker - Culverts		
		6256+64 - Lt & Rt	2	EA



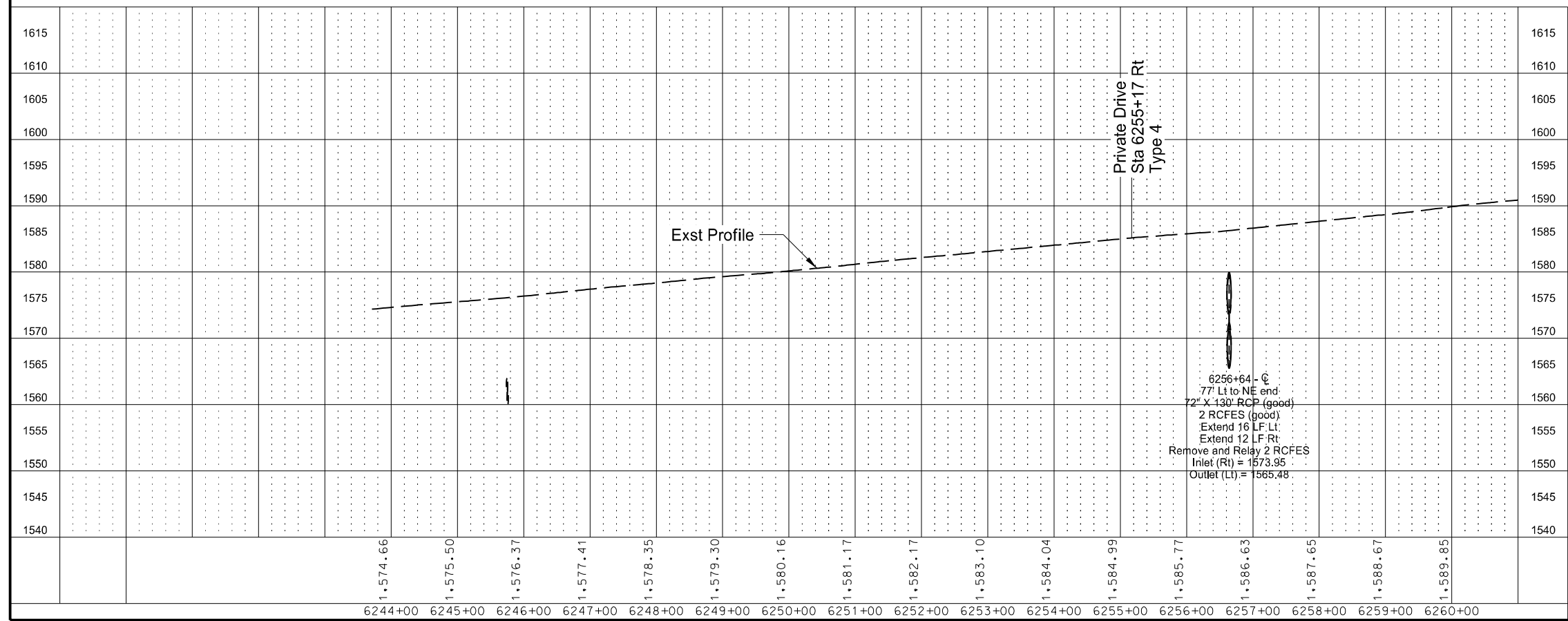
Legend

- Surfacing Improvements
- Grading Tie Line (Cut)
- Grading Tie Line (Fill)
- Grading Tie Line (Transition)
- Flow Direction

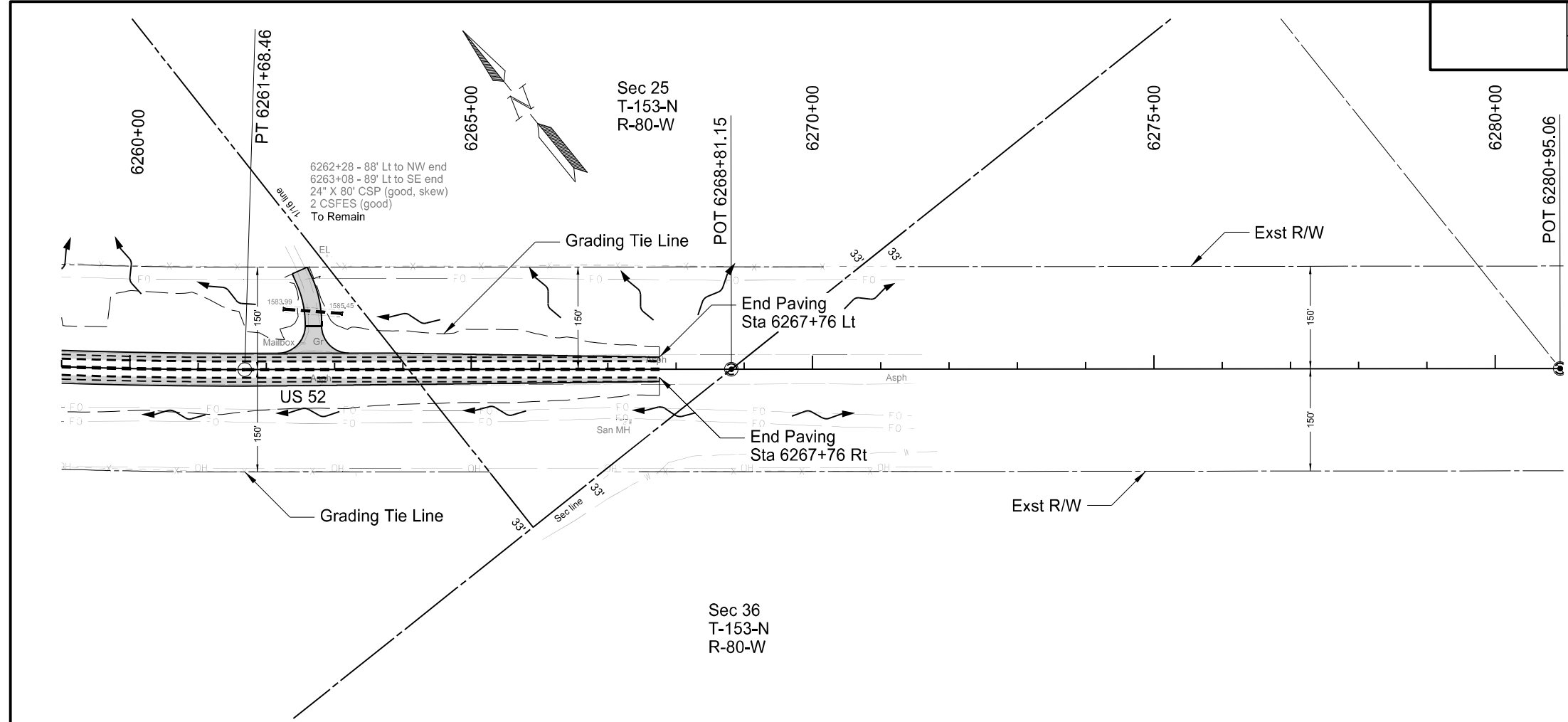


Plan and Profile
 RP 118.5

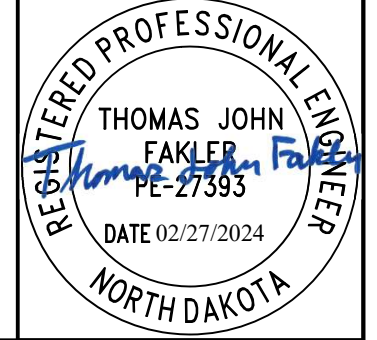
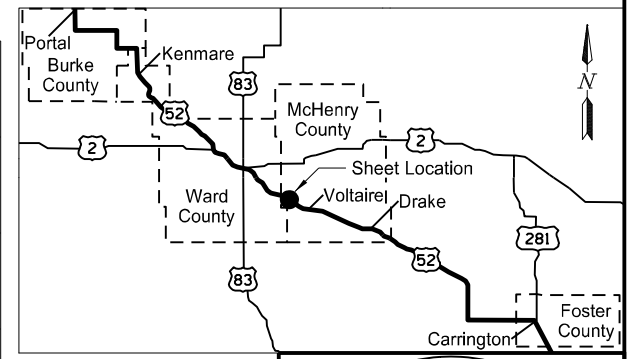
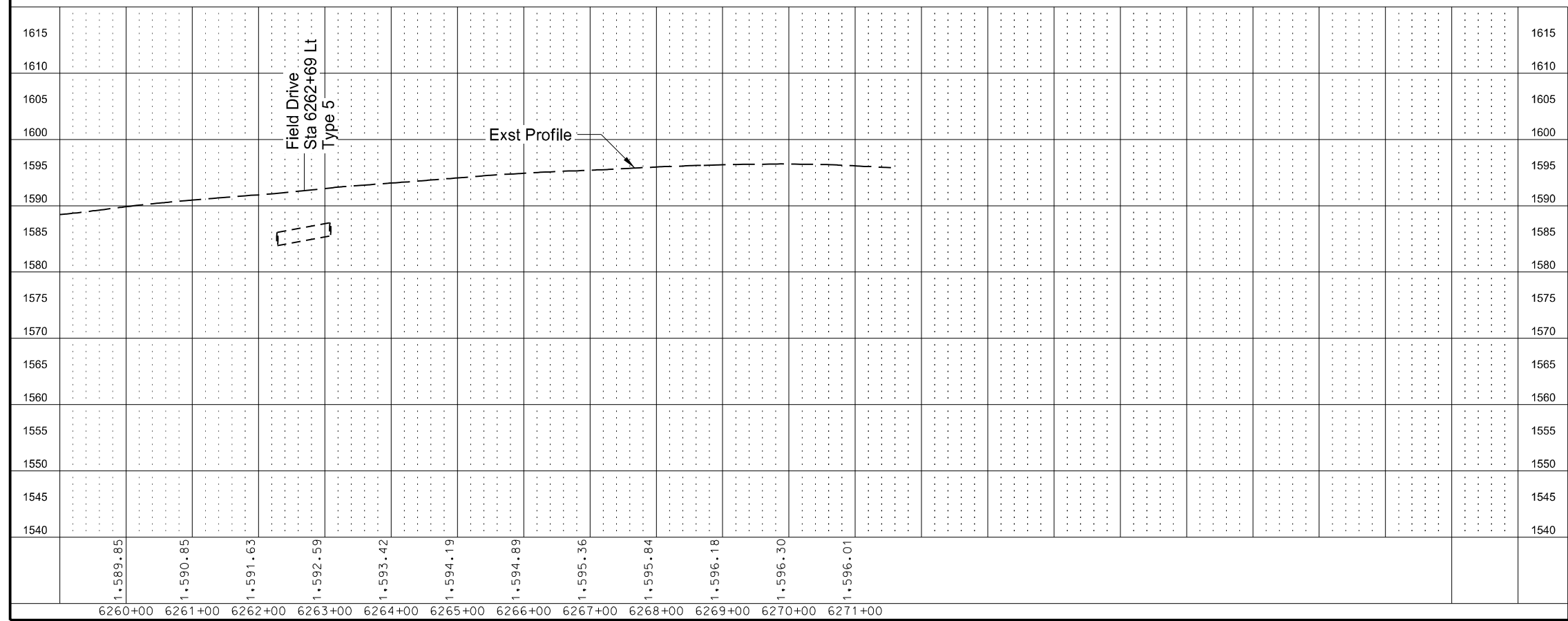
US 52
 South of Portal to Carrington
 McHenry County



STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	HEN-9-052(485)006	60	9



- Legend
- Surfacing Improvements
 - Grading Tie Line (Cut)
 - Grading Tie Line (Fill)
 - Grading Tie Line (Transition)
 - Flow Direction

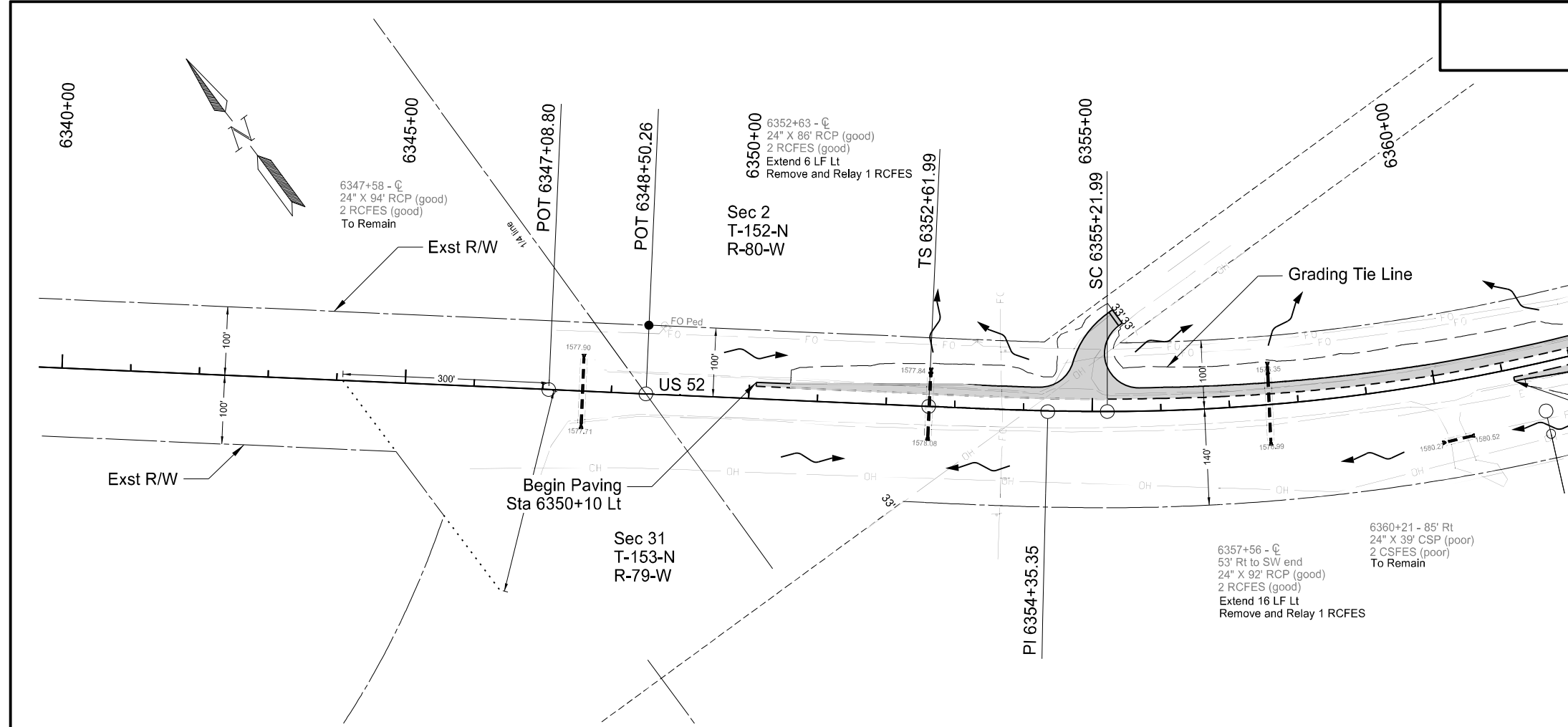


Plan and Profile
RP 118.5

US 52
South of Portal to Carrington
McHenry County

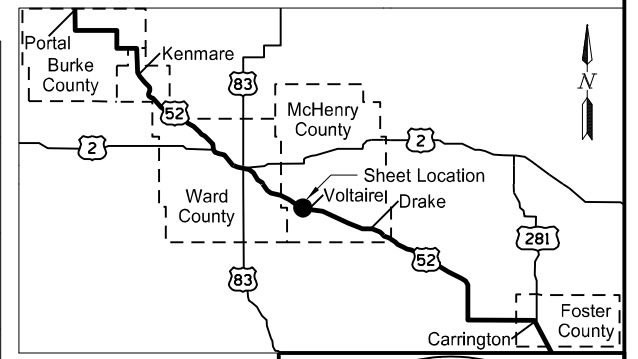
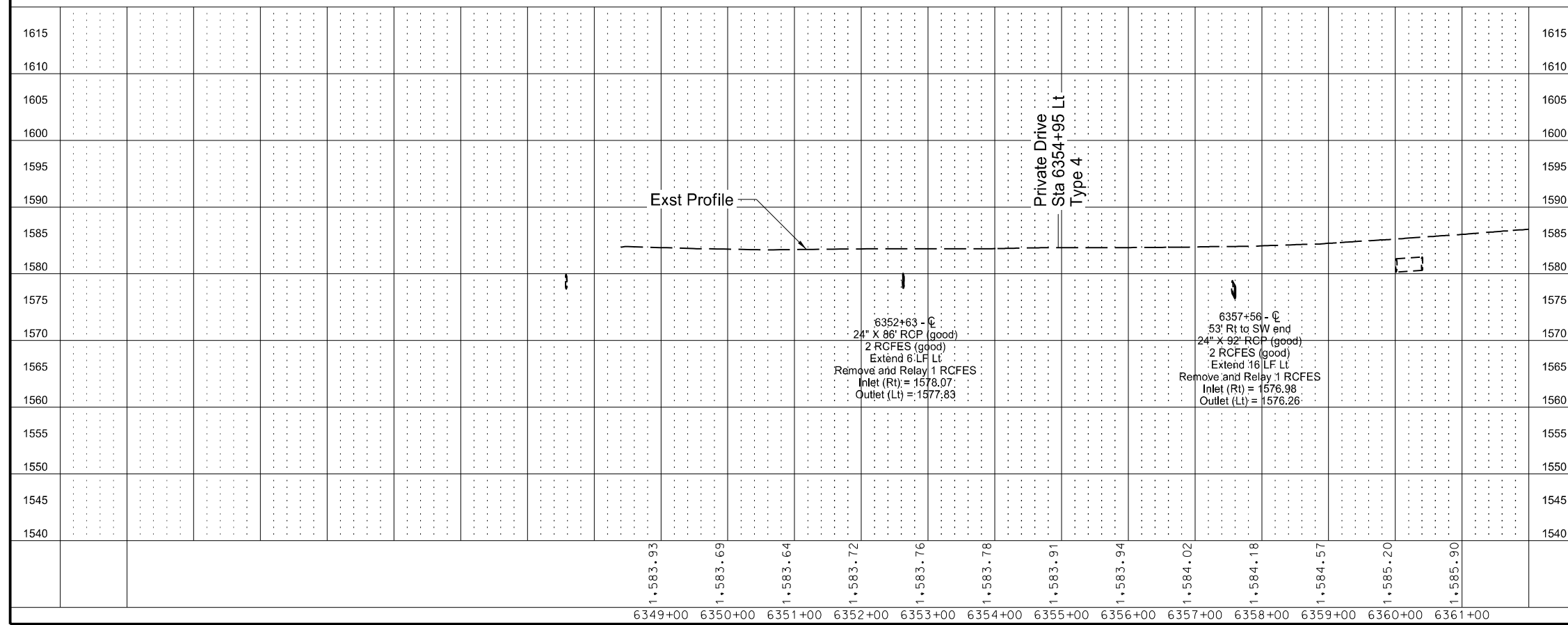
STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	HEN-9-052(485)006	60	10

SPEC	CODE	BID ITEM	QTY	UNIT
714	0615	Pipe Conc Reinf 24IN CL III		
		6352+63 - Lt	6	LF
		6357+56 - Lt	16	LF
714	9660	Remove and Relay End Section - All Types & Sizes		
		6352+63 - Lt	1	EA
		6357+56 - Lt	1	EA
754	0805	Object Markers- Culverts		
		6352+63 - Lt	1	EA
		6357+56 - Lt	1	EA



Legend

- Surfacing Improvements
- Grading Tie Line (Cut)
- Grading Tie Line (Fill)
- Grading Tie Line (Transition)
- Flow Direction

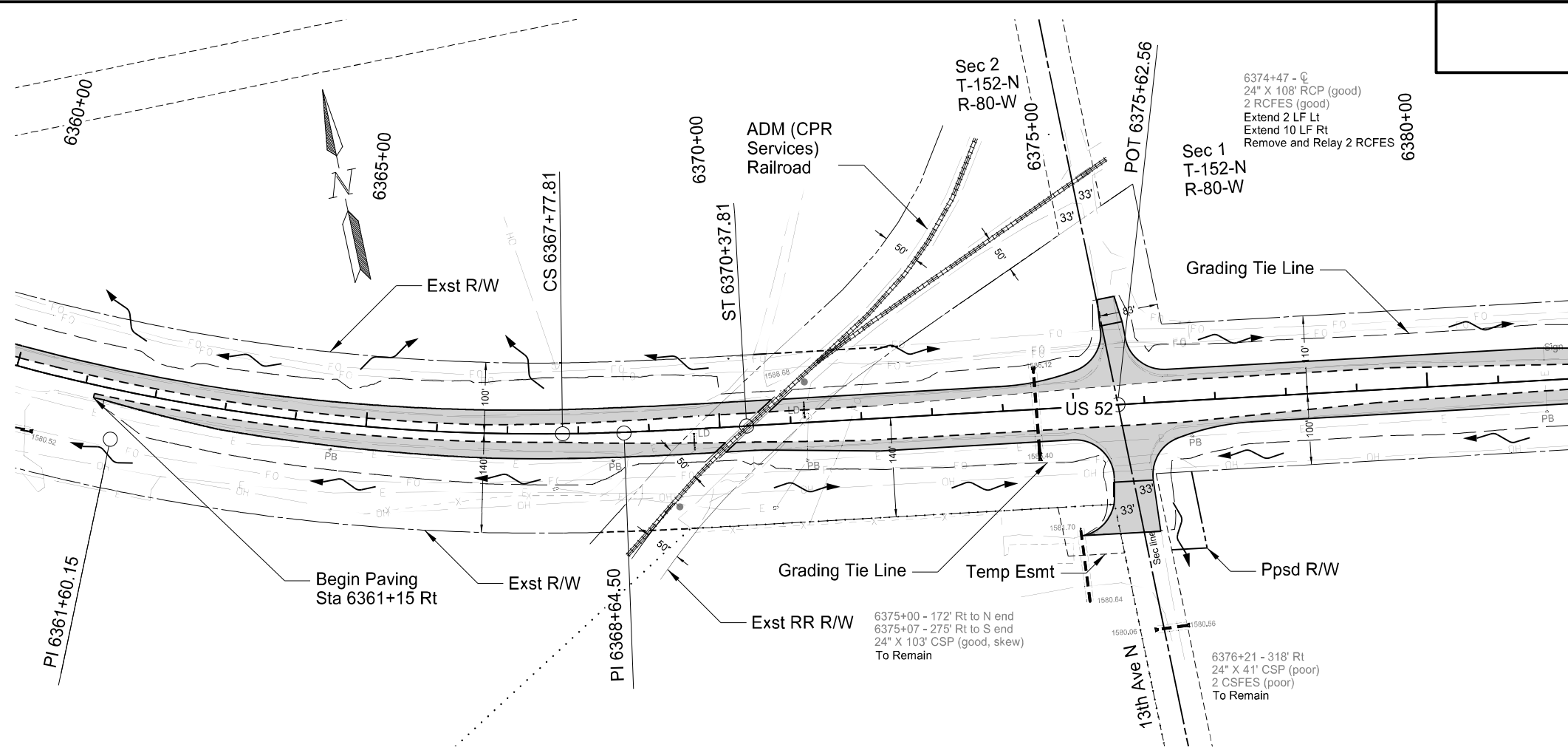


REGISTERED PROFESSIONAL ENGINEER
THOMAS JOHN FAKLER
 PE-27393
 DATE 02/27/2024
 NORTH DAKOTA

Plan and Profile
 RP 120.5
 US 52
 South of Portal to Carrington
 McHenry County

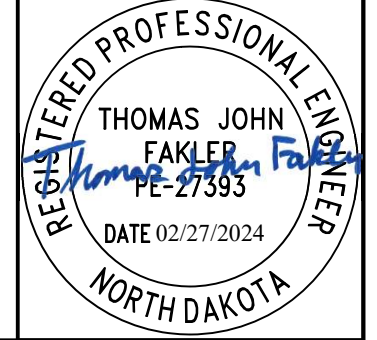
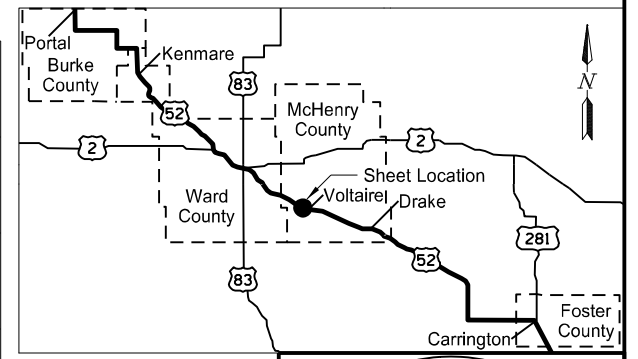
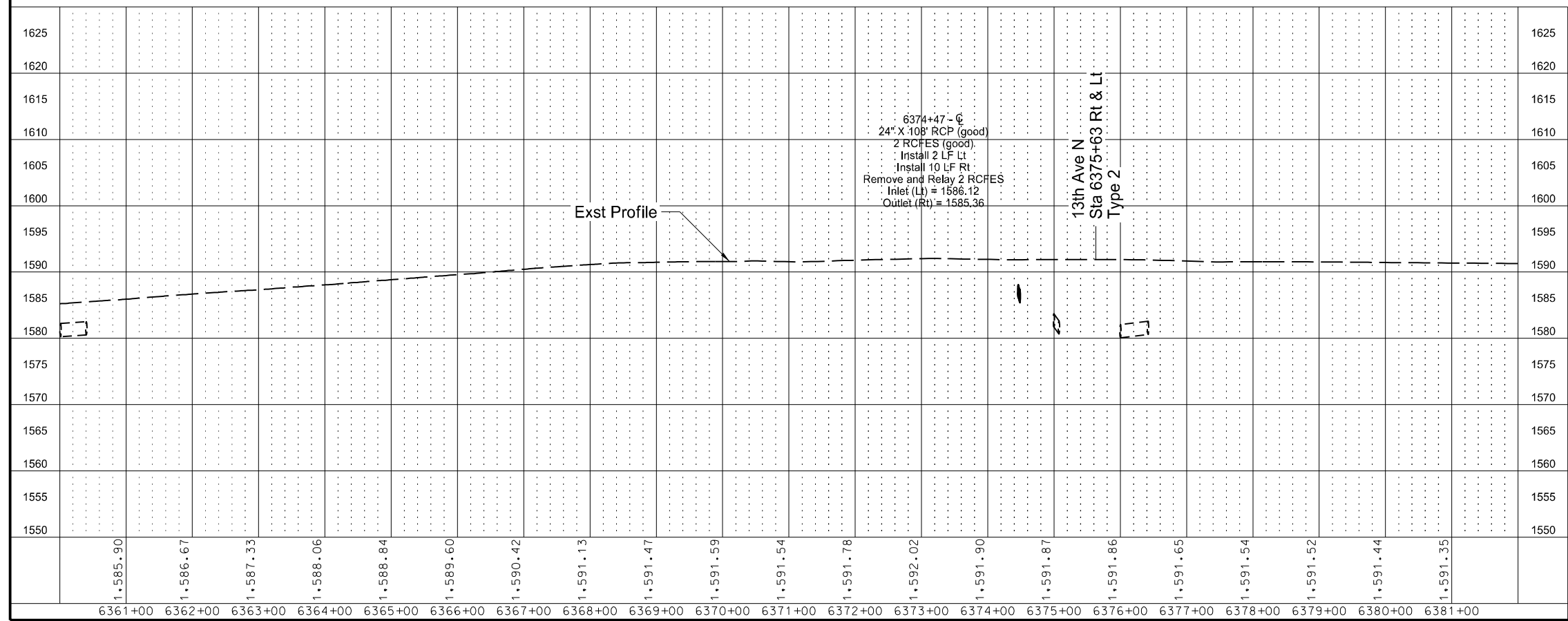
STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	HEN-9-052(485)006	60	11

SPEC	CODE	BID ITEM	QTY	UNIT
714	0615	Pipe Conc Reinf 24IN CL III		
		6374+47 - Lt	2	LF
		6374+47 - Rt	10	LF
714	9660	Remove & Relay End Section-All Types & Sizes		
		6374+47 - Lt & Rt	2	EA
754	0805	Object Markers - Culverts		
		6374+47 - Lt & Rt	2	EA



Legend

- Surfacing Improvements
- Grading Tie Line (Cut)
- Grading Tie Line (Fill)
- Grading Tie Line (Transition)
- Flow Direction

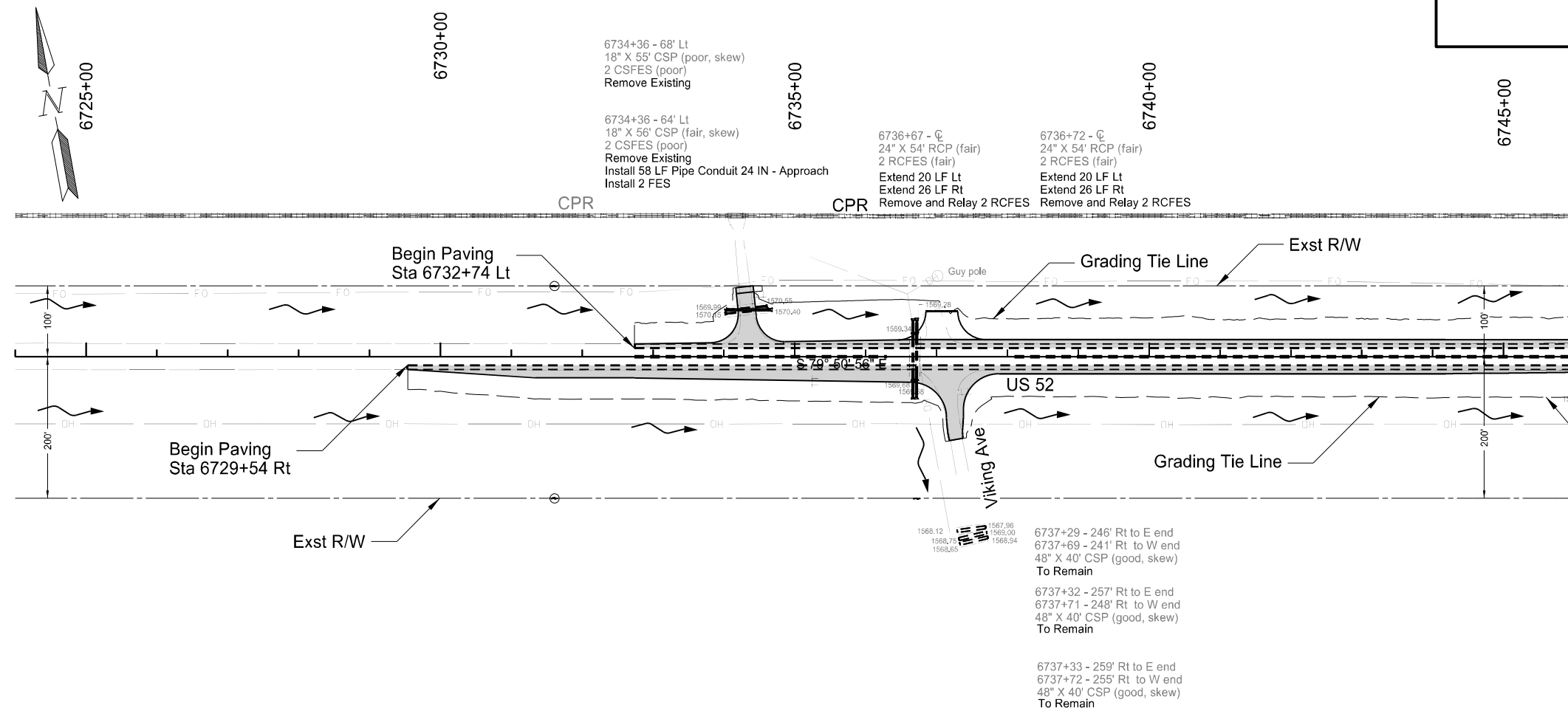


Plan and Profile
RP 120.5

US 52
South of Portal to Carrington
McHenry County

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	HEN-9-052(485)006	60	13

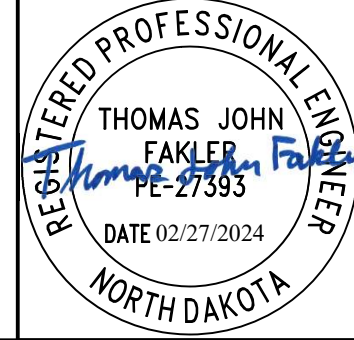
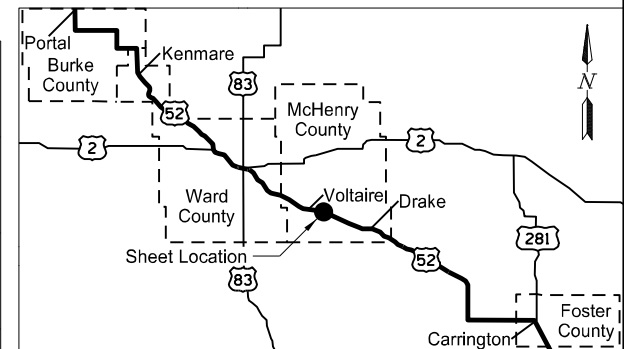
SPEC	CODE	BID ITEM	QTY	UNIT
202	0174	Removal of Pipe-All Types & Sizes		
		6734+36 - 68' Lt	55	LF
		6734+36 - 64' Lt	56	LF
714	0615	Pipe Conc Reinf 24IN CL III		
		6736+67 - Lt	20	LF
		6736+67 - Rt	26	LF
		6736+72 - Lt	20	LF
		6736+72 - Rt	26	LF
714	4106	Pipe Conduit 24IN-Approach		
		6734+36 - 66' Lt	58	LF
714	9660	Remove & Relay End Section-All Types & Sizes		
		6736+67 - Lt & Rt	2	EA
		6736+72 - Lt & Rt	2	EA
754	0805	Object Markers - Culverts		
		6736+67 - Rt	1	EA
		6736+72 - Lt	1	EA



Legend

- Surfacing Improvements
- Grading Tie Line (Cut)
- Grading Tie Line (Fill)
- Grading Tie Line (Transition)
- Flow Direction

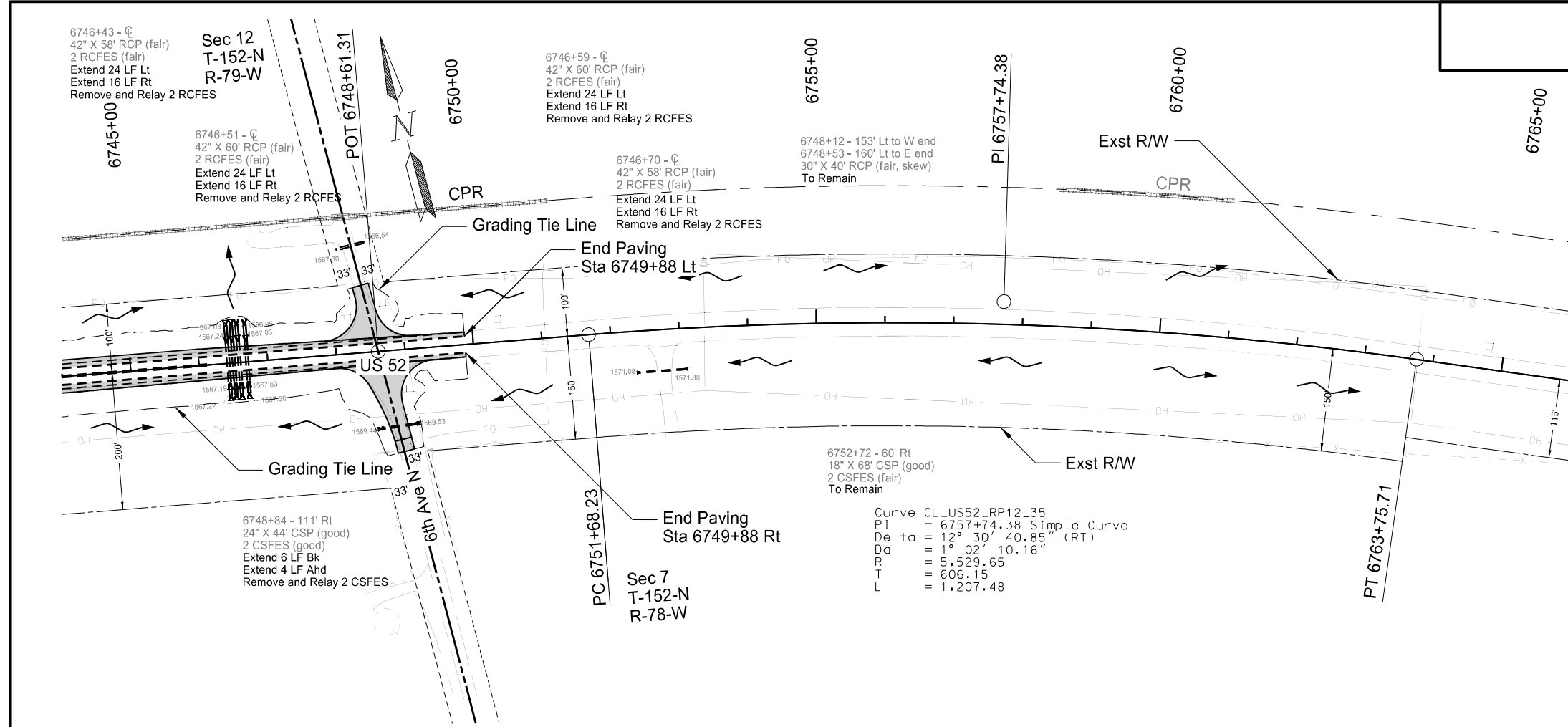
Vertical Alignment Data																		
Stationing and Profile Data																		
1615																		1615
1610																		1610
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1600																		1600
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1590																		1590
1585																		1585
1580																		1580
1575																		1575
1570																		1570
1565																		1565
1560																		1560
1555																		1555
1550																		1550
1545																		1545
1540																		1540
<p>Stationing: 1.575+.81, 1.575+.78, 1.575+.73, 1.575+.62, 1.575+.58, 1.575+.59, 1.575+.50, 1.575+.54, 1.575+.52, 1.575+.58, 1.575+.51, 1.575+.39, 1.575+.27, 1.575+.22, 1.575+.09, 1.575+.09, 1.575+.09, 1.575+.11, 1.575+.03, 1.574+.94, 1.574+.88</p>																		



Plan and Profile
 RP 127.6
 US 52
 South of Portal to Carrington
 McHenry County

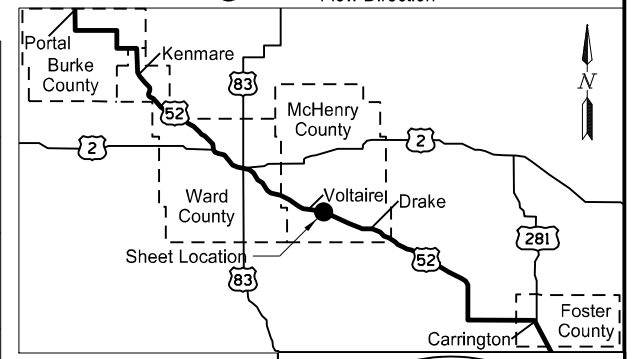
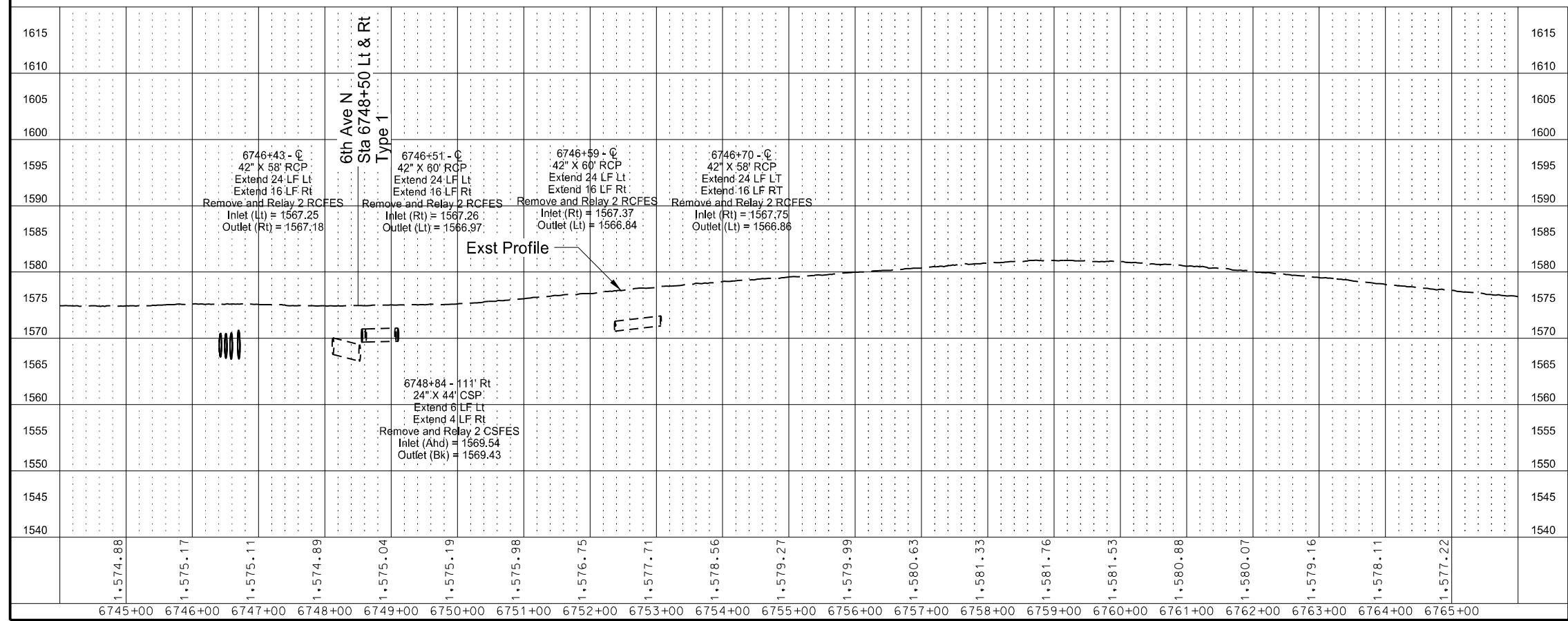
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ND	HEN-9-052(485)006	60	14

SPEC	CODE	BID ITEM	QTY	UNIT
714	1005	Pipe Conc Reinf 42IN CL III		
		6746+43 - Lt	24	LF
		6746+43 - Rt	16	LF
		6746+51 - Lt	24	LF
		6746+51 - Rt	16	LF
		6746+59 - Lt	24	LF
		6746+59 - Rt	16	LF
		6746+70 - Lt	24	LF
		6746+70 - Rt	16	LF
714	5035	Pipe Corr Steel .064IN 24IN		
		6748+84 - Rt (Bk)	6	LF
		6748+84 - Rt (Ahd)	4	LF
714	9660	Remove & Relay End Section-All Types & Sizes		
		6746+43 - Lt & Rt	2	EA
		6746+51 - Lt & Rt	2	EA
		6746+59 - Lt & Rt	2	EA
		6746+70 - Lt & Rt	2	EA
		6748+84 - Rt (Bk & Ahd)	2	EA
754	0805	Object Markers - Culverts		
		6746+43 - Lt & Rt	2	EA
		6746+70 - Lt & Rt	2	EA



Curve CL_US52_RP12_35
 PI = 6757+74.38 Simple Curve
 Delta = 12° 30' 40.85" (RT)
 Da = 1° 02' 10.16"
 R = 5,529.65
 T = 606.15
 L = 1,207.48

- Legend
- Surfacing Improvements
 - Grading Tie Line (Cut)
 - Grading Tie Line (Fill)
 - Grading Tie Line (Transition)
 - Flow Direction

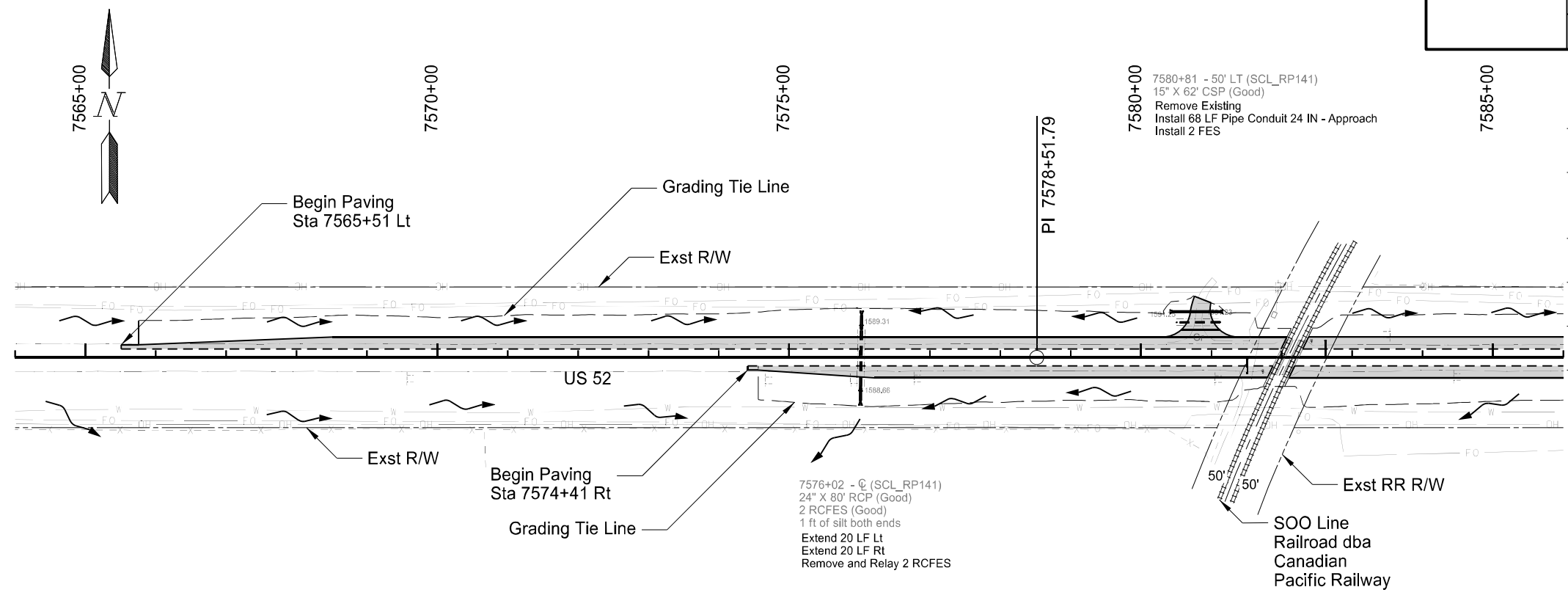


Plan and Profile
 RP 127.6

US 52
 South of Portal to Carrington
 McHenry County

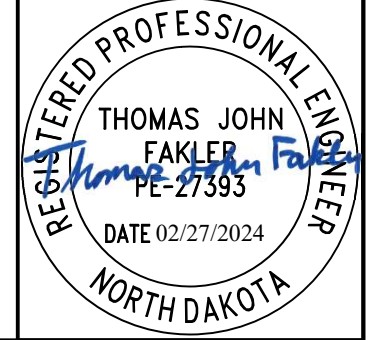
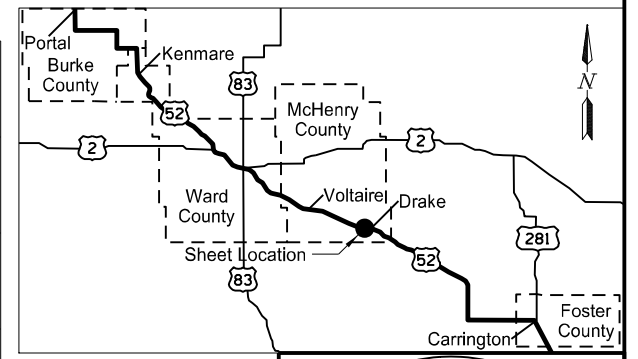
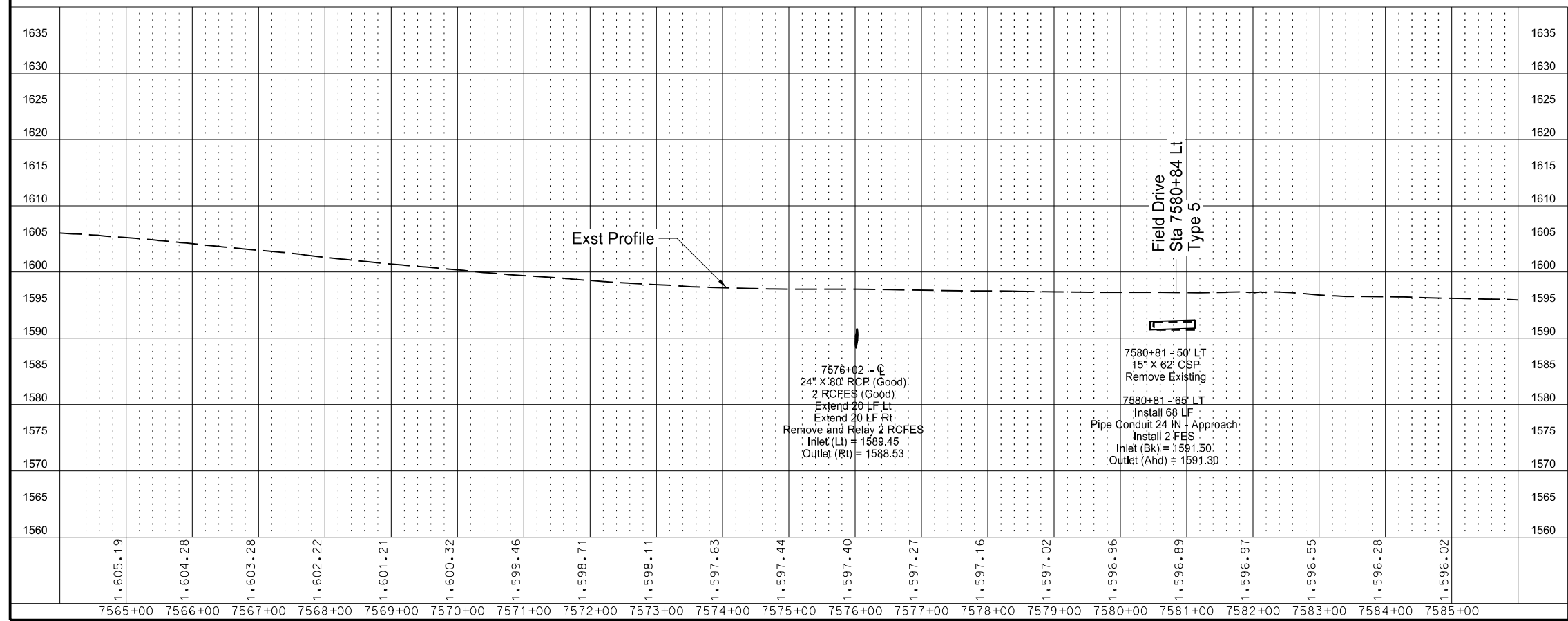
STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	HEN-9-052(485)006	60	15

SPEC	CODE	BID ITEM	QTY	UNIT
202	0174	Removal of Pipe-All Types & Sizes		
		7580+81 - 50' Lt	62	LF
714	0615	Pipe Conc Reinf 24IN CL III		
		7576+02 - Lt	20	LF
		7576+02 - Rt	20	LF
714	4106	Pipe Conduit 24IN-Approach		
		7580+81 - 65' Lt	68	LF
714	9660	Remove & Relay End Section-All Types & Sizes		
		7576+02 - Lt & Rt	2	EA
754	0805	Object Markers - Culverts		
		7576+02 - Lt & Rt	2	EA
990	0400	Pipe Cleanout		
		7576+02	1	EA



Legend

- Surfacing Improvements
- Grading Tie Line (Cut)
- Grading Tie Line (Fill)
- Grading Tie Line (Transition)
- Flow Direction

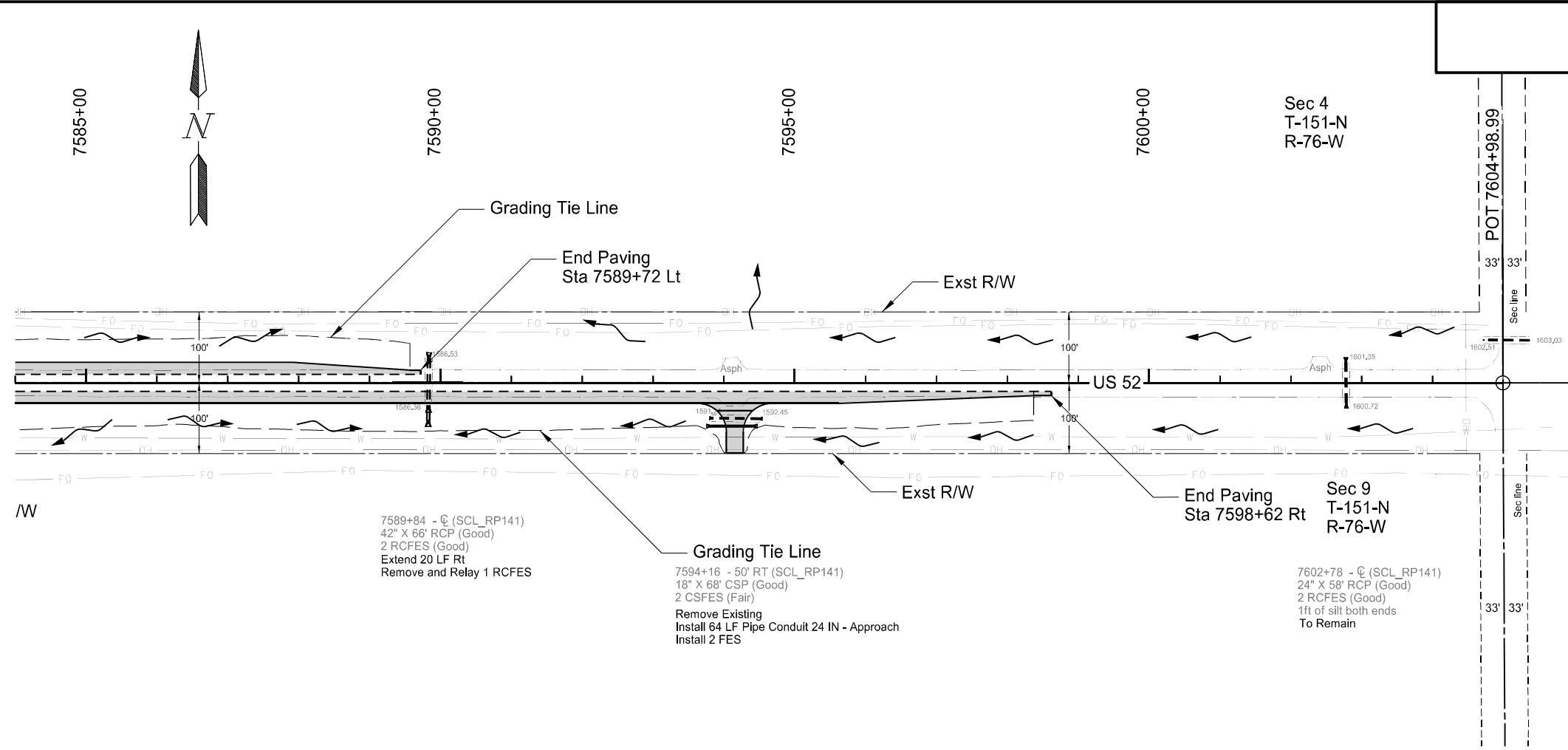


Plan and Profile
RP 143.5

US 52
South of Portal to Carrington
McHenry County

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	HEN-9-052(485)006	60	16

SPEC	CODE	BID ITEM	QTY	UNIT
202	0174	Removal of Pipe-All Types & Sizes		
		7594+16 - 50' Rt	68	LF
714	1005	Pipe Conc Reinf 42IN CL III		
		7589+84 - Rt	20	LF
714	4106	Pipe Conduit 24IN-Approach		
		7594+16 - 61' Rt	64	LF
714	9660	Remove and Relay End Section-All Types & Sizes		
		7589+84 - Rt	1	EA
754	0805	Object Markers - Culverts		
		7589+84 - Rt	1	EA

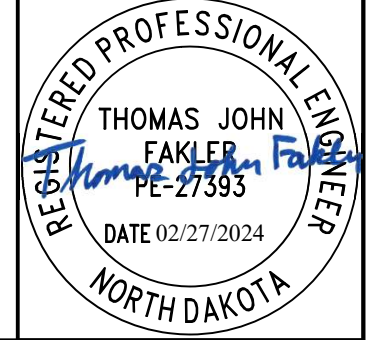
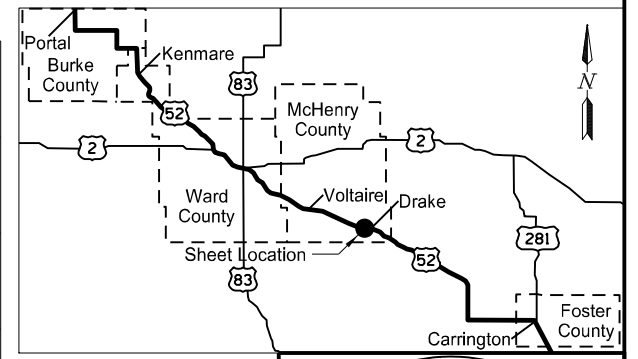
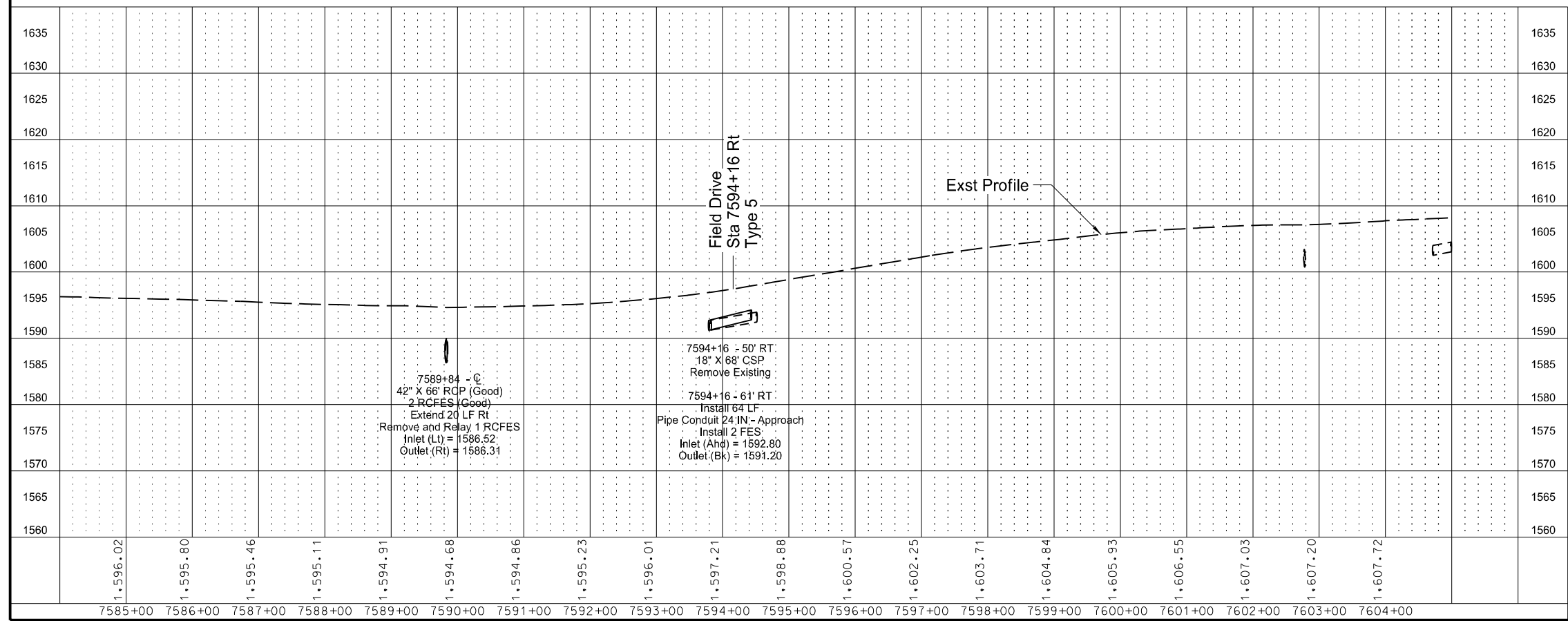


7589+84 - C (SCL_RP141)
42" X 66' RCP (Good)
2 RCFES (Good)
Extend 20 LF Rt
Remove and Relay 1 RCFES

7594+16 - 50' RT (SCL_RP141)
18" X 68' CSP (Good)
2 CSFES (Fair)
Remove Existing
Install 64 LF Pipe Conduit 24 IN - Approach
Install 2 FES

7602+78 - C (SCL_RP141)
24" X 58' RCP (Good)
2 RCFES (Good)
1ft of silt both ends
To Remain

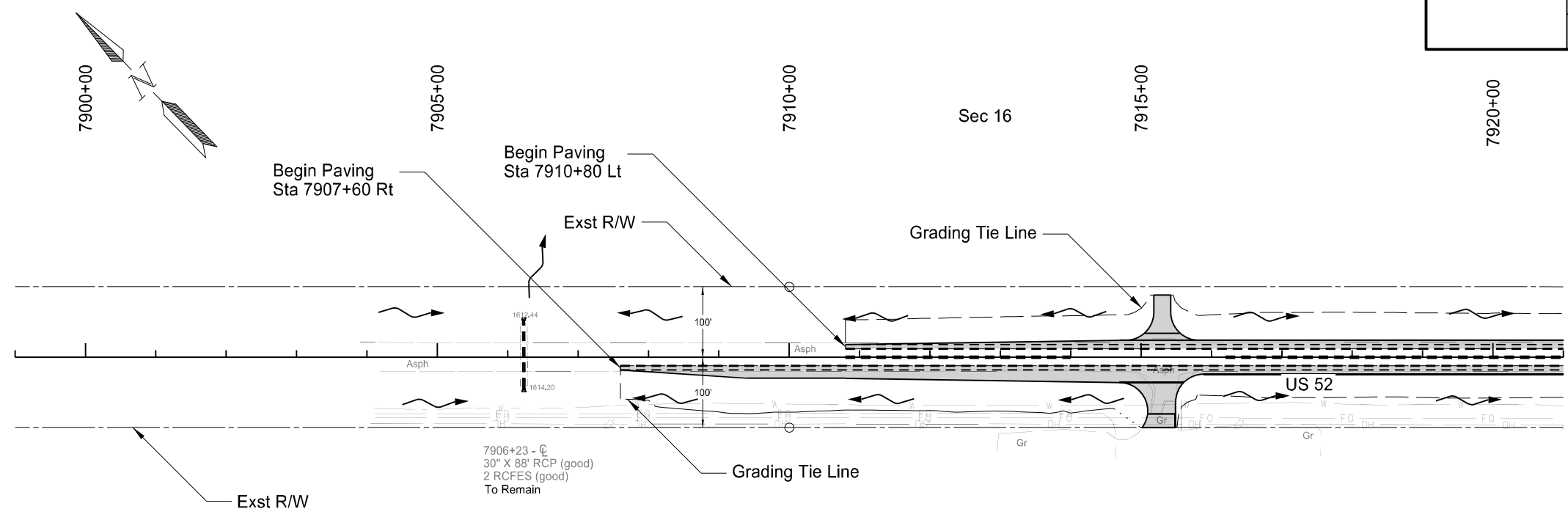
- Legend**
- Surfacing Improvements
 - Grading Tie Line (Cut)
 - Grading Tie Line (Fill)
 - Grading Tie Line (Transition)
 - Flow Direction



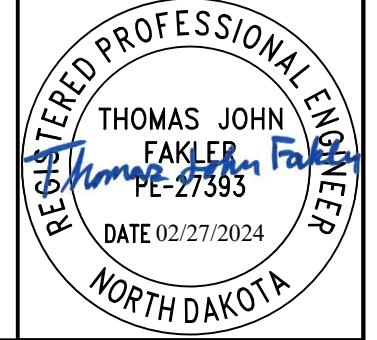
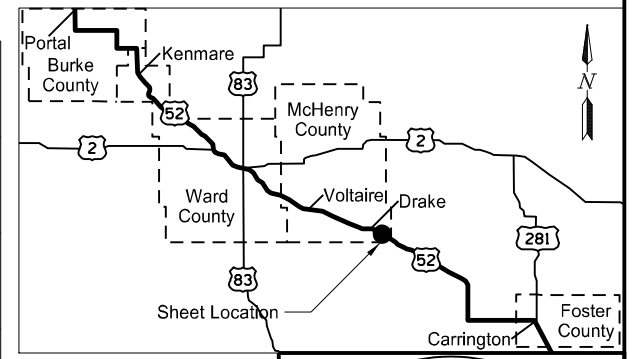
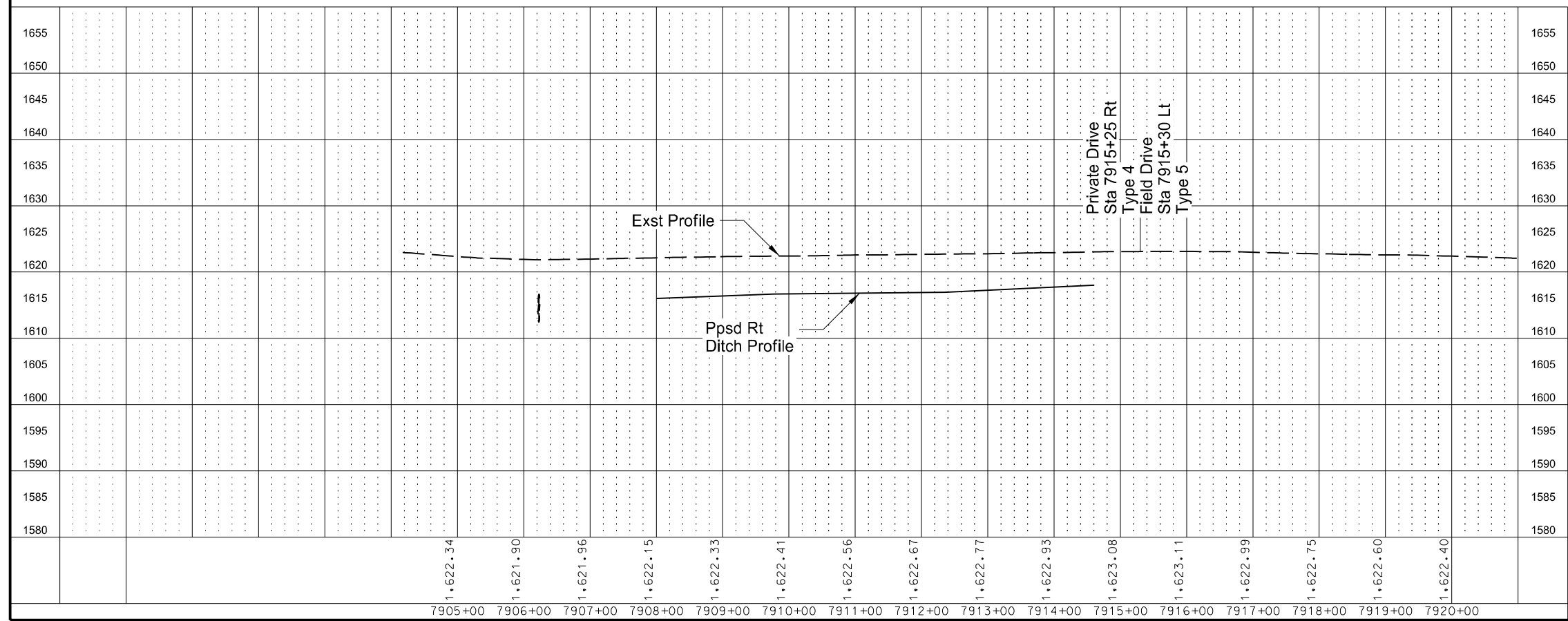
Plan and Profile
RP 143.5

US 52
South of Portal to Carrington
McHenry County

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	HEN-9-052(485)006	60	17



- Legend**
- Surfacing Improvements
 - Grading Tie Line (Cut)
 - Grading Tie Line (Fill)
 - Grading Tie Line (Transition)
 - Flow Direction

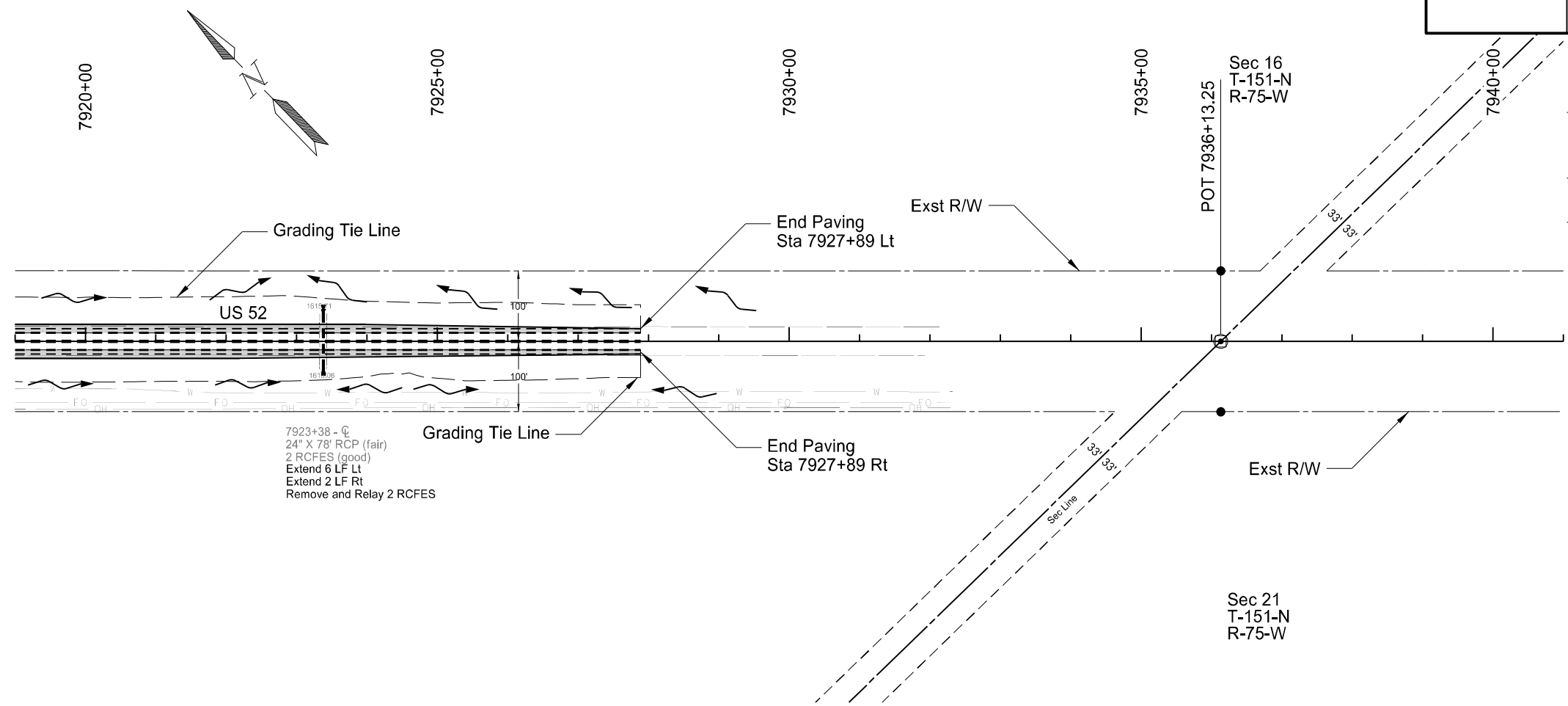


Plan and Profile
RP 149.9

US 52
South of Portal to Carrington
McHenry County

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	HEN-9-052(485)006	60	18

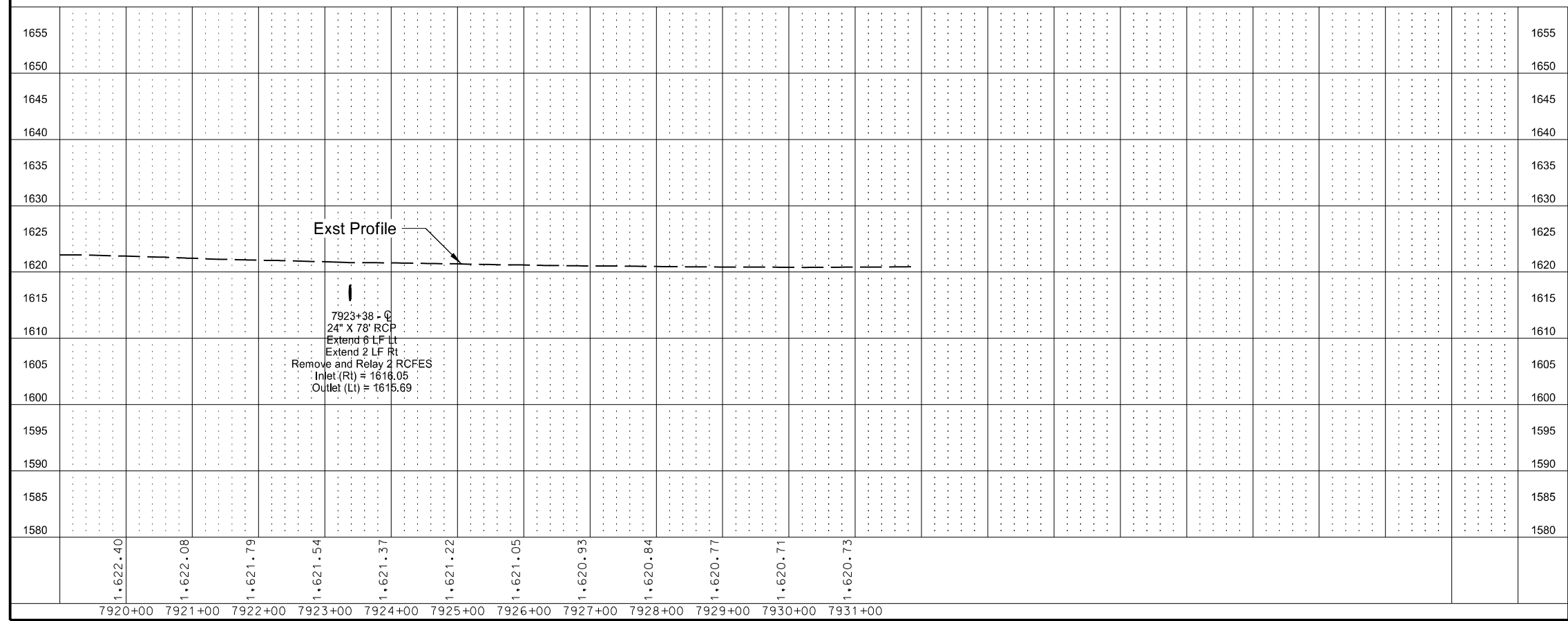
SPEC	CODE	BID ITEM	QTY	UNIT
714	0615	Pipe Conc Reinf 24IN CL III		
		7923+38 - Lt	6	LF
		7923+38 - Rt	2	LF
714	9660	Remove & Relay End Section-All Types & Sizes		
		7923+38 - Lt & Rt	2	EA
754	0805	Object Markers - Culverts		
		7923+38 - Lt & Rt	2	EA



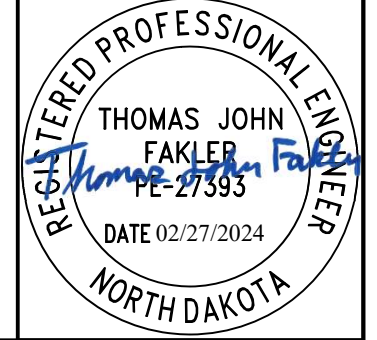
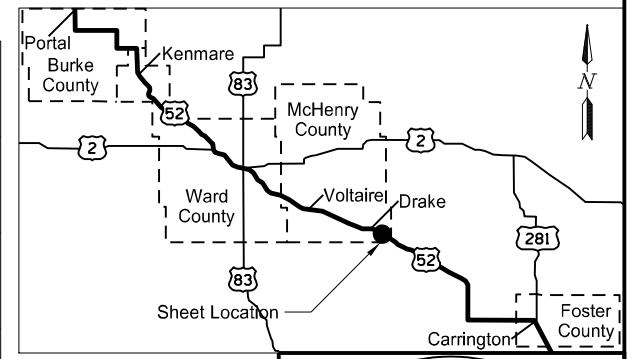
7923+38 - C
 24" X 78' RCP (fair)
 2 RCFES (good)
 Extend 6 LF Lt
 Extend 2 LF Rt
 Remove and Relay 2 RCFES

Legend

- Surfacing Improvements
- Grading Tie Line (Cut)
- Grading Tie Line (Fill)
- Grading Tie Line (Transition)
- Flow Direction



7923+38 - C
 24" X 78' RCP
 Extend 6 LF Lt
 Extend 2 LF Rt
 Remove and Relay 2 RCFES
 Inlet (Rt) = 1616.05
 Outlet (Lt) = 1615.69

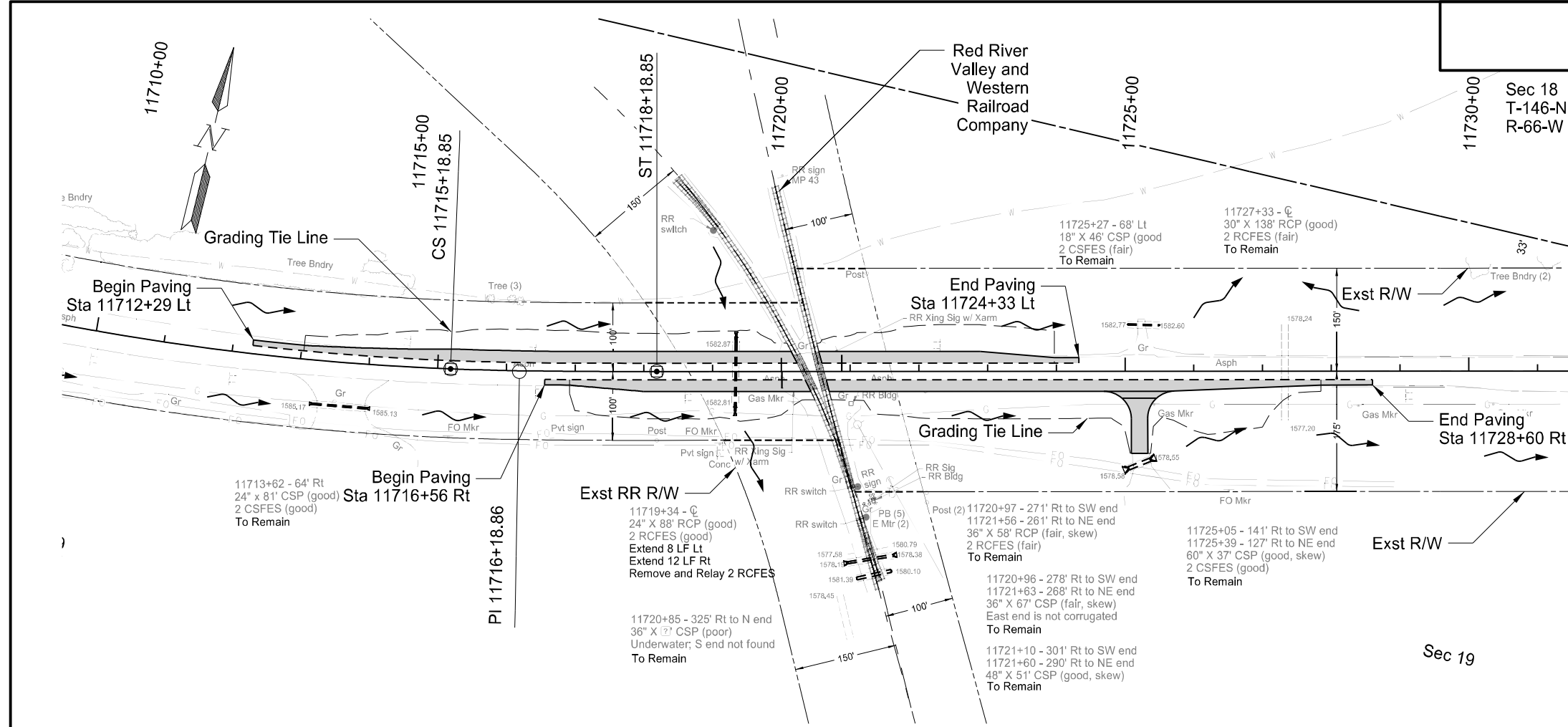


Plan and Profile
 RP 149.9

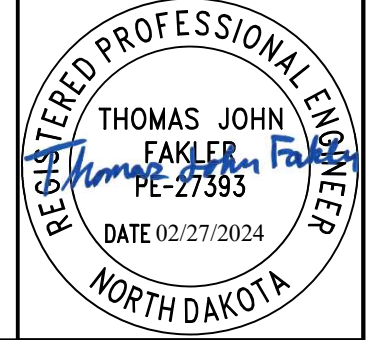
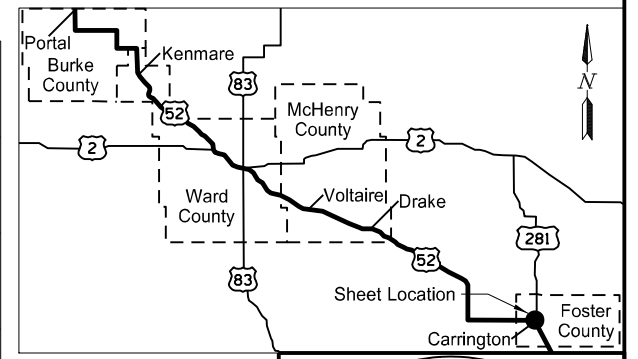
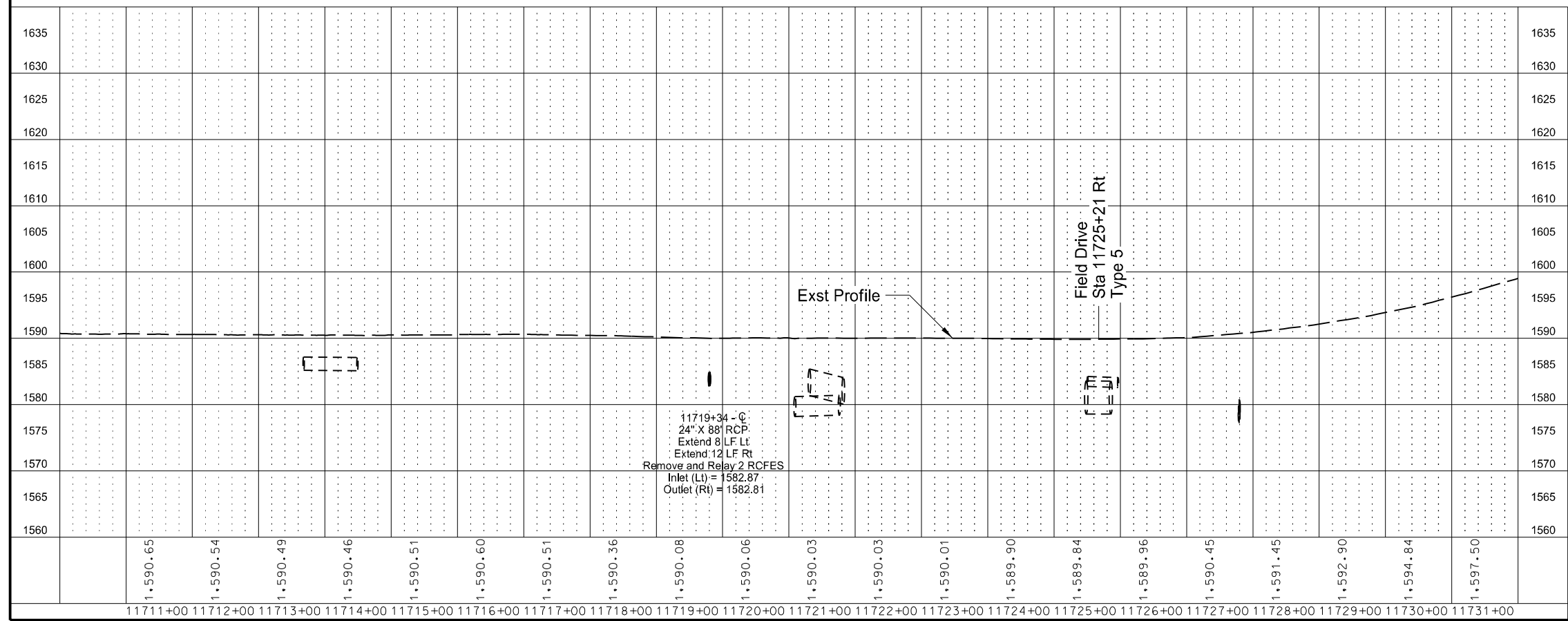
US 52
 South of Portal to Carrington
 McHenry County

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	HEN-9-052(485)006	60	19

SPEC	CODE	BID ITEM	QTY	UNIT
714	0615	Pipe Conc Reinf 24IN CL III		
		11719+34 - Lt	8	LF
		11719+34 - Rt	12	LF
714	9660	Remove & Relay End Section-All Types & Sizes		
		11719+34 - Lt & Rt	2	EA
754	0805	Object Markers - Culverts		
		11719+34 - Lt & Rt	2	EA



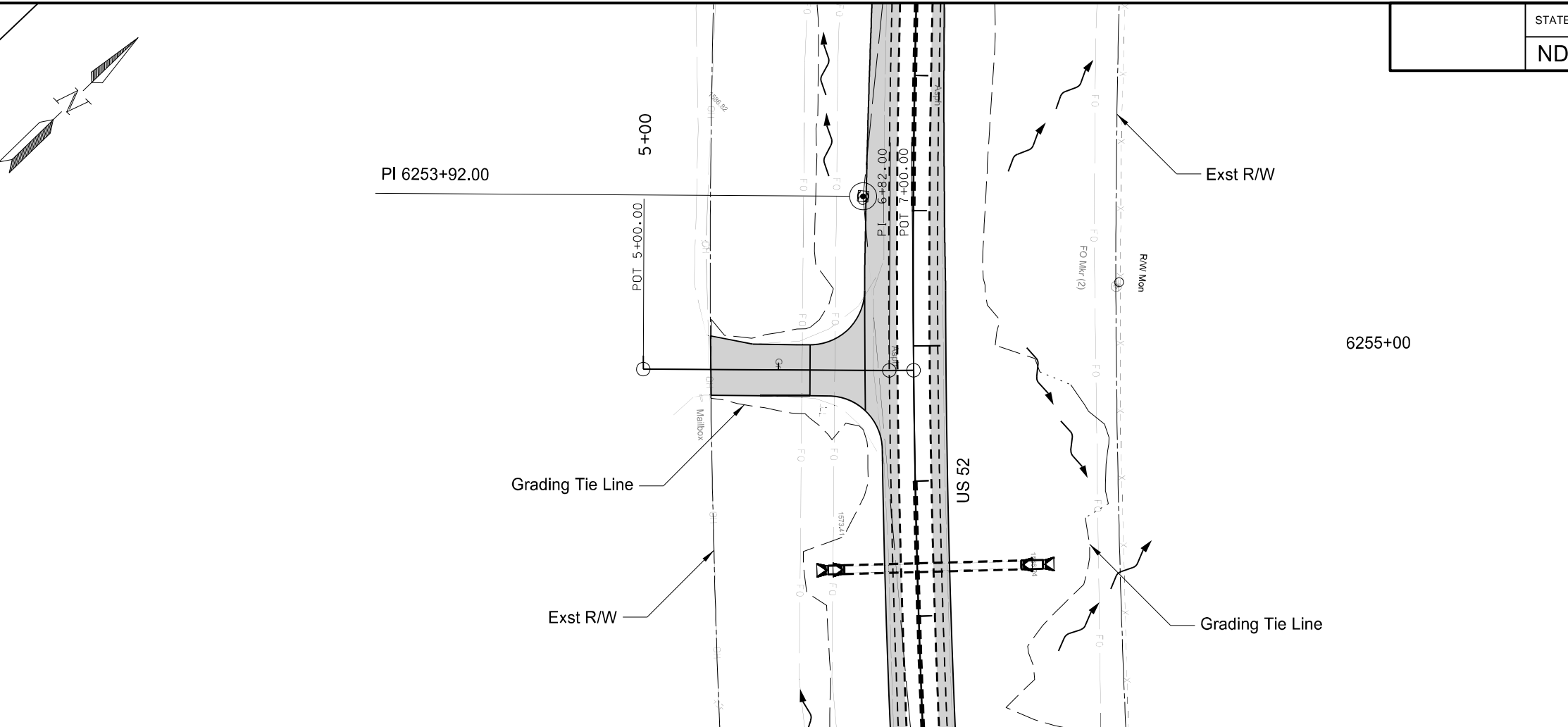
- Legend**
- Surfacing Improvements
 - Grading Tie Line (Cut)
 - Grading Tie Line (Fill)
 - Grading Tie Line (Transition)
 - Flow Direction



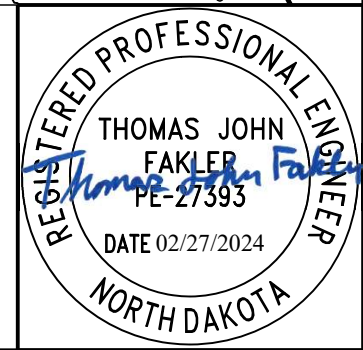
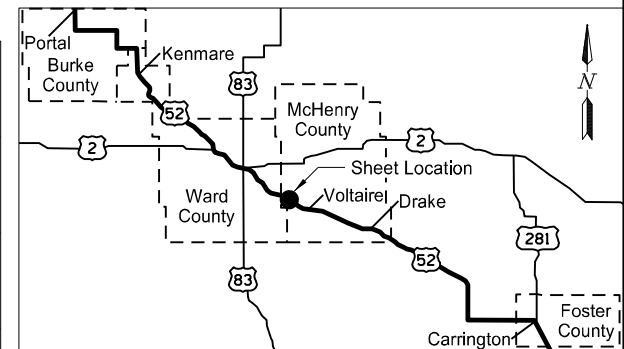
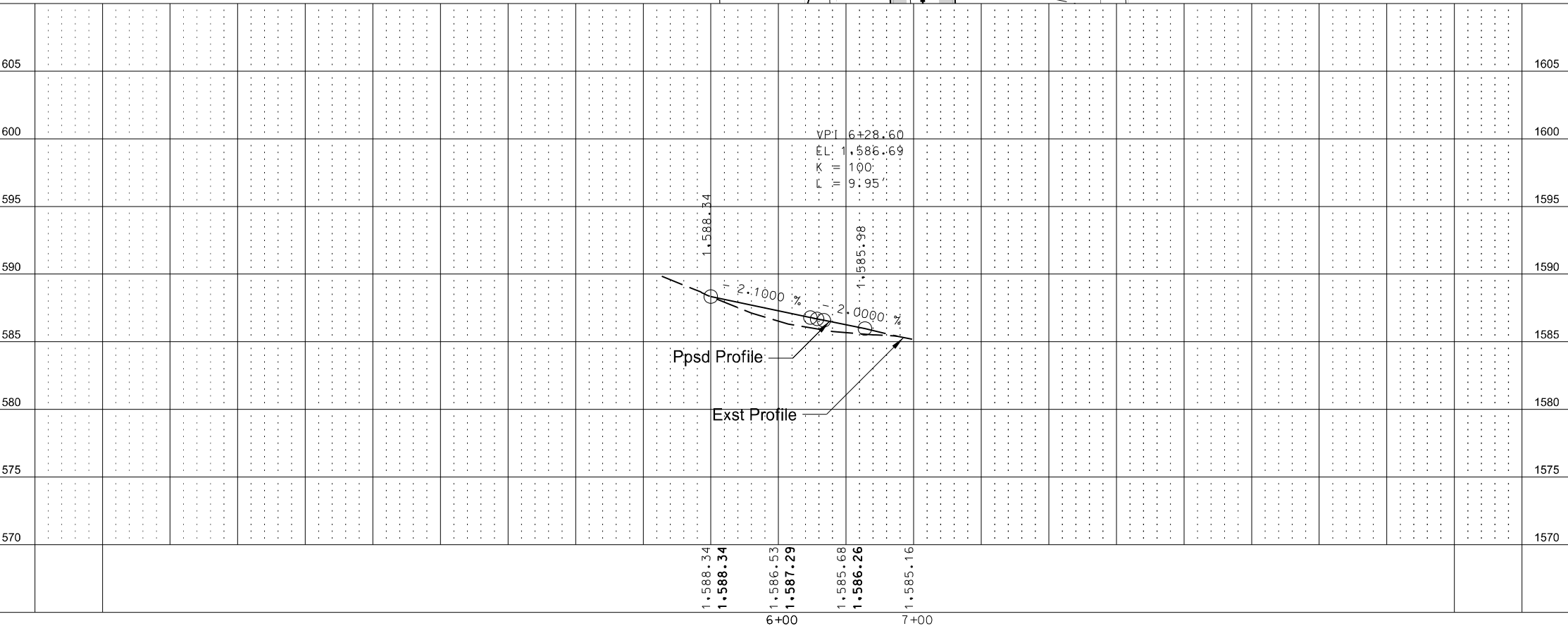
Plan and Profile
RP 222.0

US 52
South of Portal to Carrington
Foster County

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	HEN-9-052(485)006	60	20

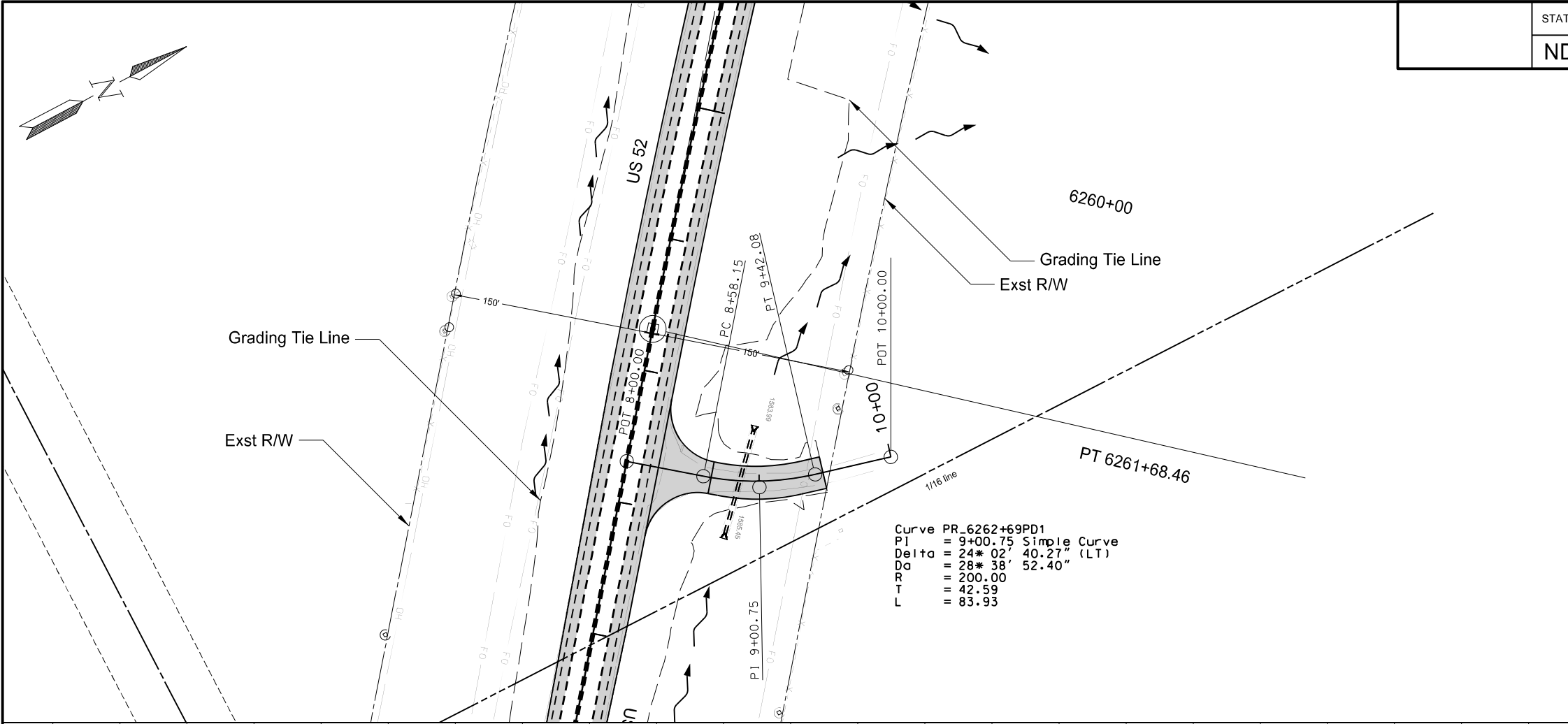


- Legend
- Surfacing Improvements
 - Grading Tie Line (Cut)
 - Grading Tie Line (Fill)
 - Grading Tie Line (Transition)
 - ↗ Flow Direction

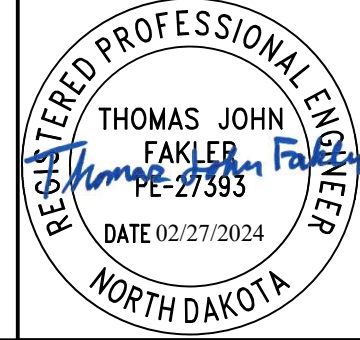
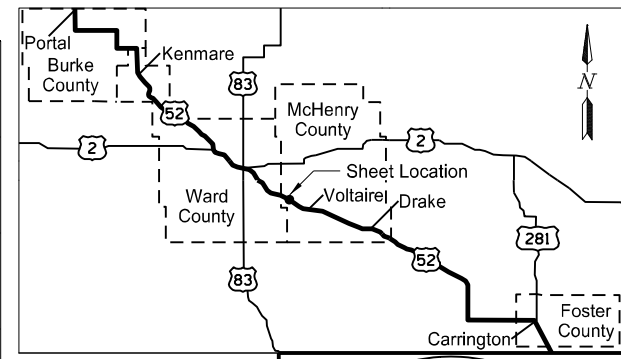
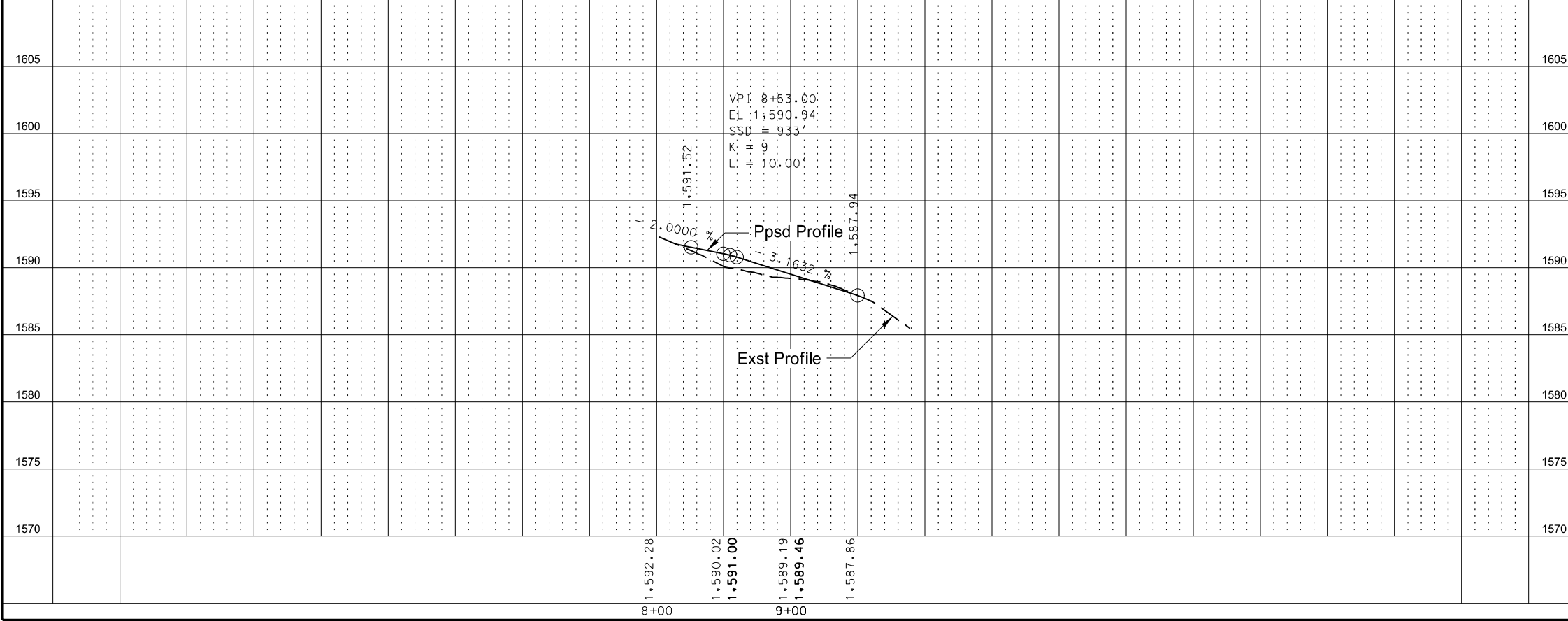


Plan and Profile
 RP 118.5
 Sta. 6255+14 Private Drive
 US 52
 South of Portal to Carrington
 McHenry County

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	HEN-9-052(485)006	60	21

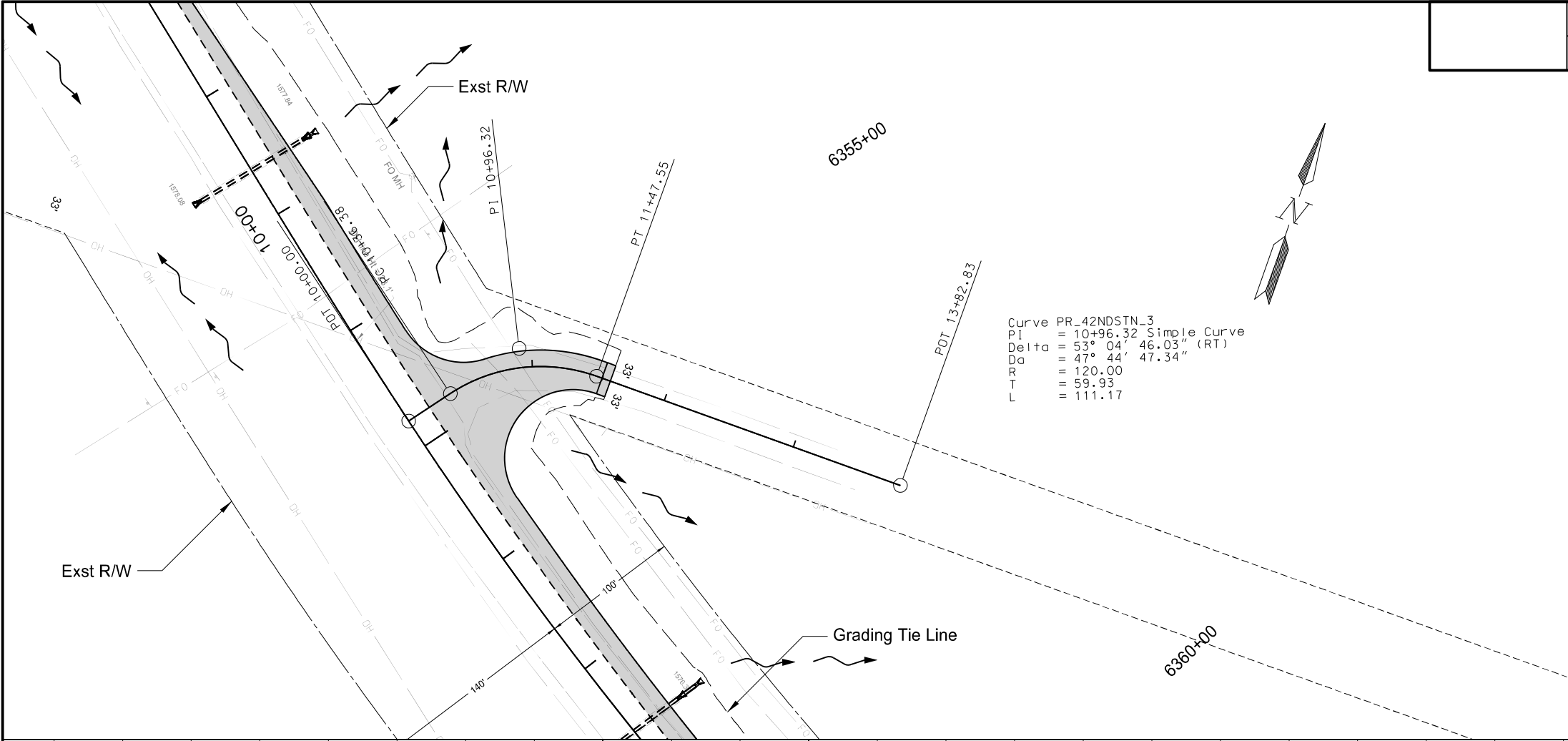


- Legend
- Surfacing Improvements
 - Grading Tie Line (Cut)
 - Grading Tie Line (Fill)
 - Grading Tie Line (Transition)
 - Flow Direction

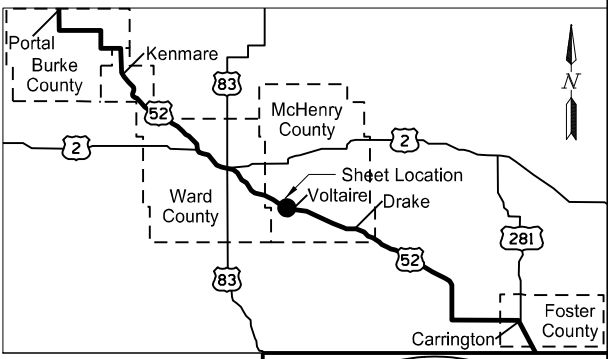
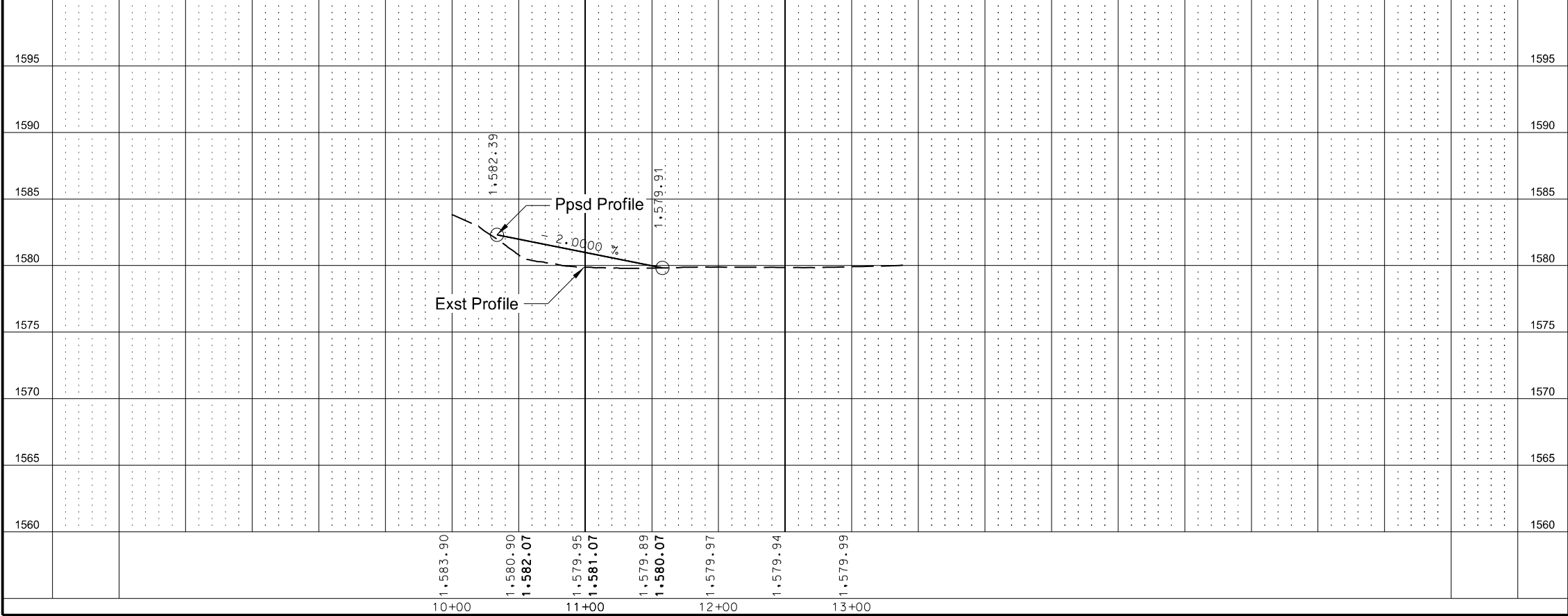


Plan and Profile
 RP 118.5
 Sta. 6262+69 Private Drive
 US 52
 South of Portal to Carrington
 McHenry County

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	HEN-9-052(485)006	60	22

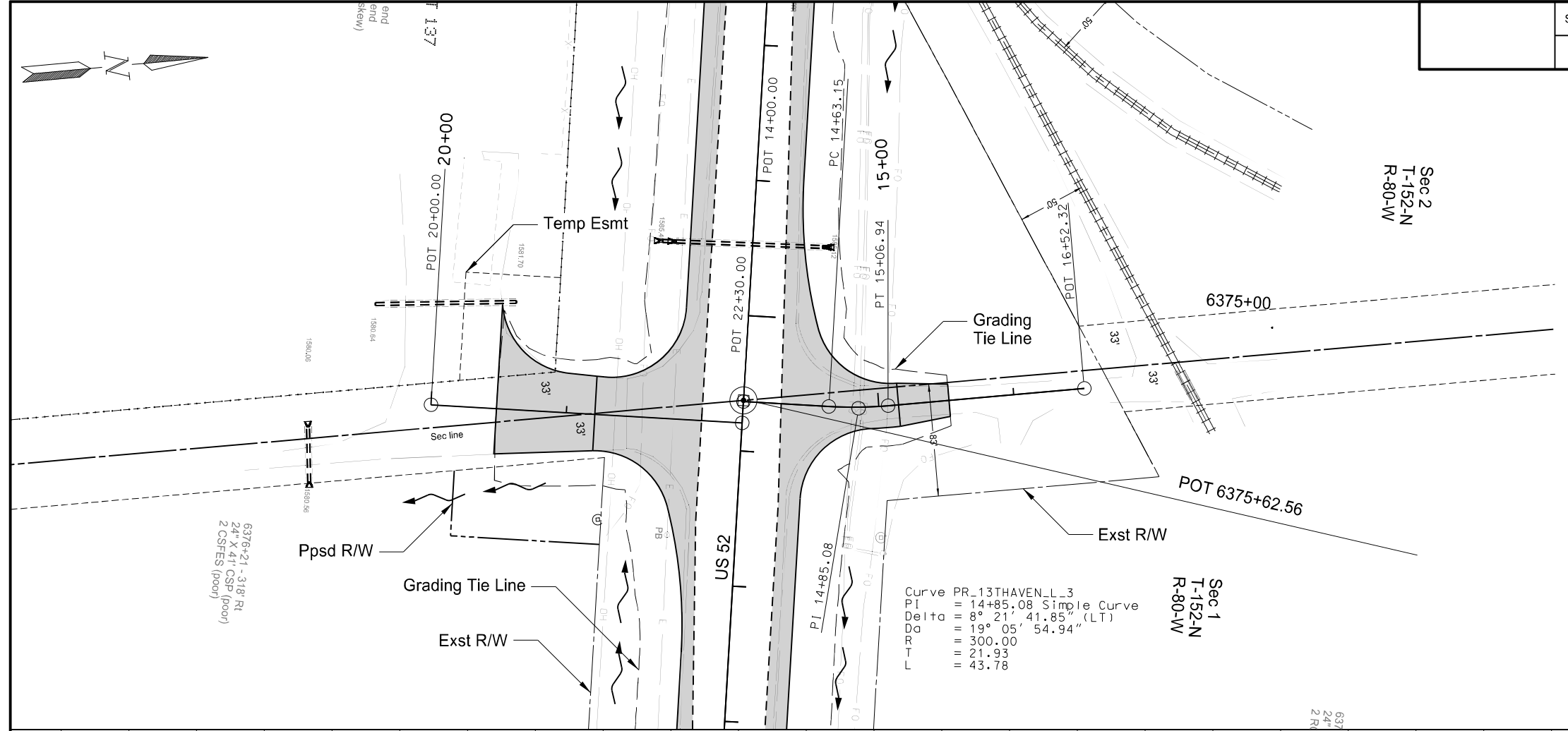


- Legend
- Surfacing Improvements
 - Grading Tie Line (Cut)
 - Grading Tie Line (Fill)
 - Grading Tie Line (Transition)
 - Flow Direction

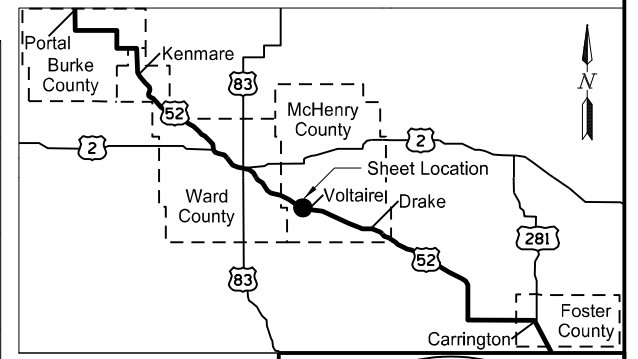
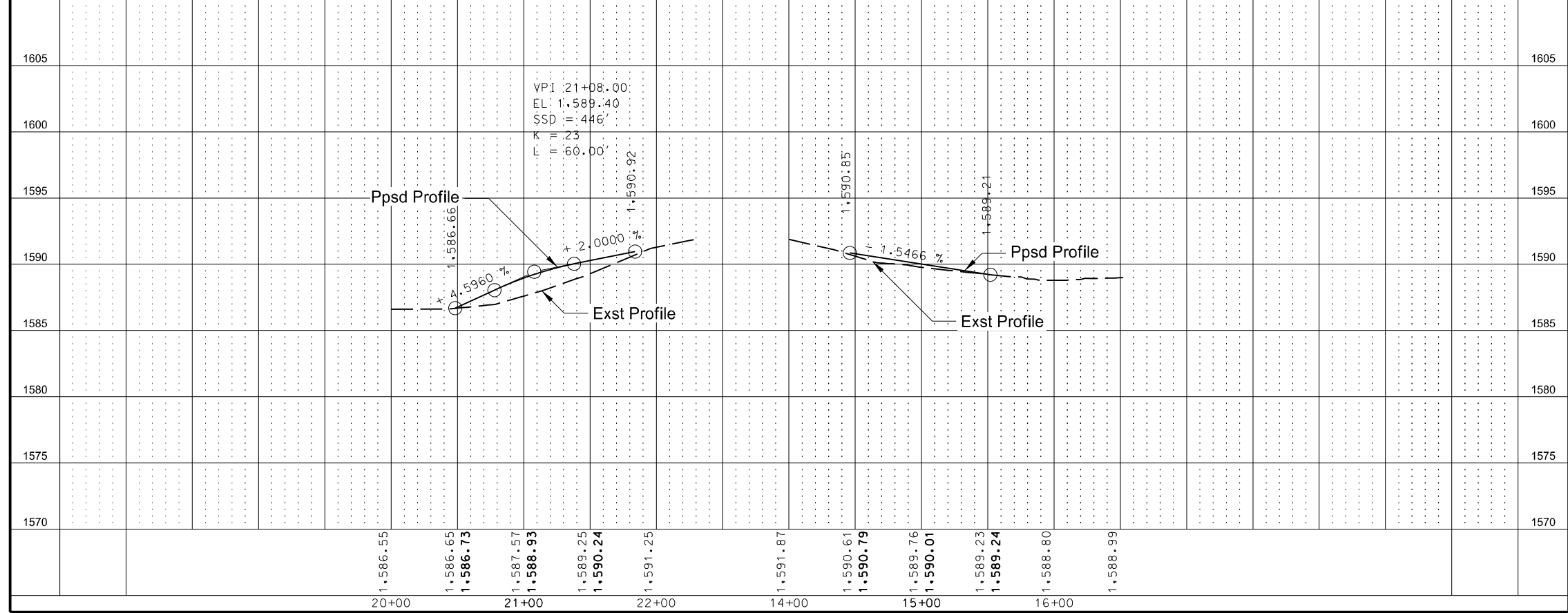


Plan and Profile
 RP 120.5
 42nd St N
 US 52
 South of Portal to Carrington
 McHenry County

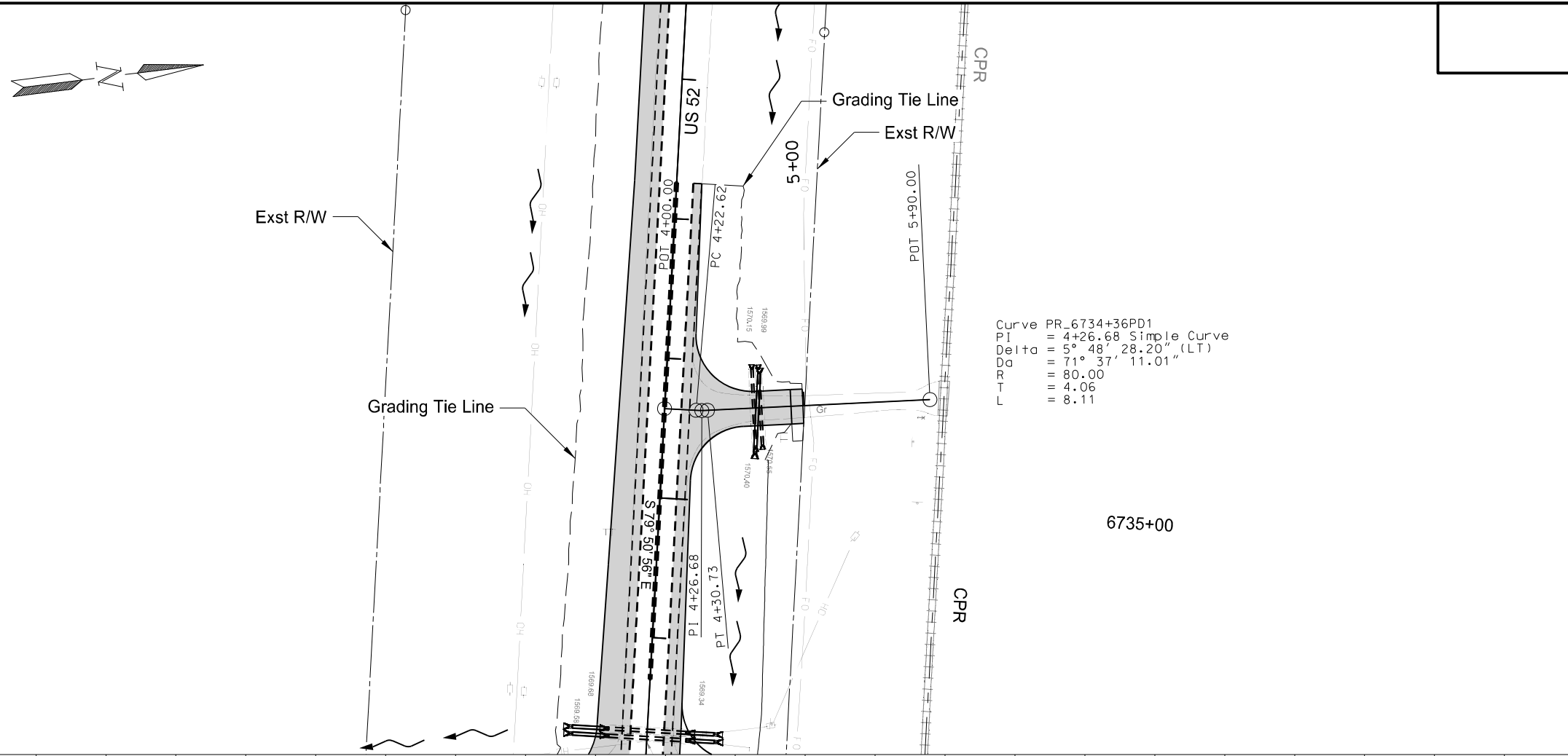
STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	HEN-9-052(485)006	60	23



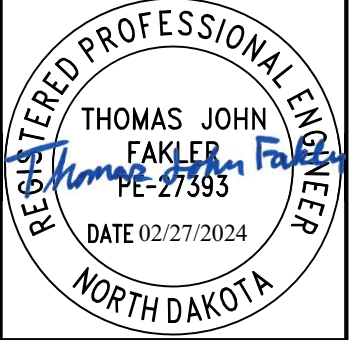
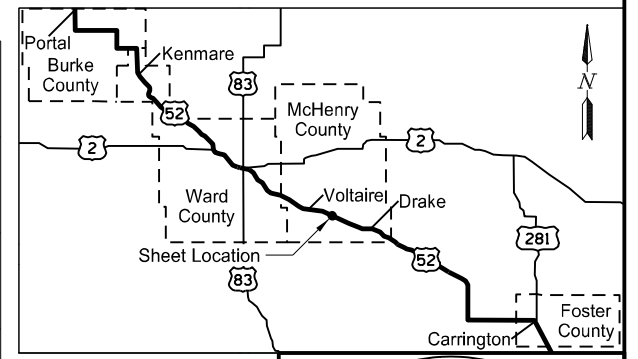
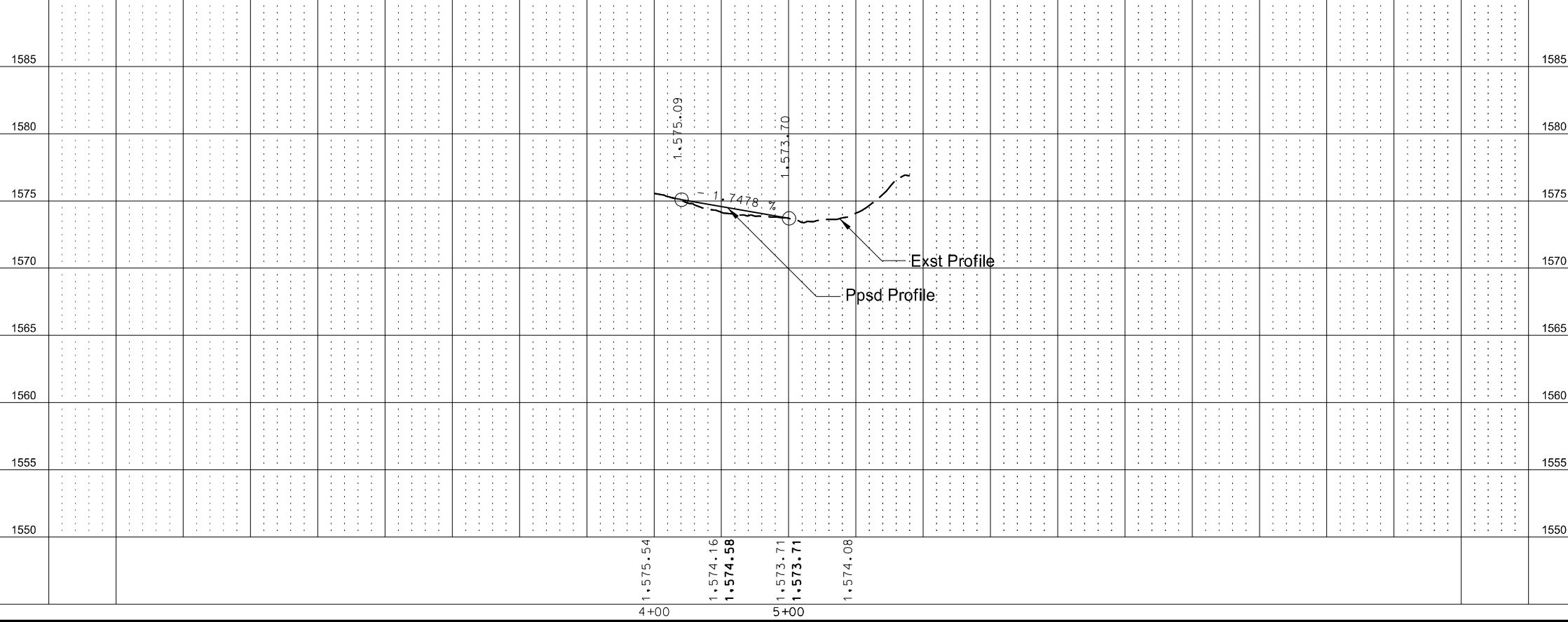
- Legend
- Surfacing Improvements
 - Grading Tie Line (Cut)
 - Grading Tie Line (Fill)
 - Grading Tie Line (Transition)
 - Flow Direction



Plan and Profile
 RP 120.5
 13th Ave N
 US 52
 South of Portal to Carrington
 McHenry County



- Legend
- Surfacing Improvements
 - Grading Tie Line (Cut)
 - Grading Tie Line (Fill)
 - Grading Tie Line (Transition)
 - Flow Direction

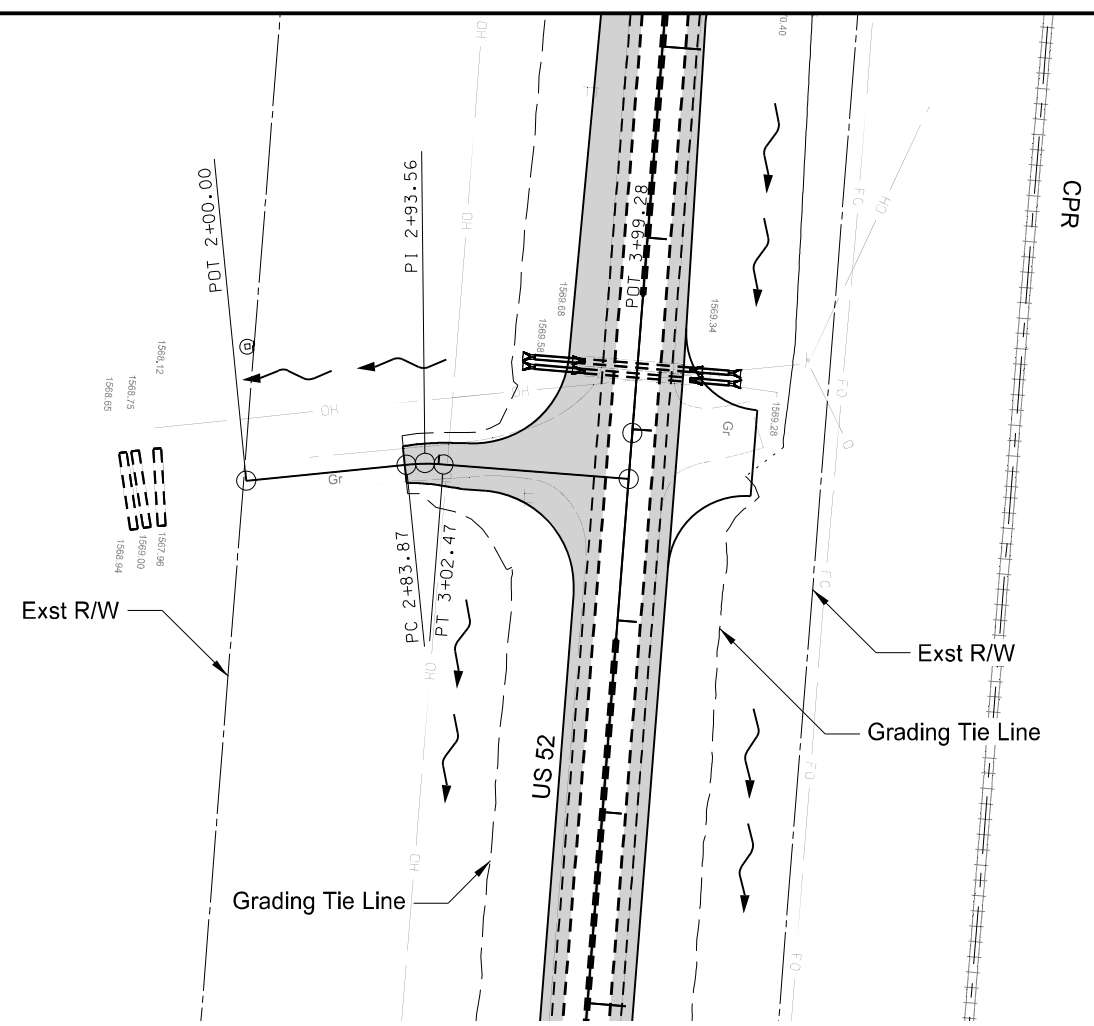
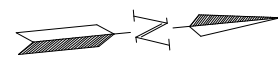


Plan and Profile
 RP 127.6
 Sta. 6734+36 Private Drive
 US 52
 South of Portal to Carrington
 McHenry County

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	HEN-9-052(485)006	60	25

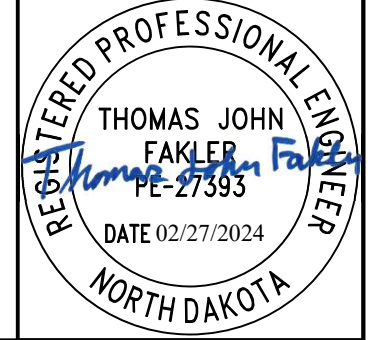
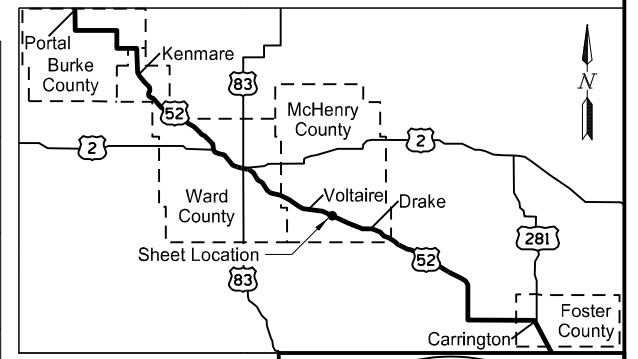
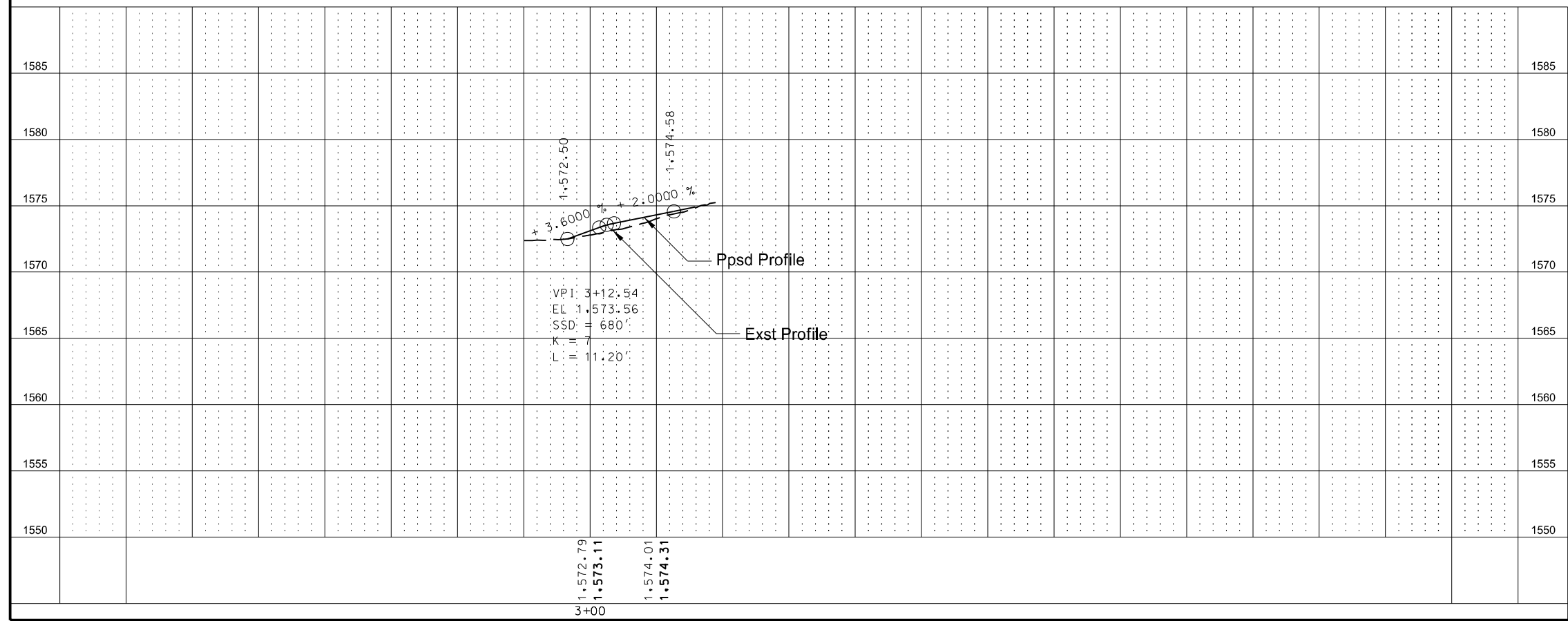
6735+00

Curve PR_VIKING_AVE2
 PI = 2+93.56 Simple Curve
 Delta = 10° 09' 03.84" (RT)
 Da = 54° 34' 37.01"
 RT = 109.06
 T = 9.69
 L = 18.60



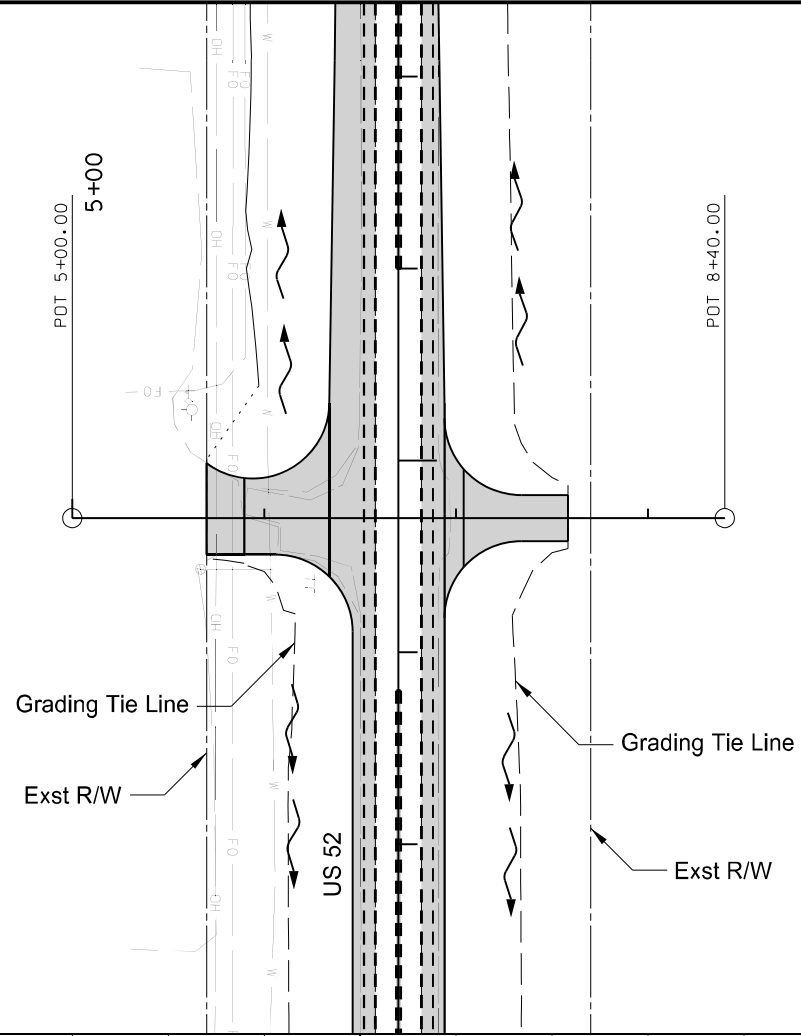
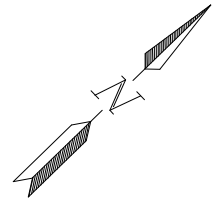
Legend

	Surfacing Improvements
	Grading Tie Line (Cut)
	Grading Tie Line (Fill)
	Grading Tie Line (Transition)
	Flow Direction



Plan and Profile
 RP 127.6
 Viking Avenue
 US 52
 South of Portal to Carrington
 McHenry County

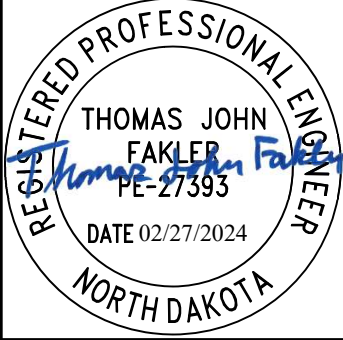
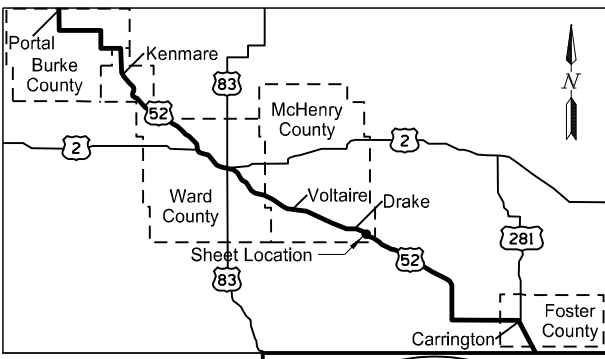
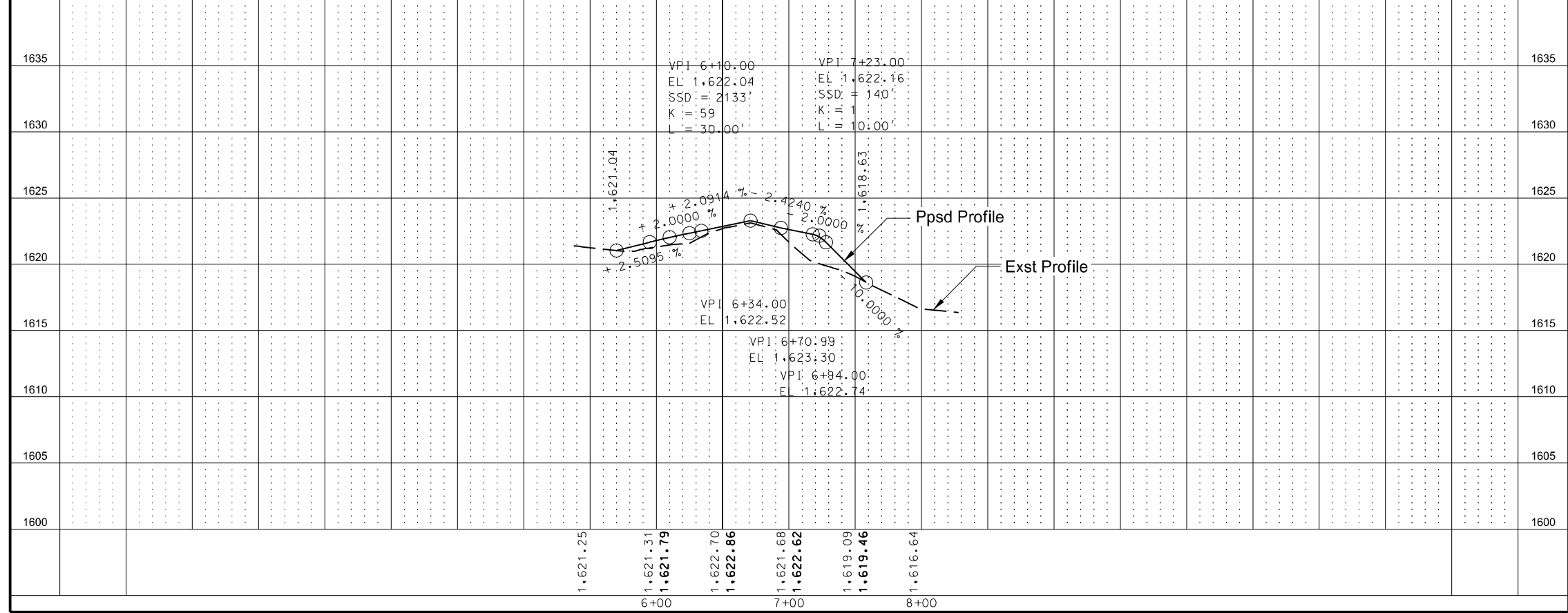
STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	HEN-9-052(485)006	60	27



7915+00

Legend

	Surfacing Improvements
	Grading Tie Line (Cut)
	Grading Tie Line (Fill)
	Grading Tie Line (Transition)
	Flow Direction



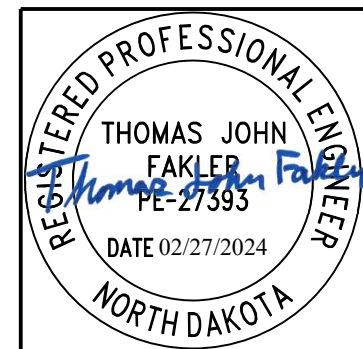
Plan and Profile
 RP 149.9
 Sta. 7915+30 Private Drive and Field Drive
 US 52
 South of Portal to Carrington
 McHenry County

Wetland Impact Table																				
Wetland Number	Location	Wetland Type	Wetland Feature	USACE Jurisdictional Wetlands	Wetland Impact					Wetland Mitigation										
					Wetland Impacts Acre(s)			USFWS Easement Impacts Acre(s)		Mitigation Proposed			11990 Bank		Onsite Mitigation Method			Onsite Constructed Location		
					Temp.	Perm. (Fill/Drain)	Perm. (Cut)	Temp.	Perm.	EO 11990	USACE	USFWS	Location	Acre(s)	Mitigation Location; Ratio	Ditch Shift Acre(s)	Onsite/ Offsite Acre(s)	Onsite Constructed Site #	Onsite Constructed Size Acre(s)	
135a	Sec. 36, T163N, R91W	Basin	Natural	Y	0.007						N	N	N							
135b	Sec. 36, T163N, R92W	Basin	Natural	Y							N	N	N							
149	Sec. 36, T163N, R92W	Basin	Natural	Y							N	N	N							
150a	Sec. 36, T153N, R92W	Ditch	Created	Y	0.087	0.025					N	N	N							
150b	Sec. 36, T163N, R92W	Basin	Natural	Y	0.006	0.002					Y	N	N	Anderson Bank	0.002					
150i	Sec. 31, T163N, R91W	Basin	Natural	Y							N	N	N							
150j	Sec. 31, T163N, R91W	Ditch	Created	Y							N	N	N							
Totals					0.100	0.027	0.000	0.000	0.000						0.002		0.000	0.000		0.000

1A wetland Jurisdictional Determination was issued by the USACE on 3/4/2022; NWO-2019-02129-BIS. PCN 22483/22484

Impact Summary Table			
Permanent Impact Summary		Temporary Impacts and additional information	
Wetland Type	Total (Acres)	Wetland Type	Total (Acres/Lf)
Natural/JD (Fill/Drain)	0.002	Temporary JD	0.100
Natural/Non-JD (Fill/Drain)	0.000	Non-JD Temporary	0.000
Created/JD (Fill/Drain)	0.025		
Created /Non-JD (Fill/Drain))	0.000	Permanent OW	0.000
Total	0.027	Temporary OW	0.000
JD Natural (Cut)	0.000	Permanent OW-d	0.000
JD Created (Cut)	0.000	Temporary OW-d	0.000
Non-JD Natural (Cut)	0.000		
Non-JD Created (Cut)	0.000		
Total	0.000		

Mitigation Summary Table						
	Location	Ditch Shift Acre(s)	Onsite/ Offsite Acre(s)	11990 Bank Acre(s)	USACE/11990 Bank Acre(s)	USFWS Bank Acre(s)
USACE Only	N/A					
EO 11990 Only	Anderson Bank		0.002			
USACE/11990	N/A					
USFWS	N/A					
Total		0.000	0.002	0	0	0



Wetlands Mitigation and Environmental
RP 6.9

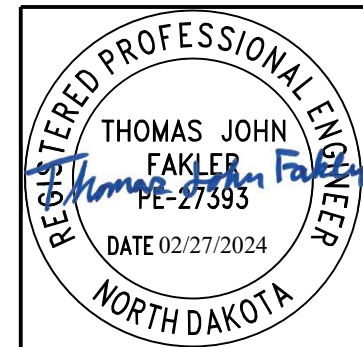
US 52
South of Portal to Carrington
Burke County

Wetland Impact Table																				
Wetland Number	Location	Wetland Type	Wetland Feature	USACE Jurisdictional Wetlands	Wetland Impact						Wetland Mitigation									
					Wetland Impacts Acre(s)			USFWS Easement Impacts Acre(s)			Mitigation Proposed			11990 Bank		Onsite/Offsite Mitigation Method			Onsite Constructed Location	
					Temp.	Perm. (Fill/Drain)	Perm. (Cut)	Temp.	Perm.	EO 11990	USACE	USFWS	Location	Acre(s)	Mitigation Location; Ratio	Ditch Shift Acre(s)	Onsite/Offsite Acre(s)	Onsite Constructed Site #	Onsite Constructed Size Acre(s)	
152a	Sec. 5, T162N, R89W	Basin	Natural	Y						N	N	N								
152b	Sec. 32, T163N, R89W	Ditch	Created	Y	0.068	0.048				N	N	N								
152c	Sec. 32, T163N, R89W	Slope	Natural	Y						N	N	N								
153	Sec. 32, T163N, R89W	Slope	Natural	Y						N	N	N								
154	Sec. 32, T163N, R89W	Ditch	Created	Y	0.003	0.002				N	N	N								
155	Sec. 32, T163N, R89W	Basin	Natural	Y						N	N	N								
25a	Sec. 5, T162N, R89W	Ditch	Created	Y	0.108	0.054				N	N	N								
25b	Sec. 5, T162N, R89W	Basin	Natural	Y						N	N	N								
25c	Sec. 5, T162N, R89W	Ditch	Created	Y						N	N	N								
25d	Sec. 5, T162N, R89W	Basin	Natural	Y						N	N	N								
25e	Sec. 5, T162N, R89W	Slope	Natural	Y	0.073	0.010				Y	N	N	Anderson Bank	0.010						
25f	Sec. 5, T162N, R89W	Basin	Natural	Y						N	N	N								
25g	Sec. 5, T162N, R89W	Basin	Natural	Y	0.301					N	N	N					Site 1	2.535		
25h	Sec. 5, T162N, R89W	Basin	Natural	Y	0.256					N	N	N								
156	Sec. 32, T163N, R89W	Ditch	Created	Y						N	N	N								
157	Sec. 5, T162N, R89W	Ditch	Created	Y						N	N	N								
158	Sec. 32, T163N, R89W	Basin	Natural	Y						N	N	N								
Totals					0.809	0.114	0.000	0.000	0.000					0.010		0.000	0.000		2.535	

1 A wetland Jurisdictional Determination was issued by the USACE on 3/4/2022; NWO-2019-02129-BIS. PCN 22483/22484.

Impact Summary Table			
Permanent Impact Summary		Temporary Impacts and additional information	
Wetland Type	Total (Acres)	Wetland Type	Total (Acres/Lf)
Natural/JD (Fill/Drain)	0.010	Temporary JD	0.809
Natural/Non-JD (Fill/Drain)	0.000	Non-JD Temporary	0.000
Created/JD (Fill/Drain)	0.104		
Created /Non-JD (Fill/Drain)	0.000	Permanent OW	0.000
Total	0.114	Temporary OW	0.000
JD Natural (Cut)	0.000	Permanent OW-d	0.000
JD Created (Cut)	0.000	Temporary OW-d	0.000
Non-JD Natural (Cut)	0.000		
Non-JD Created (Cut)	0.000		
Total	0.000		

Mitigation Summary Table						
	Location	Ditch Shift Acre(s)	Onsite/Offsite Acre(s)	11990 Bank Acre(s)	USACE/11990 Bank Acre(s)	USFWS Bank Acre(s)
USACE Only	N/A					
EO 11990 Only	Anderson Bank		0.010			
USACE/11990	N/A					
USFWS	N/A					
Total		0	0.010	0	0	0



Wetlands Mitigation and Environmental
RP 20.6

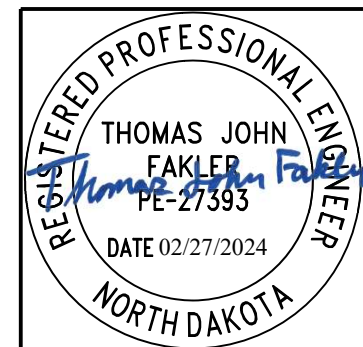
US 52
South of Portal to Carrington
Burke County

Wetland Impact Table																			
Wetland Number	Location	Wetland Type	Wetland Feature	USACE Jurisdictional Wetlands	Wetland Impact					Wetland Mitigation									
					Wetland Impacts Acre(s)			USFWS Easement Impacts Acre(s)		Mitigation Proposed			11990 Bank		Onsite/Offsite Mitigation Method			Onsite Constructed Location	
					Temp.	Perm. (Fill/Drain)	Perm. (Cut)	Temp.	Perm.	EO 11990	USACE	USFWS	Location	Acre(s)	Mitigation Location; Ratio	Ditch Shift Acre(s)	Onsite/Offsite Acre(s)	Onsite Constructed Site #	Onsite Constructed Size Acre(s)
160a	Sec. 6, T160N, R88W	Ditch	Created	Y	0.012	0.009				N	N	N							
160b	Sec. 6, T160N, R88W	Ditch	Created	Y	0.008	0.021				N	N	N							
73a	Sec. 5, T160N, R88W	Slope	Natural	Y						N	N	N							
73b	Sec. 5, T160N, R88W	Slope	Natural	Y	0.026	0.033				Y	Y	N			Site 1; 1:1	0.033			
73c	Sec. 5, T160N, R88W	Ditch	Created	Y	0.218	0.083				N	Y	N			Site 1; 1:1	0.083			
73d	Sec. 5, T160N, R88W	Ditch	Created	Y						N	N	N							
73e	Sec. 5, T160N, R88W	Slope	Natural	Y	0.015	0.009				Y	Y	N			Site 1; 1:1	0.009			
161	Sec. 6, T160N, R88W	Ditch	Created	Y	0.076	0.117				N	Y	N			Ditch Shift 1; 1:1	0.199			
Totals					0.355	0.272	0.000	0.000	0.000					0.000		0.199	0.125	0.000	

1A wetland Jurisdictional Determination was issued by the USACE on 3/4/2022; NWO-2019-02129-BIS. PCN 22483/22484.

Impact Summary Table			
Permanent Impact Summary		Temporary Impacts and additional information	
Wetland Type	Total (Acres)	Wetland Type	Total (Acres/Lf)
Natural/JD (Fill/Drain)	0.042	Temporary JD	0.355
Natural/Non-JD (Fill/Drain)	0.000	Non-JD Temporary	0.000
Created/JD (Fill/Drain)	0.230		
Created /Non-JD (Fill/Drain)	0.000	Permanent OW	0.000
Total	0.272	Temporary OW	0.000
JD Natural (Cut)	0.000	Permanent OW-d	0.000
JD Created (Cut)	0.000	Temporary OW-d	0.000
Non-JD Natural (Cut)	0.000		
Non-JD Created (Cut)	0.000		
Total	0.000		

Mitigation Summary Table						
	Location	Ditch Shift Acre(s)	Onsite/Offsite Acre(s)	11990 Bank Acre(s)	USACE/11990 Bank Acre(s)	USFWS Bank Acre(s)
USACE Only	Onsite	0.199	0.083			
EO 11990 Only	N/A					
USACE/11990	Anderson Bank		0.042			
USFWS	N/A					
Total		0.199	0.125	0	0	0



Wetlands Mitigation and Environmental
RP 40.4

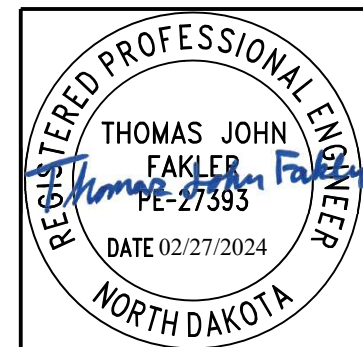
US 52
South of Portal to Carrington
Ward County

Wetland Impact Table																					
Wetland Number	Location	Wetland Type	Wetland Feature	USACE Jurisdictional Wetlands	Wetland Impact					Wetland Mitigation											
					Wetland Impacts Acre(s)			USFWS Easement Impacts Acre(s)		Mitigation Proposed			11990 Bank		USFWS Bank		Onsite/Offsite Mitigation Method			Onsite Constructed Location	
					Temp.	Perm. (Fill/Drain)	Perm. (Cut)	Temp.	Perm.	EO 11990	USACE	USFWS	Location	Acre(s)	Location	Acre(s)	Mitigation Location; Ratio	Ditch Shift Acre(s)	Onsite/Offsite Acre(s)	Onsite Constructed Site #	Onsite Constructed Size Acre(s)
29	Sec. 31, T153N, R79W	Slope	Natural	N						N	N	N									
30	Sec. 2, T152N, R80W	Basin	Natural	N						N	N	N									
31	Sec. 2, T152N, R80W	Basin	Natural	Y	0.091	0.007				Y	N	N	Anderson Bank	0.007							
32a	Sec. 2, T152N, R80W	Basin	Natural	N						N	N	N									
32b	Sec. 1&2, T152N, R80W	Basin	Natural	N	0.013	0.009				Y	N	N	Anderson Bank	0.009	Anderson Easement	0.044					
Totals					0.104	0.016	0.000	0.000	0.053					0.016		0.044		0.000	0.000	0.000	

1A wetland Jurisdictional Determination was issued by the USACE on 9/09/2022; NWO-2022-00132-BIS. PCN 23149/23150.

Impact Summary Table			
Permanent Impact Summary		Temporary Impacts and additional information	
Wetland Type	Total (Acres)	Wetland Type	Total (Acres/Lf)
Natural/JD (Fill/Drain)	0.007	Temporary JD	0.091
Natural/Non-JD (Fill/Drain)	0.009	Non-JD Temporary	0.013
Created/JD (Fill/Drain)	0.000		
Created /Non-JD (Fill/Drain))	0.000	Permanent OW	0.000
Total	0.016	Temporary OW	0.000
JD Natural (Cut)	0.000	Permanent OW-d	0.000
JD Created (Cut)	0.000	Temporary OW-d	0.000
Non-JD Natural (Cut)	0.000		
Non-JD Created (Cut)	0.000		
Total	0.000		

Mitigation Summary Table						
	Location	Ditch Shift Acre(s)	Onsite/Offsite Acre(s)	11990 Bank Acre(s)	USACE/11990 Bank Acre(s)	USFWS Bank Acre(s)
USACE Only	N/A					
EO 11990 Only	Anderson Bank		0.016			
USACE/11990	N/A					
USFWS	Anderson Easement Bank					0.044
Total		0	0.016	0	0	0.044



Wetlands Mitigation and Environmental
RP 120.5

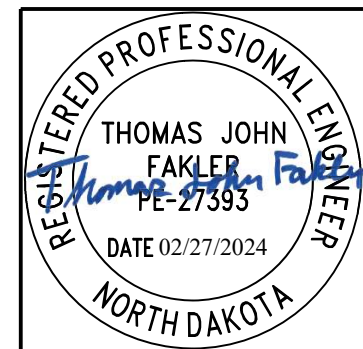
US 52
South of Portal to Carrington
McHenry County

Wetland Impact Table																				
Wetland Number	Location	Wetland Type	Wetland Feature	USACE Jurisdictional Wetlands	Wetland Impact					Wetland Mitigation										
					Wetland Impacts Acre(s)			USFWS Easement Impacts Acre(s)		Mitigation Proposed			11990 Bank		Onsite/Offsite Mitigation Method			Onsite Constructed Location		
					Temp.	Perm. (Fill/Drain)	Perm. (Cut)	Temp.	Perm.	EO 11990	USACE	USFWS	Location	Acre(s)	Mitigation Location; Ratio	Ditch Shift Acre(s)	Onsite/Offsite Acre(s)	Onsite Constructed Site #	Onsite Constructed Size Acre(s)	
47k	Sec. 12, T152N, R79W	Basin	Natural	Y	0.022	0.008				Y	Y	N			Site 2; 1:1		0.008			
47l	Sec. 12, T152N, R79W	Basin	Natural	Y	0.181	0.273				Y	Y	N			Site 2; 1:1		0.273	2	0.474	
47m	Sec. 12, T152N, R79W	Ditch	Created	Y	0.123	0.056				N	Y	N			Site 2; 1:1		0.056			
49a	Sec. 12, T152N, R79W	Ditch	Created	Y						N	N	N								
49b	Sec. 12, T152N, R79W	Basin	Natural	Y	0.260	0.194				Y	Y	N			Site 1; 1:1		0.194			
49c	Sec. 12, T152N, R79W	Basin	Natural	Y	0.268	0.414				Y	Y	N			Site 1; 1:1		0.414			
49d	Sec. 7, T152N, R78W	Basin	Natural	Y	0.030	0.002				Y	Y	N			Site 1; 1:1		0.002			
50	Sec. 7, T152N, R78W	Basin	Natural	Y	0.009	0.003				Y	Y	N			Site 1; 1:1		0.003			
51a	Sec. 7, T152N, R78W	Basin	Natural	Y						N	N	N								
Totals					0.893	0.950	0.000	0.000	0.000					0.000			0.000	0.950		0.474

1A wetland Jurisdictional Determination was issued by the USACE on 9/09/2022; NWO-2022-00132-BIS. PCN 23149/23150

Impact Summary Table			
Permanent Impact Summary		Temporary Impacts and additional information	
Wetland Type	Total (Acres)	Wetland Type	Total (Acres/Lf)
Natural/JD (Fill/Drain)	0.894	Temporary JD	0.893
Natural/Non-JD (Fill/Drain)	0.000	Non-JD Temporary	0.000
Created/JD (Fill/Drain)	0.056		
Created /Non-JD (Fill/Drain)	0.000	Permanent OW	0.000
Total	0.950	Temporary OW	0.000
JD Natural (Cut)	0.000	Permanent OW-d	0.000
JD Created (Cut)	0.000	Temporary OW-d	0.000
Non-JD Natural (Cut)	0.000		
Non-JD Created (Cut)	0.000		
Total	0.000		

Mitigation Summary Table						
	Location	Ditch Shift Acre(s)	Onsite/Offsite Acre(s)	11990 Bank Acre(s)	USACE/11990 Bank Acre(s)	USFWS Bank Acre(s)
USACE Only	Onsite		0.056			
EO 11990 Only	Anderson Bank		0.003			
USACE/11990	Onsite		0.891			
USFWS	N/A					
Total		0.000	0.950	0	0	0



Wetlands Mitigation and Environmental
RP 127.6

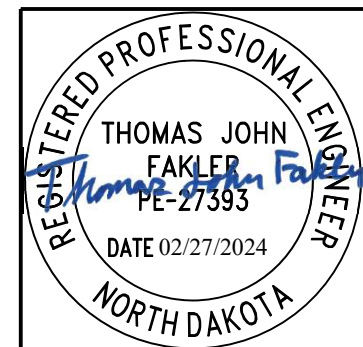
US 52
South of Portal to Carrington
McHenry County

Wetland Impact Table																				
Wetland Number	Location	Wetland Type	Wetland Feature	USACE Jurisdictional Wetlands	Wetland Impact					Wetland Mitigation										
					Wetland Impacts Acre(s)			USFWS Easement Impacts Acre(s)		Mitigation Proposed			11990 Bank		Onsite/Offsite Mitigation Method			Onsite Constructed Location		
					Temp.	Perm. (Fill/Drain)	Perm. (Cut)	Temp.	Perm.	EO 11990	USACE	USFWS	Location	Acre(s)	Mitigation Location; Ratio	Ditch Shift Acre(s)	Onsite/Offsite Acre(s)	Onsite Constructed Site #	Onsite Constructed Size Acre(s)	
89a	Sec. 9, T151N, R76W	Basin	Natural	N	0.057	0.067				Y	N	N	Anderson Bank	0.067						
89b	Sec. 9, T151N, R76W	Ditch	Created	N	0.028	0.053				N	N	N								
89c	Sec. 4, T151N, R76W	Basin	Natural	N	0.087	0.158				Y	N	N	Anderson Bank	0.158						
90	Sec. 9, T151N, R76W	Ditch	Created	N	0.021	0.045				N	N	N								
91	Sec. 4, T151N, R76W	Ditch	Created	N	0.014	0.018				N	N	N								
92a	Sec. 9, T151N, R76W	Basin	Natural	N	0.215	0.429				Y	N	N	Anderson Bank	0.429						
92b	Sec. 4, T151N, R76W	Ditch	Created	N	0.050	0.095				N	N	N								
92c	Sec. 4, T151N, R76W	Basin	Natural	N	0.065	0.115				Y	N	N	Anderson Bank	0.115						
Totals					0.537	0.980	0.000	0.000	0.000					0.769			0.000	0.000		0.000

1A wetland Jurisdictional Determination was issued by the USACE on 9/09/2022; NWO-2022-00132-BIS. PCN 23149/23150.

Impact Summary Table			
Permanent Impact Summary		Temporary Impacts and additional information	
Wetland Type	Total (Acres)	Wetland Type	Total (Acres/Lf)
Natural/JD (Fill/Drain)	0.000	Temporary JD	0.000
Natural/Non-JD (Fill/Drain)	0.769	Non-JD Temporary	0.537
Created/JD (Fill/Drain)	0.000		
Created /Non-JD (Fill/Drain))	0.211	Permanent OW	0.000
Total	0.980	Temporary OW	0.000
JD Natural (Cut)	0.000	Permanent OW-d	0.000
JD Created (Cut)	0.000	Temporary OW-d	0.000
Non-JD Natural (Cut)	0.000		
Non-JD Created (Cut)	0.000		
Total	0.000		

Mitigation Summary Table						
	Location	Ditch Shift Acre(s)	Onsite/Offsite Acre(s)	11990 Bank Acre(s)	USACE/11990 Bank Acre(s)	USFWS Bank Acre(s)
USACE Only	N/A					
EO 11990 Only	Anderson Bank		0.769			
USACE/11990	N/A					
USFWS	N/A					
Total		0.000	0.769	0	0	0



Wetlands Mitigation and Environmental
RP 143.5

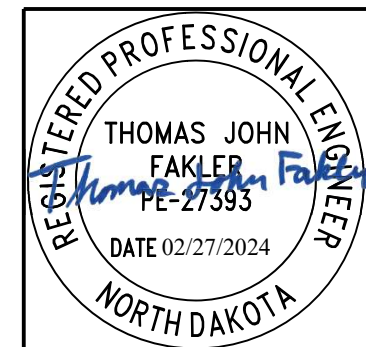
US 52
South of Portal to Carrington
McHenry County

Wetland Impact Table																	
Wetland Number	Location	Wetland Type	Wetland Feature	USACE Jurisdictional Wetlands	Wetland Impact					Wetland Mitigation							
					Wetland Impacts Acre(s)			USFWS Easement Impacts Acre(s)		Mitigation Proposed			Onsite/Offsite Mitigation Method			Onsite Constructed Location	
					Temp.	Perm. (Fill/Drain)	Perm. (Cut)	Temp.	Perm.	EO 11990	USACE	USFWS	Mitigation Location; Ratio	Ditch Shift Acre(s)	Onsite/Offsite Acre(s)	Onsite Constructed Site #	Onsite Constructed Size Acre(s)
6	Sec. 16, T151N, R75W	Slope	Natural	Y						N	N	N					
Totals					0.000	0.000	0.000	0.000	0.000					0.000	0.000		0.000

1 An addendum to the wetland Jurisdictional Determination was issued by the USACE on 3/01/2023; NWO-2022-00132-BIS. PCN 23404.

Impact Summary Table			
Permanent Impact Summary		Temporary Impacts and additional information	
Wetland Type	Total (Acres)	Wetland Type	Total (Acres/Lf)
Natural/JD (Fill/Drain)	0.000	Temporary JD	0.000
Natural/Non-JD (Fill/Drain)	0.000	Non-JD Temporary	0.000
Created/JD (Fill/Drain)	0.000		
Created /Non-JD (Fill/Drain)	0.000	Permanent OW	0.000
Total	0.000	Temporary OW	0.000
JD Natural (Cut)	0.000	Permanent OW-d	0.000
JD Created (Cut)	0.000	Temporary OW-d	0.000
Non-JD Natural (Cut)	0.000		
Non-JD Created (Cut)	0.000		
Total	0.000		

Mitigation Summary Table						
	Location	Ditch Shift Acre(s)	Onsite/Offsite Acre(s)	11990 Bank Acre(s)	USACE/11990 Bank Acre(s)	USFWS Bank Acre(s)
USACE Only	N/A					
EO 11990 Only	N/A					
USACE/11990	N/A					
USFWS	N/A					
Total		0	0	0	0	0



Wetlands Mitigation and Environmental
RP 149.9

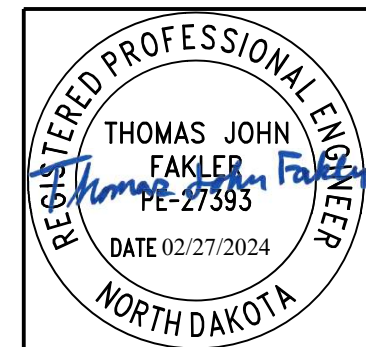
US 52
South of Portal to Carrington
McHenry County

Wetland Impact Table																		
Wetland Number	Location	Wetland Type	Wetland Feature	USACE Jurisdictional Wetlands	Wetland Impact					Wetland Mitigation								
					Wetland Impacts Acre(s)			USFWS Easement Impacts Acre(s)		Mitigation Proposed			Onsite/Offsite Mitigation Method			Onsite Constructed Location		
					Temp.	Perm. (Fill/Drain)	Perm. (Cut)	Temp.	Perm.	EO 11990	USACE	USFWS	Mitigation Location; Ratio	Ditch Shift Acre(s)	Onsite/Offsite Acre(s)	Onsite Constructed Site #	Onsite Constructed Size Acre(s)	
1a	Sec. 24, T146N, R67W	Ditch	Created	N						N	N	N						
1b	Sec. 24, T146N, R67W	Ditch	Created	N						N	N	N						
2	Sec. 19, T146N, R66W	Ditch	Created	N						N	N	N						
3a	Sec. 19, T146N, R66W	Ditch	Created	Y	0.085	0.007				N	N	N						
3b	Sec. 19, T146N, R66W	Ditch	Created	Y		0.007				N	N	N						
4	Sec. 19, T146N, R66W	Ditch	Created	Y		0.016				N	N	N						
5	Sec. 19, T146N, R66W	Ditch	Created	N	0.006					N	N	N						
Totals					0.091	0.030	0.000	0.000	0.000					0.000	0.000			0.000

1A wetland Jurisdictional Determination was issued by the USACE on 09/12/2022; NWO-2015-00671-BIS. PCN 23404.

Impact Summary Table			
Permanent Impact Summary		Temporary Impacts and additional information	
Wetland Type	Total (Acres)	Wetland Type	Total (Acres/Lf)
Natural/JD (Fill/Drain)	0.000	Temporary JD	0.085
Natural/Non-JD (Fill/Drain)	0.000	Non-JD Temporary	0.006
Created/JD (Fill/Drain)	0.030		
Created /Non-JD (Fill/Drain)	0.000	Permanent OW	0.000
Total	0.030	Temporary OW	0.000
JD Natural (Cut)	0.000	Permanent OW-d	0.000
JD Created (Cut)	0.000	Temporary OW-d	0.000
Non-JD Natural (Cut)	0.000		
Non-JD Created (Cut)	0.000		
Total	0.000		

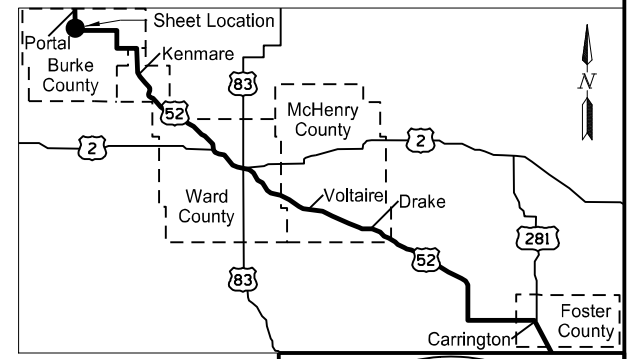
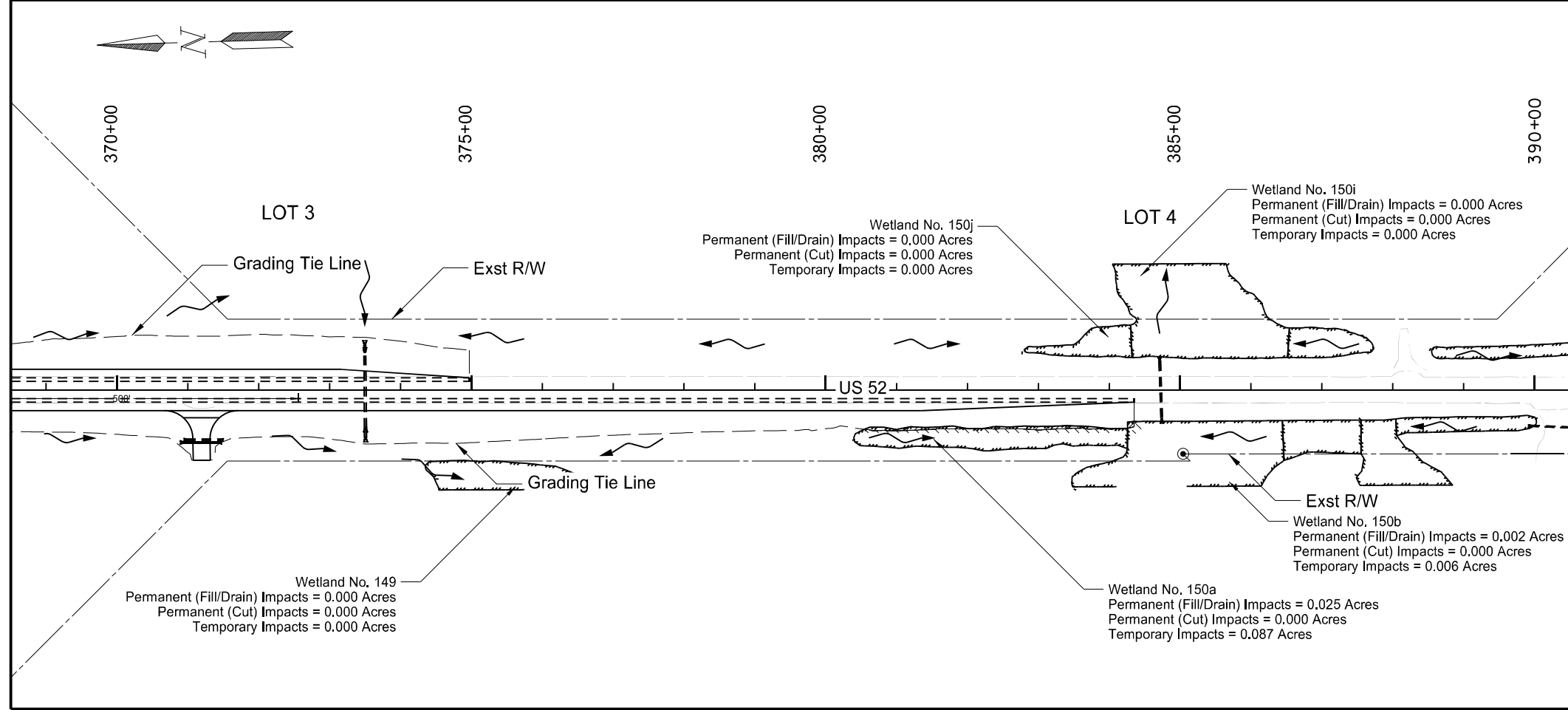
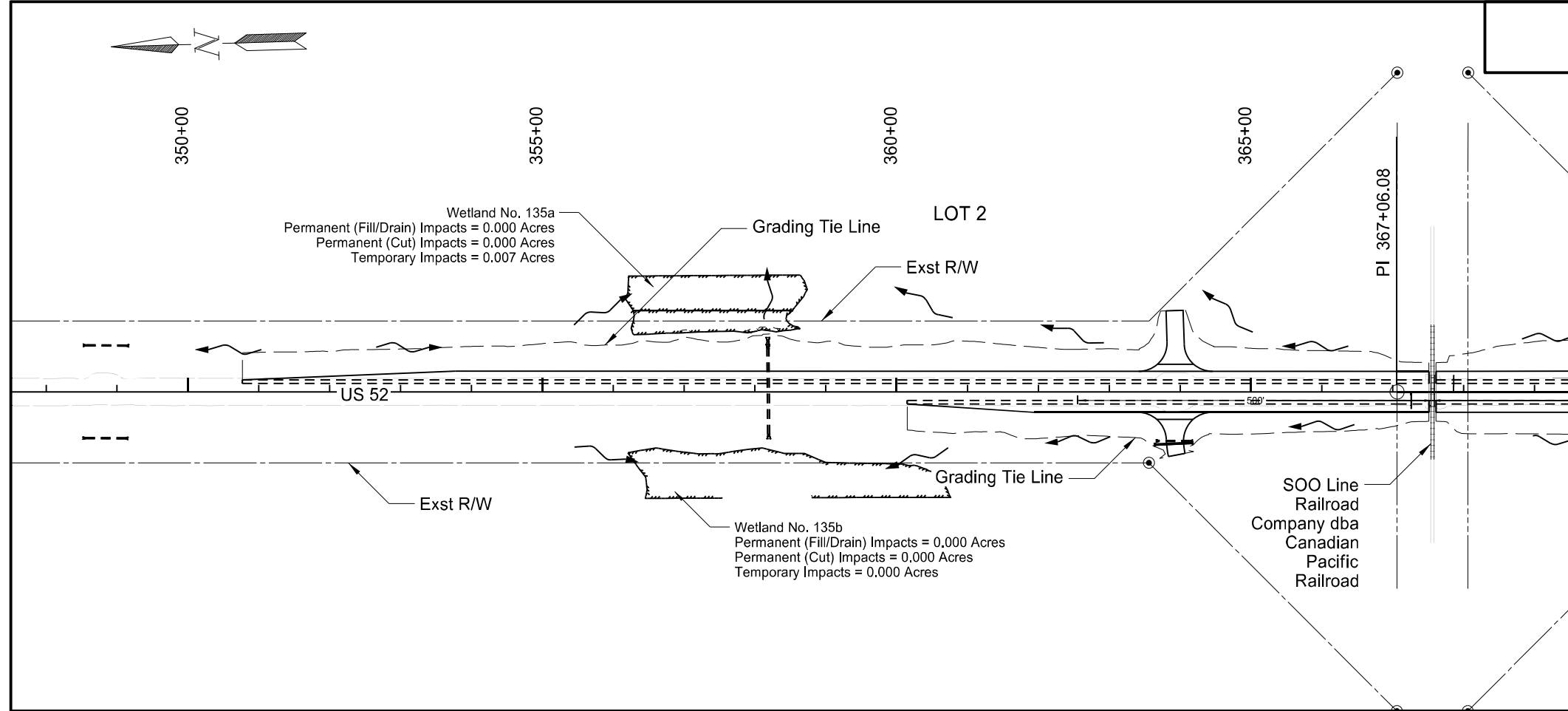
Mitigation Summary Table						
	Location	Ditch Shift Acre(s)	Onsite/Offsite Acre(s)	11990 Bank Acre(s)	USACE/11990 Bank Acre(s)	USFWS Bank Acre(s)
USACE Only	N/A					
EO 11990 Only	N/A					
USACE/11990	N/A					
USFWS	N/A					
Total		0	0.000	0	0	0



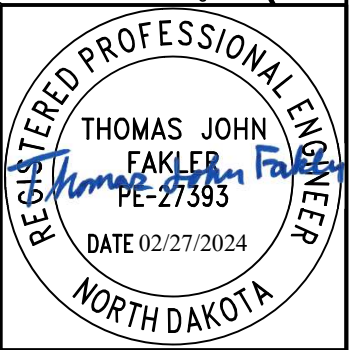
Wetlands Mitigation and Environmental
RP 222.0

US 52
South of Portal to Carrington
Foster County

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	HEN-9-052(485)006	75	9



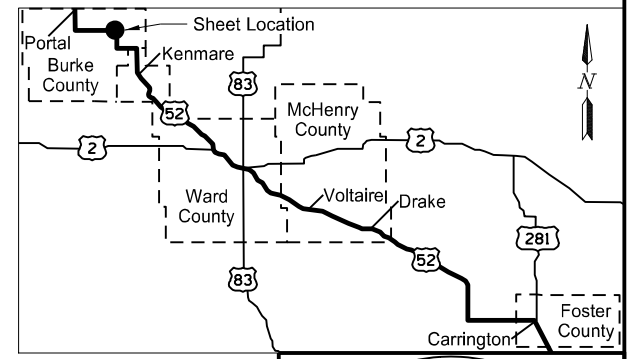
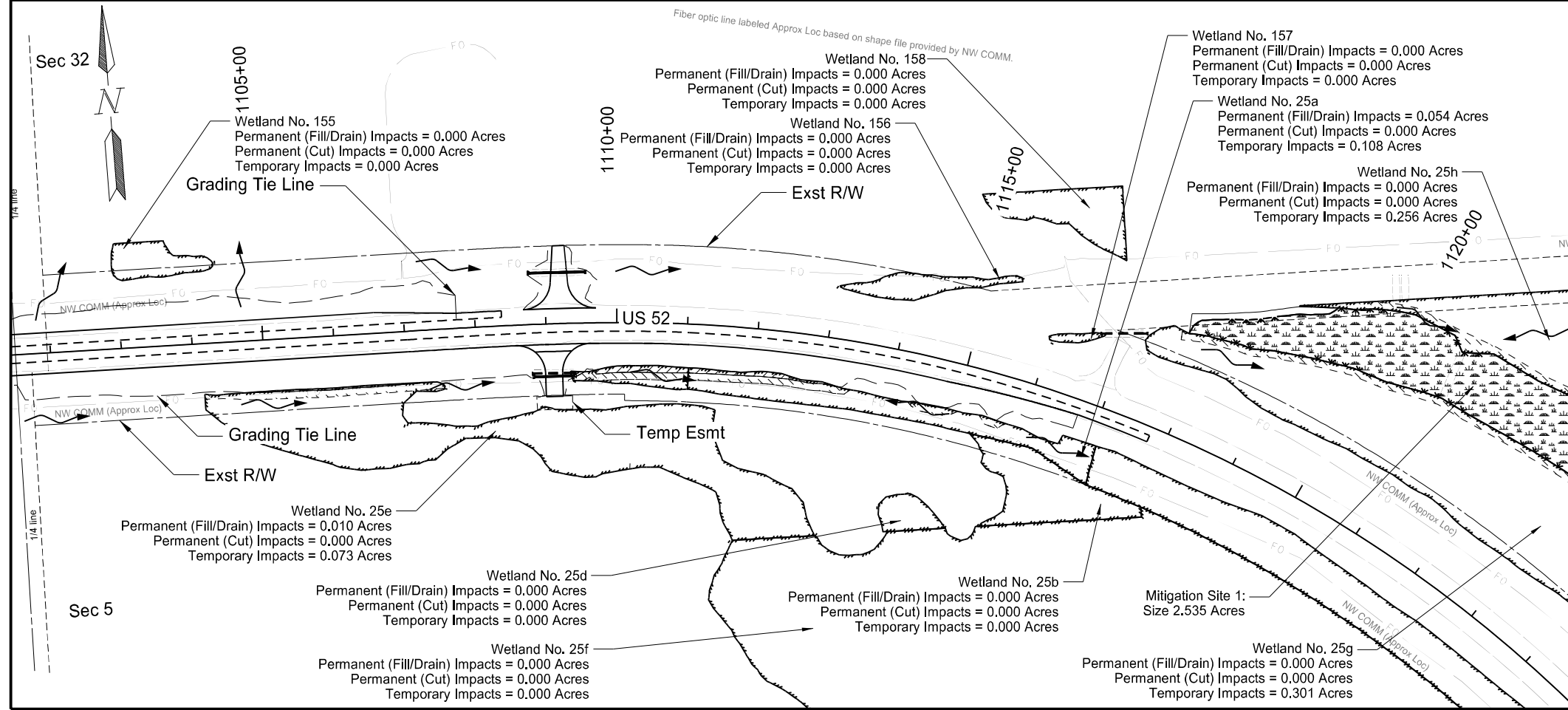
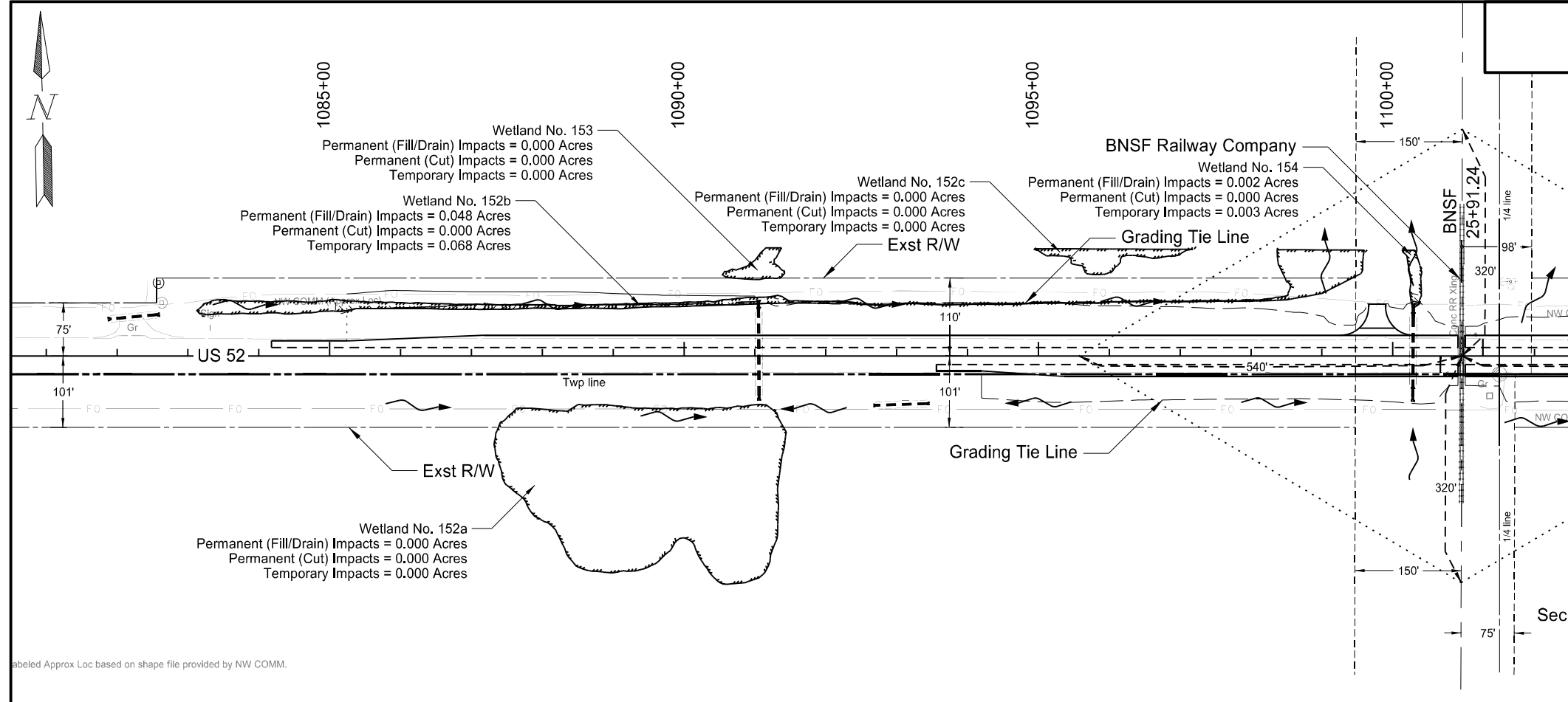
- Legend
- Permanent Impact (Fill or Drain)
 - Temporary Impact
 - Wetland Creation
 - Existing Wetland Boundary
 - Grading Tie Line (Cut)
 - Grading Tie Line (Fill)
 - Grading Tie Line (Transition)
 - Flow Direction



Wetlands, Mitigation, and Environmental
RP 6.9

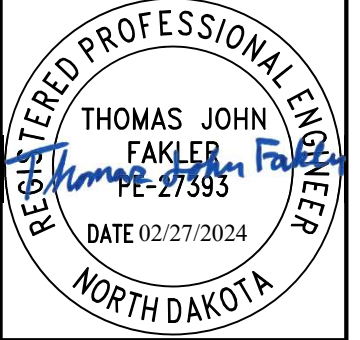
US 52
South of Portal to Carrington
Burke County

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	HEN-9-052(485)006	75	10



Legend

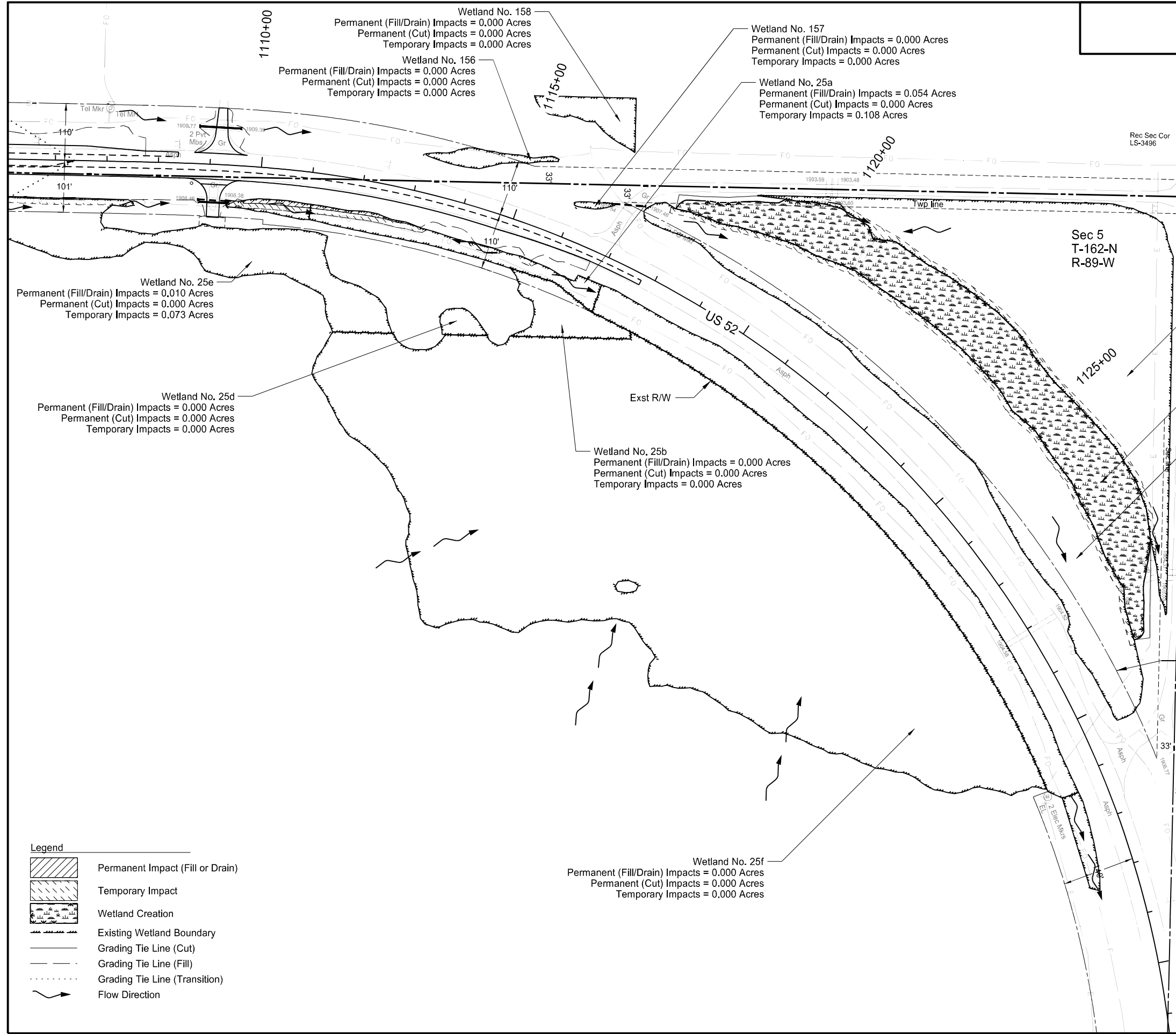
	Permanent Impact (Fill or Drain)
	Temporary Impact
	Wetland Creation
	Existing Wetland Boundary
	Grading Tie Line (Cut)
	Grading Tie Line (Fill)
	Grading Tie Line (Transition)
	Flow Direction



Wetlands, Mitigation, and Environmental
RP 20.6

US 52
South of Portal to Carrington
Burke County

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	HEN-9-052(485)006	75	11



Wetland No. 25e
Permanent (Fill/Drain) Impacts = 0.010 Acres
Permanent (Cut) Impacts = 0.000 Acres
Temporary Impacts = 0.073 Acres

Wetland No. 25d
Permanent (Fill/Drain) Impacts = 0.000 Acres
Permanent (Cut) Impacts = 0.000 Acres
Temporary Impacts = 0.000 Acres

Wetland No. 158
Permanent (Fill/Drain) Impacts = 0.000 Acres
Permanent (Cut) Impacts = 0.000 Acres
Temporary Impacts = 0.000 Acres

Wetland No. 156
Permanent (Fill/Drain) Impacts = 0.000 Acres
Permanent (Cut) Impacts = 0.000 Acres
Temporary Impacts = 0.000 Acres

Wetland No. 157
Permanent (Fill/Drain) Impacts = 0.000 Acres
Permanent (Cut) Impacts = 0.000 Acres
Temporary Impacts = 0.000 Acres

Wetland No. 25a
Permanent (Fill/Drain) Impacts = 0.054 Acres
Permanent (Cut) Impacts = 0.000 Acres
Temporary Impacts = 0.108 Acres

Wetland No. 25b
Permanent (Fill/Drain) Impacts = 0.000 Acres
Permanent (Cut) Impacts = 0.000 Acres
Temporary Impacts = 0.000 Acres

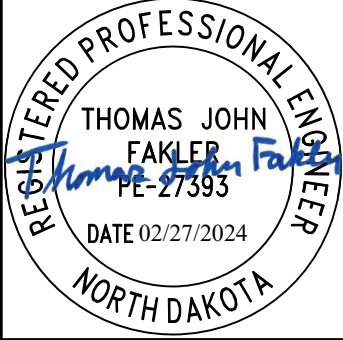
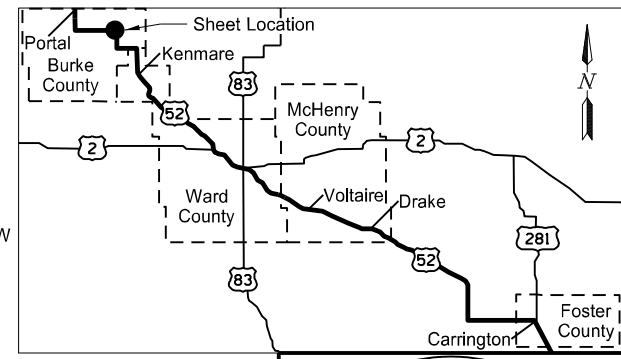
Wetland No. 25h
Permanent (Fill/Drain) Impacts = 0.000 Acres
Permanent (Cut) Impacts = 0.000 Acres
Temporary Impacts = 0.256 Acres

Mitigation Site 1:
Size 2.535 Acres

Wetland No. 25g
Permanent (Fill/Drain) Impacts = 0.000 Acres
Permanent (Cut) Impacts = 0.000 Acres
Temporary Impacts = 0.301 Acres

Wetland No. 25f
Permanent (Fill/Drain) Impacts = 0.000 Acres
Permanent (Cut) Impacts = 0.000 Acres
Temporary Impacts = 0.000 Acres

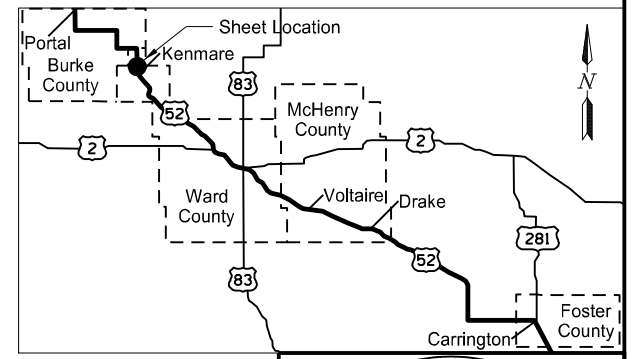
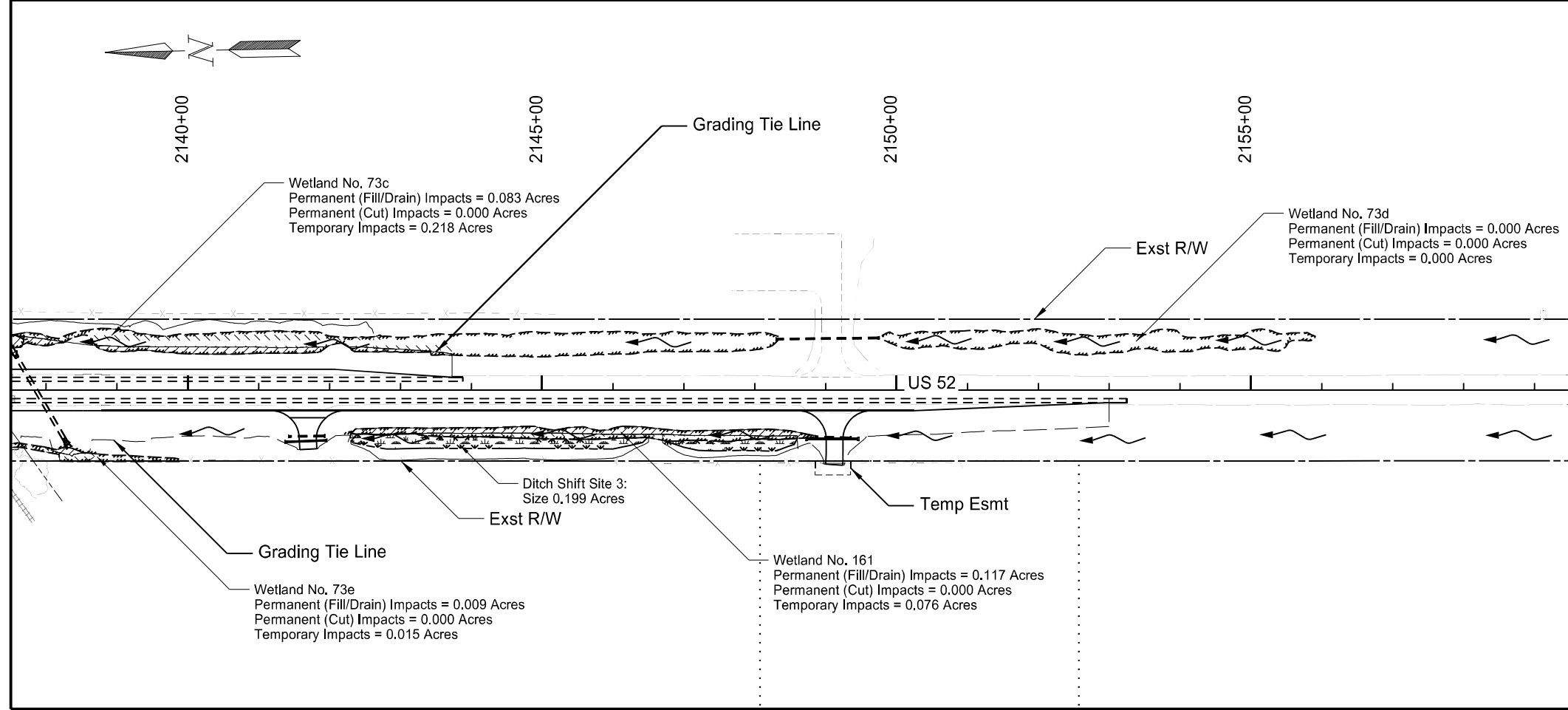
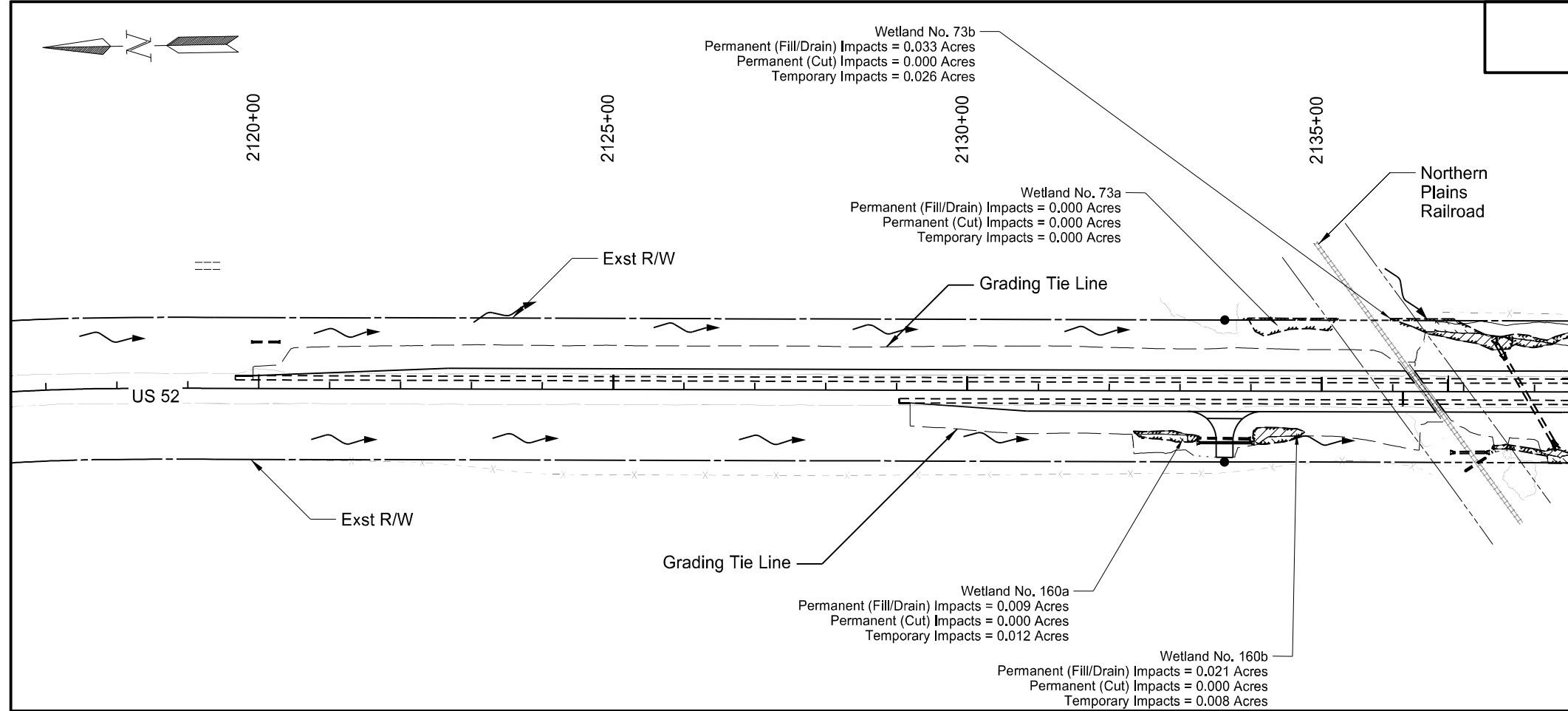
- Legend**
- Permanent Impact (Fill or Drain)
 - Temporary Impact
 - Wetland Creation
 - Existing Wetland Boundary
 - Grading Tie Line (Cut)
 - Grading Tie Line (Fill)
 - Grading Tie Line (Transition)
 - Flow Direction



Wetlands, Mitigation, and Environmental
RP 20.6

US 52
South of Portal to Carrington
Burke County

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	HEN-9-052(485)006	75	12



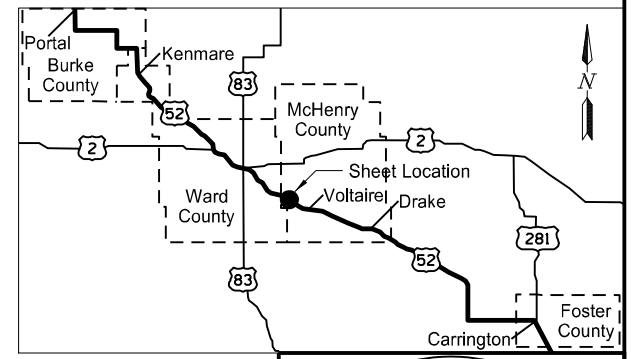
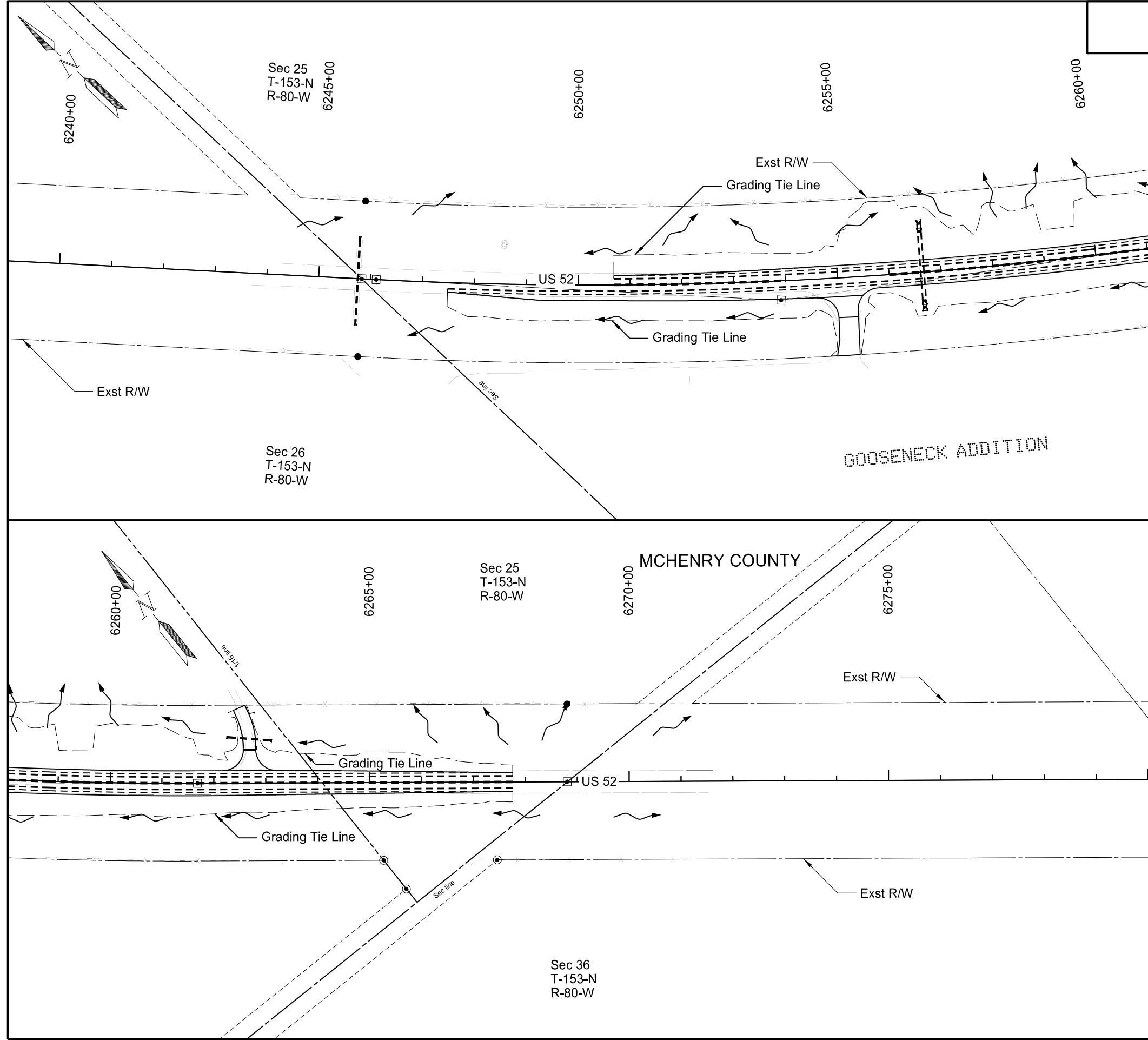
Legend

- Permanent Impact (Fill or Drain)
- Temporary Impact
- Wetland Creation
- Existing Wetland Boundary
- Grading Tie Line (Cut)
- Grading Tie Line (Fill)
- Grading Tie Line (Transition)
- Flow Direction

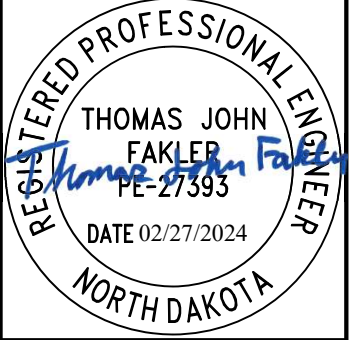
REGISTERED PROFESSIONAL ENGINEER
THOMAS JOHN FAKLER
 PE-27393
 DATE 02/27/2024
NORTH DAKOTA

Wetlands, Mitigation, and Environmental
 RP 40.4
 US 52
 South of Portal to Carrington
 Ward County

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	HEN-9-052(485)006	75	13



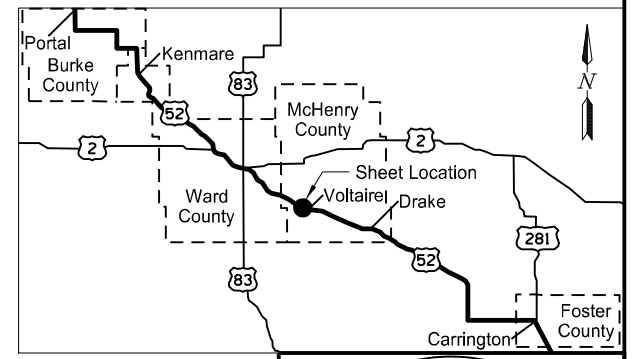
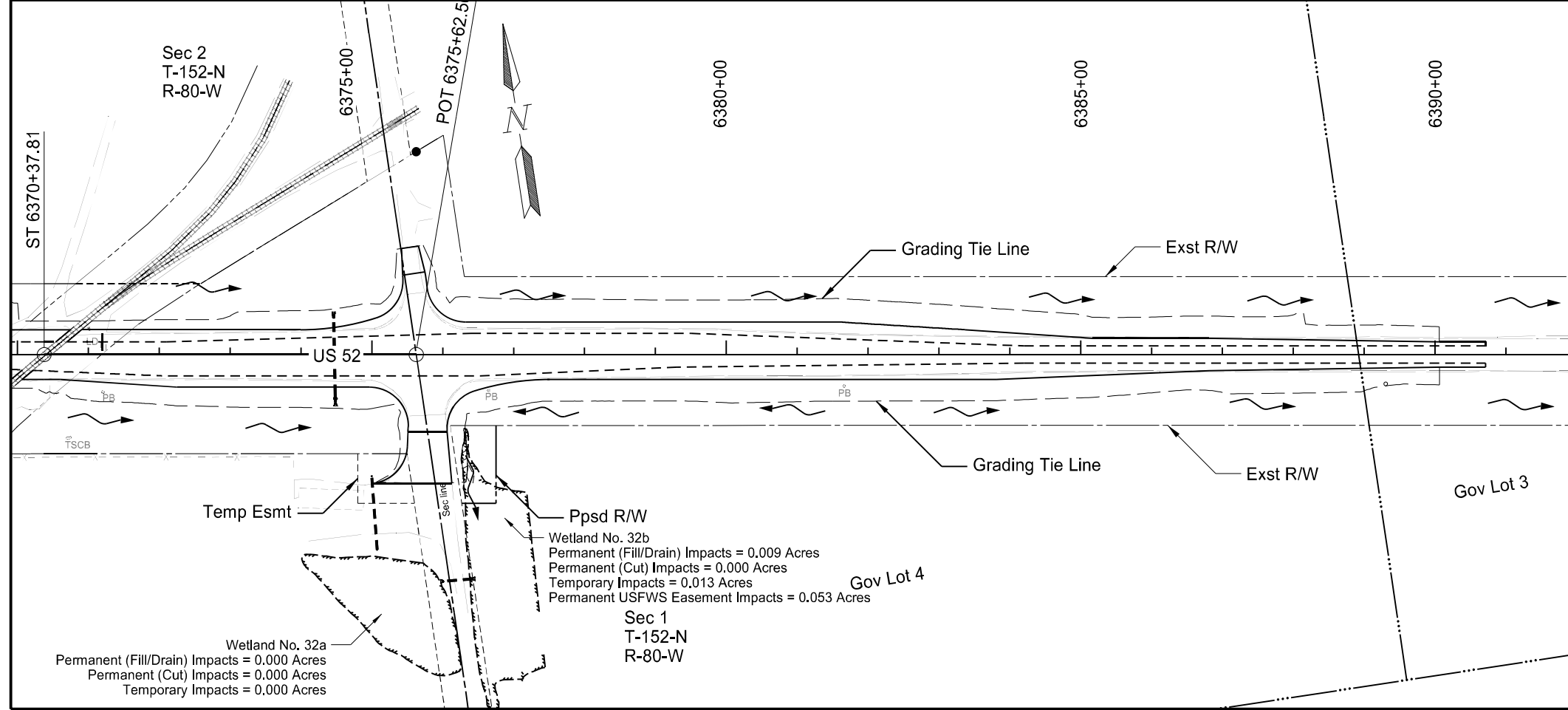
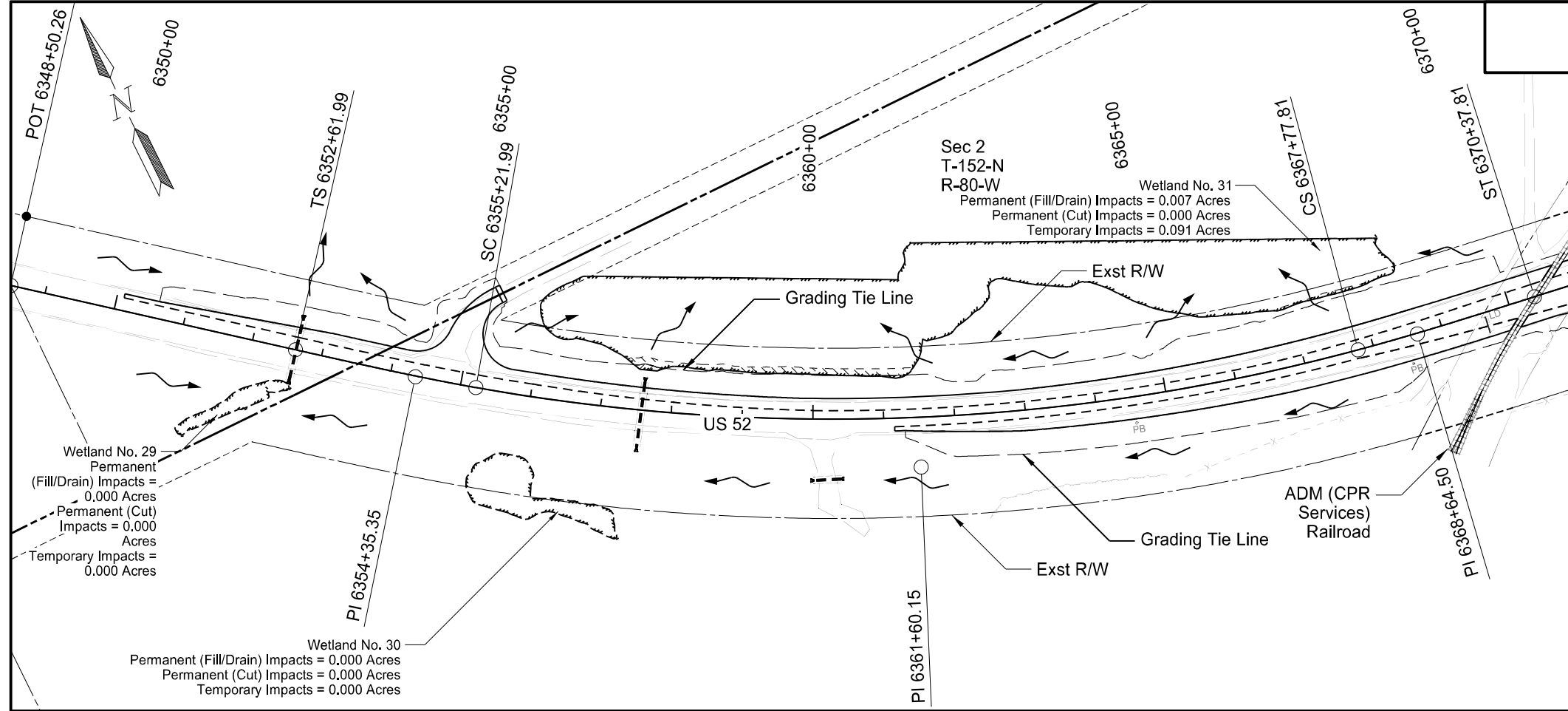
- Legend**
- Permanent Impact (Fill or Drain)
 - Temporary Impact
 - Wetland Creation
 - Existing Wetland Boundary
 - Grading Tie Line (Cut)
 - Grading Tie Line (Fill)
 - Grading Tie Line (Transition)
 - Flow Direction



Wetlands, Mitigation, and Environmental
RP 118.5

US 52
South of Portal to Carrington
McHenry County

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	HEN-9-052(485)006	75	14



Legend

	Permanent Impact (Fill or Drain)
	Temporary Impact
	Wetland Creation
	Existing Wetland Boundary
	Grading Tie Line (Cut)
	Grading Tie Line (Fill)
	Grading Tie Line (Transition)
	Flow Direction

REGISTERED PROFESSIONAL ENGINEER

THOMAS JOHN FAKLER

PE-27393

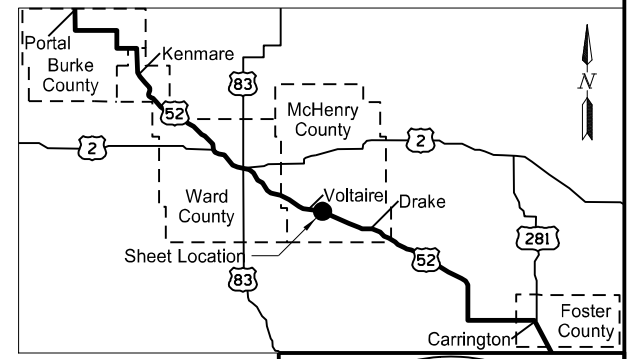
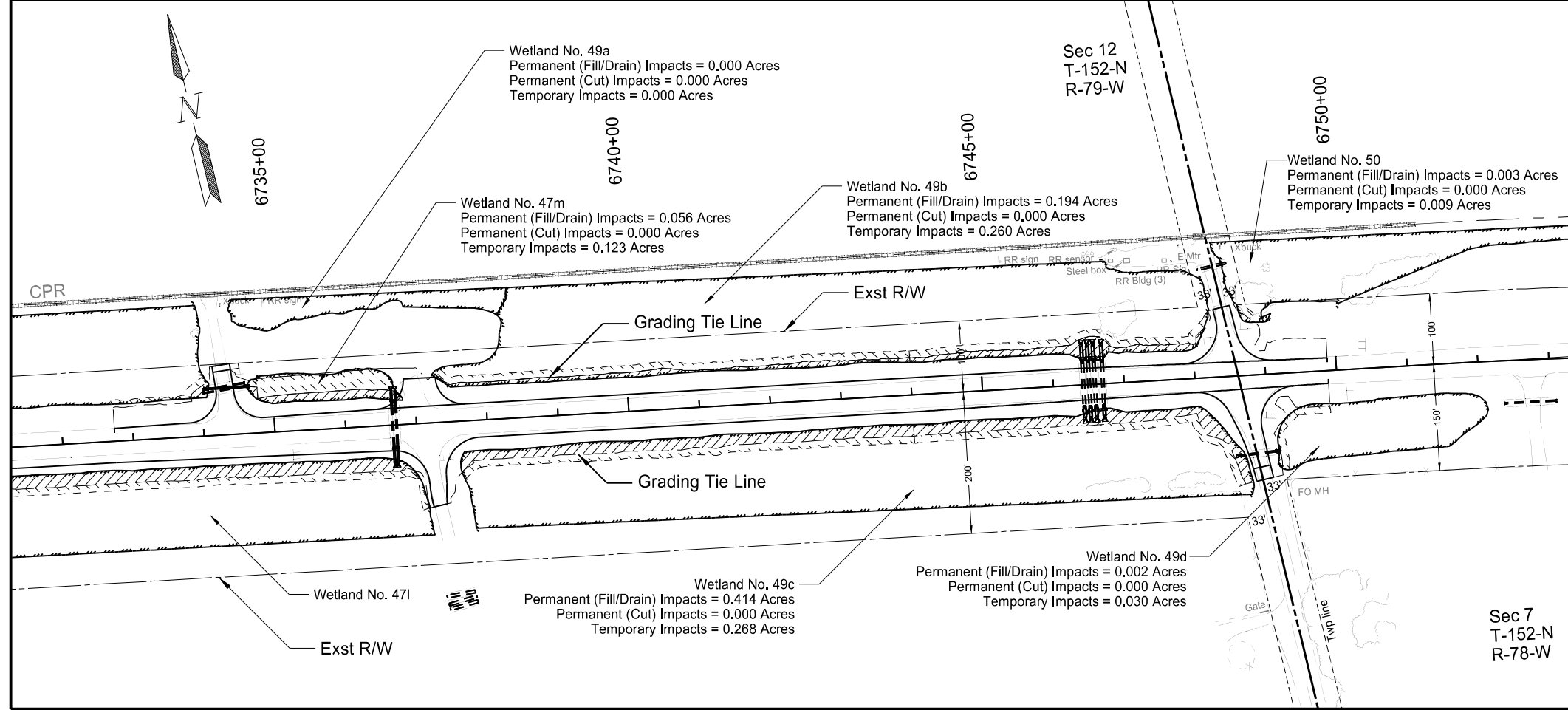
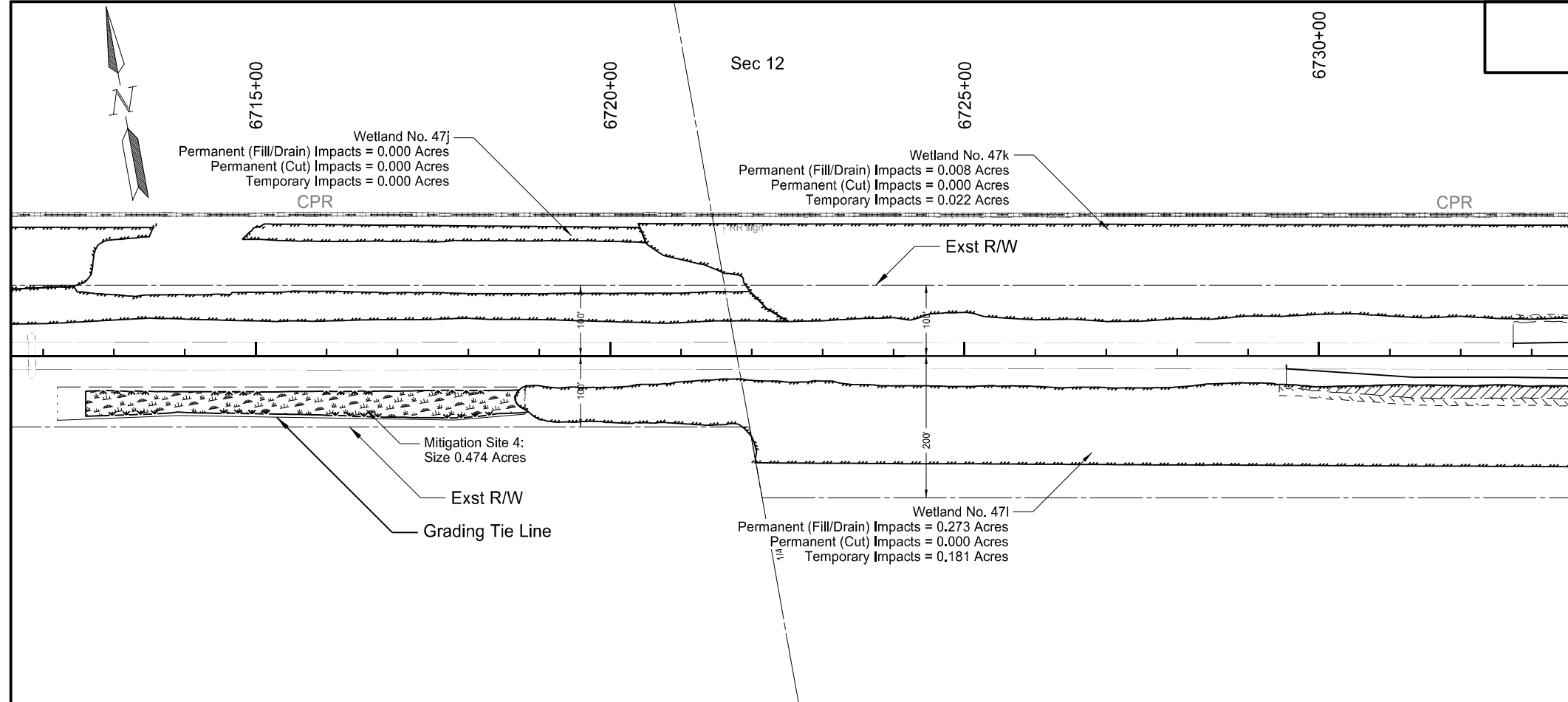
DATE 02/27/2024

NORTH DAKOTA

Wetlands, Mitigation, and Environmental
RP 120.5

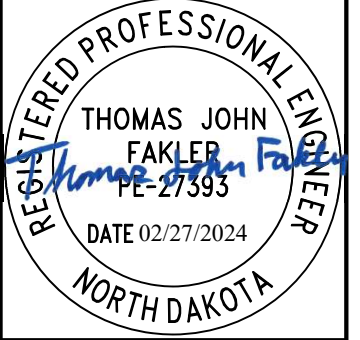
US 52
South of Portal to Carrington
McHenry County

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	HEN-9-052(485)006	75	15



Legend

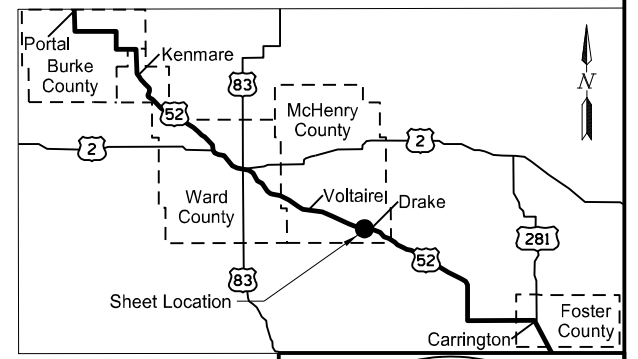
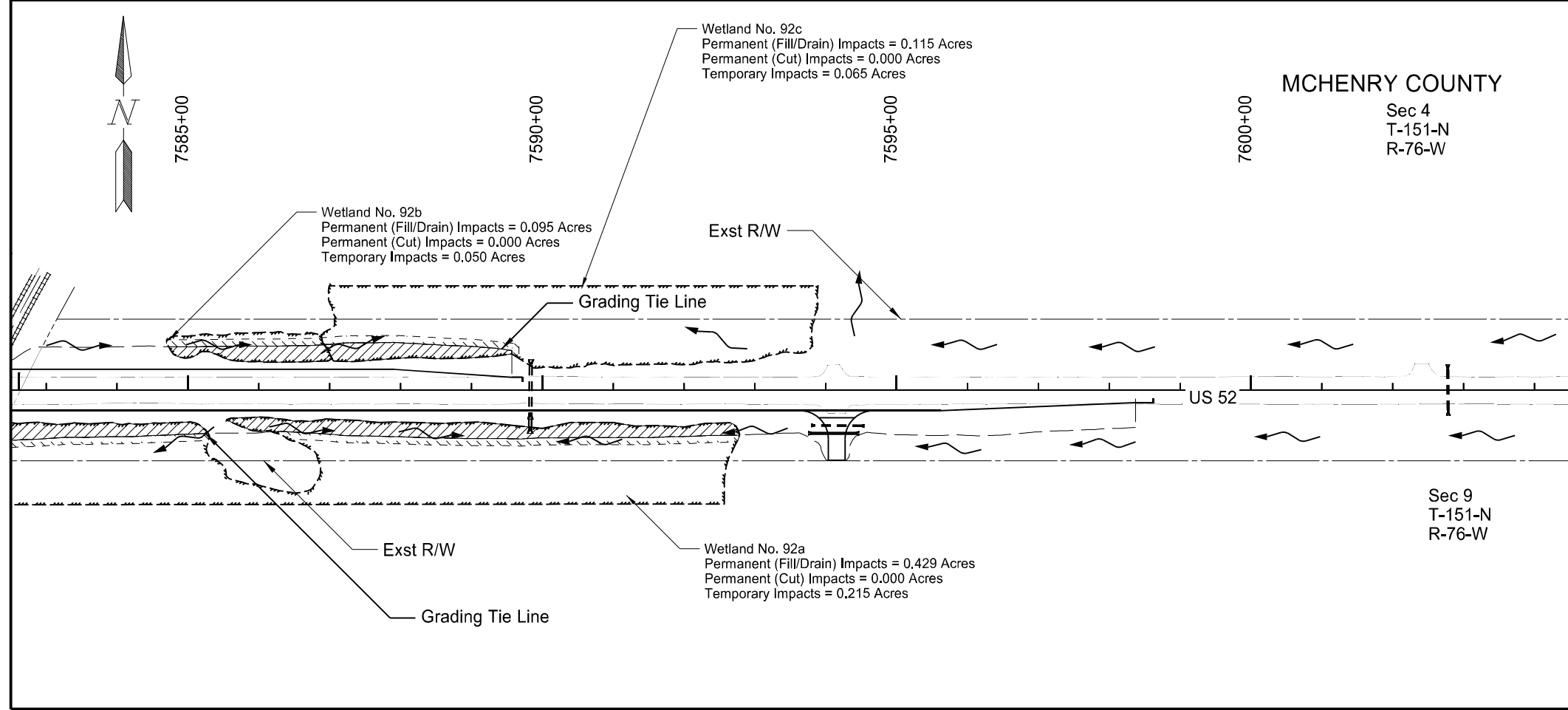
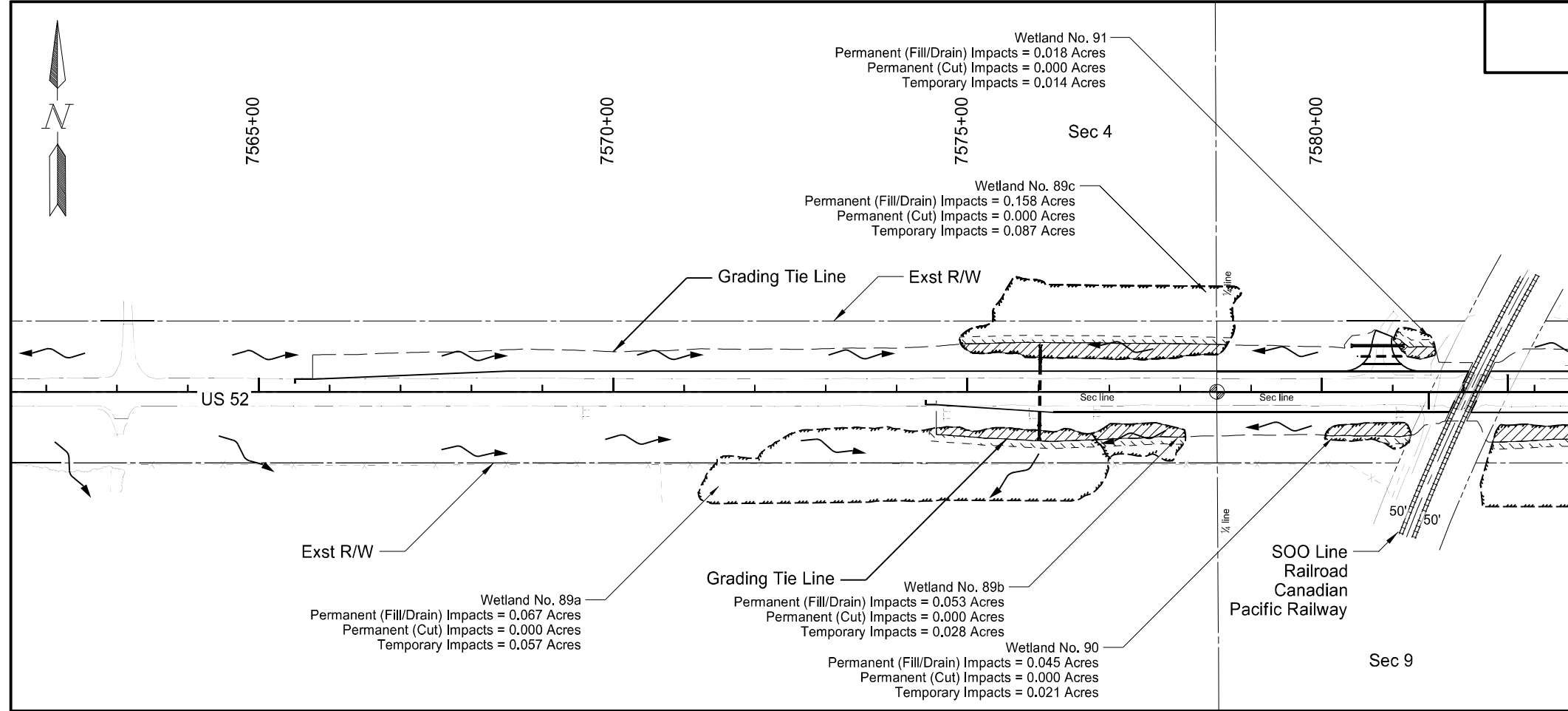
- Permanent Impact (Fill or Drain)
- Temporary Impact
- Wetland Creation
- Existing Wetland Boundary
- Grading Tie Line (Cut)
- Grading Tie Line (Fill)
- Grading Tie Line (Transition)
- Flow Direction



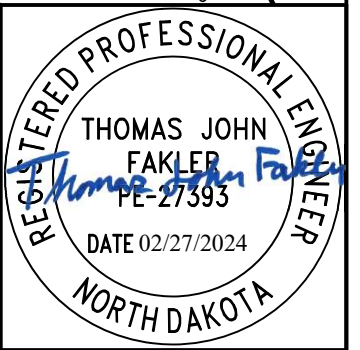
Wetlands, Mitigation, and Environmental
RP 127.6

US 52
South of Portal to Carrington
McHenry County

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	HEN-9-052(485)006	75	16



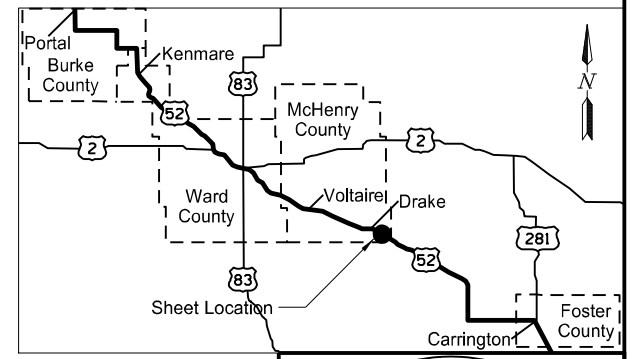
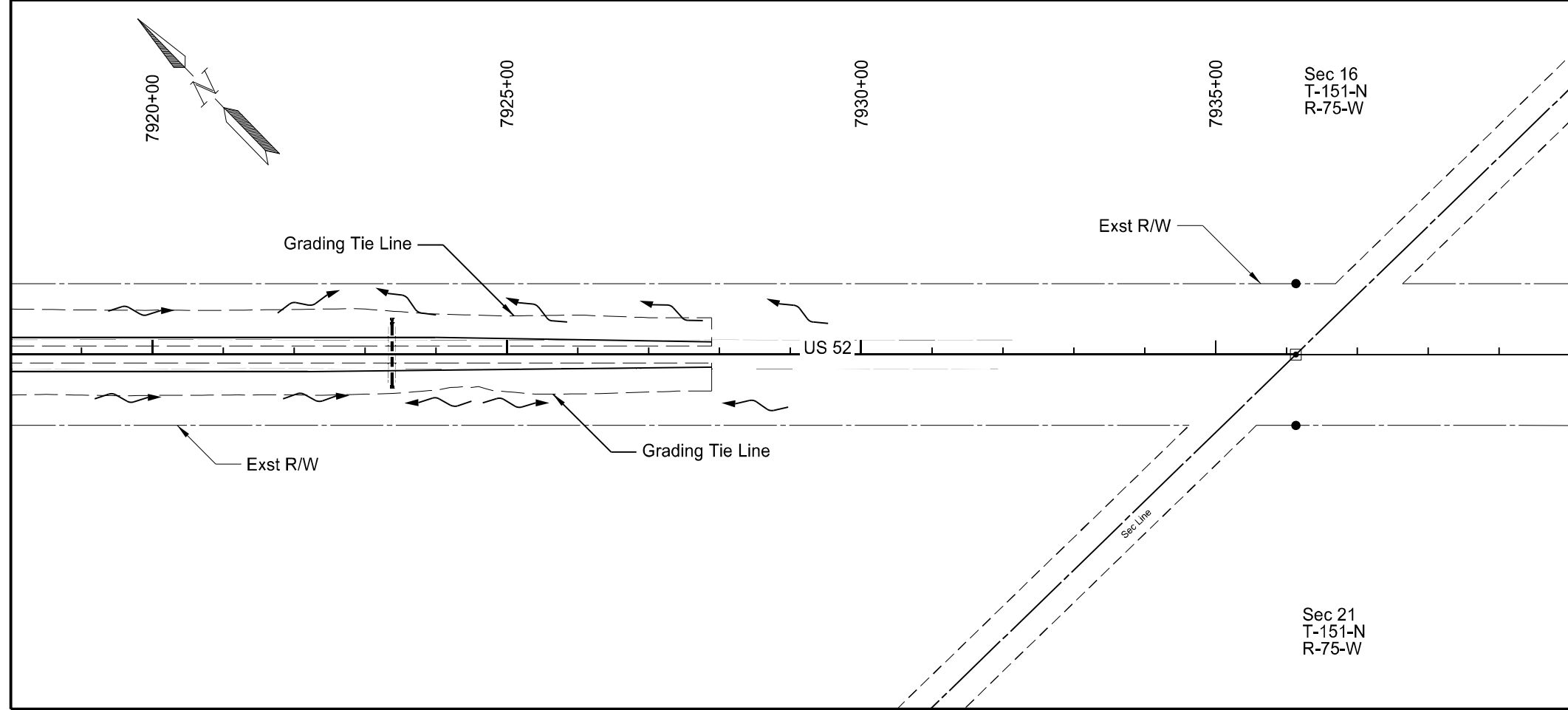
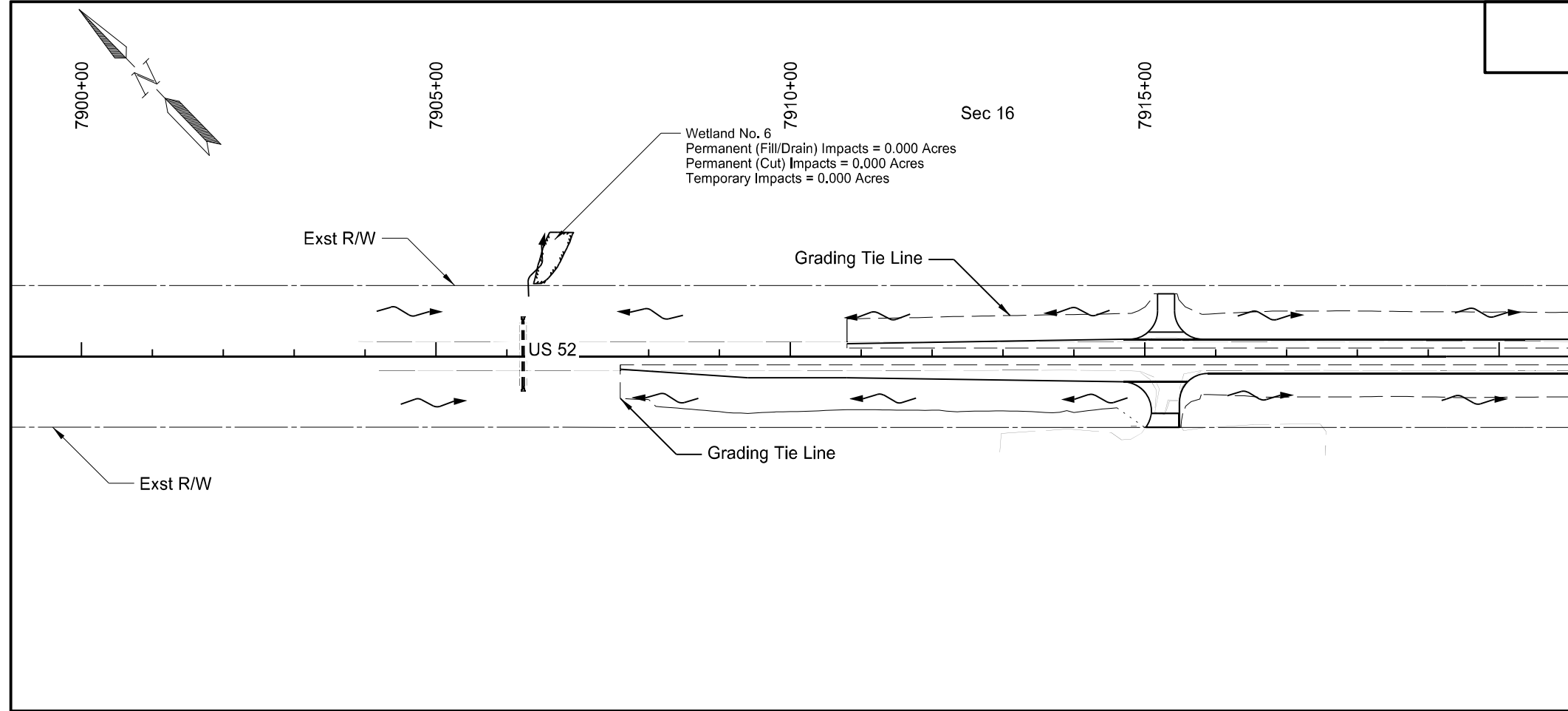
- Legend**
- Permanent Impact (Fill or Drain)
 - Temporary Impact
 - Wetland Creation
 - Existing Wetland Boundary
 - Grading Tie Line (Cut)
 - Grading Tie Line (Fill)
 - Grading Tie Line (Transition)
 - Flow Direction



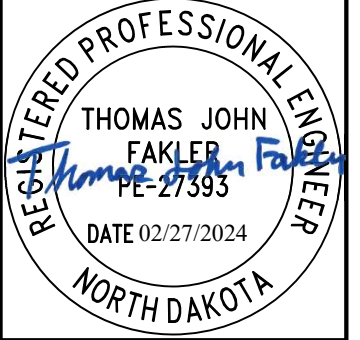
Wetlands, Mitigation, and Environmental
RP 143.5

US 52
South of Portal to Carrington
McHenry County

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	HEN-9-052(485)006	75	17



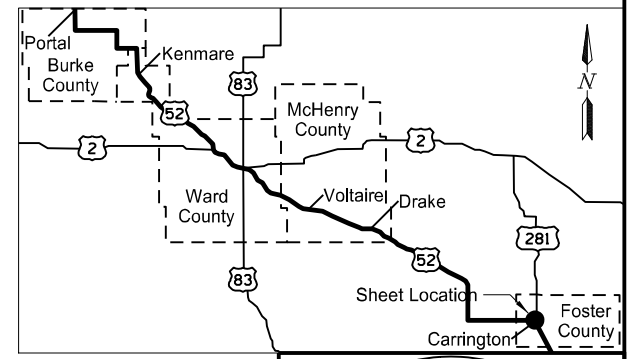
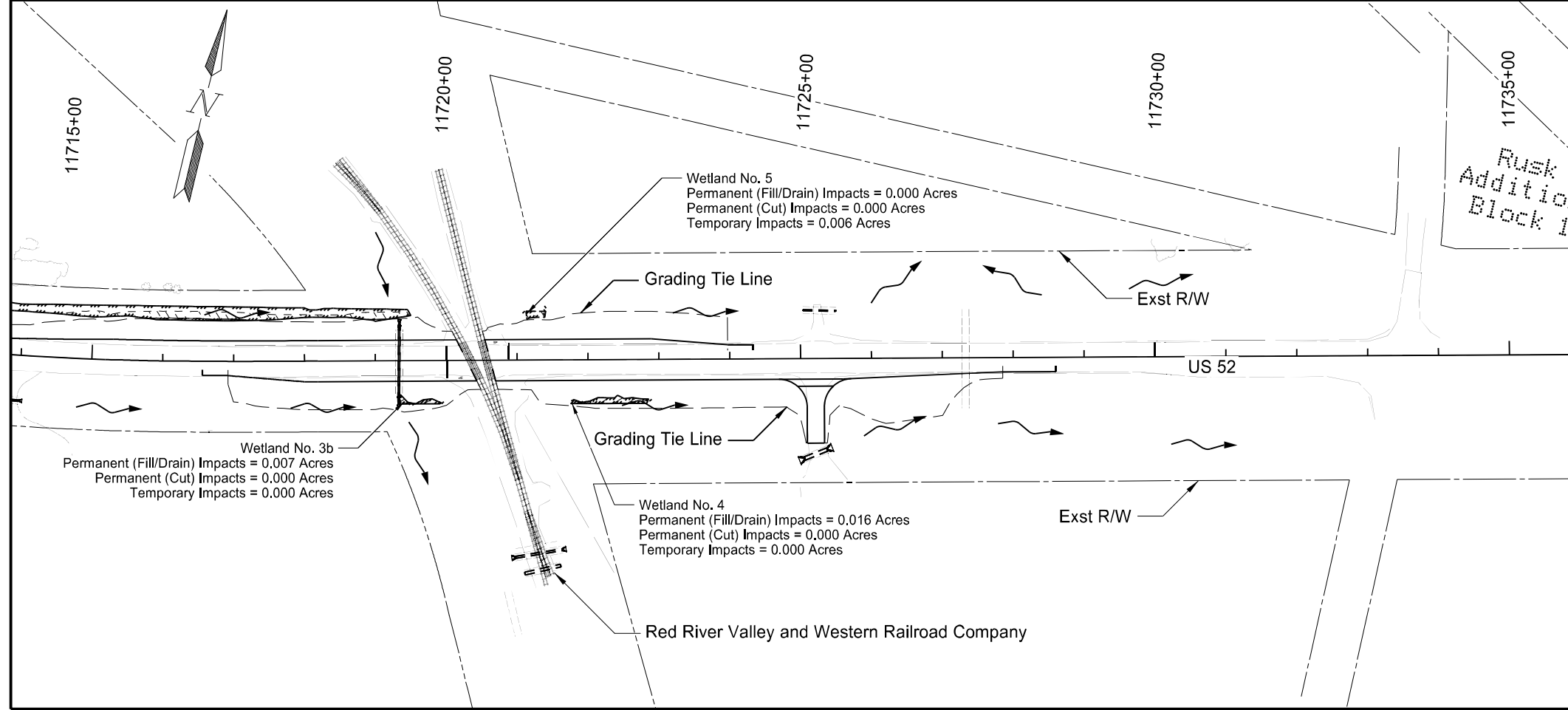
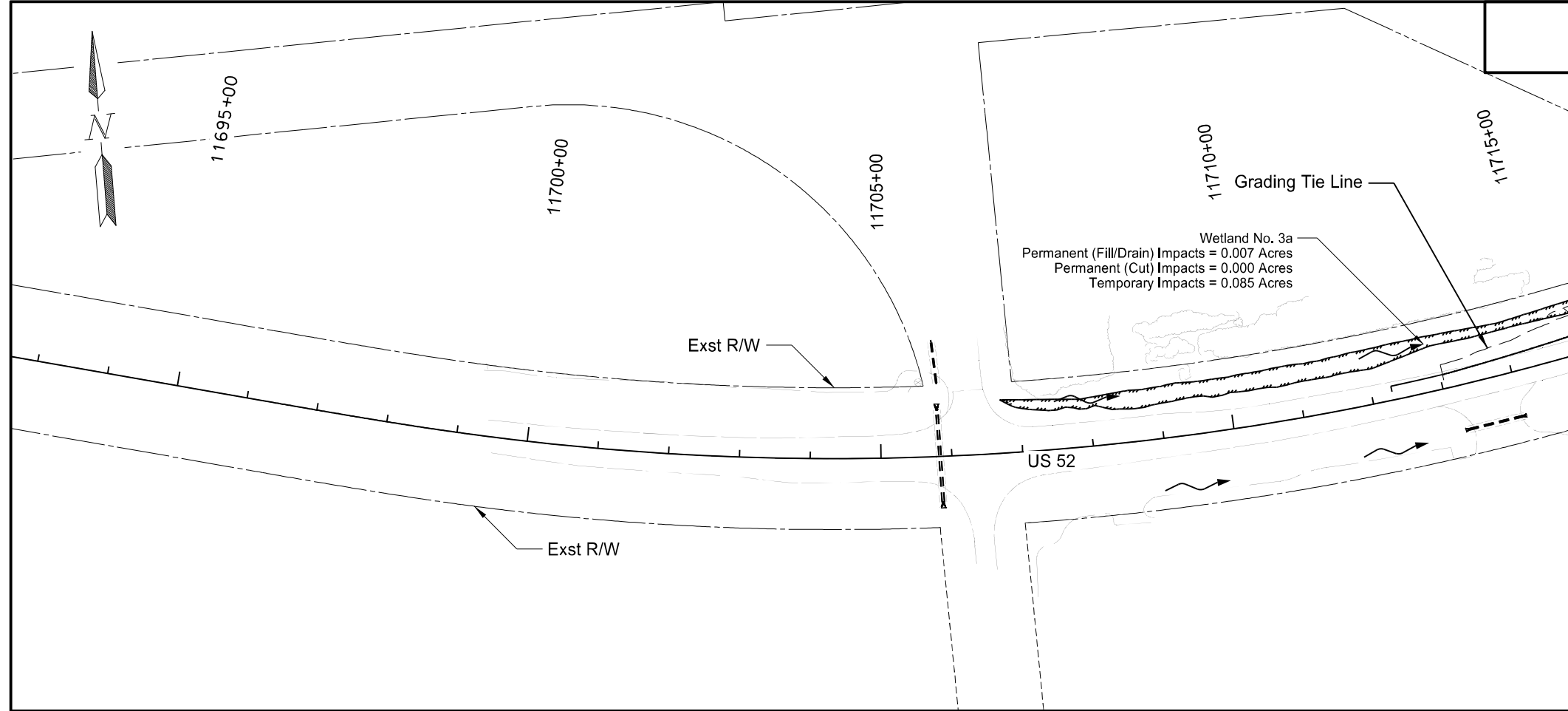
- Legend**
- Permanent Impact (Fill or Drain)
 - Temporary Impact
 - Wetland Creation
 - Existing Wetland Boundary
 - Grading Tie Line (Cut)
 - Grading Tie Line (Fill)
 - Grading Tie Line (Transition)
 - Flow Direction



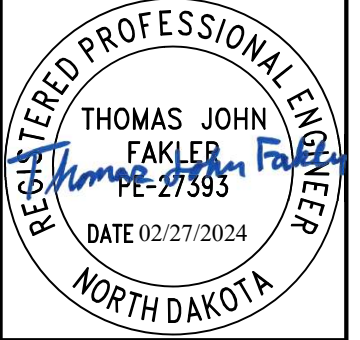
Wetlands, Mitigation, and Environmental
 RP 149.9

US 52
 South of Portal to Carrington
 McHenry County

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	HEN-9-052(485)006	75	18



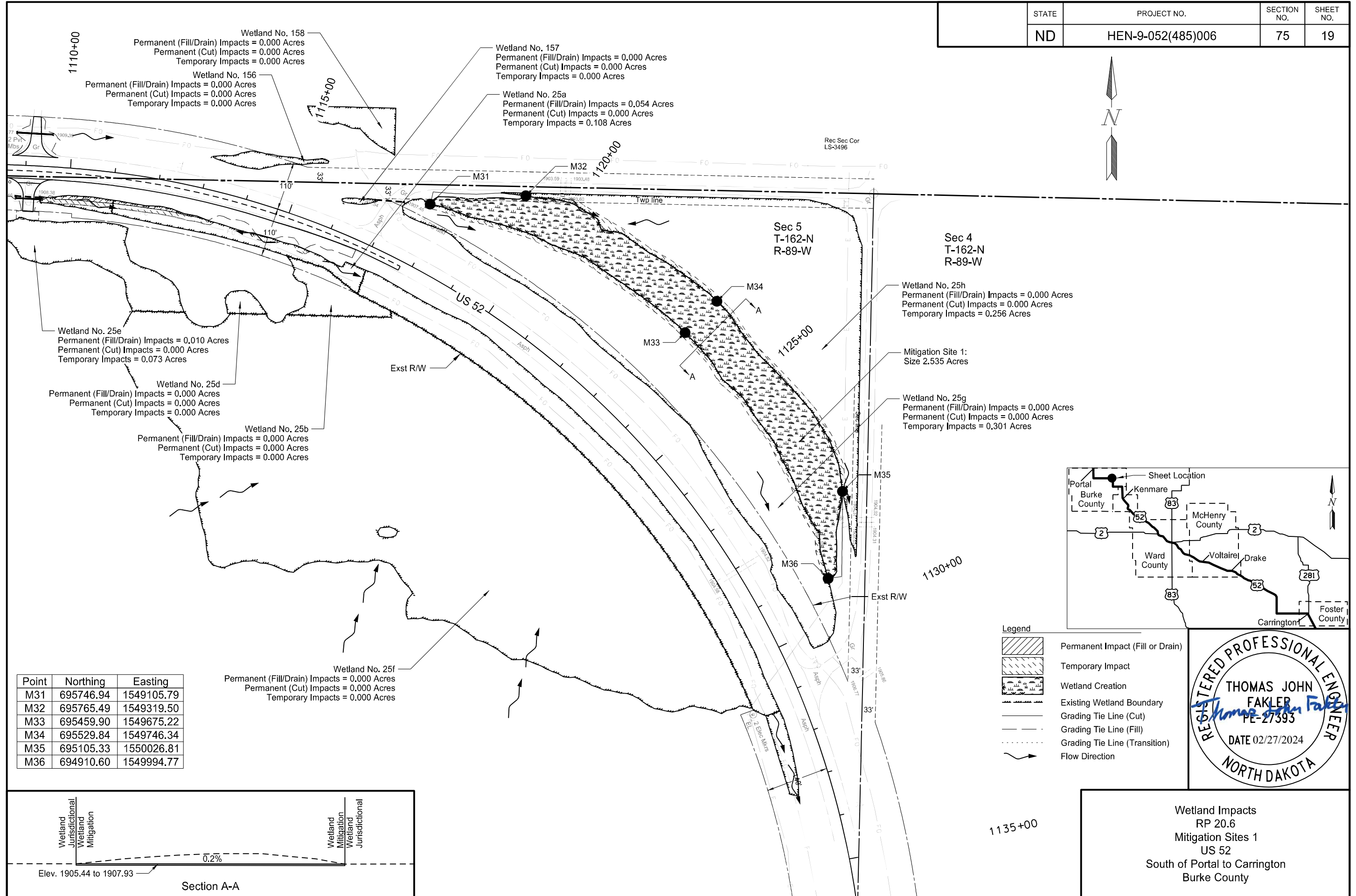
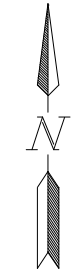
- Legend**
- Permanent Impact (Fill or Drain)
 - Temporary Impact
 - Wetland Creation
 - Existing Wetland Boundary
 - Grading Tie Line (Cut)
 - Grading Tie Line (Fill)
 - Grading Tie Line (Transition)
 - Flow Direction



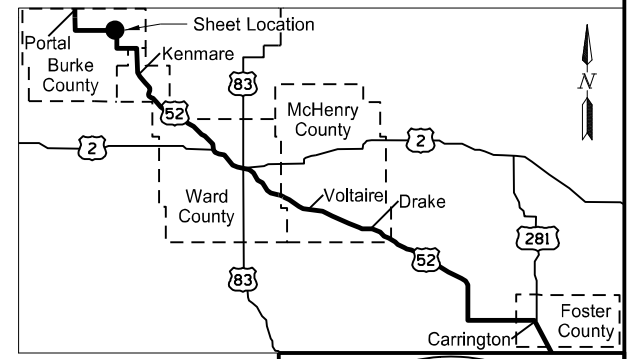
Wetlands, Mitigation, and Environmental
RP 222.0

US 52
South of Portal to Carrington
Foster County

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	HEN-9-052(485)006	75	19

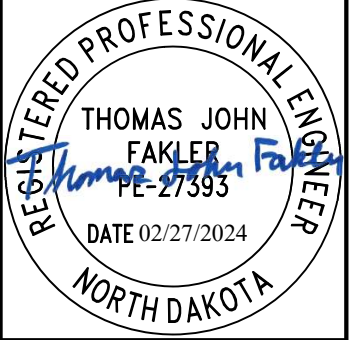


Point	Northing	Easting
M31	695746.94	1549105.79
M32	695765.49	1549319.50
M33	695459.90	1549675.22
M34	695529.84	1549746.34
M35	695105.33	1550026.81
M36	694910.60	1549994.77



Legend

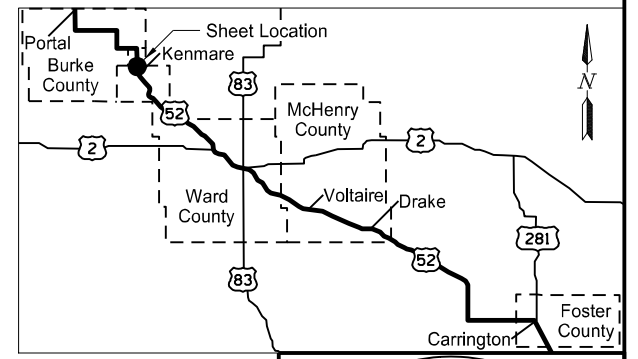
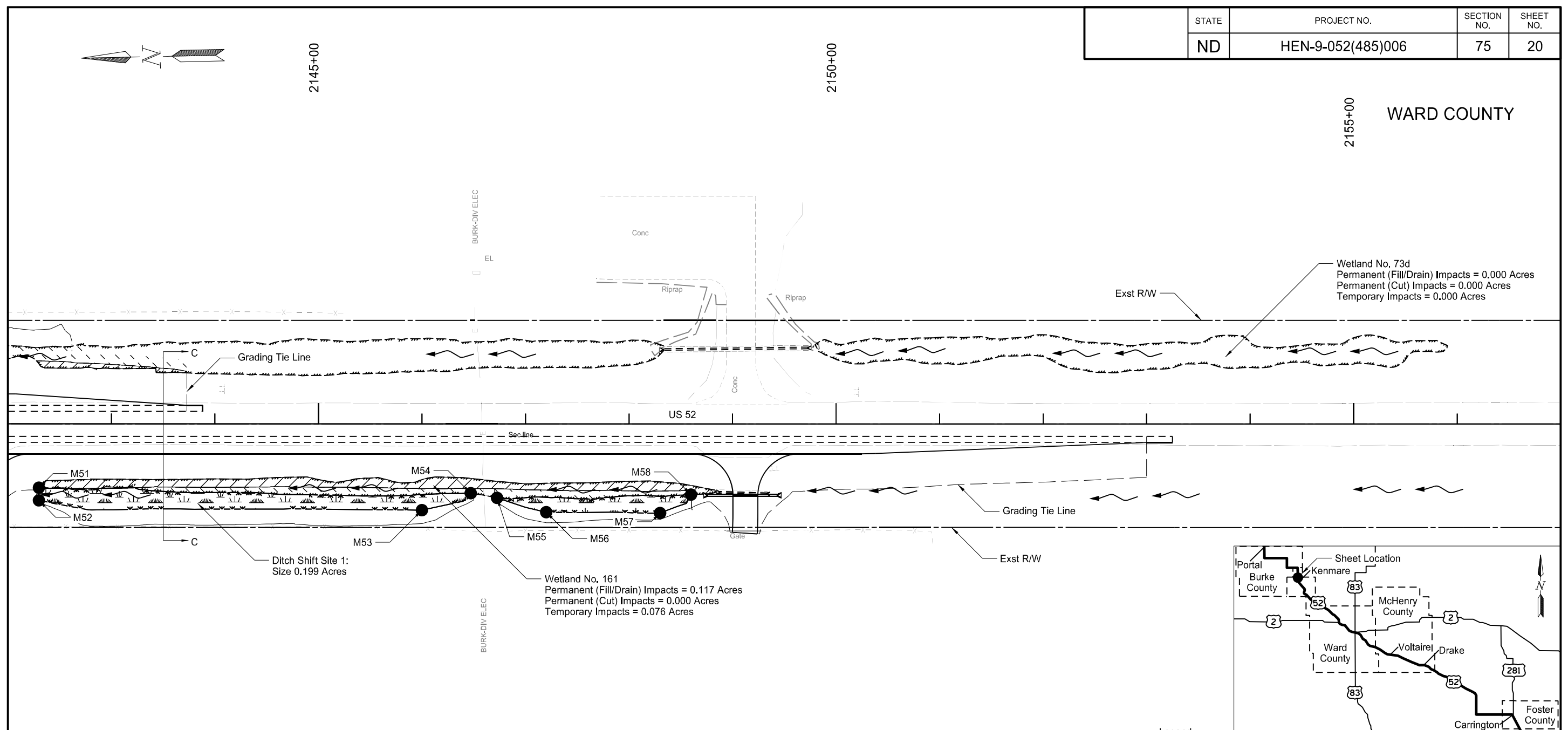
- Permanent Impact (Fill or Drain)
- Temporary Impact
- Wetland Creation
- Existing Wetland Boundary
- Grading Tie Line (Cut)
- Grading Tie Line (Fill)
- Grading Tie Line (Transition)
- Flow Direction



Wetland Impacts
 RP 20.6
 Mitigation Sites 1
 US 52
 South of Portal to Carrington
 Burke County

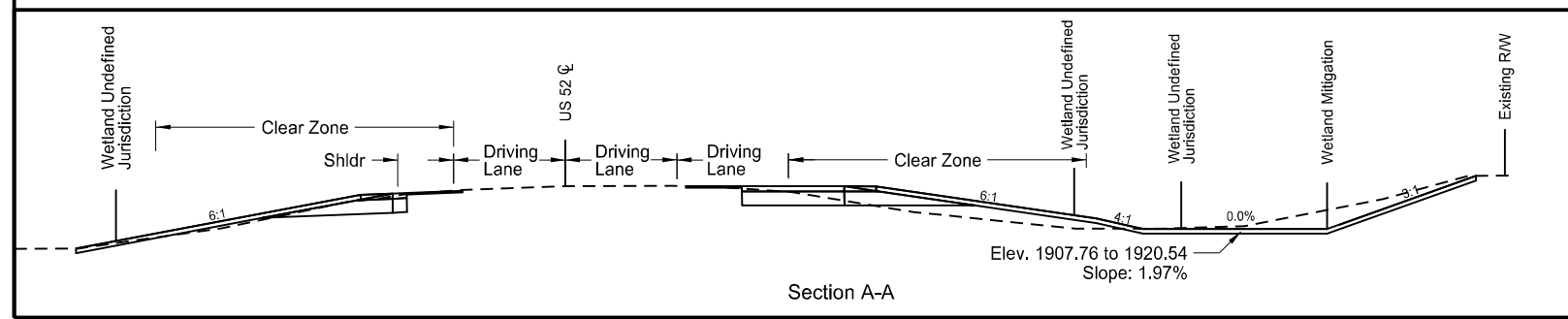
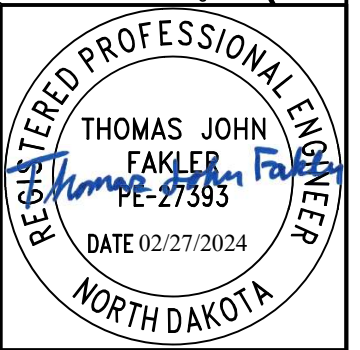
STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	HEN-9-052(485)006	75	20

WARD COUNTY



Point	Northing	Easting
M51	627972.14	1586600.26
M52	627972.42	1586588.02
M53	627602.69	1586571.04
M54	627555.20	1586586.51
M55	627529.91	1586581.46
M56	627482.76	1586566.72
M57	627372.80	1586563.60
M58	627342.49	1586580.75

- Legend
- Permanent Impact (Fill or Drain)
 - Temporary Impact
 - Wetland Creation
 - Existing Wetland Boundary
 - Grading Tie Line (Cut)
 - Grading Tie Line (Fill)
 - Grading Tie Line (Transition)
 - Flow Direction



Wetland Impacts
RP 40.4
Ditch Shift Site 3
US 52
South of Portal to Carrington
Ward County

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	HEN-9-052(485)006	75	21

Sec 12

6710+00

6715+00

6720+00



CPR

CPR

Wetland No. 47g
Permanent (Fill/Drain) Impacts = 0.000 Acres
Permanent (Cut) Impacts = 0.000 Acres
Temporary Impacts = 0.000 Acres

Wetland No. 47j
Permanent (Fill/Drain) Impacts = 0.000 Acres
Permanent (Cut) Impacts = 0.000 Acres
Temporary Impacts = 0.000 Acres

Wetland No. 47k
Permanent (Fill/Drain) Impacts = 0.008 Acres
Permanent (Cut) Impacts = 0.000 Acres
Temporary Impacts = 0.022 Acres

Wetland No. 47i
Permanent (Fill/Drain) Impacts = 0.000 Acres
Permanent (Cut) Impacts = 0.000 Acres
Temporary Impacts = 0.000 Acres

Exst R/W

US 52

M61

M64

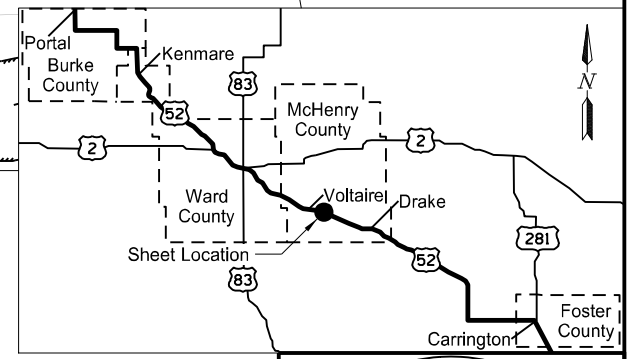
M62

M63

Wetland No. 48
Permanent (Fill/Drain) Impacts = 0.000 Acres
Permanent (Cut) Impacts = 0.000 Acres
Temporary Impacts = 0.000 Acres

Mitigation Site 2:
Size 0.474 Acres

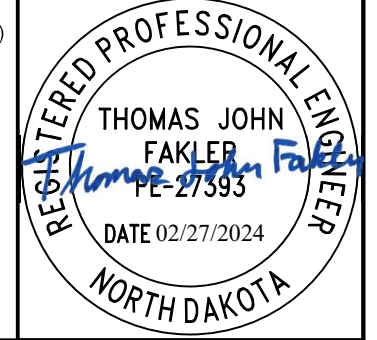
Wetland No. 47i
Permanent (Fill/Drain) Impacts = 0.273 Acres
Permanent (Cut) Impacts = 0.000 Acres
Temporary Impacts = 0.181 Acres



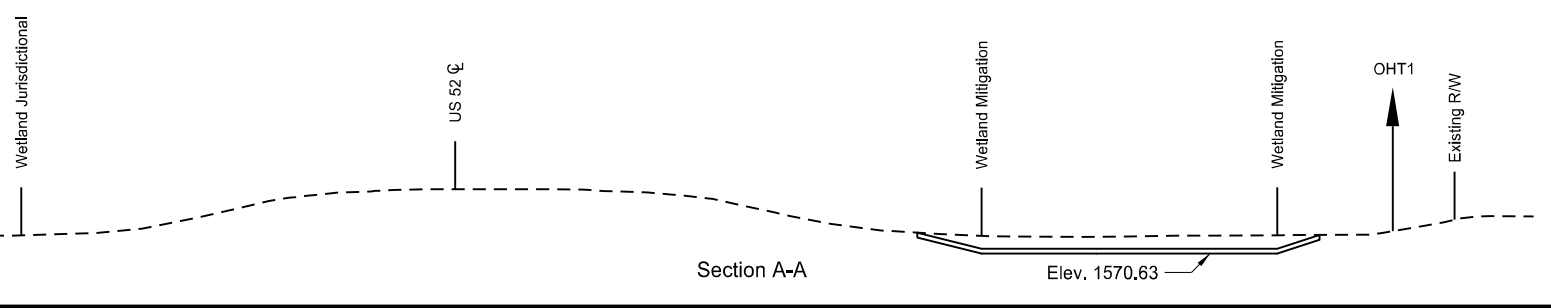
Legend

- Permanent Impact (Fill or Drain)
- Temporary Impact
- Wetland Creation
- Existing Wetland Boundary
- Grading Tie Line (Cut)
- Grading Tie Line (Fill)
- Grading Tie Line (Transition)
- Flow Direction

Point	Northing	Easting
M61	366762.05	1912658.61
M62	366727.25	1912652.38
M63	366623.33	1913268.18
M64	366655.74	1913260.92

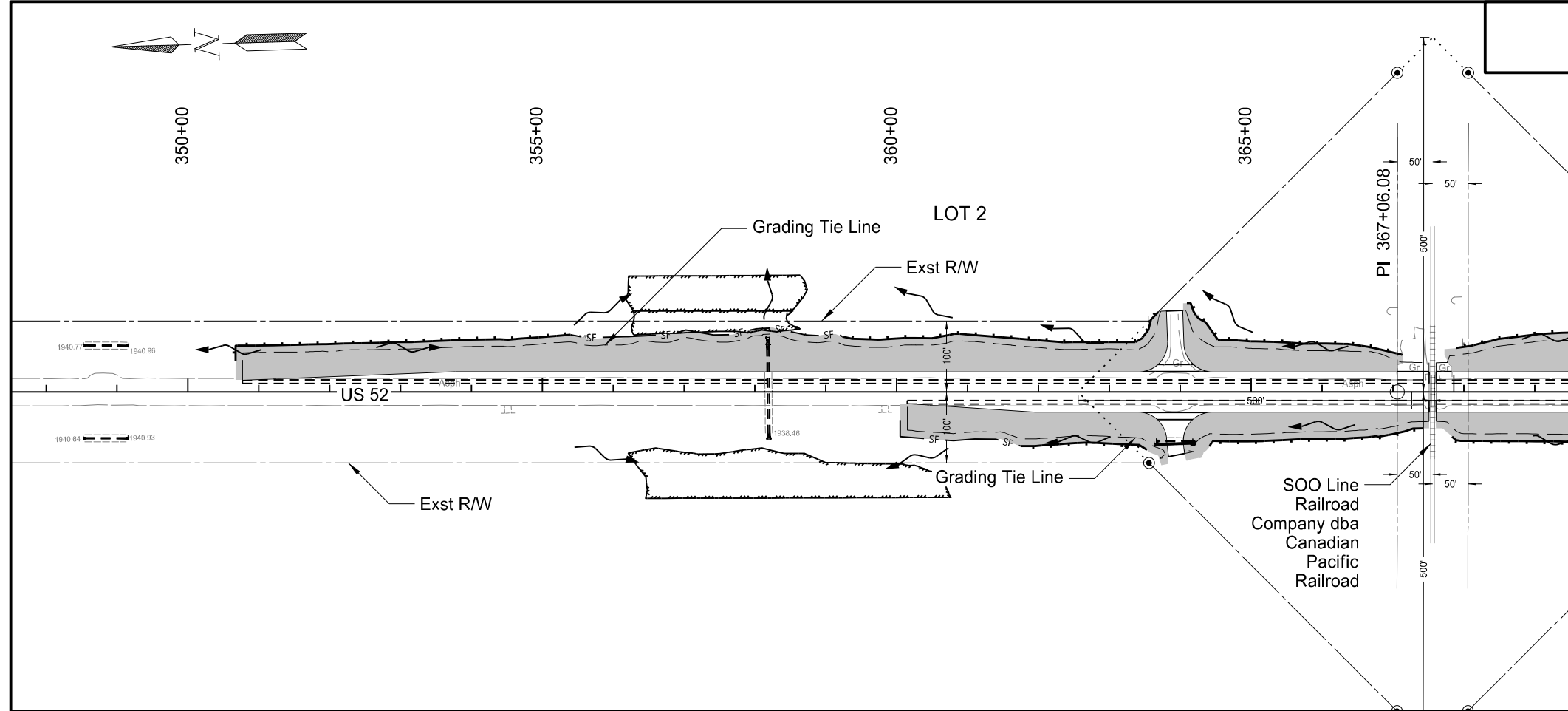


Grading Tie Line



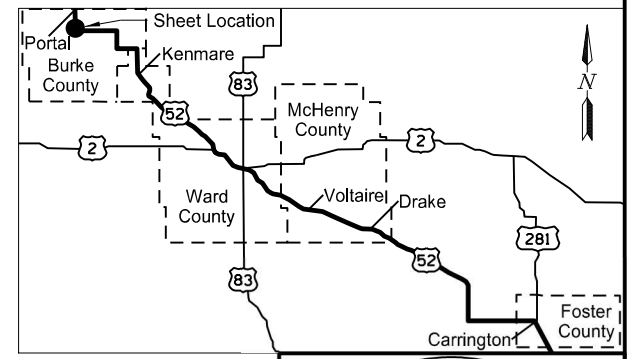
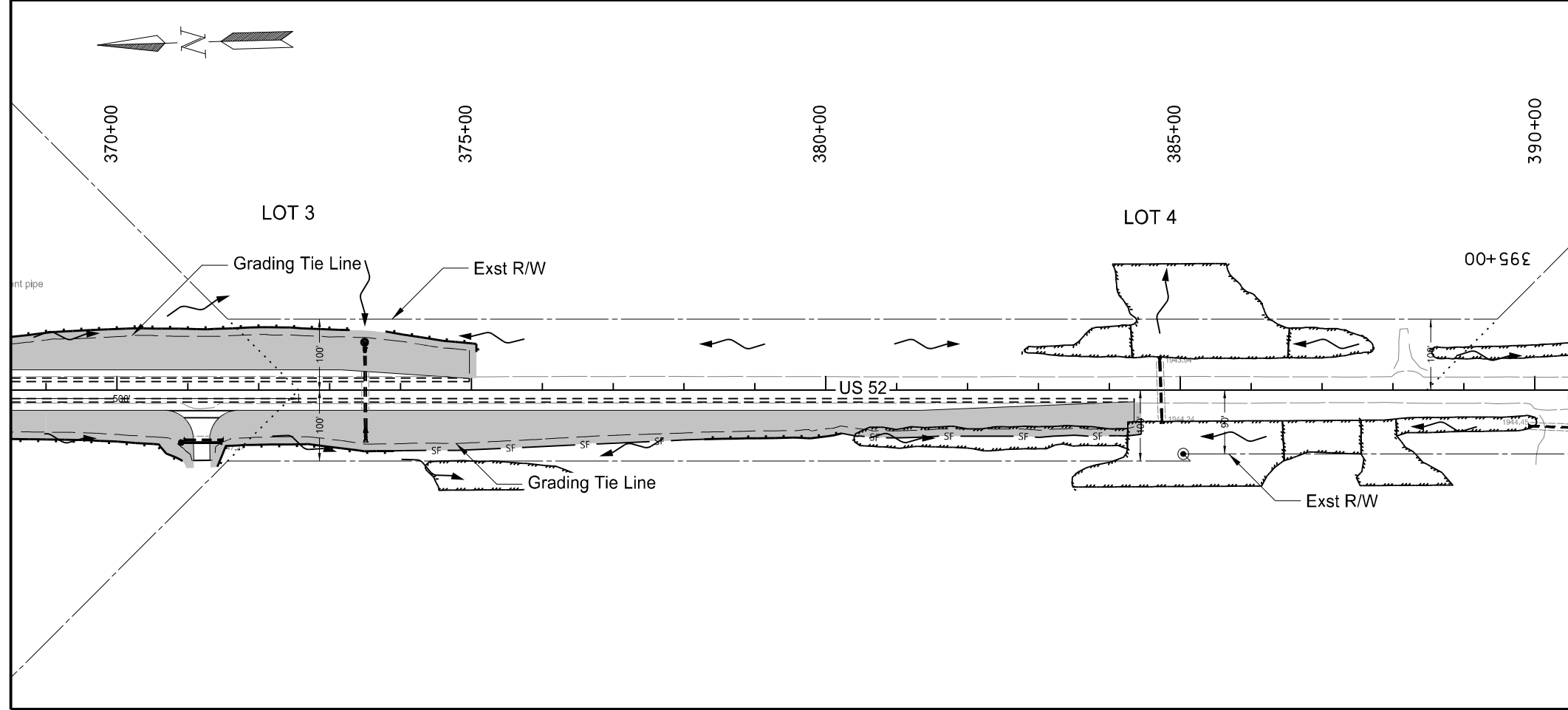
Wetland Impacts
RP 127.6
Mitigation Site 2
US 52
South of Portal to Carrington
McHenry County

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	HEN-9-052(485)006	76	1



SPEC	CODE	BID ITEM	QTY	UNIT
251	2000	Temporary Cover Crop		
		350+67 to 384+45	5.09	ACRE
253	0061	Soil Stabilization		
		350+67 to 384+45	5.09	ACRE
260	0200	Silt Fence Supported		
		355+40 Lt to 359+24 Lt	389	LF
		360+05 Lt to 361+75 Rt	195	LF
		373+90 Rt to 378+28 Rt	438	LF
		380+22 Rt to 384+45 Rt	447	LF
260	0201	Remove Silt Fence Supported		
		355+40 Lt to 359+24 Lt	389	LF
		360+05 Lt to 361+75 Rt	195	LF
		373+90 Rt to 378+28 Rt	438	LF
		380+22 Rt to 384+45 Rt	447	LF

*NOTE: See Section 76, Sheet 10-11 for Fiber Roll data. Install perimeter erosion and sediment control measures (ESCMs) according to the plans, permit/SWPPP requirements prior to site disturbance. As project progresses, install remaining temporary ESCM's based on the timelines established in the construction general permit.



Legend

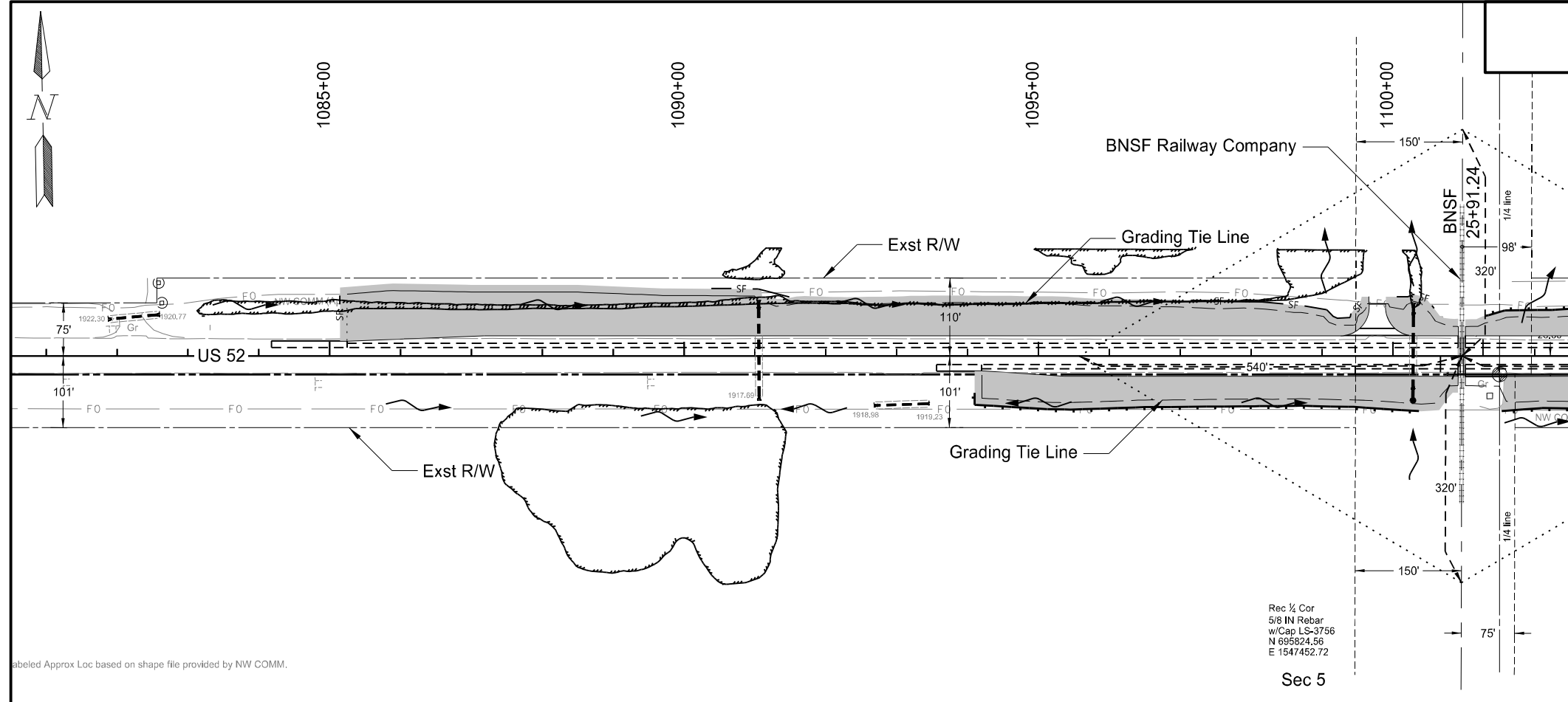
- Temporary Cover Crop/ Soil Stabilization
- Silt Fence
- Fiber Rolls 12IN or 20IN
- Existing Wetland Boundary
- Grading Tie Line (Cut)
- Grading Tie Line (Fill)
- Grading Tie Line (Transition)
- Flow Direction



Temporary Sediment and Erosion Control
RP 6.9

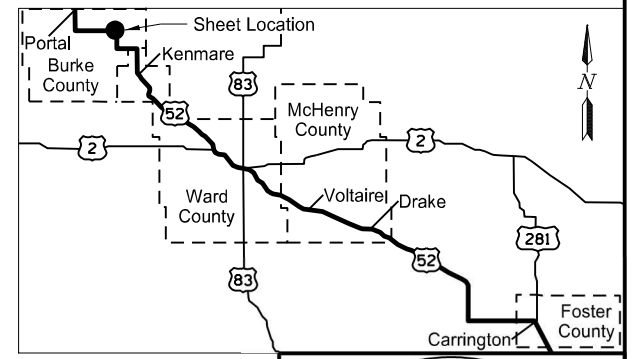
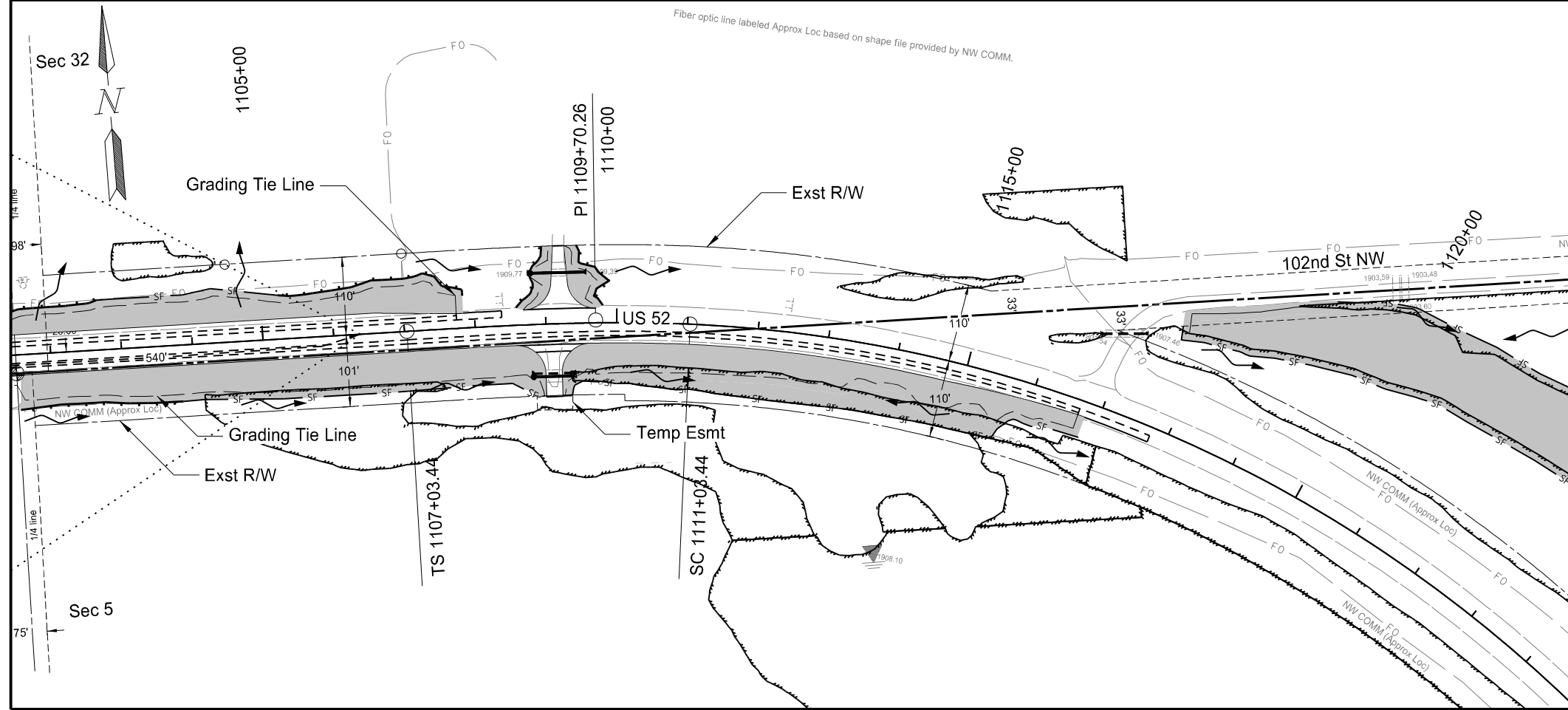
US 52
South of Portal to Carrington
Burke County

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	HEN-9-052(485)006	76	2



SPEC	CODE	BID ITEM	QTY	UNIT
251	2000	Temporary Cover Crop		
		1085+14 to 1116+80	5.38	ACRE
253	0061	Soil Stabilization		
		1085+14 to 1116+80	5.38	ACRE
260	0200	Silt Fence Supported		
		1085+14 Lt to 1085+14 Lt	40	LF
		1090+39 Lt to 1091+48 Lt	112	LF
		1097+15 Lt to 1099+56 Lt	265	LF
		1100+05 Lt to 1100+58 Lt	61	LF
		1102+68 Rt to 1105+25 Lt	258	LF
		1103+83 Rt to 1108+94 Rt	515	LF
		1109+22 Rt to 1116+81 Rt	761	LF
260	0201	Remove Silt Fence Supported		
		1085+14 Lt to 1085+14 Lt	40	LF
		1090+39 Lt to 1091+48 Lt	112	LF
		1097+15 Lt to 1099+56 Lt	265	LF
		1100+05 Lt to 1100+58 Lt	61	LF
		1102+68 Rt to 1105+25 Lt	258	LF
		1103+83 Rt to 1108+94 Rt	515	LF
		1109+22 Rt to 1116+81 Rt	761	LF

*NOTE: See Section 76, Sheet 10-11 for Fiber Roll data. Install perimeter erosion and sediment control measures (ESCMs) according to the plans, permit/SWPPP requirements prior to site disturbance. As project progresses, install remaining temporary ESCM's based on the timelines established in the construction general permit.



Legend

- Temporary Cover Crop/ Soil Stabilization
- Silt Fence
- Fiber Rolls 12IN or 20IN
- Existing Wetland Boundary
- Grading Tie Line (Cut)
- Grading Tie Line (Fill)
- Grading Tie Line (Transition)
- Flow Direction



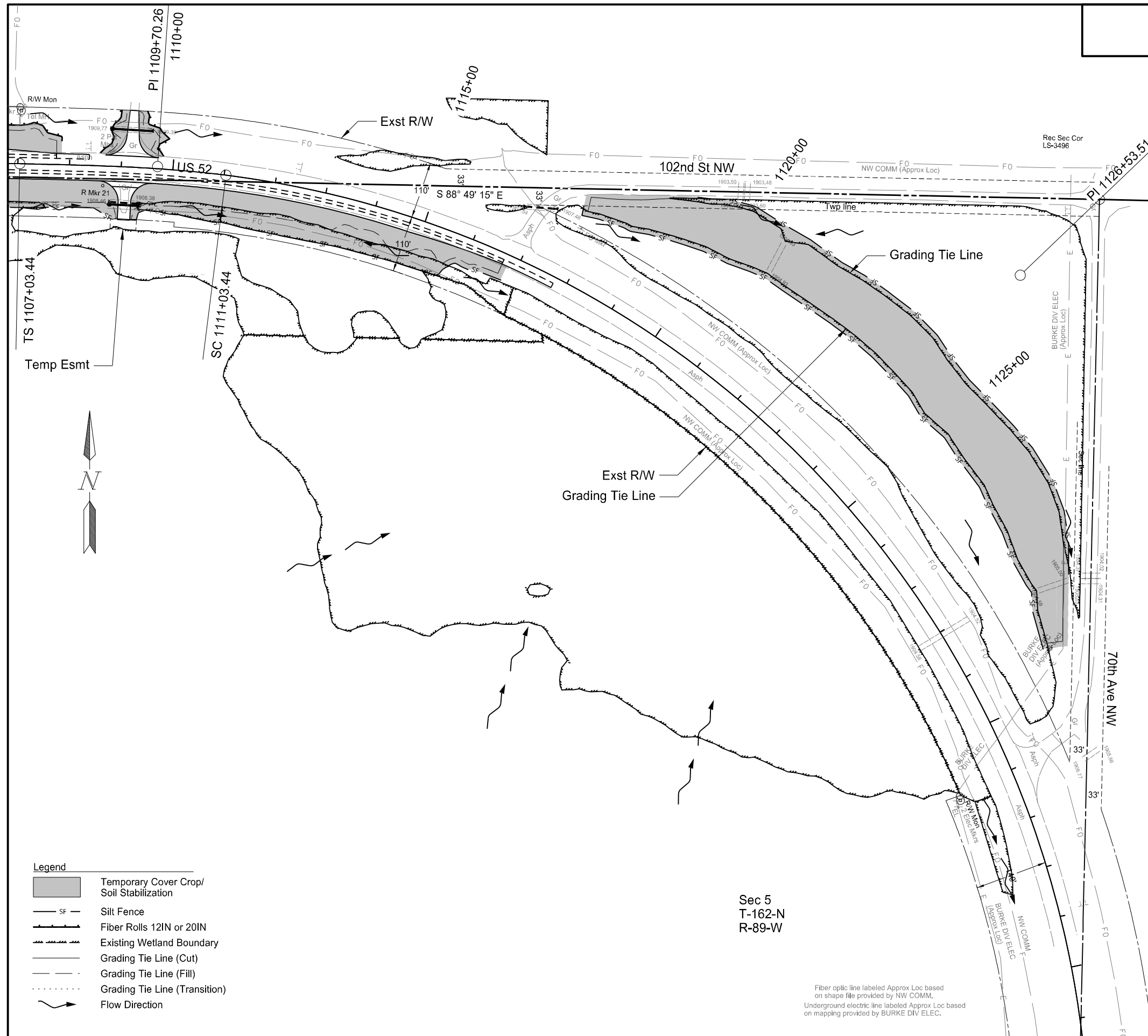
Temporary Sediment and Erosion Control
RP 20.6

US 52
South of Portal to Carrington
Burke County

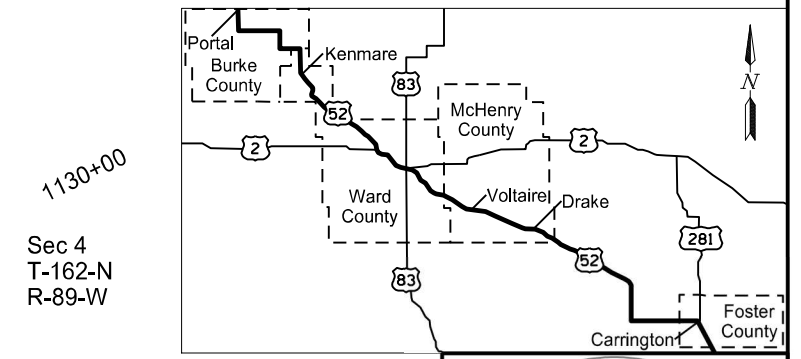
STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	HEN-9-052(485)006	76	3

SPEC	CODE	BID ITEM	QTY	UNIT
251	2000	Temporary Cover Crop		
		1085+14 to 1116+80	3.27	ACRE
253	0061	Soil Stabilization		
		1085+14 to 1116+80	3.27	ACRE
260	0200	Silt Fence Supported		
		1117+61 Lt to 1129+29 Lt	1342	LF
		1119+27 Lt to 1128+32 Lt	1094	LF
260	0201	Remove Silt Fence Supported		
		1117+61 Lt to 1129+29 Lt	1342	LF
		1119+27 Lt to 1128+32 Lt	1094	LF

*NOTE: See Section 76, Sheet 10-11 for Fiber Roll data. Install perimeter erosion and sediment control measures (ESCMs) according to the plans, permit/SWPPP requirements prior to site disturbance. As project progresses, install remaining temporary ESCM's based on the timelines established in the construction general permit.



- Legend**
- Temporary Cover Crop/ Soil Stabilization
 - Silt Fence
 - Fiber Rolls 12IN or 20IN
 - Existing Wetland Boundary
 - Grading Tie Line (Cut)
 - Grading Tie Line (Fill)
 - Grading Tie Line (Transition)
 - Flow Direction

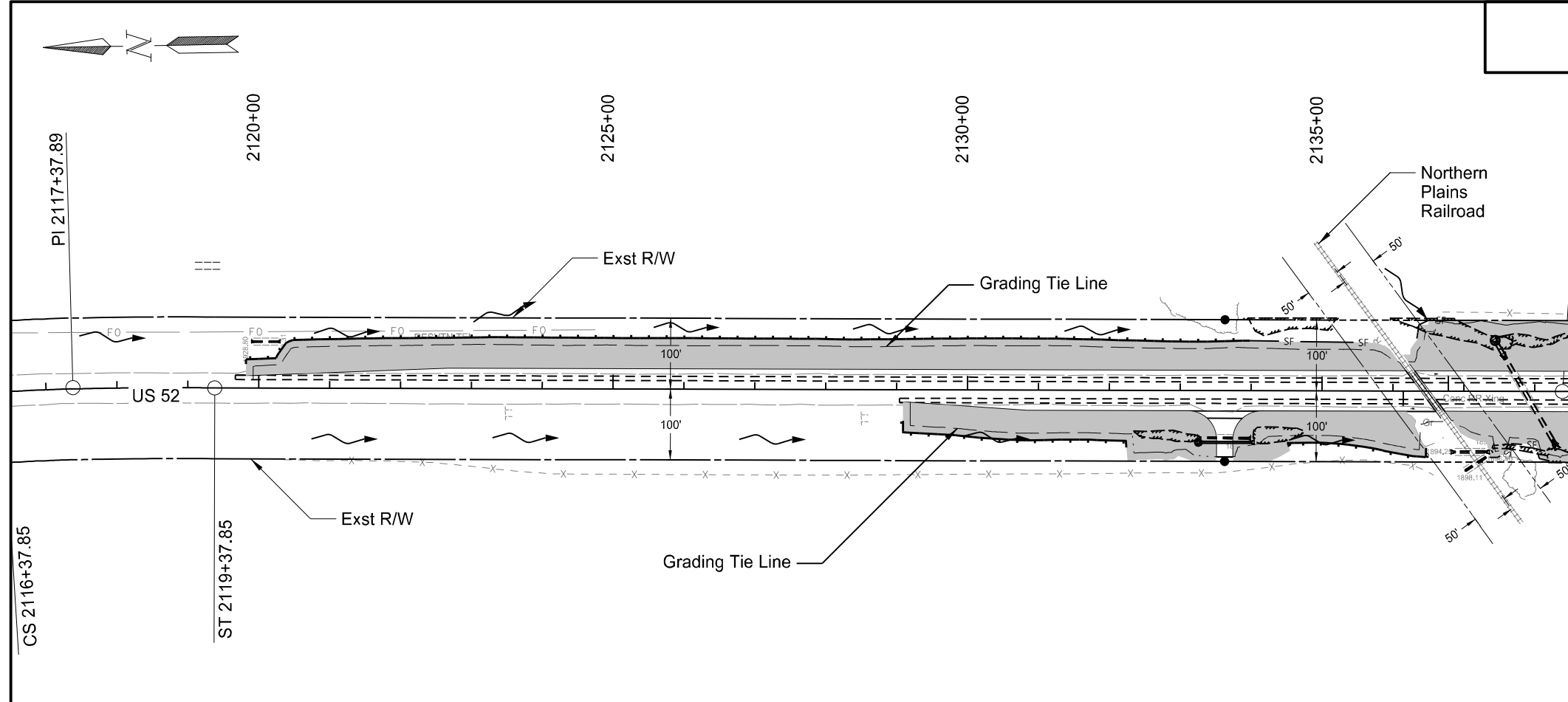


Temporary Sediment and Erosion Control
RP 20.6

US 52
South of Portal to Carrington
Burke County

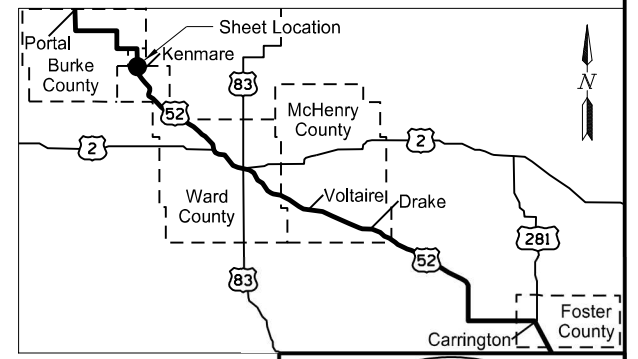
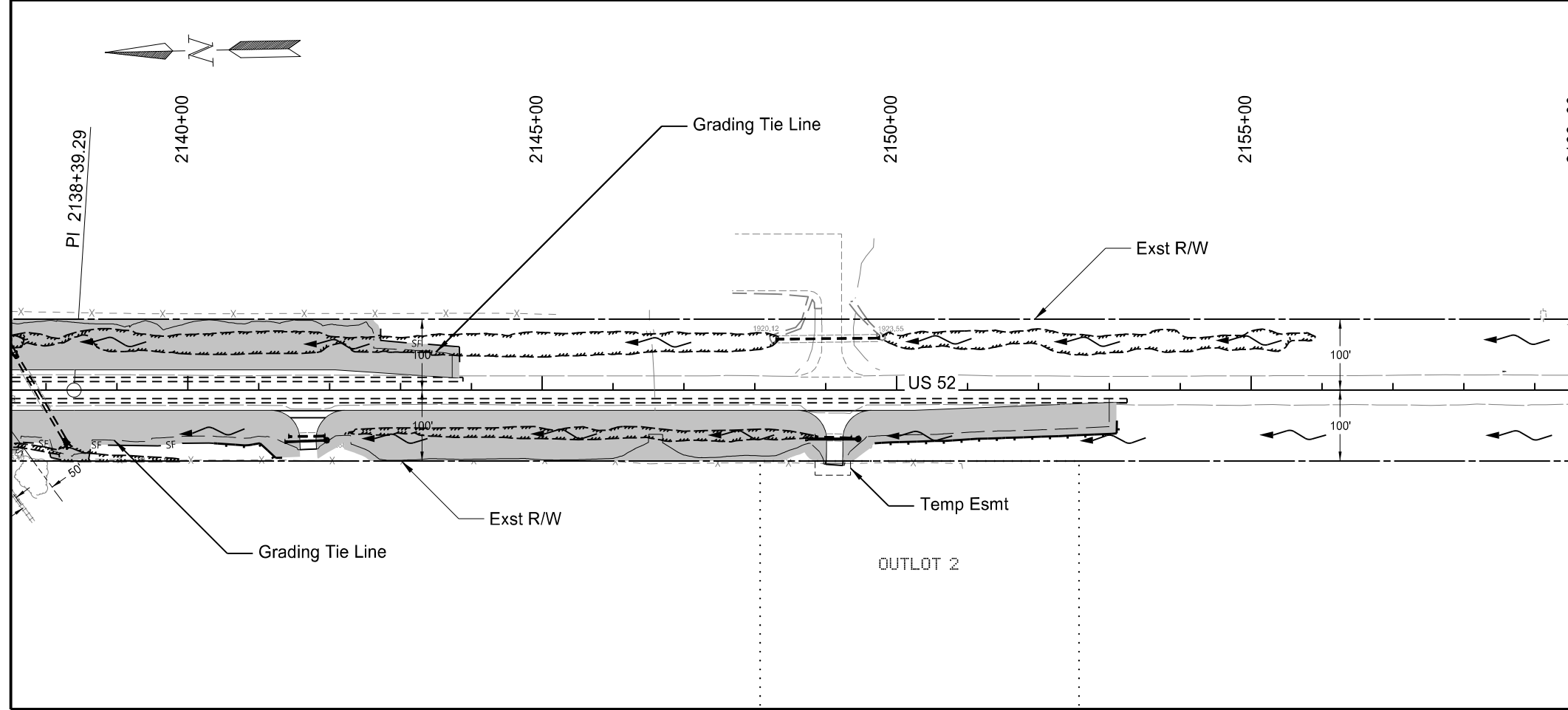
Fiber optic line labeled Approx Loc based on shape file provided by NW COMM.
Underground electric line labeled Approx Loc based on mapping provided by BURKE DIV ELEC.

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	HEN-9-052(485)006	76	4



SPEC	CODE	BID ITEM	QTY	UNIT
251	2000	Temporary Cover Crop		
		2119+82 to 2153+10	5.66	ACRE
253	0061	Soil Stabilization		
		2119+82 to 2153+10	5.66	ACRE
260	0200	Silt Fence Supported		
		2133+98 Lt to 2153+70 Lt	172	LF
		2136+34 Lt to 2137+31 Lt	115	LF
		2137+37 Rt to 2138+26 Rt	75	LF
		2138+60 Rt to 2140+37 Rt	195	LF
		2142+72 Lt to 2143+83 Lt	150	LF
260	0201	Remove Silt Fence Supported		
		2133+98 Lt to 2153+70 Lt	172	LF
		2136+34 Lt to 2137+31 Lt	115	LF
		2137+37 Rt to 2138+26 Rt	75	LF
		2138+60 Rt to 2140+37 Rt	195	LF
		2142+72 Lt to 2143+83 Lt	150	LF

*NOTE: See Section 76, Sheet 10-11 for Fiber Roll data. Install perimeter erosion and sediment control measures (ESCMs) according to the plans, permit/SWPPP requirements prior to site disturbance. As project progresses, install remaining temporary ESCM's based on the timelines established in the construction general permit.



Legend

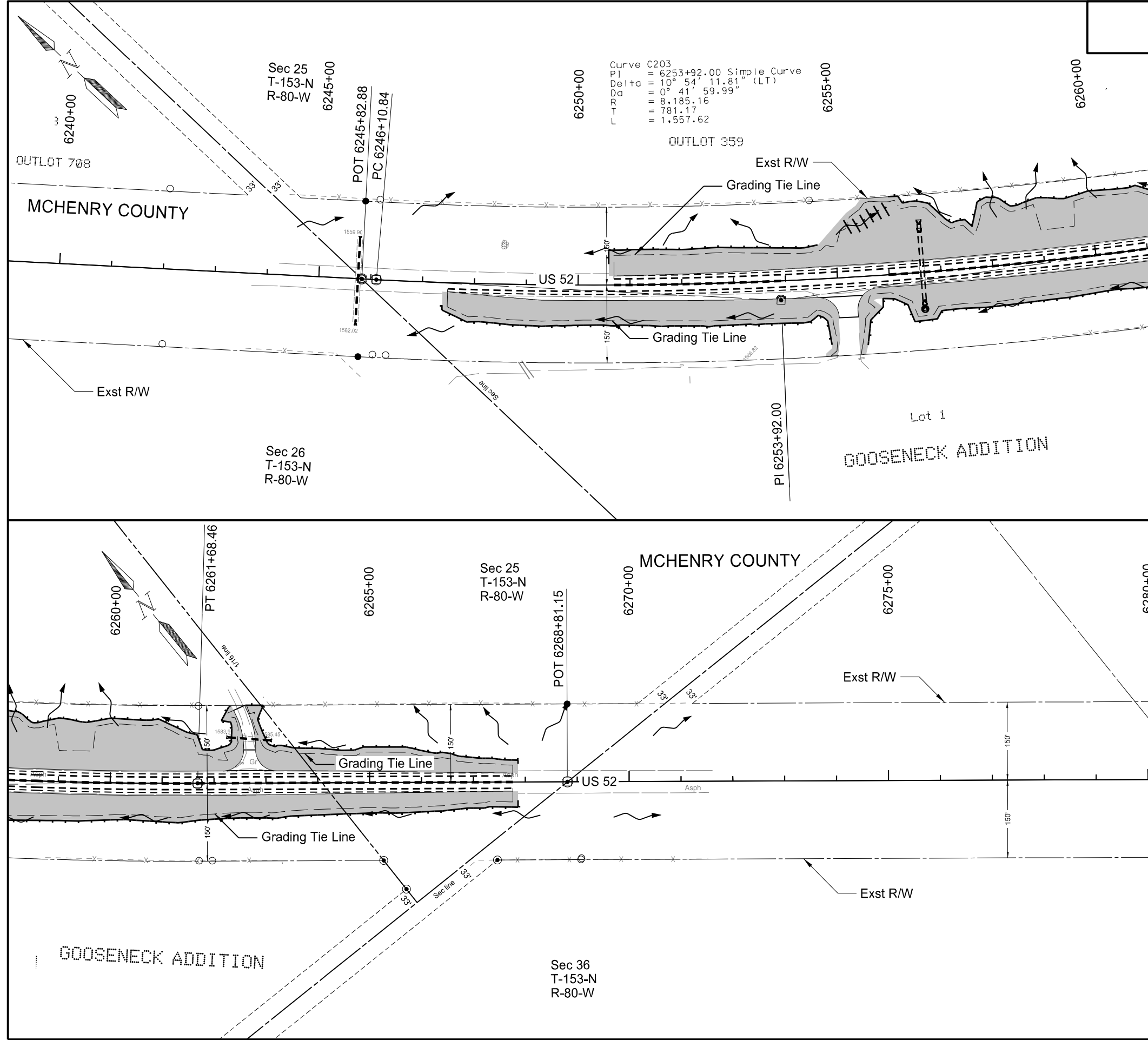
- Temporary Cover Crop/ Soil Stabilization
- Silt Fence
- Fiber Rolls 12IN or 20IN
- Existing Wetland Boundary
- Grading Tie Line (Cut)
- Grading Tie Line (Fill)
- Grading Tie Line (Transition)
- Flow Direction



Temporary Sediment and Erosion Control
RP 40.4

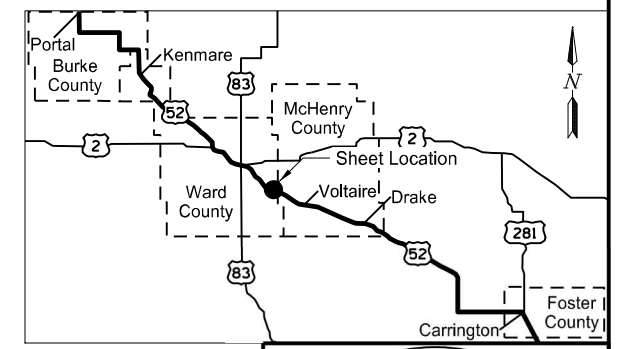
US 52
South of Portal to Carrington
Ward County

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	HEN-9-052(485)006	76	5



SPEC	CODE	BID ITEM	QTY	UNIT
251	2000	Temporary Cover Crop		
		6247+39 to 6267+86	4.66	ACRE
253	0061	Soil Stabilization		
		6247+39 to 6267+86	4.66	ACRE

*NOTE: See Section 76, Sheet 10-11 for Fiber Roll data. Install perimeter erosion and sediment control measures (ESCMs) according to the plans, permit/SWPPP requirements prior to site disturbance. As project progresses, install remaining temporary ESCM's based on the timelines established in the construction general permit.

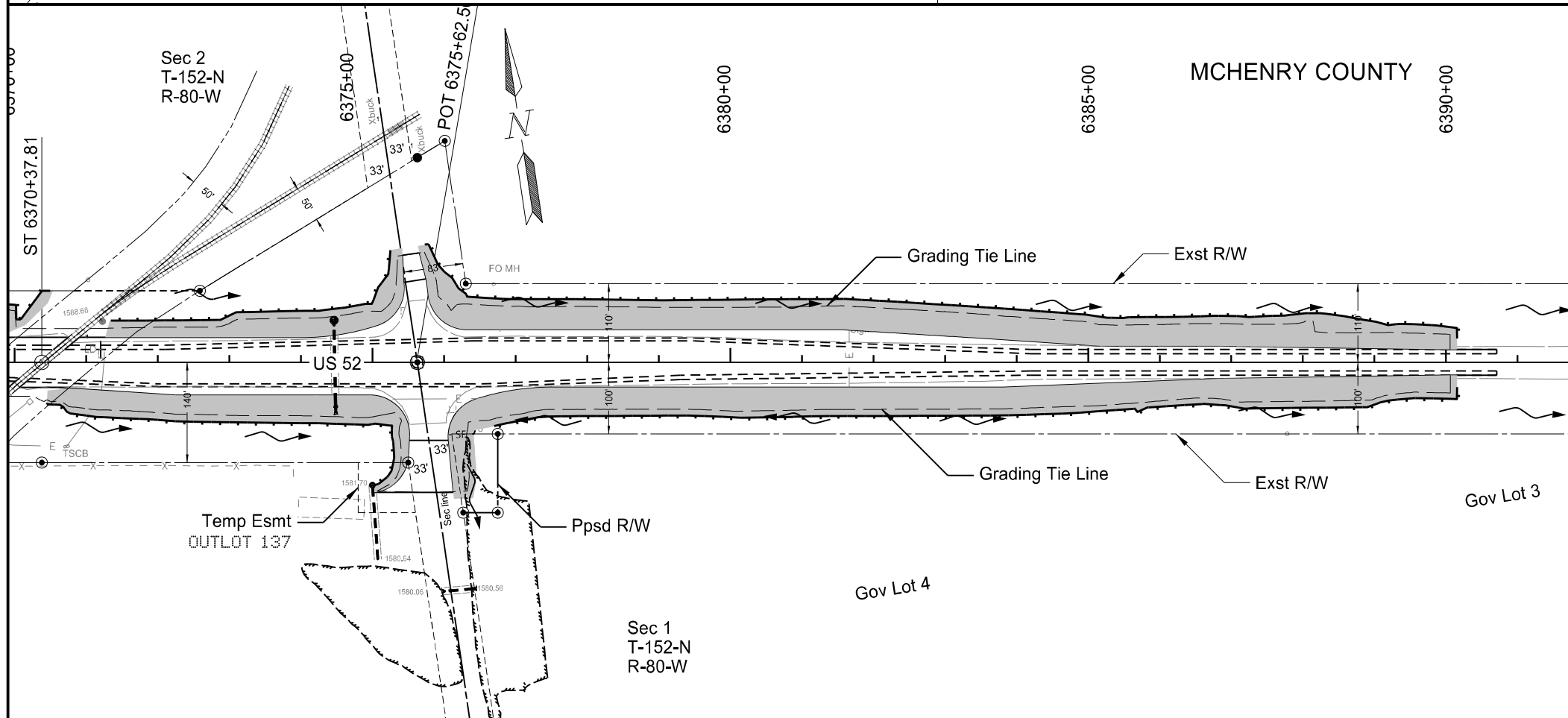
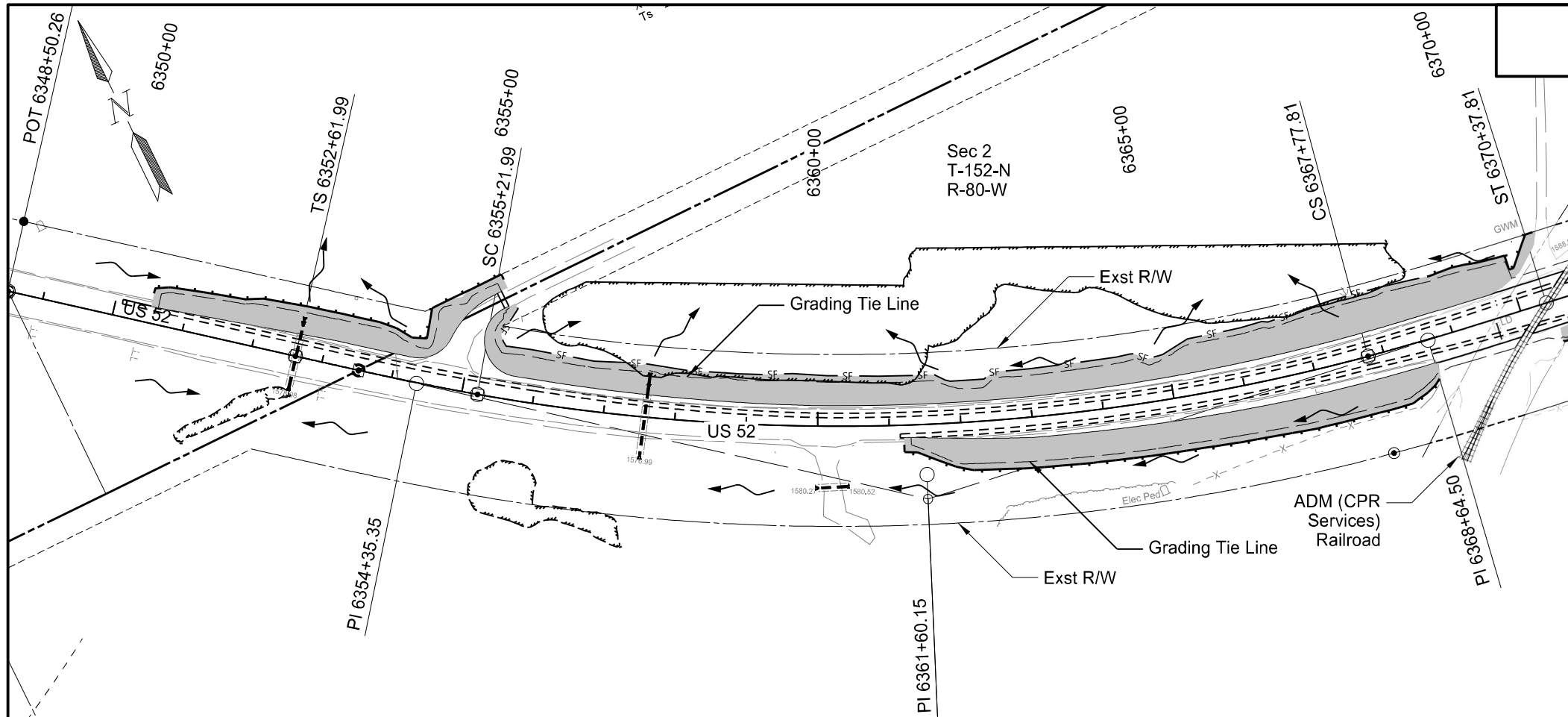


- Legend**
- Temporary Cover Crop/ Soil Stabilization
 - Silt Fence
 - Fiber Rolls 12IN or 20IN
 - Existing Wetland Boundary
 - Grading Tie Line (Cut)
 - Grading Tie Line (Fill)
 - Grading Tie Line (Transition)
 - Flow Direction



Temporary Sediment and Erosion Control
 RP 118.5

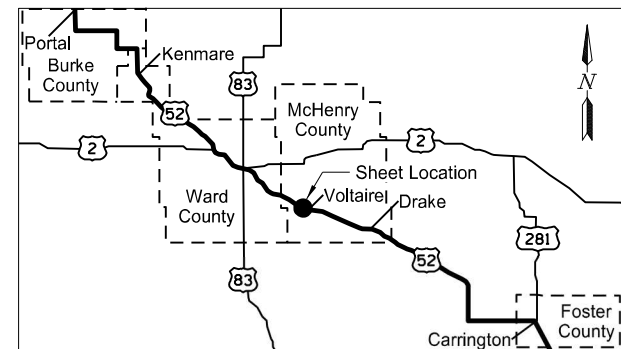
US 52
 South of Portal to Carrington
 McHenry County



STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	HEN-9-052(485)006	76	6

SPEC	CODE	BID ITEM	QTY	UNIT
251	2000	Temporary Cover Crop		
		6350+50 to 6390+16	6.32	ACRE
253	0061	Soil Stabilization		
		6350+50 to 6390+16	6.32	ACRE
260	0200	Silt Fence Supported		
		6355+41 Lt to 6368+89 Lt	1380	LF
		6376+07 Rt to 6376+44 Rt	40	LF
260	0201	Remove Silt Fence Supported		
		6355+41 Lt to 6368+89 Lt	1380	LF
		6376+07 Rt to 6376+44 Rt	40	LF

*NOTE: See Section 76, Sheet 10-11 for Fiber Roll data. Install perimeter erosion and sediment control measures (ESCMs) according to the plans, permit/SWPPP requirements prior to site disturbance. As project progresses, install remaining temporary ESCM's based on the timelines established in the construction general permit.



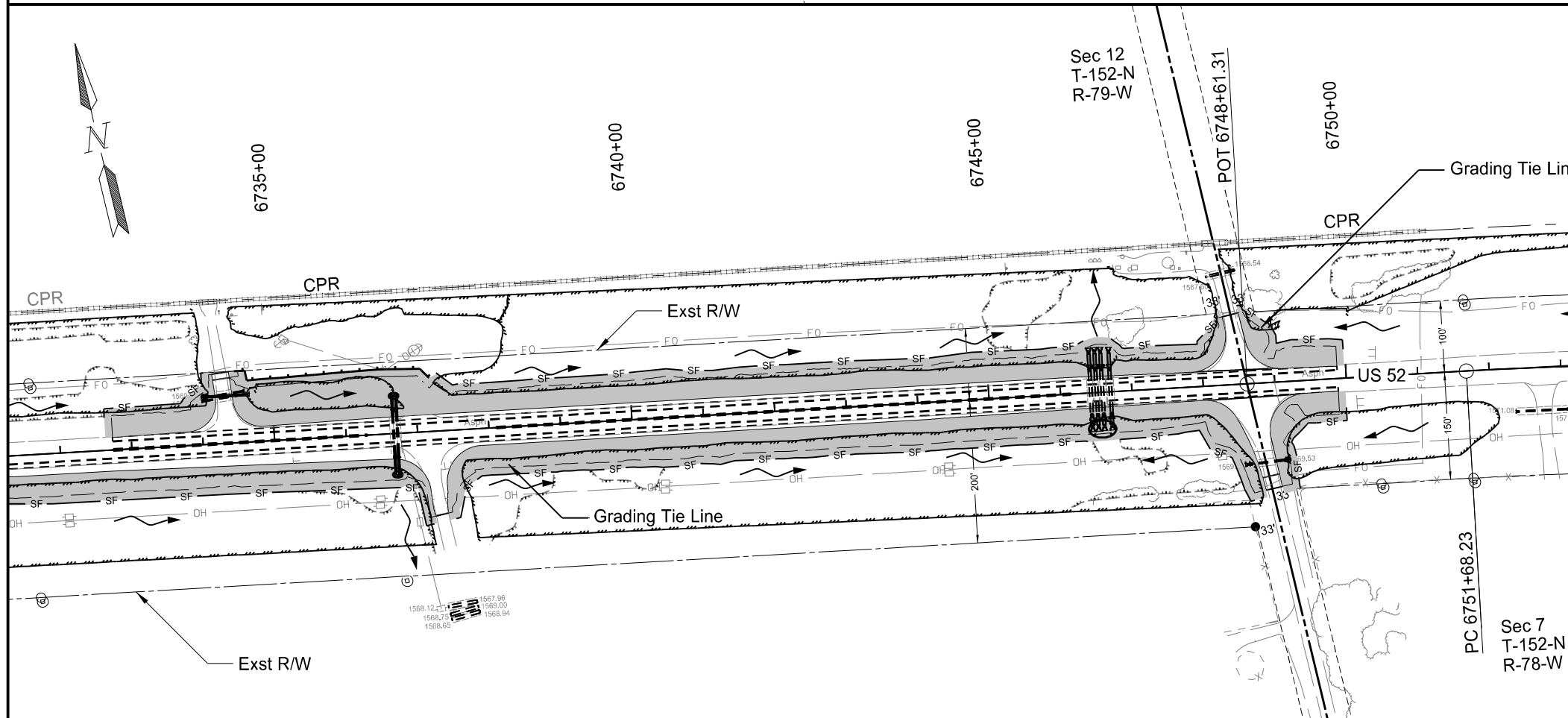
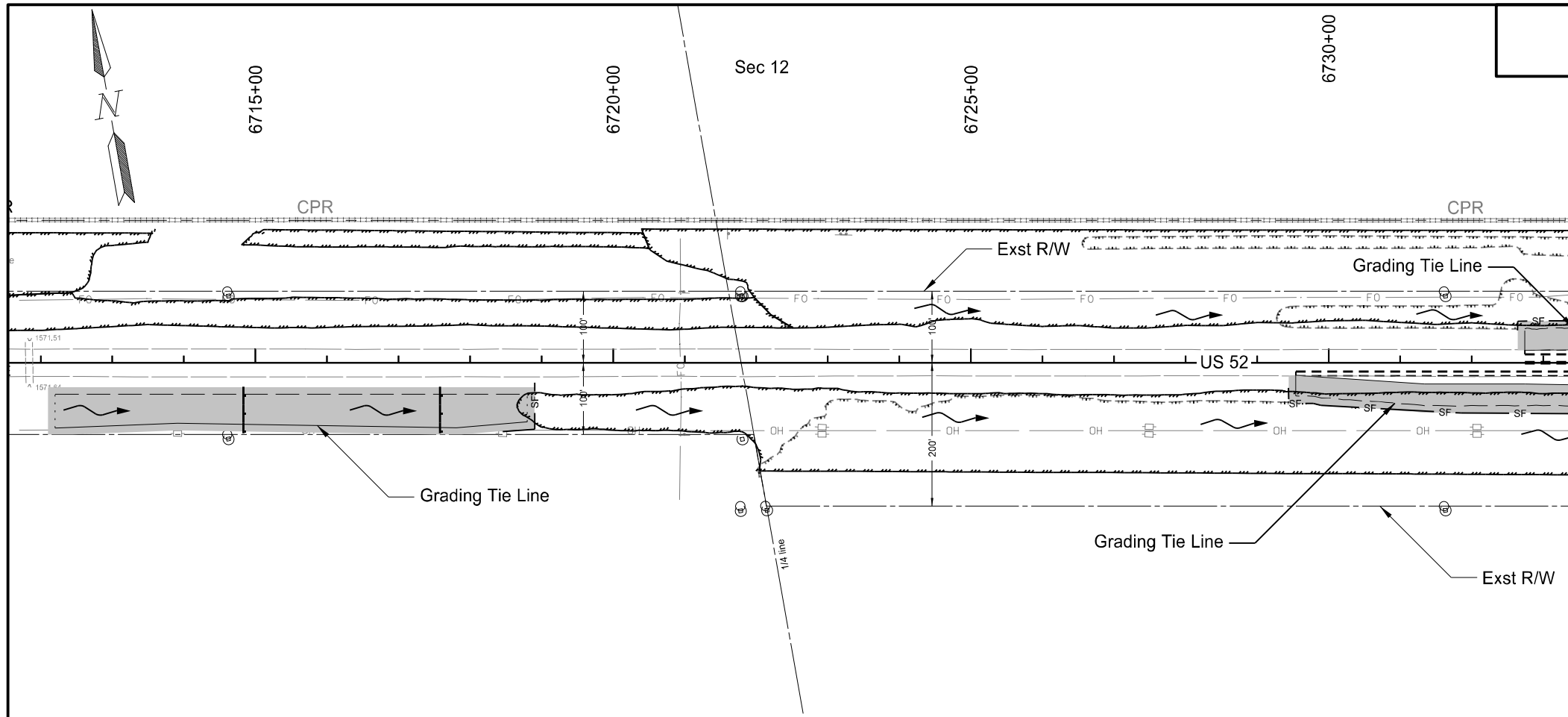
Legend

- Temporary Cover Crop/ Soil Stabilization
- Silt Fence
- Fiber Rolls 12IN or 20IN
- Existing Wetland Boundary
- Grading Tie Line (Cut)
- Grading Tie Line (Fill)
- Grading Tie Line (Transition)
- Flow Direction



Temporary Sediment and Erosion Control
RP 120.5

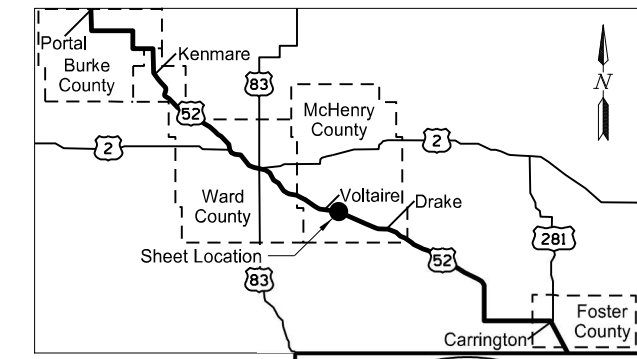
US 52
South of Portal to Carrington
McHenry County



STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	HEN-9-052(485)006	76	7

SPEC	CODE	BID ITEM	QTY	UNIT
251	2000	Temporary Cover Crop		
		6712+10 to 6749+98	4.82	ACRE
253	0061	Soil Stabilization		
		6712+10 to 6749+98	4.82	ACRE
260	0200	Silt Fence Supported		
		6718+46 Rt to 6718+90 Rt	110	LF
		6729+44 Rt to 6737+16 Rt	840	LF
		6732+64 Lt to 6734+06 Lt	180	LF
		6737+31 Lt to 6746+36 Lt	915	LF
		6737+47 Rt to 6746+35 Rt	925	LF
		6746+75 LT to 6748+26 LT	185	LF
		6746+80 Rt to 6748+76 Rt	260	LF
		6748+53 Lt to 6749+98 Lt	190	LF
		6749+19 Rt to 6749+98 Rt	175	LF
260	0201	Remove Silt Fence Supported		
		6718+46 Rt to 6718+90 Rt	110	LF
		6729+44 Rt to 6737+16 Rt	840	LF
		6732+64 Lt to 6734+06 Lt	180	LF
		6737+31 Lt to 6746+36 Lt	915	LF
		6737+47 Rt to 6746+35 Rt	925	LF
		6746+75 LT to 6748+26 LT	185	LF
		6746+80 Rt to 6748+76 Rt	260	LF
		6748+53 Lt to 6749+98 Lt	190	LF
		6749+19 Rt to 6749+98 Rt	175	LF

*NOTE: See Section 76, Sheet 10-11 for Fiber Roll data. Install perimeter erosion and sediment control measures (ESCMs) according to the plans, permit/SWPPP requirements prior to site disturbance. As project progresses, install remaining temporary ESCM's based on the timelines established in the construction general permit.



Legend

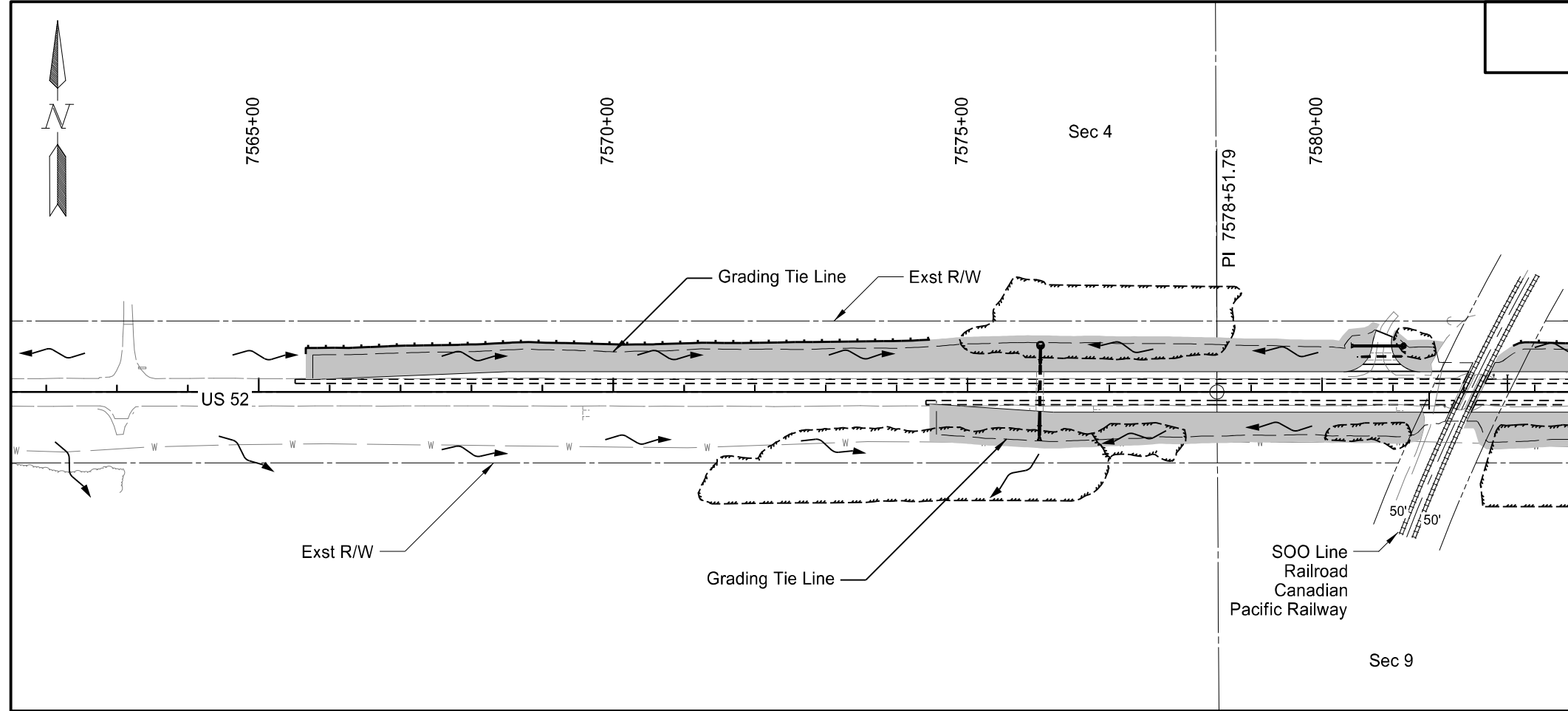
- Temporary Cover Crop/ Soil Stabilization
- Silt Fence
- Fiber Rolls 12IN or 20IN
- Existing Wetland Boundary
- Grading Tie Line (Cut)
- Grading Tie Line (Fill)
- Grading Tie Line (Transition)
- Flow Direction



Temporary Sediment and Erosion Control
RP 127.6

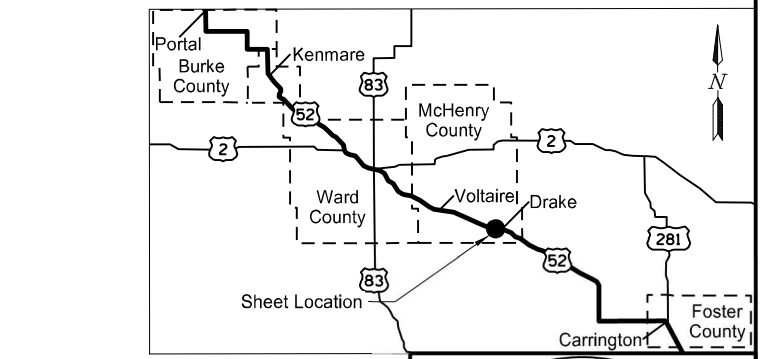
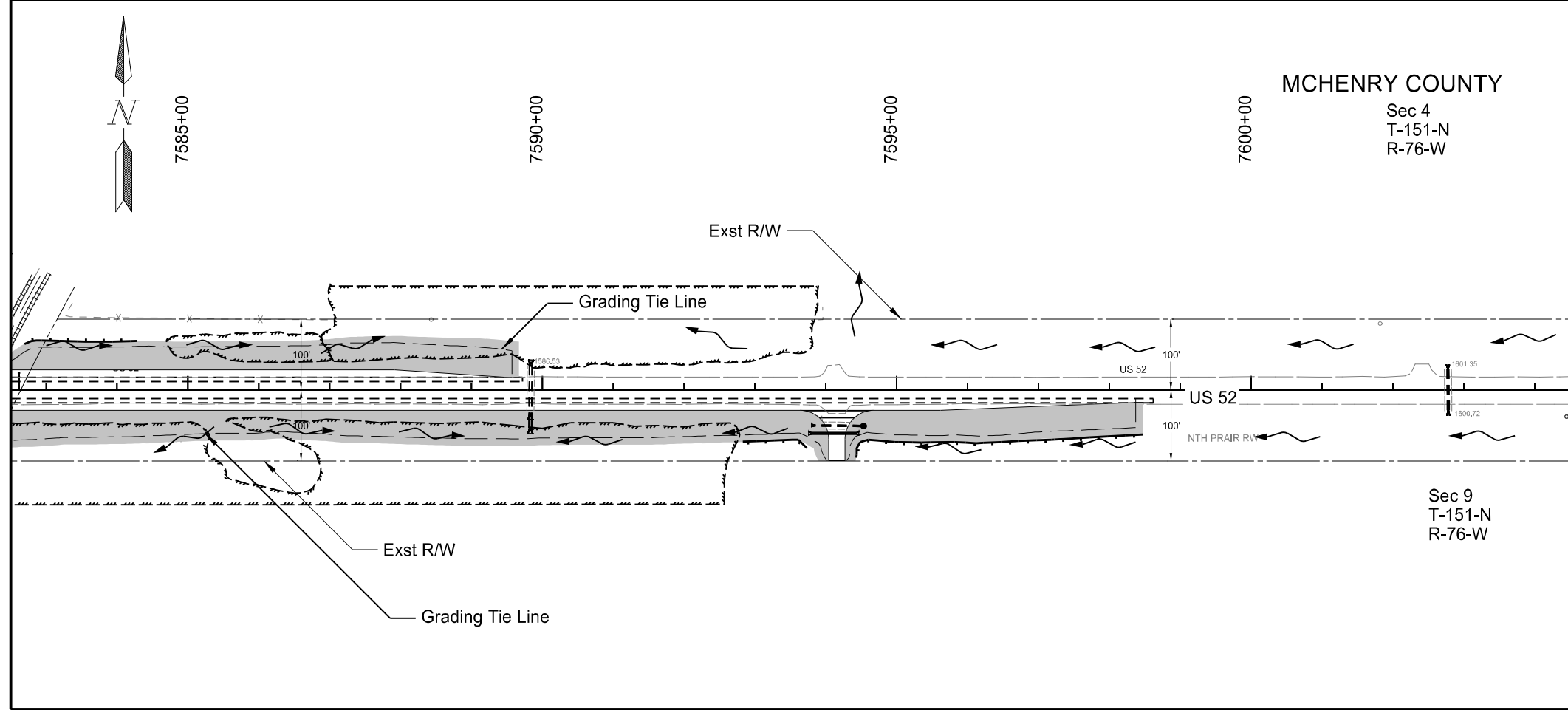
US 52
South of Portal to Carrington
McHenry County

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	HEN-9-052(485)006	76	8



SPEC	CODE	BID ITEM	QTY	UNIT
251	2000	Temporary Cover Crop		
		7565+66 to 7598+47	4.75	ACRE
253	0061	Soil Stabilization		
		7565+66 to 7598+47	4.75	ACRE
260	0200	Silt Fence Supported		
		7574+46 Rt to 7578+23 Rt	401	LF
		7574+46 Lt to 7579+68 Lt	521	LF
		7579+95 Rt to 7581+35 Rt	140	LF
		7581+02 Lt to 7581+72 Lt	75	LF
		7582+24 Rt to 7589+70 Rt	753	LF
		7584+28 Lt to 7589+67 Lt	568	LF
		7589+93 Rt to 7592+83 Rt	290	LF
260	0201	Remove Silt Fence Supported		
		7574+46 Rt to 7578+23 Rt	401	LF
		7574+46 Lt to 7579+68 Lt	521	LF
		7579+95 Rt to 7581+35 Rt	140	LF
		7581+02 Lt to 7581+72 Lt	75	LF
		7582+24 Rt to 7589+70 Rt	753	LF
		7584+28 Lt to 7589+67 Lt	568	LF
		7589+93 Rt to 7592+83 Rt	290	LF

*NOTE: See Section 76, Sheet 10-11 for Fiber Roll data. Install perimeter erosion and sediment control measures (ESCMs) according to the plans, permit/SWPPP requirements prior to site disturbance. As project progresses, install remaining temporary ESCM's based on the timelines established in the construction general permit.



Legend

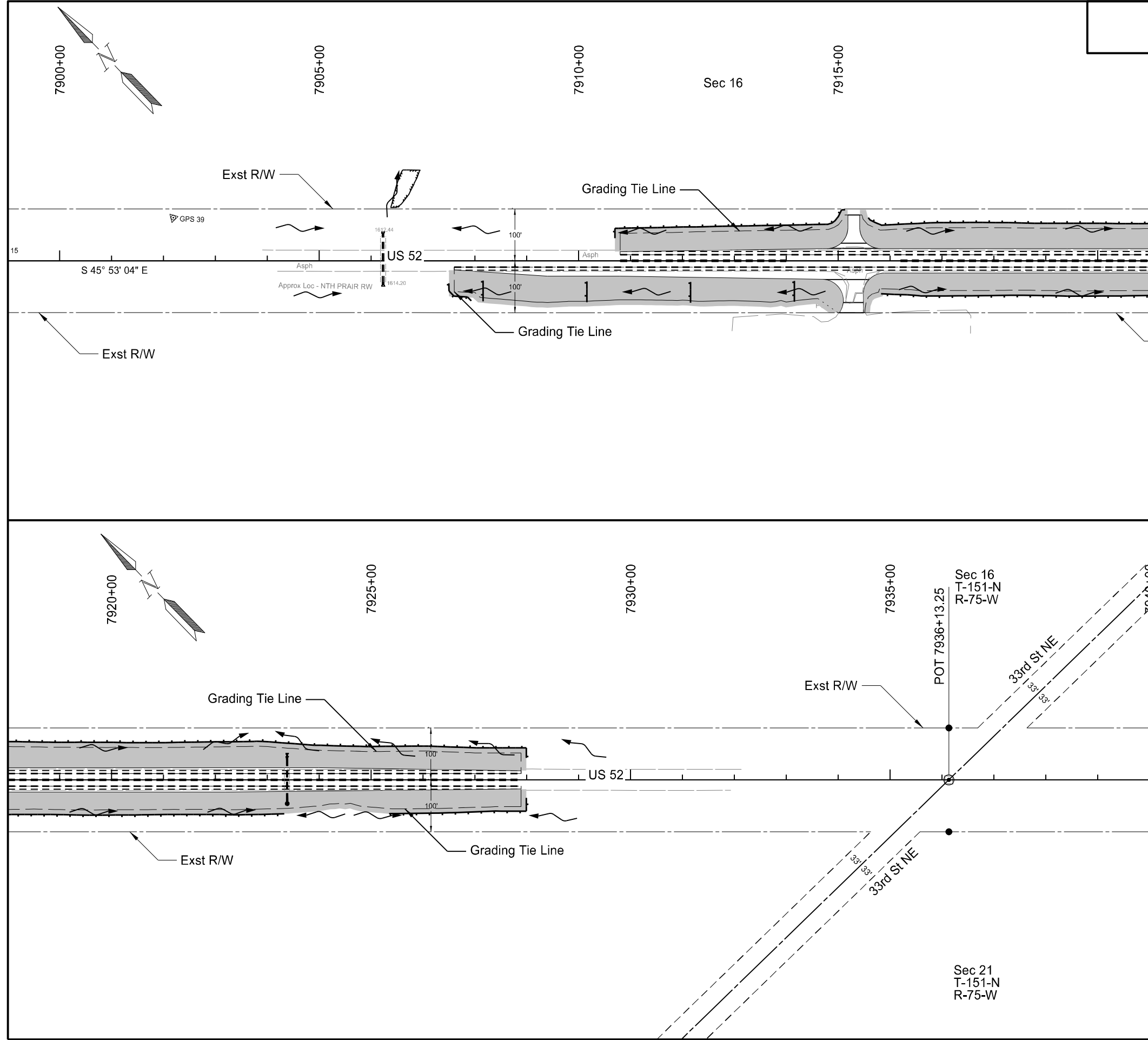
- Temporary Cover Crop/ Soil Stabilization
- Silt Fence
- Fiber Rolls 12IN or 20IN
- Existing Wetland Boundary
- Grading Tie Line (Cut)
- Grading Tie Line (Fill)
- Grading Tie Line (Transition)
- Flow Direction



Temporary Sediment and Erosion Control
RP 143.5

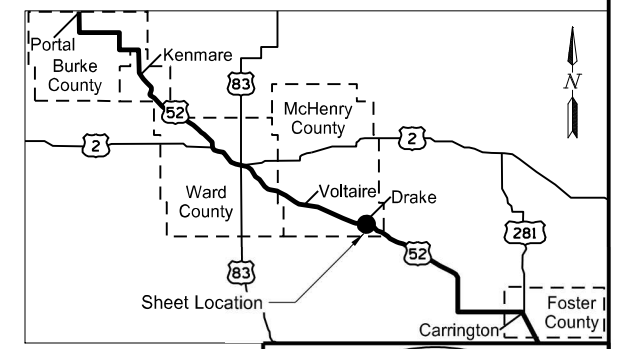
US 52
South of Portal to Carrington
McHenry County

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	HEN-9-052(485)006	76	9



SPEC	CODE	BID ITEM	QTY	UNIT
251	2000	Temporary Cover Crop		
		7907+50 to 7927+99	4.03	ACRE
253	0061	Soil Stabilization		
		7907+50 to 7927+99	4.03	ACRE

*NOTE: See Section 76, Sheet 10-11 for Fiber Roll data. Install perimeter erosion and sediment control measures (ESCMs) according to the plans, permit/SWPPP requirements prior to site disturbance. As project progresses, install remaining temporary ESCM's based on the timelines established in the construction general permit.



- Legend**
- Temporary Cover Crop/ Soil Stabilization
 - Silt Fence
 - Fiber Rolls 12IN or 20IN
 - Existing Wetland Boundary
 - Grading Tie Line (Cut)
 - Grading Tie Line (Fill)
 - Grading Tie Line (Transition)
 - Flow Direction



Temporary Sediment and Erosion Control
 RP 149.9

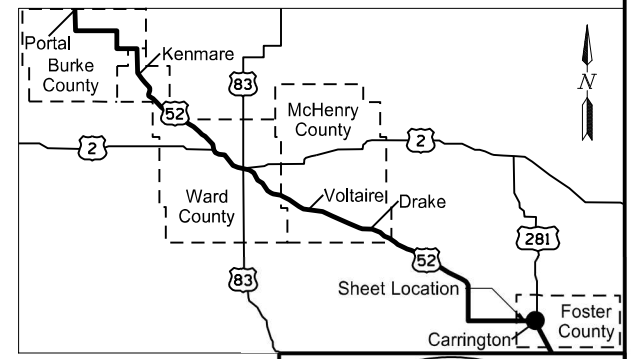
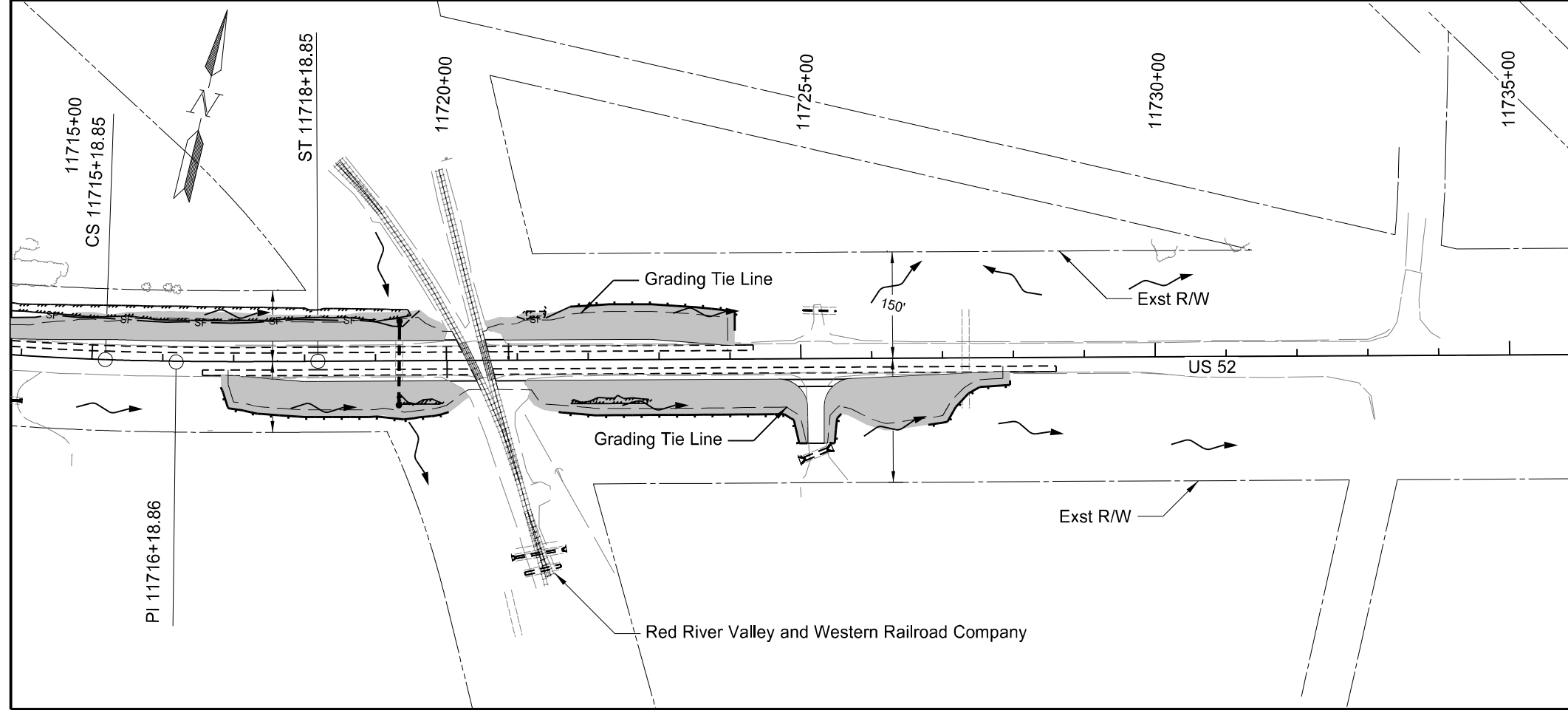
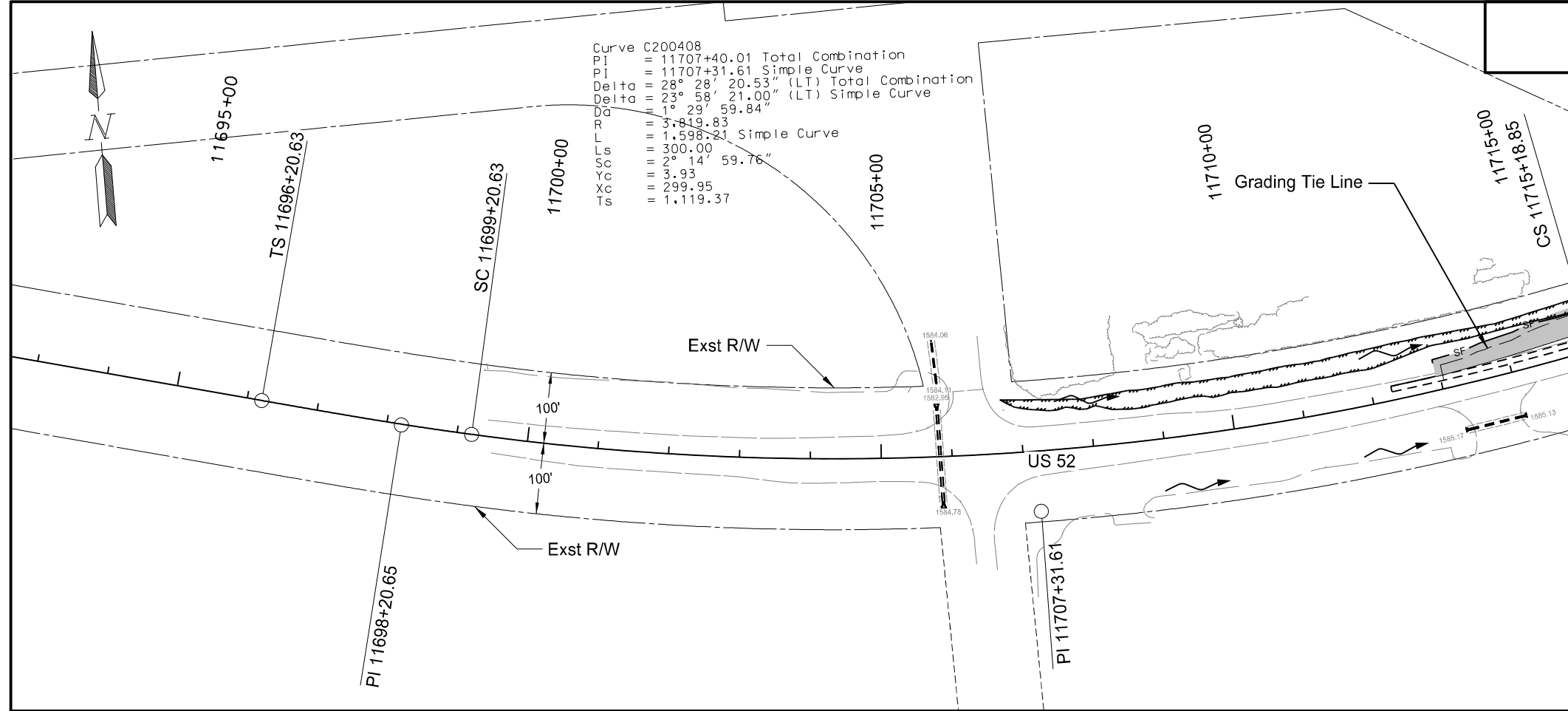
US 52
 South of Portal to Carrington
 McHenry County

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	HEN-9-052(485)006	76	10

Curve C200408
 PI = 11707+40.01 Total Combination
 PI = 11707+31.61 Simple Curve
 Delta = 28° 28' 20.53" (LT) Total Combination
 Delta = 23° 58' 21.00" (LT) Simple Curve
 Da = 1' 29" 59.84"
 R = 3.819.83
 L = 1.598.21 Simple Curve
 Ls = 300.00
 Sc = 14' 59.76"
 Yc = 3.93
 Xc = 299.95
 Ts = 1.119.37

SPEC	CODE	BID ITEM	QTY	UNIT
251	2000	Temporary Cover Crop		
		11712+94 to 11727+95	2.13	ACRE
253	0061	Soil Stabilization		
		11712+94 to 11727+95	2.13	ACRE
260	0200	Silt Fence Supported		
		11712+94 Lt to 11719+63 Lt	680	LF
		11721+00 Lt to 11721+75 Lt	80	LF
260	0201	Remove Silt Fence Supported		
		11712+94 Lt to 11719+63 Lt	680	LF
		11721+00 Lt to 11721+75 Lt	80	LF

*NOTE: See Section 76, Sheet 10-11 for Fiber Roll data. Install perimeter erosion and sediment control measures (ESCMs) according to the plans, permit/SWPPP requirements prior to site disturbance. As project progresses, install remaining temporary ESCM's based on the timelines established in the construction general permit.



- Legend
- Temporary Cover Crop/ Soil Stabilization
 - Silt Fence
 - Fiber Rolls 12IN or 20IN
 - Existing Wetland Boundary
 - Grading Tie Line (Cut)
 - Grading Tie Line (Fill)
 - Grading Tie Line (Transition)
 - Flow Direction



Temporary Sediment and Erosion Control
 RP 222.0

US 52
 South of Portal to Carrington
 Foster County

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	HEN-9-052(485)006	76	11

TEMPORARY EROSION CONTROL - CULVERT PROTECTION & RUNOFF PROTECTION

SITE 1 - ACCELERATION AND DECELERATION LANES - RP 6.9

Station	to	Station	Offset	12 In. Fiber Roll (LF)	20 In. Fiber Roll (LF)	Station	to	Station	Offset	12 In. Fiber Roll (LF)	20 In. Fiber Roll (LF)	Station	to	Station	Offset	12 In. Fiber Roll (LF)	20 In. Fiber Roll (LF)
350+67	to	355+40	LT	495	-	364+41	to	367+42	RT	307	-	371+42	to	373+91	RT	269	-
359+24	to	363+70	LT	470	-	367+83	to	370+92	RT	320	-	373+50	to	373+50	LT	30	-
361+75	to	363+53	RT	180	-	367+89	to	373+28	LT	541	-	373+79	to	375+07	LT	141	-
364+09	to	367+13	LT	334	-	370+90	to	370+90	RT	20	-	378+28	to	380+22	RT	195	-
364+19	to	364+19	RT	20	-												

SPEC	CODE	BID ITEM	QTY	UNIT
261	0112	Fiber Rolls 12IN	17588	LF
261	0113	Remove Fiber Rolls 12IN	17588	LF
261	0120	Fiber Rolls 20IN	250	LF
261	0121	Remove Fiber Rolls 20IN	250	LF

SITE 2 - ACCELERATION AND DECELERATION LANES - RP 20.6

Station	to	Station	Offset	12 In. Fiber Roll (LF)	20 In. Fiber Roll (LF)	Station	to	Station	Offset	12 In. Fiber Roll (LF)	20 In. Fiber Roll (LF)	Station	to	Station	Offset	12 In. Fiber Roll (LF)	20 In. Fiber Roll (LF)
1094+10	to	1100+37	RT	644	-	1101+53	to	1103+83	RT	230	-	1108+80	to	1108+80	RT	20	-
1100+28	to	1100+28	RT	20	-	1105+25	to	1107+84	LT	280	-	1109+45	to	1109+89	LT	128	-
1101+30	to	1102+68	LT	140	-	1108+59	to	1108+97	LT	116	-						

SITE 3 - ACCELERATION AND DECELERATION LANES - RP 40.4

Station	to	Station	Offset	12 In. Fiber Roll (LF)	20 In. Fiber Roll (LF)	Station	to	Station	Offset	12 In. Fiber Roll (LF)	20 In. Fiber Roll (LF)	Station	to	Station	Offset	12 In. Fiber Roll (LF)	20 In. Fiber Roll (LF)
2119+82	to	2133+98	LT	1435	-	2134+52	to	2136+47	RT	215	-	2141+95	to	2141+95	RT	20	-
2129+09	to	2132+24	RT	340	-	2137+50	to	2137+50	LT	-	40	2149+45	to	2149+45	RT	20	-
2133+25	to	2133+25	RT	30	-	2140+37	to	2141+33	RT	105	-	2149+69	to	2153+11	RT	360	-

SITE 4 - EB AND WB TURN LANES- RP 118.5

Station	to	Station	Offset	12 In. Fiber Roll (LF)	20 In. Fiber Roll (LF)	Station	to	Station	Offset	12 In. Fiber Roll (LF)	20 In. Fiber Roll (LF)	Station	to	Station	Offset	12 In. Fiber Roll (LF)	20 In. Fiber Roll (LF)
6247+39	to	6254+83	RT	814	-	6255+50	to	6255+64	LT	30	-	6255+51	to	6267+86	RT	1357	-
6250+59	to	6254+65	LT	430	-	6255+63	to	6255+77	LT	30	-	6256+08	to	6262+32	LT	817	-
6255+18	to	6255+32	LT	30	-	6255+79	to	6255+92	LT	30	-	6256+65	to	6256+65	RT	-	40
6255+36	to	6255+49	LT	30	-	6255+94	to	6256+08	LT	30	-	6262+60	to	6267+86	LT	610	-

SITE 5- ACCELERATION AND DECELERATION LANES- RP 120.5

Station	to	Station	Offset	12 In. Fiber Roll (LF)	20 In. Fiber Roll (LF)	Station	to	Station	Offset	12 In. Fiber Roll (LF)	20 In. Fiber Roll (LF)	Station	to	Station	Offset	12 In. Fiber Roll (LF)	20 In. Fiber Roll (LF)
6350+50	to	6355+30	LT	555	-	6370+45	to	6375+29	RT	585	-	6375+00	to	6375+00	RT	20	-
6361+20	to	6368+65	RT	785	-	6371+34	to	6375+25	LT	450	-	6375+73	to	6390+16	LT	1500	-
6368+89	to	6370+49	LT	200	-	6374+47	to	6374+47	LT	30	-	6376+70	to	6390+16	RT	1370	-

SITE 6- EB AND WB TURN LANES- RP 127.6

Station	to	Station	Offset	12 In. Fiber Roll (LF)	20 In. Fiber Roll (LF)	Station	to	Station	Offset	12 In. Fiber Roll (LF)	20 In. Fiber Roll (LF)	Station	to	Station	Offset	12 In. Fiber Roll (LF)	20 In. Fiber Roll (LF)
6714+83	to	6714+83	RT	65	-	6734+48	to	6737+21	LT	290	-	6746+55	to	6746+55	RT	-	100
6717+58	to	6717+58	RT	65	-	6736+69	to	6736+69	LT	-	35	6749+13	to	6749+13	RT	20	-
6734+05	to	6734+05	LT	20	-	6736+69	to	6736+69	RT	-	35						



Temporary Sediment and Erosion Control

US 52
South of Portal to Carrington

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	HEN-9-052(485)006	76	12

SPEC	CODE	BID ITEM	QTY	UNIT
261	0112	Fiber Rolls 12IN	5883	LF
261	0113	Remove Fiber Rolls 12IN	5883	LF
261	0120	Fiber Rolls 20IN	30	LF
261	0121	Remove Fiber Rolls 20IN	30	LF

TEMPORARY EROSION CONTROL - CULVERT PROTECTION & RUNOFF PROTECTION																	
SITE 7- ACCELERATION AND DECELERATION LANES- RP 143.5																	
Station	to	Station	Offset	12 In. Fiber Roll (LF)	20 In. Fiber Roll (LF)	Station	to	Station	Offset	12 In. Fiber Roll (LF)	20 In. Fiber Roll (LF)	Station	to	Station	Offset	12 In. Fiber Roll (LF)	20 In. Fiber Roll (LF)
7565+66	to	7574+47	LT	890	-	7582+69	to	7584+28	LT	160	-	7594+43	to	7598+47	RT	423	-
7576+00	to	7576+00	LT	30	-	7589+82	to	7589+82	RT	-	30	7594+53	to	7594+53	RT	20	-
7581+15	to	7581+15	LT	20	-	7592+83	to	7593+73	RT	95	-						

SITE 8- EB AND WB TURN LANES- RP 149.9																	
Station	to	Station	Offset	12 In. Fiber Roll (LF)	20 In. Fiber Roll (LF)	Station	to	Station	Offset	12 In. Fiber Roll (LF)	20 In. Fiber Roll (LF)	Station	to	Station	Offset	12 In. Fiber Roll (LF)	20 In. Fiber Roll (LF)
7907+50	to	7907+93	RT	65	-	7912+16	to	7912+16	RT	40	-	7923+38	to	7923+38	RT	20	-
7908+16	to	7908+16	RT	40	-	7914+16	to	7914+16	RT	40	-	7925+35	to	7927+99	RT	290	-
7910+16	to	7910+16	RT	40	-	7915+58	to	7927+99	LT	1265	-						
7910+70	to	7915+14	LT	475	-	7915+80	to	7923+30	RT	750	-						

SITE 9- ACCELERATION AND DECELERATION LANES- RP 222.0																	
Station	to	Station	Offset	12 In. Fiber Roll (LF)	20 In. Fiber Roll (LF)	Station	to	Station	Offset	12 In. Fiber Roll (LF)	20 In. Fiber Roll (LF)	Station	to	Station	Offset	12 In. Fiber Roll (LF)	20 In. Fiber Roll (LF)
11716+82	to	11720+03	RT	345	-	11721+58	to	11725+09	RT	380	-	11726+80	to	11727+95	RT	145	-
11719+32	to	11719+32	RT	20	-	11721+75	to	11724+07	LT	260	-						
11719+35	to	11719+35	LT	20	-	11725+41	to	11725+57	RT	50	-						



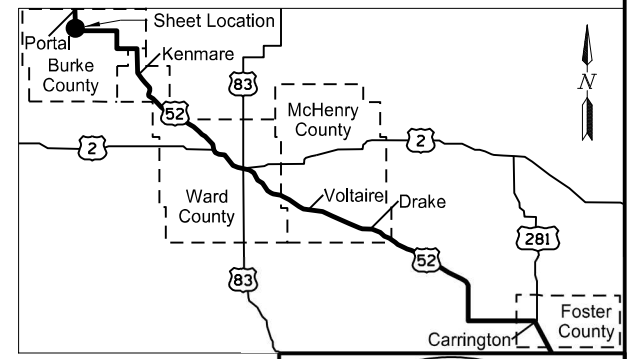
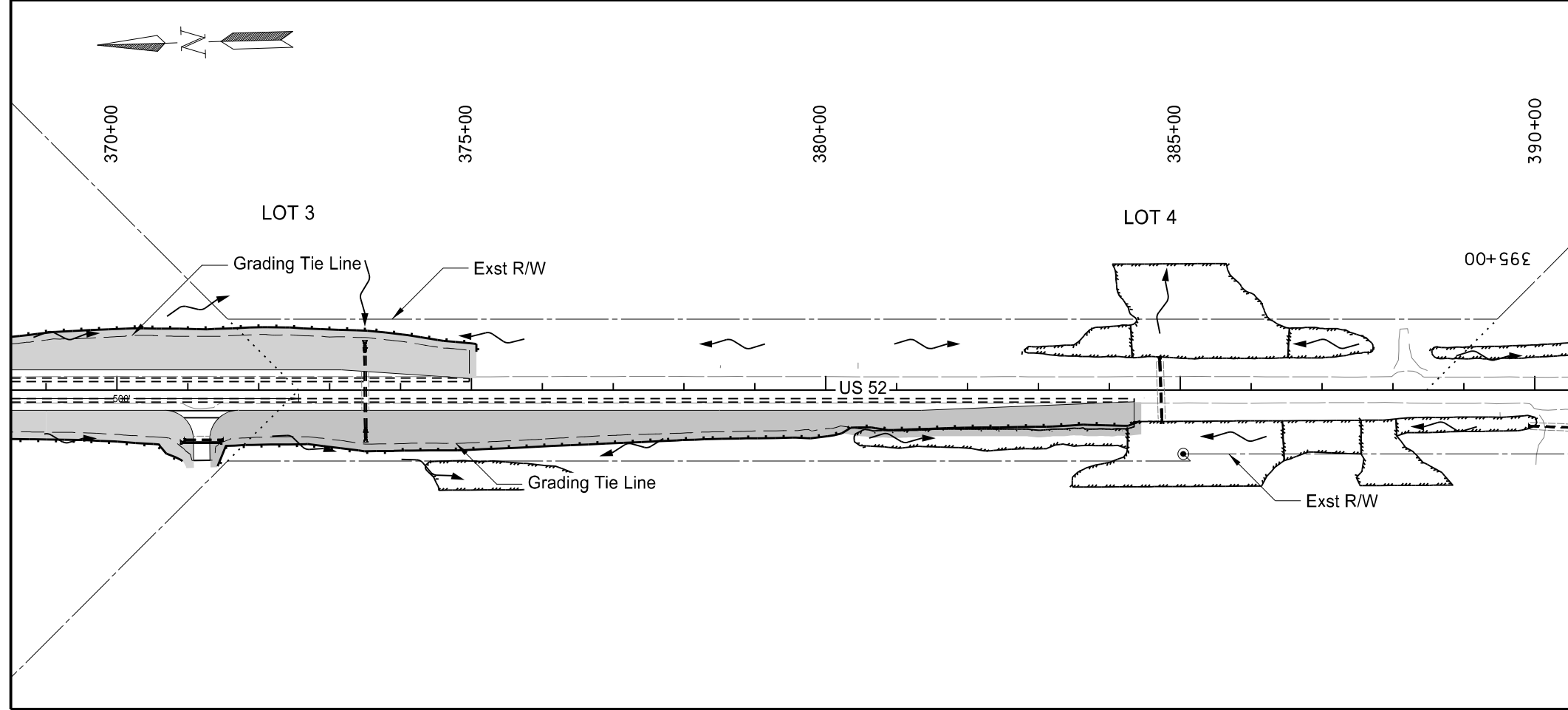
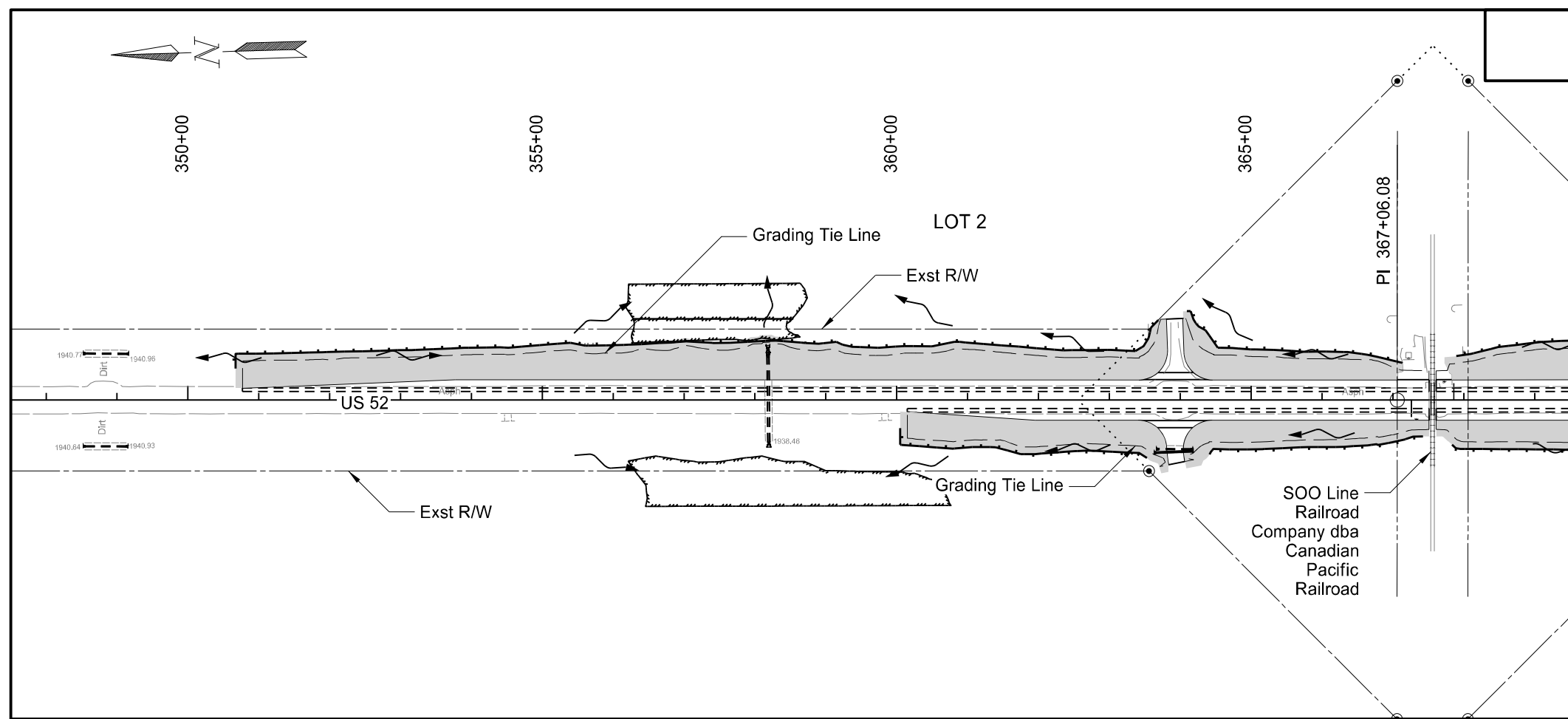
Temporary Sediment and Erosion Control

US 52
South of Portal to Carrington

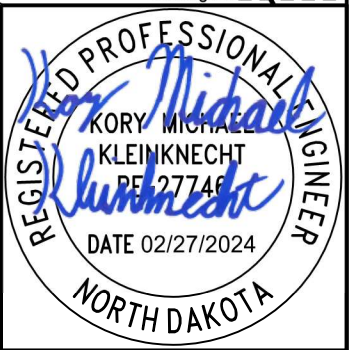
STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	HEN-9-052(485)006	77	1

SPEC	CODE	BID ITEM	QTY	UNIT
251	0200	Seeding Class II		
		350+67 to 384+45	5.06	ACRE
253	0061	Soil Stabilization		
		350+67 to 384+45	5.06	ACRE

*NOTE: See Section 77, Sheet 11 for Fiber Roll data



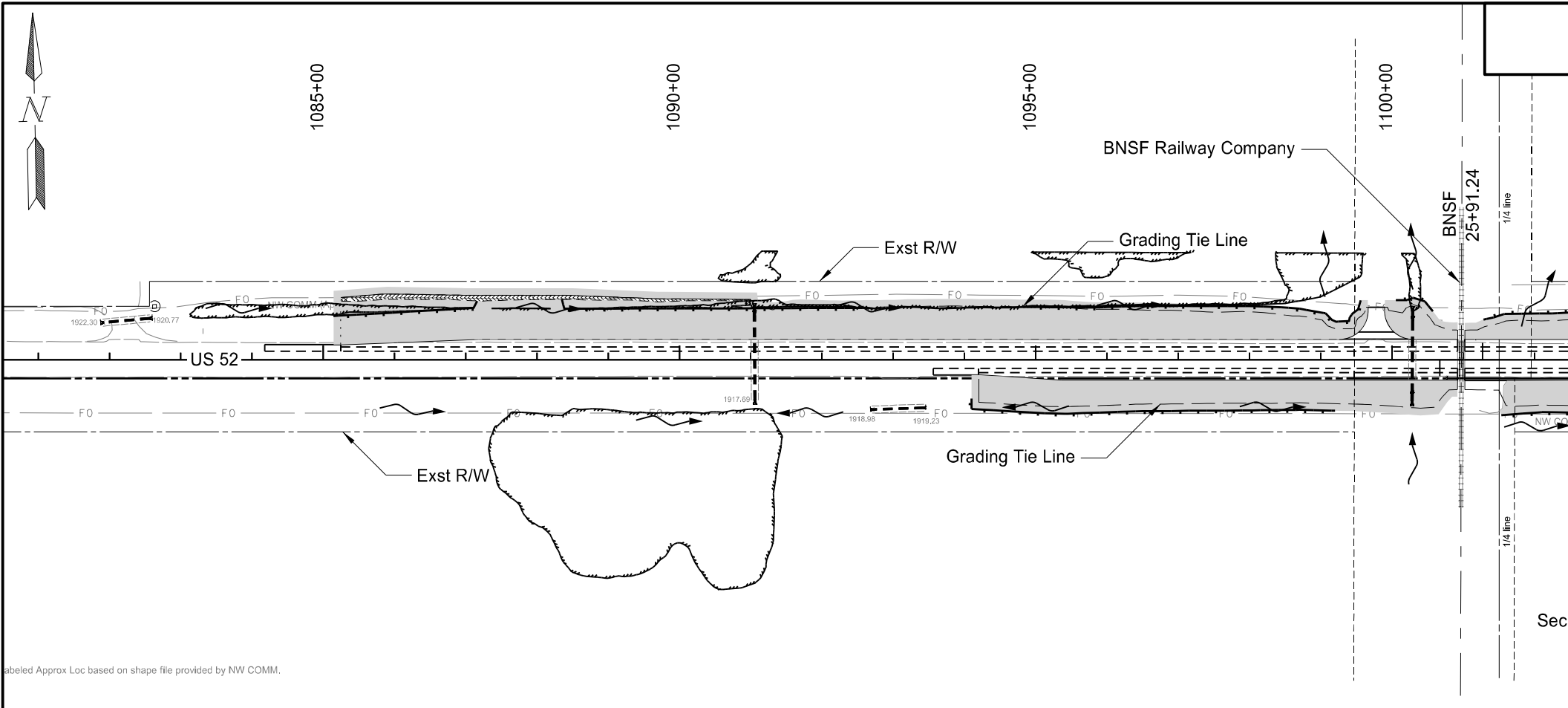
- Legend
- Seeding / Soil Stabilization
 - Wetland Seeding
 - Erosion Control Blanket
 - Fiber Rolls 12IN
 - Wetland Boundary
 - Existing Other Water Boundary
 - Grading Tie Line (Cut)
 - Grading Tie Line (Fill)
 - Grading Tie Line (Transition)
 - Flow Direction



Permanent Sediment and Erosion Control
RP 6.9

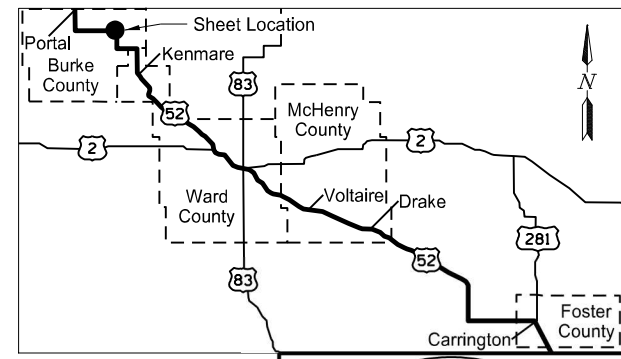
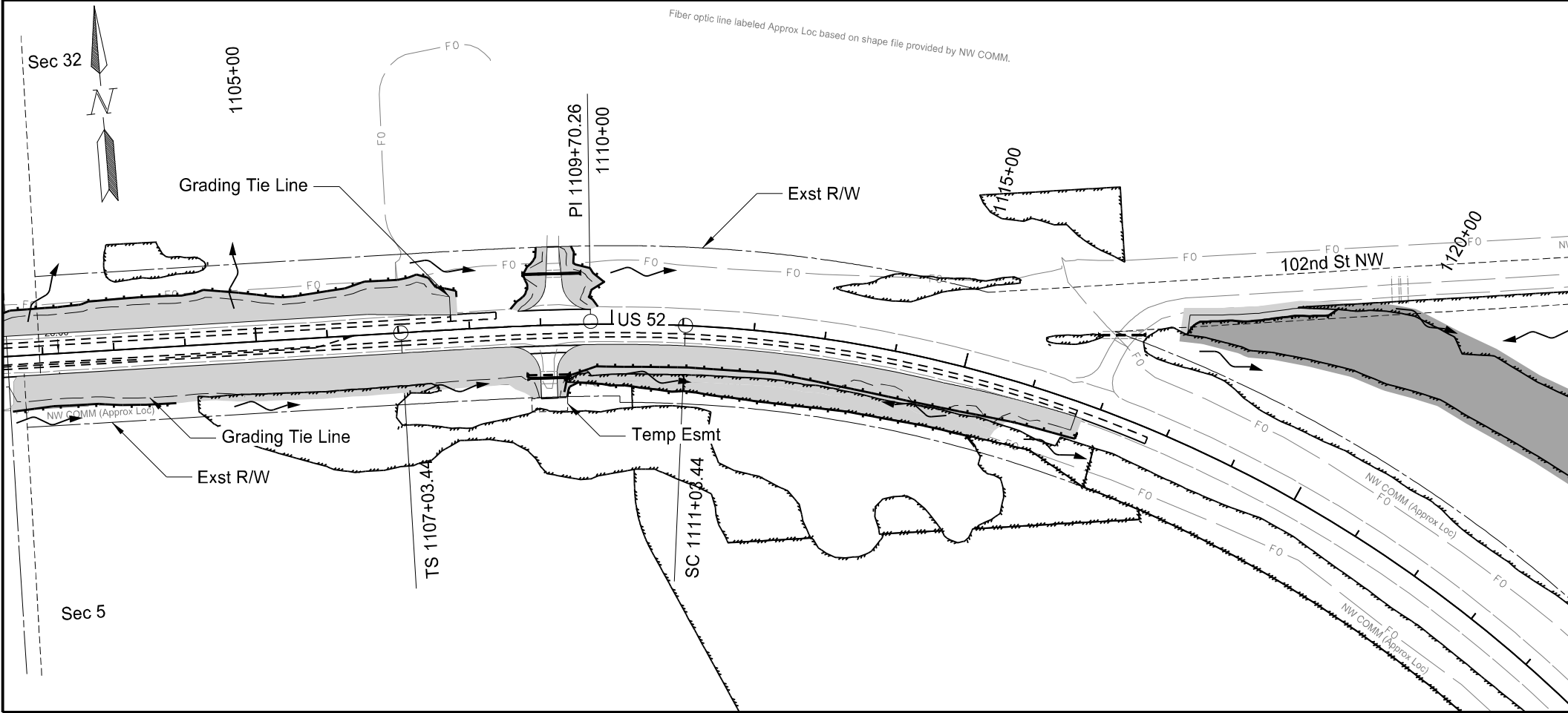
US 52
South of Portal to Carrington
Burke County

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	HEN-9-052(485)006	77	2



SPEC	CODE	BID ITEM	QTY	UNIT
251	0200	Seeding Class II		
		1085+14 to 1116+80	5.38	ACRE
253	0061	Soil Stabilization		
		1085+14 to 1116+80	5.31	ACRE
255	0102	ECB Type 2		
		1085+24 Lt to 1091+00 Lt	344	SY

*NOTE: See Section 77, Sheet 11 for Fiber Roll data



Legend

	Seeding / Soil Stabilization
	Wetland Seeding
	Erosion Control Blanket
	Fiber Rolls 12IN
	Wetland Boundary
	Existing Other Water Boundary
	Grading Tie Line (Cut)
	Grading Tie Line (Fill)
	Grading Tie Line (Transition)
	Flow Direction



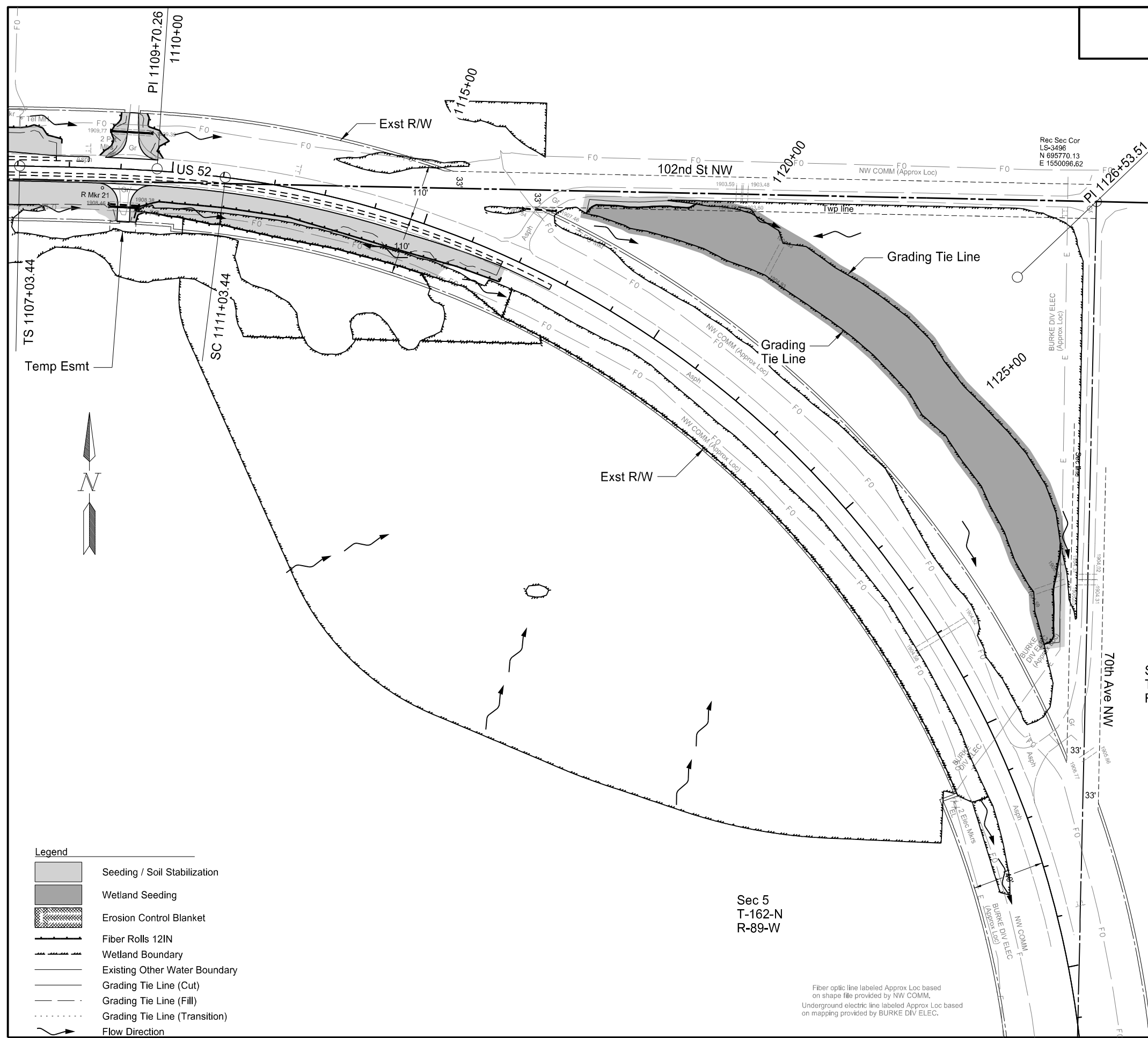
Permanent Sediment and Erosion Control
RP 20.6

US 52
South of Portal to Carrington
Burke County

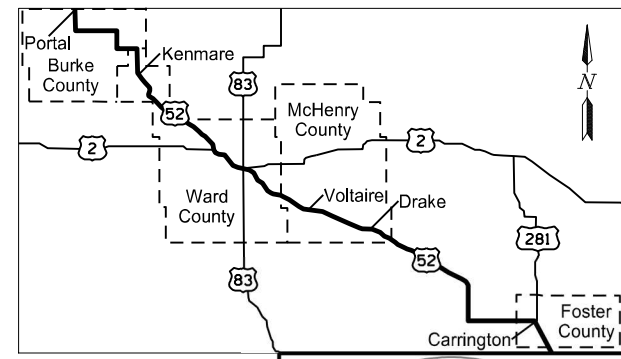
STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	HEN-9-052(485)006	77	3

SPEC	CODE	BID ITEM	QTY	UNIT
251	0200	Seeding Class II		
		1117+55 to 1129+38	0.19	ACRE
251	1000	Wetland Seed		
		1117+72 to 1131+87	3.09	ACRE
253	0061	Soil Stabilization		
		1117+55 to 1129+38	3.28	ACRE

*NOTE: See Section 77, Sheet 11 for Fiber Roll data



- Legend**
- Seeding / Soil Stabilization
 - Wetland Seeding
 - Erosion Control Blanket
 - Fiber Rolls 12IN
 - Wetland Boundary
 - Existing Other Water Boundary
 - Grading Tie Line (Cut)
 - Grading Tie Line (Fill)
 - Grading Tie Line (Transition)
 - Flow Direction

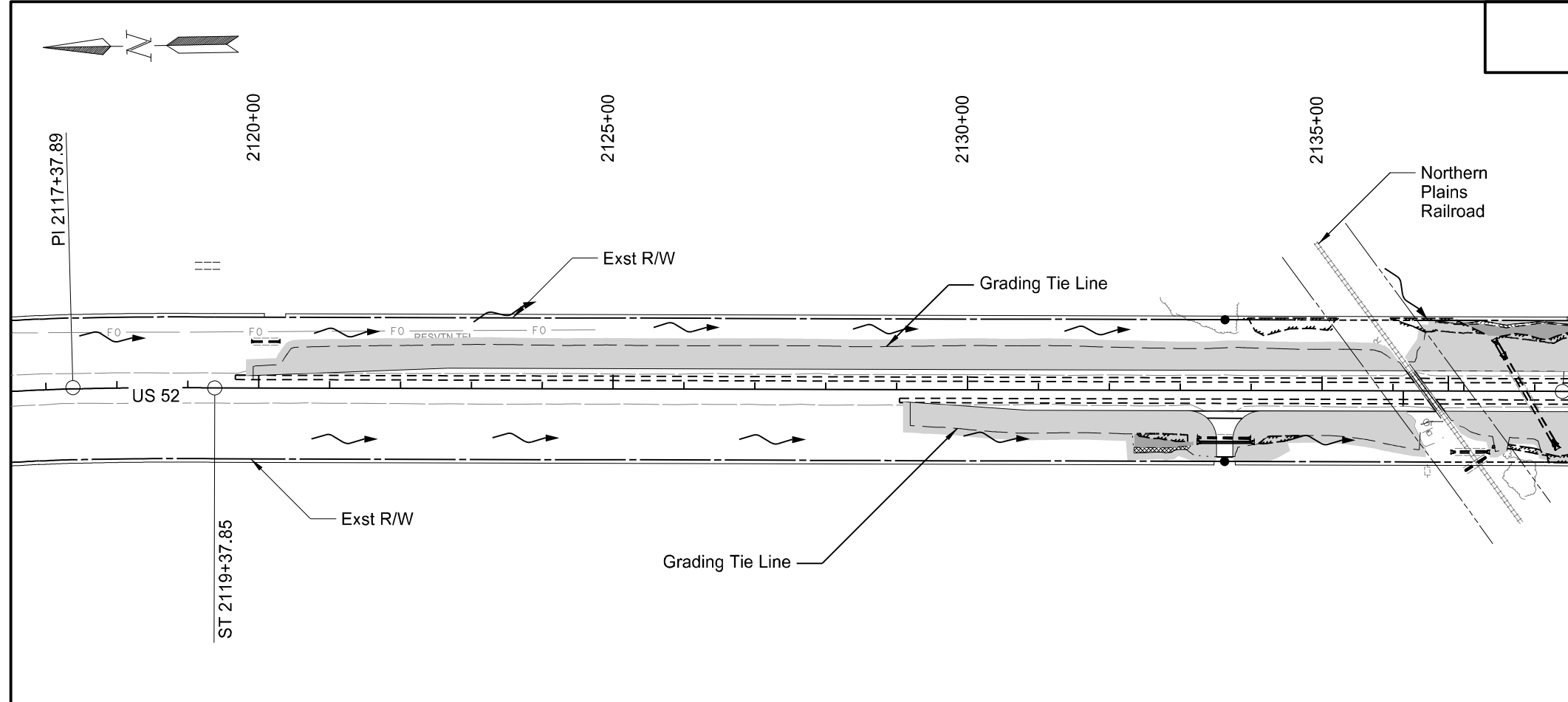


Permanent Sediment and Erosion Control
RP 20.6

US 52
South of Portal to Carrington
Burke County

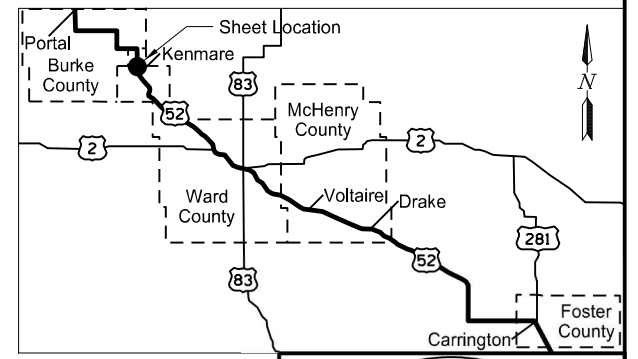
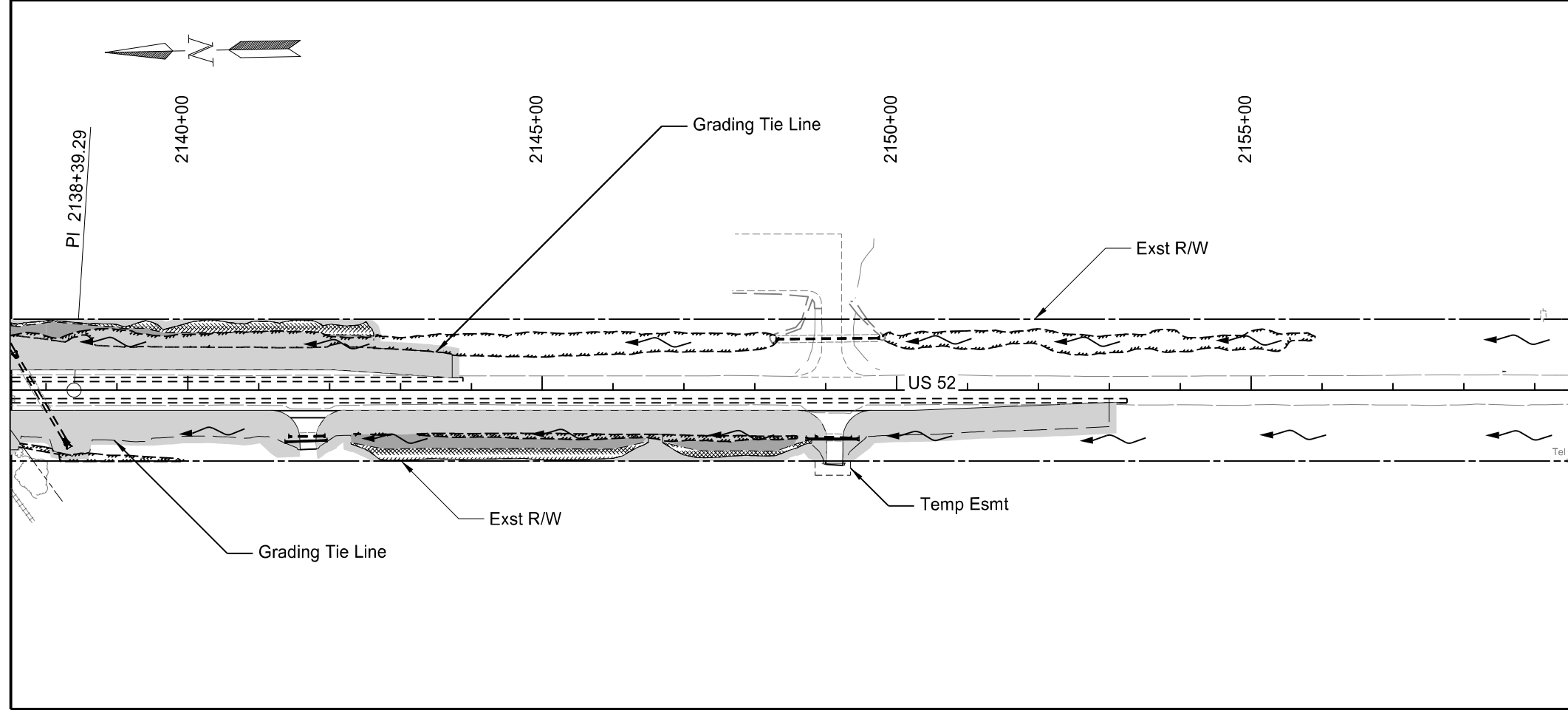
Fiber optic line labeled Approx Loc based on shape file provided by NW COMM.
Underground electric line labeled Approx Loc based on mapping provided by BURKE DIV ELEC.

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	HEN-9-052(485)006	77	4

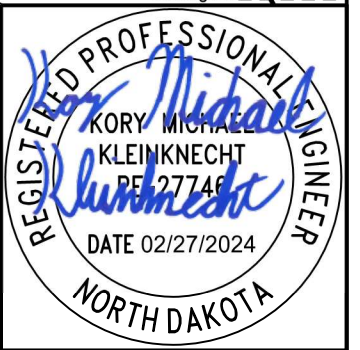


SPEC	CODE	BID ITEM	QTY	UNIT
251	0200	Seeding Class II		
		2119+82 to 2153+10	5.34	ACRE
251	1000	Wetland Seed		
		2119+82 to 2153+10	0.29	ACRE
253	0061	Soil Stabilization		
		2119+82 to 2153+10	5.04	ACRE
255	0102	ECB Type 2		
		2132+35 Rt to 2133+15 Rt	53	SY
		2136+60 Lt to 2142+62 Lt	572	SY
		2142+30 Rt to 2146+50 Rt	629	SY
		2146+70 Rt to 2148+80 Rt	171	SY

*NOTE: See Section 77, Sheet 11 for Fiber Roll data



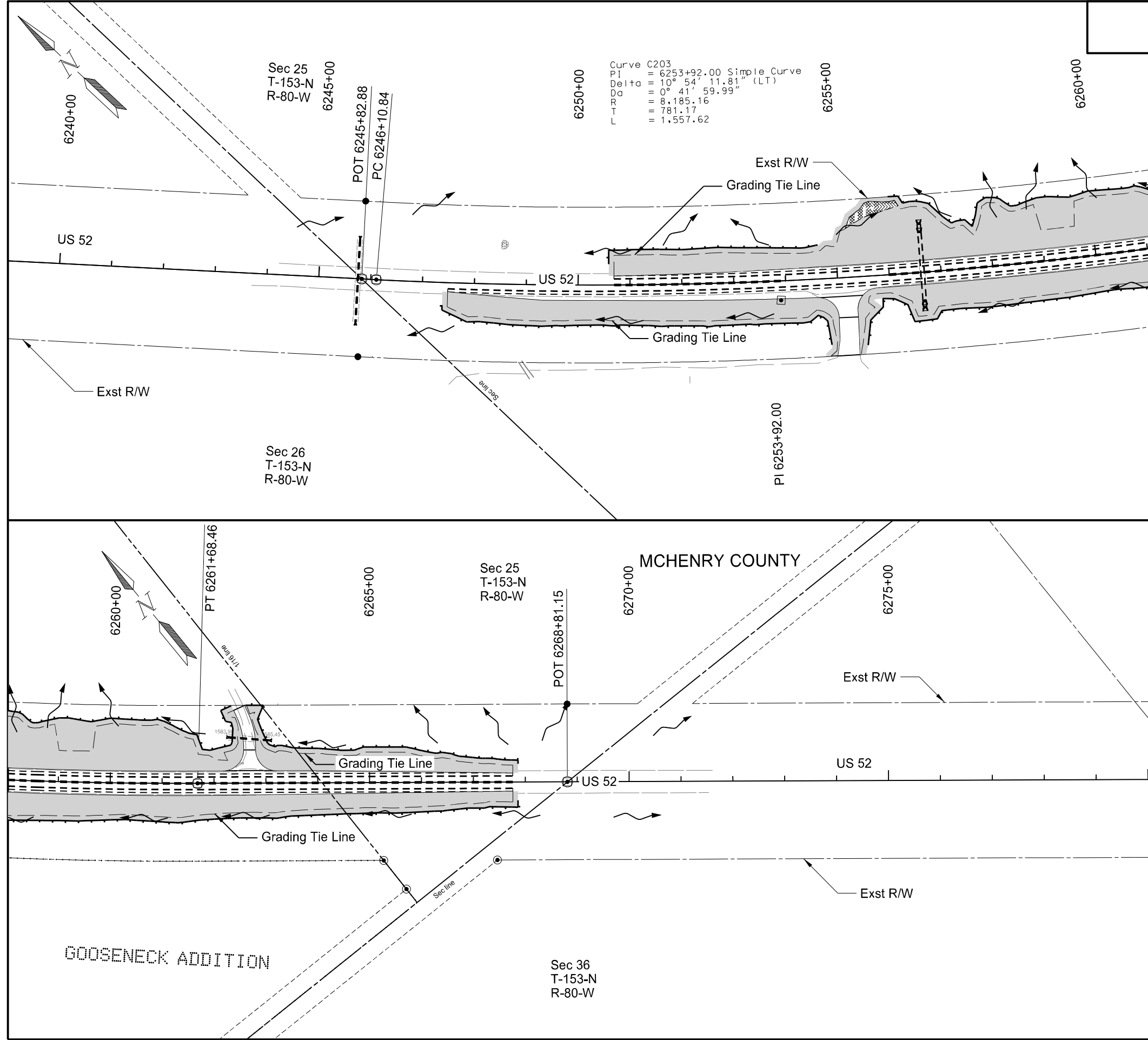
- Legend
- Seeding / Soil Stabilization
 - Wetland Seeding
 - Erosion Control Blanket
 - Fiber Rolls 12IN
 - Wetland Boundary
 - Existing Other Water Boundary
 - Grading Tie Line (Cut)
 - Grading Tie Line (Fill)
 - Grading Tie Line (Transition)
 - Flow Direction



Permanent Sediment and Erosion Control
RP 40.4

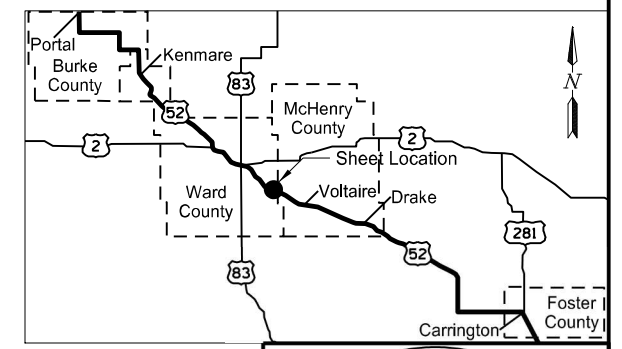
US 52
South of Portal to Carrington
Ward County

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	HEN-9-052(485)006	77	5



SPEC	CODE	BID ITEM	QTY	UNIT
251	0200	Seeding Class II		
		6247+39 to 6267+86	4.70	ACRE
253	0061	Soil Stabilization		
		6247+39 to 6267+86	4.66	ACRE
255	0102	ECB Type 2		
		6255+21 Lt to 6256+26 Lt	205	SY

*NOTE: See Section 77, Sheet 11 for Fiber Roll data

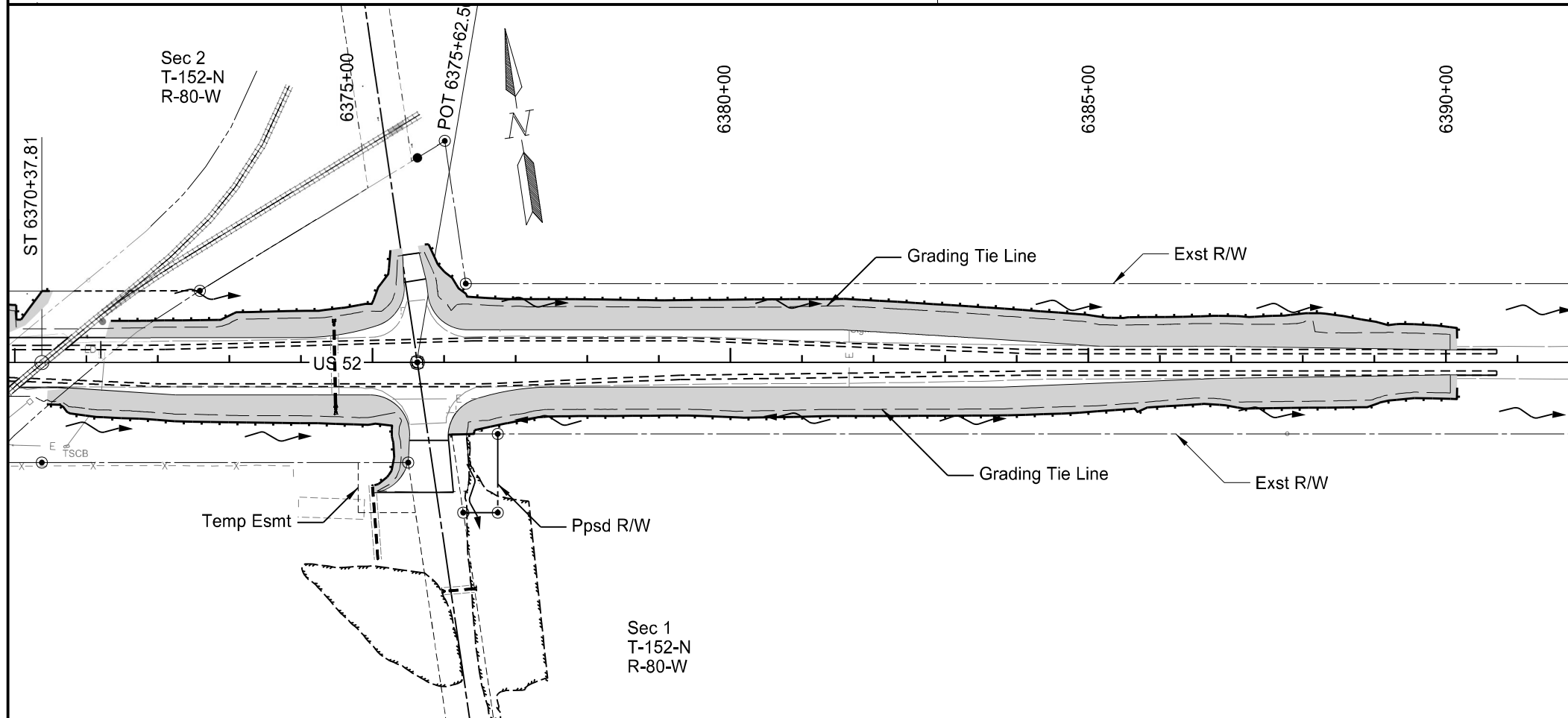
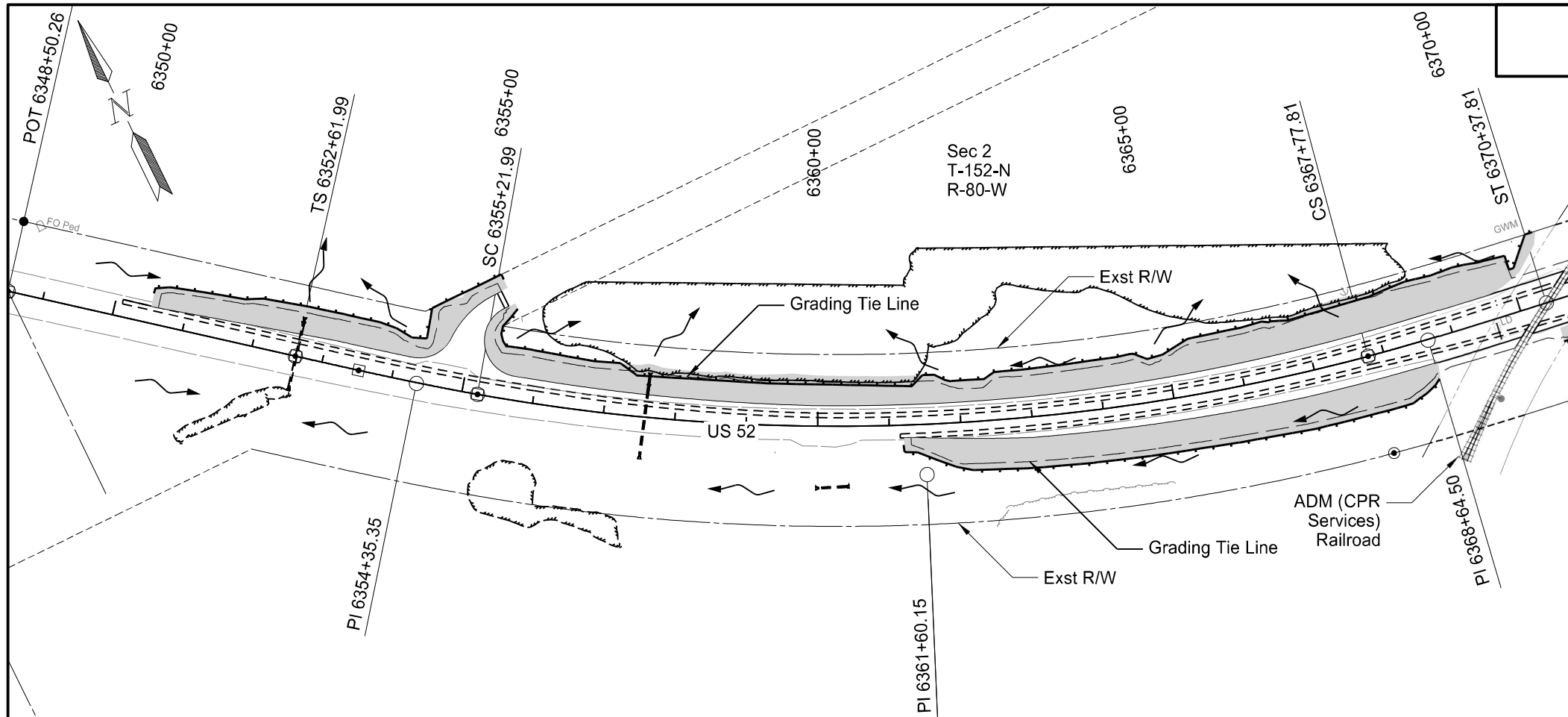


- Legend**
- Seeding / Soil Stabilization
 - Wetland Seeding
 - Erosion Control Blanket
 - Fiber Rolls 12IN
 - Wetland Boundary
 - Existing Other Water Boundary
 - Grading Tie Line (Cut)
 - Grading Tie Line (Fill)
 - Grading Tie Line (Transition)
 - Flow Direction



Permanent Sediment and Erosion Control
RP 118.5

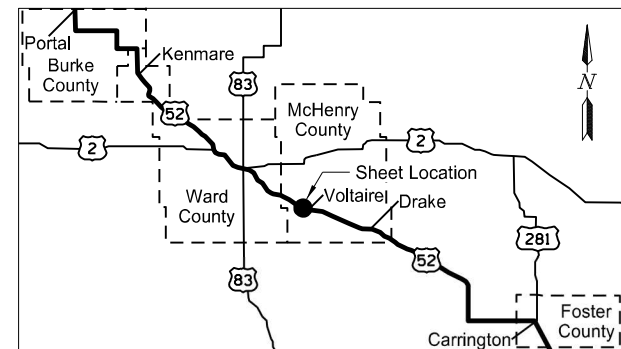
US 52
South of Portal to Carrington
McHenry County



STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	HEN-9-052(485)006	77	6

SPEC	CODE	BID ITEM	QTY	UNIT
251	0200	Seeding Class II		
		6350+50 to 6390+16	6.05	ACRE
253	0061	Soil Stabilization		
		6350+50 to 6390+16	6.05	ACRE

*NOTE: See Section 77, Sheet 11 for Fiber Roll data

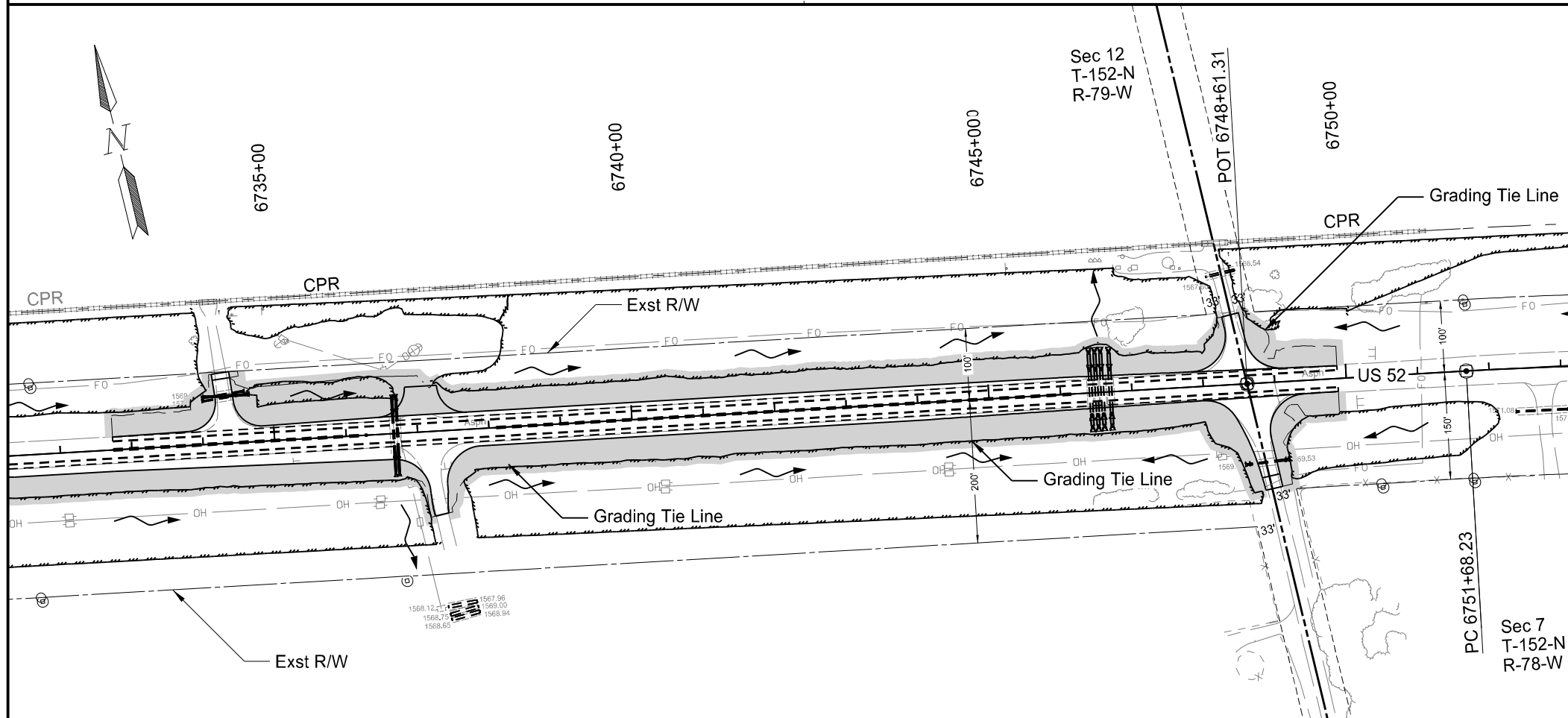
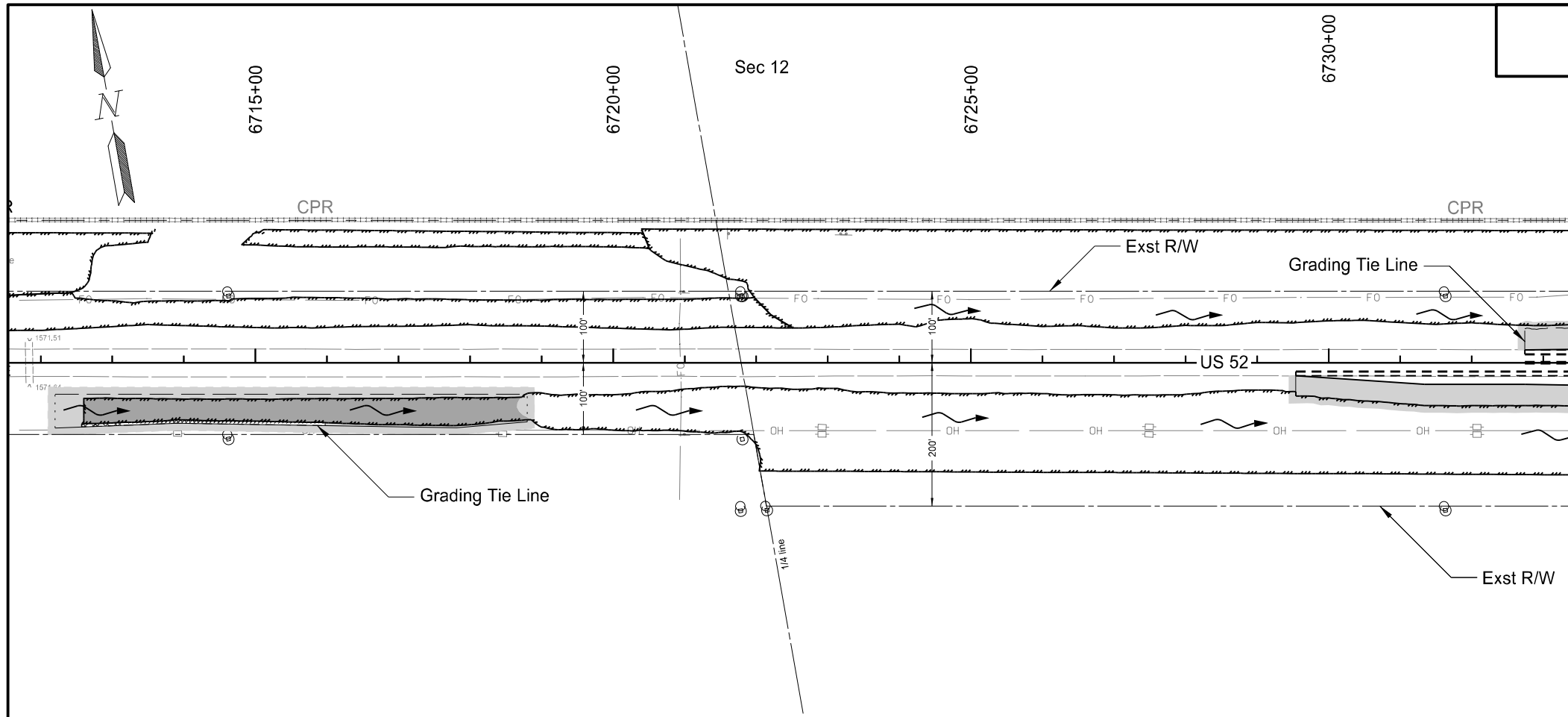


- Legend
- Seeding / Soil Stabilization
 - Wetland Seeding
 - Erosion Control Blanket
 - Fiber Rolls 12IN
 - Wetland Boundary
 - Existing Other Water Boundary
 - Grading Tie Line (Cut)
 - Grading Tie Line (Fill)
 - Grading Tie Line (Transition)
 - Flow Direction



Permanent Sediment and Erosion Control
RP 120.5

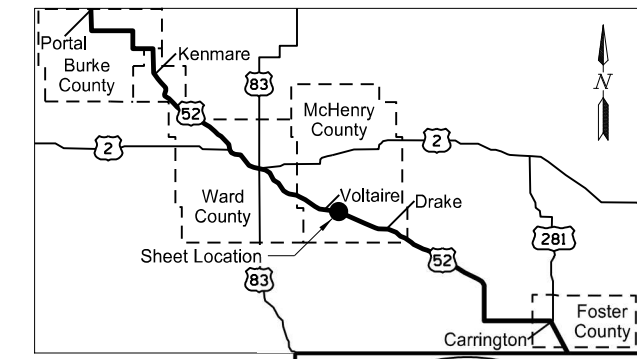
US 52
South of Portal to Carrington
McHenry County



STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	HEN-9-052(485)006	77	7

SPEC	CODE	BID ITEM	QTY	UNIT
251	0200	Seeding Class II		
		6712+10 to 6749+98	4.34	ACRE
251	1000	Wetland Seed		
		6712+60 to 6718+85	0.47	ACRE
253	0061	Soil Stabilization		
		6729+44 to 6749+98	4.31	ACRE
255	0102	ECB Type 2		
		6712+57 Rt to 6715+98 Rt	158	SY

*NOTE: See Section 77, Sheet 11 for Fiber Roll data



- Legend**
- Seeding / Soil Stabilization
 - Wetland Seeding
 - Erosion Control Blanket
 - Fiber Rolls 12IN
 - Wetland Boundary
 - Existing Other Water Boundary
 - Grading Tie Line (Cut)
 - Grading Tie Line (Fill)
 - Grading Tie Line (Transition)
 - Flow Direction



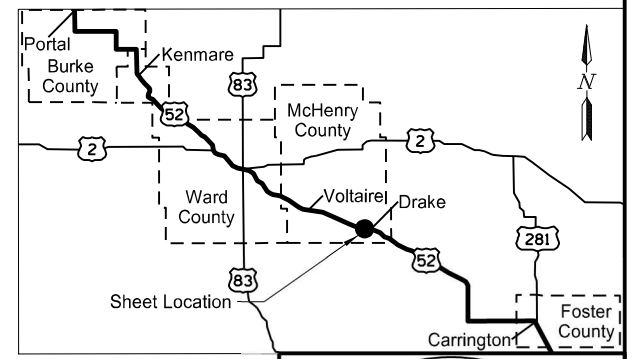
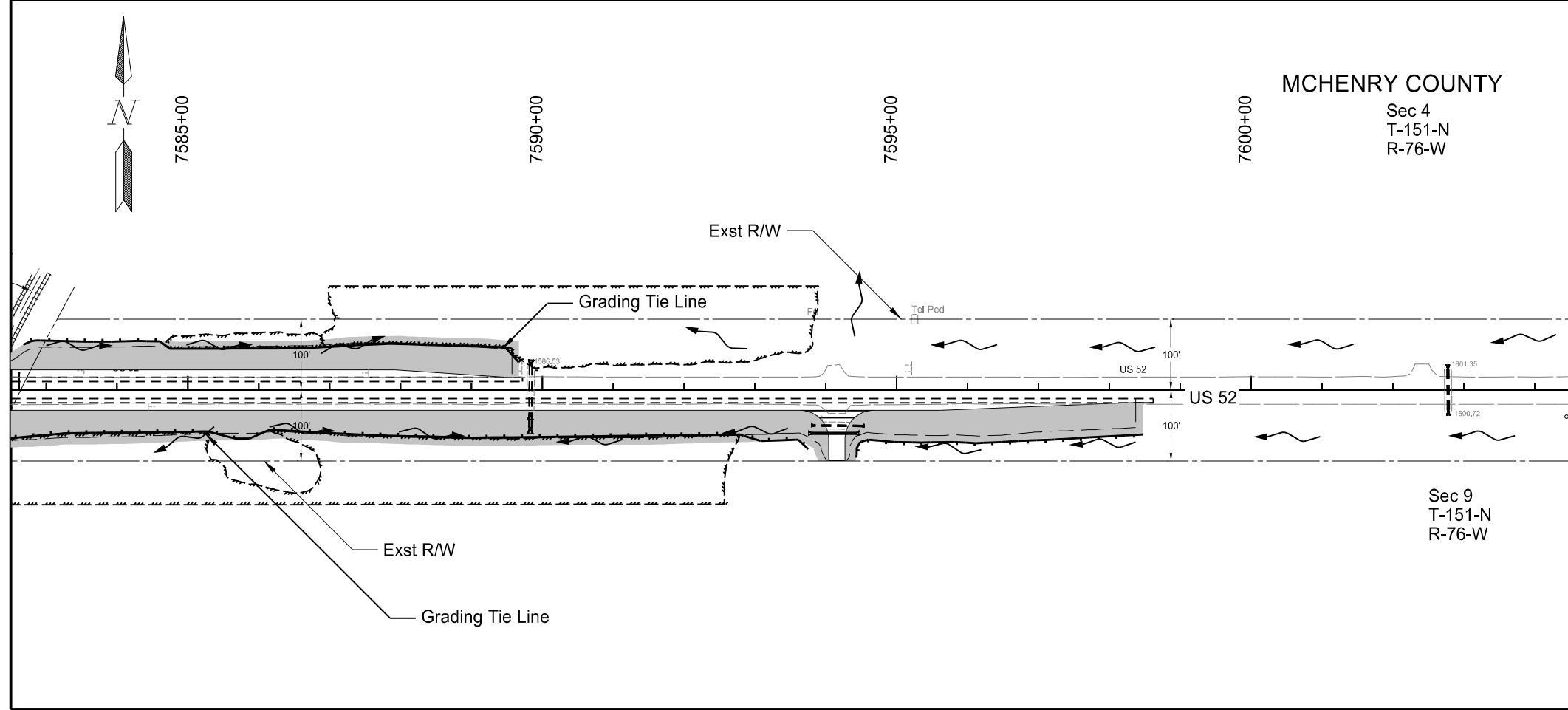
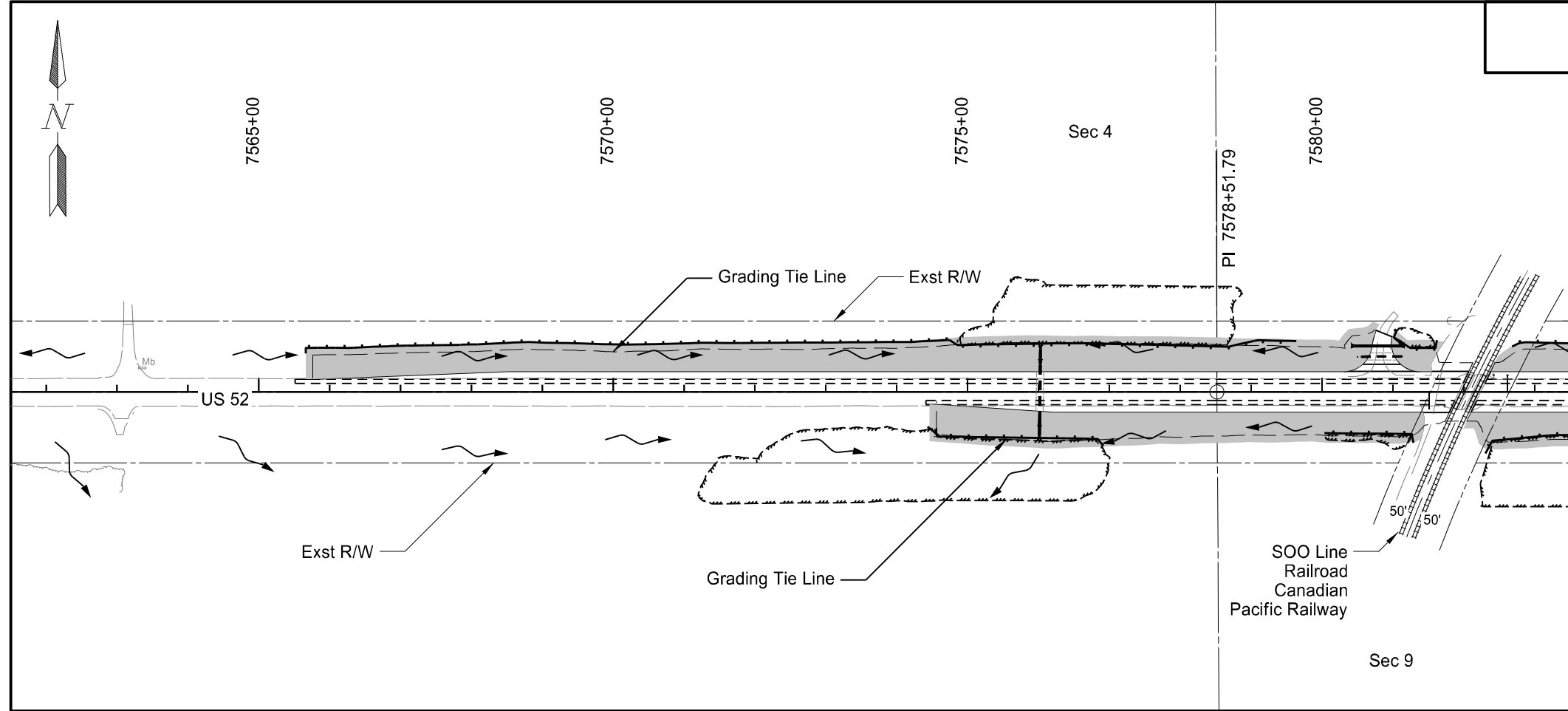
Permanent Sediment and Erosion Control
RP 127.6

US 52
South of Portal to Carrington
McHenry County

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	HEN-9-052(485)006	77	8

SPEC	CODE	BID ITEM	QTY	UNIT
251	0200	Seeding Class II		
		7565+66 to 7598+47	4.75	ACRE
253	0061	Soil Stabilization		
		7565+66 to 7598+47	4.75	ACRE

*NOTE: See Section 77, Sheet 11 for Fiber Roll data



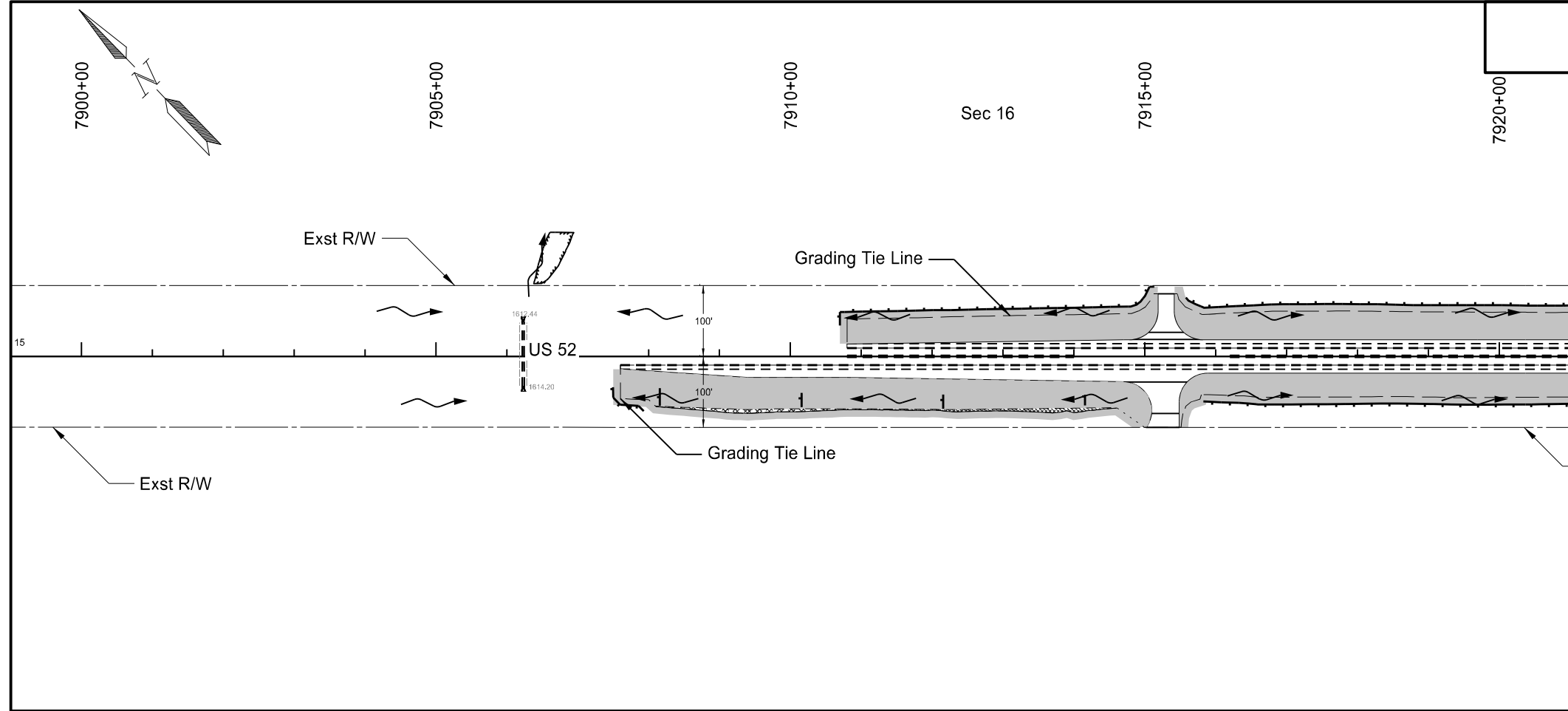
- Legend**
- Seeding / Soil Stabilization
 - Wetland Seeding
 - Erosion Control Blanket
 - Fiber Rolls 12IN
 - Wetland Boundary
 - Existing Other Water Boundary
 - Grading Tie Line (Cut)
 - Grading Tie Line (Fill)
 - Grading Tie Line (Transition)
 - Flow Direction



Permanent Sediment and Erosion Control
RP 143.5

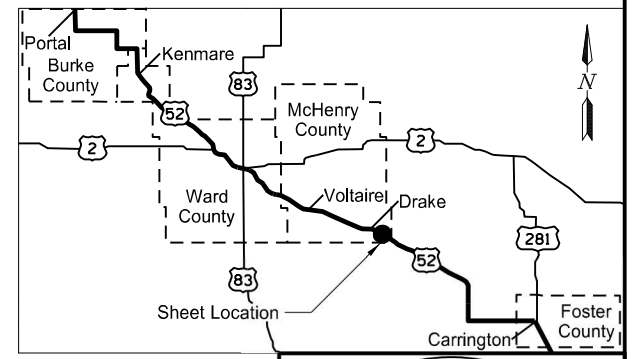
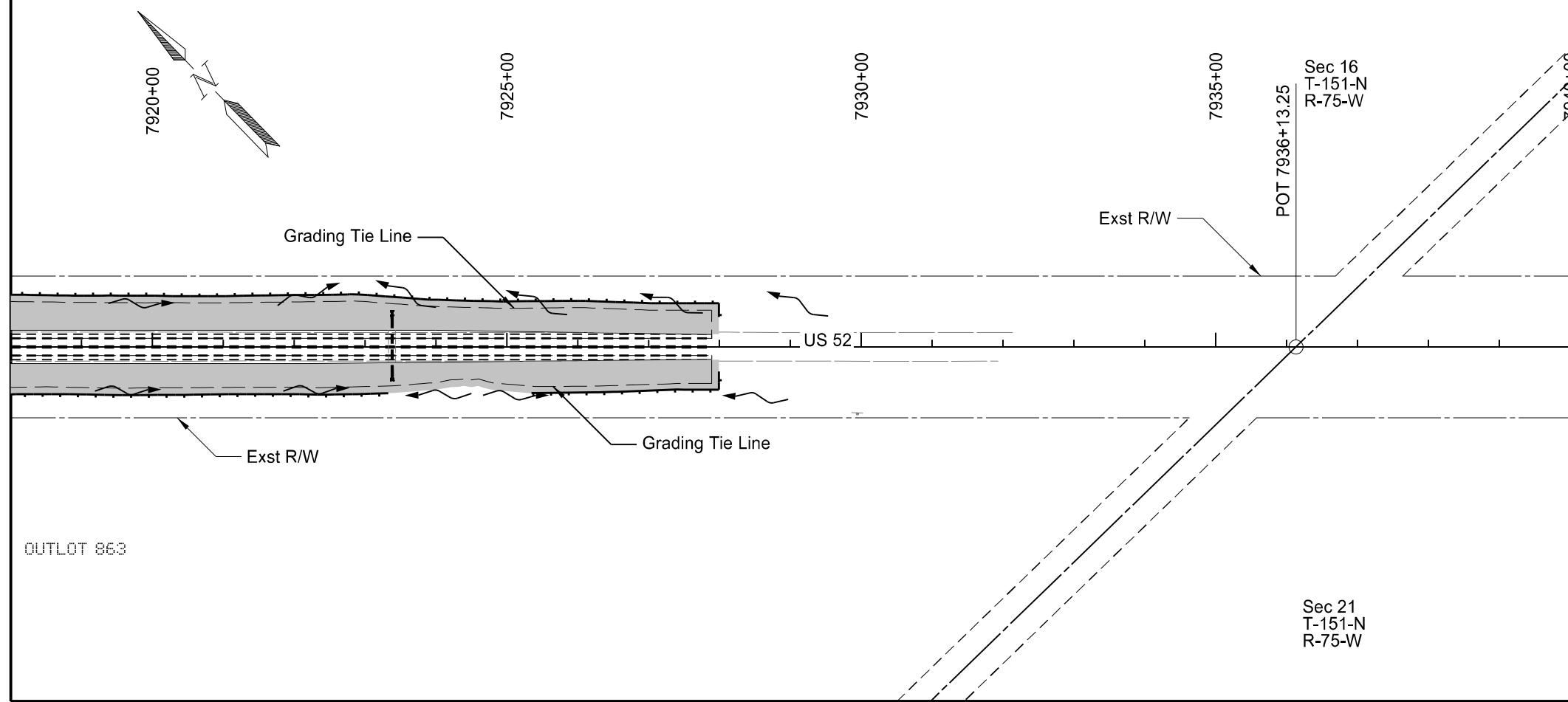
US 52
South of Portal to Carrington
McHenry County

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	HEN-9-052(485)006	77	9



SPEC	CODE	BID ITEM	QTY	UNIT
251	0200	Seeding Class II		
		7907+50 to 7927+99	4.03	ACRE
253	0061	Soil Stabilization		
		7907+50 to 7927+99	3.98	ACRE
255	0102	ECB Type 2		
		7908+00 Lt to 7914+60 Rt	218	SY

*NOTE: See Section 77, Sheet 11 for Fiber Roll data



- Legend**
- Seeding / Soil Stabilization
 - Wetland Seeding
 - Erosion Control Blanket
 - Fiber Rolls 12IN
 - Wetland Boundary
 - Existing Other Water Boundary
 - Grading Tie Line (Cut)
 - Grading Tie Line (Fill)
 - Grading Tie Line (Transition)
 - Flow Direction



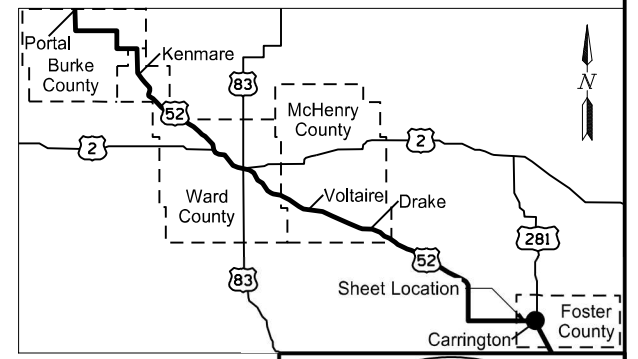
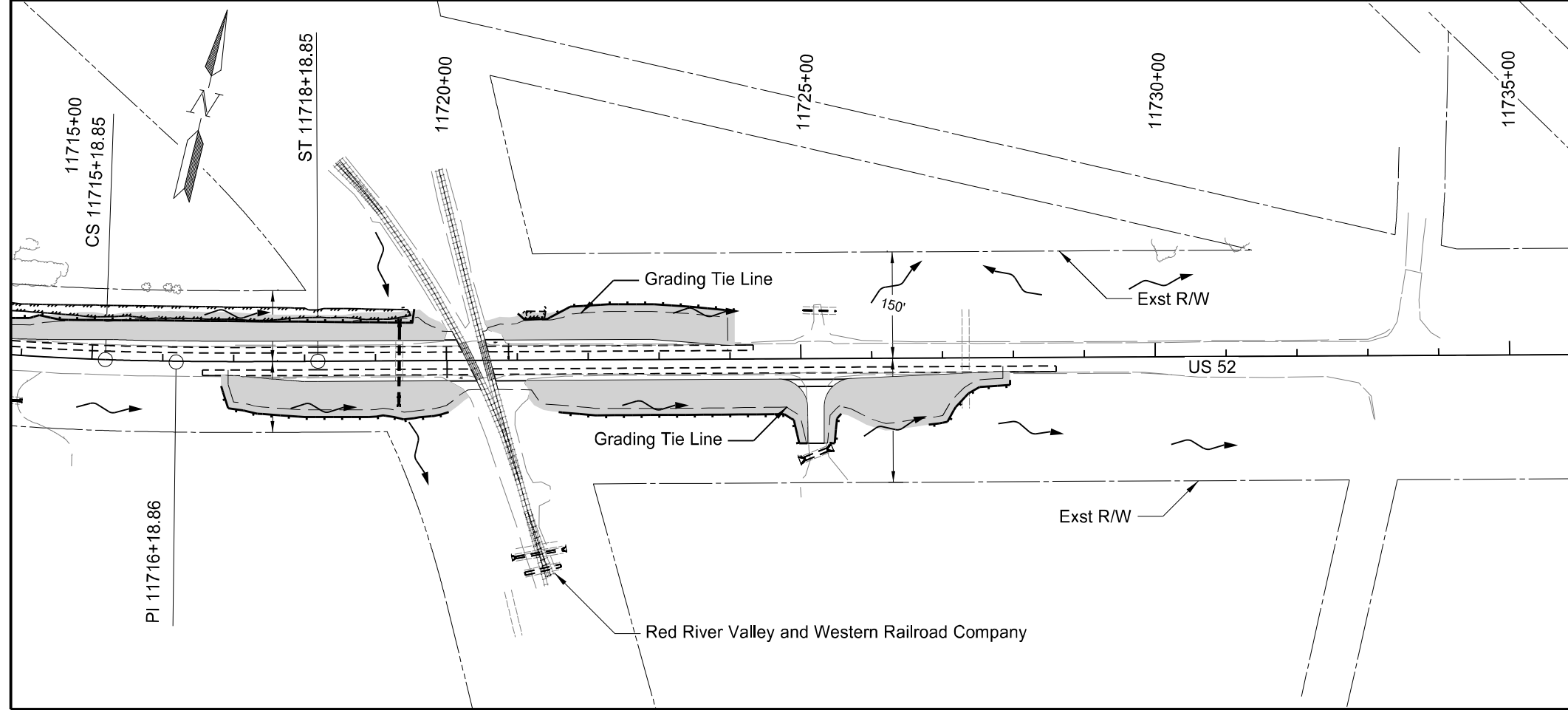
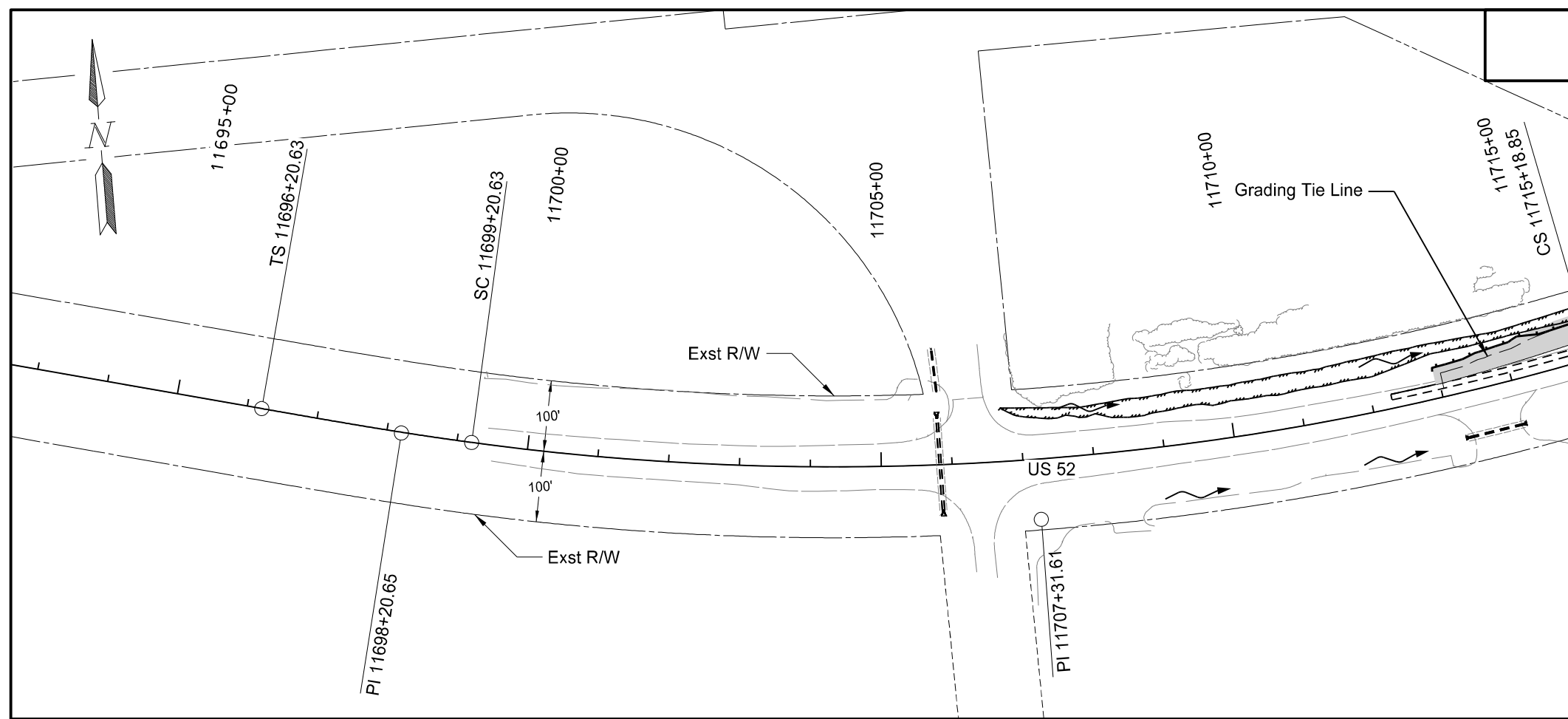
Permanent Sediment and Erosion Control
RP 149.9

US 52
South of Portal to Carrington
McHenry County

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	HEN-9-052(485)006	77	10

SPEC	CODE	BID ITEM	QTY	UNIT
251	0200	Seeding Class II		
		11712+94 to 11727+95	2.08	ACRE
253	0061	Soil Stabilization		
		11712+94 to 11727+95	2.08	ACRE

*NOTE: See Section 77, Sheet 11 for Fiber Roll data



- Legend**
- Seeding / Soil Stabilization
 - Wetland Seeding
 - Erosion Control Blanket
 - Fiber Rolls 12IN
 - Wetland Boundary
 - Existing Other Water Boundary
 - Grading Tie Line (Cut)
 - Grading Tie Line (Fill)
 - Grading Tie Line (Transition)
 - Flow Direction



Permanent Sediment and Erosion Control
RP 222.0

US 52
South of Portal to Carrington
Foster County

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	HEN-9-052(485)006	77	11

PERMANENT EROSION CONTROL - RUNOFF PROTECTION														
SITE 1 - ACCELERATION AND DECELERATION LANES - RP 6.9														
Station	to	Station	Offset	12 In. Fiber Roll (LF)	Station	to	Station	Offset	12 In. Fiber Roll (LF)	Station	to	Station	Offset	12 In. Fiber Roll (LF)
350+67	to	363+69	LT	1351	364+09	to	367+13	LT	334	367+83	to	370+92	RT	320
360+05	to	363+53	RT	375	364+41	to	367+42	RT	307	371+42	to	384+44	LT	1327
SITE 2 - ACCELERATION AND DECELERATION LANES - RP 20.6														
Station	to	Station	Offset	12 In. Fiber Roll (LF)	Station	to	Station	Offset	12 In. Fiber Roll (LF)	Station	to	Station	Offset	12 In. Fiber Roll (LF)
1085+14	to	1087+16	LT	208	1101+28	to	1107+84	LT	680	1109+31	to	1116+80	RT	765
1088+44	to	1092+59	LT	432	1101+53	to	1103+83	RT	230	1109+35	to	1115+44	RT	598
1094+10	to	1099+20	RT	525	1108+58	to	1108+97	LT	103					
1094+83	to	1099+56	LT	497	1109+35	to	1116+80	RT	771					
1100+05	to	1100+57	LT	60	1109+45	to	1109+89	LT	128					
SITE 3 - ACCELERATION AND DECELERATION LANES - RP 40.4														
Station	to	Station	Offset	12 In. Fiber Roll (LF)	Station	to	Station	Offset	12 In. Fiber Roll (LF)	Station	to	Station	Offset	12 In. Fiber Roll (LF)
2119+82	to	2135+73	LT	1610	2134+32	to	2136+47	RT	295	2142+28	to	2148+58	RT	630
2129+09	to	2132+23	RT	330	2136+35	to	2143+88	LT	755	2149+69	to	2153+11	RT	360
2132+30	to	2133+19	RT	210	2137+47	to	2141+33	RT	408					
SITE 4 - EB AND WB TURN LANES- RP 118.5														
Station	to	Station	Offset	12 In. Fiber Roll (LF)	Station	to	Station	Offset	12 In. Fiber Roll (LF)	Station	to	Station	Offset	12 In. Fiber Roll (LF)
6247+39	to	6254+82	RT	814	6255+51	to	6267+86	RT	1357	6262+61	to	6267+86	LT	610
6250+59	to	6254+65	LT	430	6256+08	to	6262+34	LT	822					
SITE 5- ACCELERATION AND DECELERATION LANES- RP 120.5														
Station	to	Station	Offset	12 In. Fiber Roll (LF)	Station	to	Station	Offset	12 In. Fiber Roll (LF)	Station	to	Station	Offset	12 In. Fiber Roll (LF)
6350+50	to	6355+30	LT	555	6370+45	to	6375+30	RT	584	6375+72	to	6390+16	LT	1500
6355+58	to	6370+49	LT	1591	6371+34	to	6375+25	LT	450	6376+06	to	6390+16	RT	1438
6361+19	to	6368+65	RT	785										
SITE 6- EB AND WB TURN LANES- RP 127.6														
Station	to	Station	Offset	12 In. Fiber Roll (LF)	Station	to	Station	Offset	12 In. Fiber Roll (LF)	Station	to	Station	Offset	12 In. Fiber Roll (LF)
6712+55	to	6719+04	RT	700	6734+48	to	6737+29	LT	315	6748+56	to	6749+98	LT	182
6729+44	to	6737+14	RT	821	6734+64	to	6748+26	LT	1423	6749+11	to	6750+00	RT	173
6732+60	to	6734+09	LT	183	6737+47	to	6748+79	RT	1241					
SITE 7- ACCELERATION AND DECELERATION LANES- RP 143.5														
Station	to	Station	Offset	12 In. Fiber Roll (LF)	Station	to	Station	Offset	12 In. Fiber Roll (LF)	Station	to	Station	Offset	12 In. Fiber Roll (LF)
7565+66	to	7579+64	LT	1409	7581+01	to	7581+62	LT	86	7582+68	to	7589+67	LT	713
7574+43	to	7576+92	RT	258	7582+30	to	7593+75	RT	1167	7594+43	to	7598+47	LT	423
7580+04	to	7581+29	RT	136										
SITE 8- EB AND WB TURN LANES- RP 149.9														
Station	to	Station	Offset	12 In. Fiber Roll (LF)	Station	to	Station	Offset	12 In. Fiber Roll (LF)	Station	to	Station	Offset	12 In. Fiber Roll (LF)
7907+50	to	7907+93	RT	65	7910+70	to	7915+14	LT	475	7915+58	to	7927+99	LT	1265
7908+16	to	7908+16	RT	25	7912+16	to	7912+16	RT	20	7915+80	to	7923+30	RT	750
7910+16	to	7910+16	RT	20	7914+16	to	7914+16	RT	15	7925+35	to	7927+99	RT	290
SITE 9- ACCELERATION AND DECELERATION LANES- RP 222.0														
Station	to	Station	Offset	12 In. Fiber Roll (LF)	Station	to	Station	Offset	12 In. Fiber Roll (LF)	Station	to	Station	Offset	12 In. Fiber Roll (LF)
11712+93	to	11719+55	LT	680	11721+01	to	11724+07	LT	314	11725+42	to	11725+57	RT	50
11716+82	to	11720+03	RT	347	11721+58	to	11725+09	RT	380	11726+80	to	11727+95	RT	145

SPEC	CODE	BID	ITEM	QTY	UNIT
261	0112	Fiber Rolls	12in	38616	LF



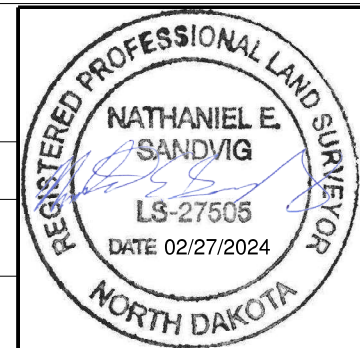
Permanent Sediment and Erosion Control

US 52
South of Portal to Carrington

PRELIMINARY SURVEY COORDINATE AND CURVE DATA - US 52 - RR Accel/Decel Lanes

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	HEN-9-052(485)006	81	2

HORIZONTAL ALIGNMENT				CURVE DATA		US PUBLIC LAND SURVEY DATA				SURVEY CONTROL POINTS					
PNT	STATION	NORTHING	EASTING	ARC DEFINITION		CORNER	IRN	NORTHING	EASTING	PNT	NORTHING	EASTING	ELEV	STATION	OFFSET
										MONUMENT DESCRIPTION					
US 52 (SCL52S_1)										T-160-N R-88-W					
TS	2104+30.33	631703.03	1586351.39			NW Cor Sec 6	1-A	631655.06	1581767.84						
Twp Line Xing	2105+97.72 (Bk Tan)	631556.66	1586432.60			N 1/4 Cor Sec 6	2-A	631606.33	1584093.99						
SC	2107+30.33	631437.63	1586491.15			NE Cor Sec 6	3-A	631550.28	1586734.82						
PI SCS1001	2111+98.88	631030.98	1586724.24	Curve SCS1001		N 1/4 Cor Sec 5	4-A	631494.89	1589370.52	GPS52-9 642132.42 1585965.26 1919.12' 1998+47 136' Lt #5 Rebar w/Alum cap stamped GPS#9 (SCL52S_1)					
CS	2116+37.85	630562.54	1586708.15	PI = 2111+98.88		NE Cor Sec 5	5-A	631440.25	1592006.99	GPS52-10 635184.58 1585619.73 1937.34' 2068+00 82' Rt #5 Rebar w/Alum cap stamped GPS#10 (SCL52S_1)					
ST	2119+37.85	630262.59	1586708.59	Delta = 30° 11' 17" (RT)		W 1/4 Cor Sec 6	1-B	628935.13	1581705.40						
Rec 1/4 Cor	2133+62.85	628837.89	1586679.57	Da = 2° 30' 00"		E 1/4 Cor Sec 6	3-B	628837.89	1586679.57						
Rec Sec Cor	2160+07.30	626193.99	1586625.64	R = 2,291.83		E 1/4 Cor Sec 5	5-B	628732.73	1591952.96						
				L = 907.52		SW Cor Sec 6	1-C	626290.95	1581648.56						
				Ls = 300.00		S 1/4 Cor Sec 6	2-C	626247.45	1583981.64	R Mkr # NORTHING EASTING STATION OFFSET ALIGNMENT					
				Sc = 3° 45' 00"		SE Cor Sec 6	3-C	626193.99	1586625.64	40 631004.42 1586590.12 2111+77 53' Rt SCL52S_1					
				Ts = 768.55		S 1/4 Cor Sec 5	4-C	626140.34	1589263.13						
						SE Cor Sec 5	5-C	626089.07	1591901.02						
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p>NOTES: Sheet 2 of 5 A portion of the partial alignment and some of the PLSS corners shown hereon are the same as those shown on Preliminary Survey Coordinate and Curve Data sheet 1 for Project No. HEN-4-052(093)036 and verified as correct by the undersigning surveyor. Alignment for SCL52S_1 based on the following R/W plats: Proj No. F-7-52(11)027 (0052_027_1978_08_22), Proj. No. F.A.P. 228 (0052_036_1954_08_10) See Project No. HEN-4-052(093)036 for Primary Control Monument Coordinates.</p> </div> <div style="width: 30%;"> <p>Date Survey Completed 11/20/22</p> </div> <div style="width: 15%;"> <p><input type="checkbox"/> Assumed Coordinates <input checked="" type="checkbox"/> All coordinates on this sheet are Ward County ground coordinates. They are derived from the NAD83(2011) reference frame; North Dakota North Zone Combination Factor (cf) = 0.9998530</p> </div> <div style="width: 10%;"> <p>INITIALIZING BENCH MARK NDGPS Stations (OPUS) <input checked="" type="checkbox"/> NAVD-88 <input type="checkbox"/> _____ <input checked="" type="checkbox"/> GEOID12B <input type="checkbox"/> GEOID18</p> </div> </div>															



PRELIMINARY SURVEY COORDINATE AND CURVE DATA - US 52 - RR Accel/Decel Lanes

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	HEN-9-052(485)006	81	3

HORIZONTAL ALIGNMENT				CURVE DATA		US PUBLIC LAND SURVEY DATA				SURVEY CONTROL POINTS											
PNT	STATION	NORTHING	EASTING	ARC DEFINITION		CORNER	IRN	NORTHING	EASTING	PNT	NORTHING	EASTING	ELEV	STATION	OFFSET						
										MONUMENT DESCRIPTION											
US 52 (SCL_HWY52_RP117)										T-153-N R-80-W											
Begin	6235+00.00	380961.04	1868440.29	Curve C203		E 1/4 Sec 26	11-K	381243.05	1869144.46	PRIMARY CONTROL											
Sec line Xing	6245+82.88	380133.33	1869138.51	PI	= 6253+92.00	N 1/4 Sec 35	10-L	378607.67	1866481.27												
PC	6246+10.84	380111.96	1869156.54	Delta	= 10° 54' 12" (LT)	NE Cor Sec 35	11-L	378588.58	1869130.24							GPS 52-7	388420.15	1854564.24	1514.09	6028+36	52' Lt
PI C203	6253+92.00	379514.86	1869660.23	Da	= 0° 42' 00"	N 1/4 Cor Sec 36	12-L	378568.65	1871771.06							#5 rebar with plastic cap "ULTEIG CONTROL POINT"					
PT	6261+68.46	379023.82	1870267.76	R	= 8185.16	S 1/4 Cor Sec 36	12-N	373280.13	1871736.57	GPS 52-6	371536.77	1885691.73	1589.50	6438+72	40' Rt						
Sec line Xing	6268+81.15	378575.81	1870822.04	T	= 781.17					#5 rebar with plastic cap "ULTEIG CONTROL POINT"											
End 1/4 line Xing	6280+95.06	377812.74	1871766.13	L	= 1557.62	T-153-N R-79-W				SECONDARY CONTROL											
						NW Cor Sec 31	1-L	378552.07	1874413.35												
						W 1/4 Cor Sec 31	1-M	375914.54	1874385.69												
						SW Cor Sec 31	1-N	373262.36	1874361.36							RTK 22139	380375.74	1868866.10	1568.87	6242+22	52' Rt
US 52 (SCL_HWY52_RP118)										N 1/4 Cor Sec 31 2-L 378555.53 1877063.84											
Begin 1/4 line Xing	6280+95.06	377812.74	1871766.13			Center Cor Sec 31	2-M	375893.90	1877037.67	BM B224	378634.57	1870983.73	1588.33	6269+70	147' Lt						
Twp line Xing	6314+60.73	375697.07	1874383.69			S 1/4 Cor Sec 31	2-N	373252.24	1877017.41	BM C224	375542.34	1874732.57	1573.05	6318+29	99' Lt						
Station Intersection US 52 (SCL_HWY52_RP118) at ND 97 (SCL_HWY97)										NE Cor Sec 31 3-L 378541.08 1879699.24											
US 52	6347+08.80	373655.32	1876909.80			SE Cor Sec 31	3-N	373242.21	1879658.10	REFERENCE MARKERS											
ND 97	133+27.25	373655.32	1876909.80	Curve SCS27658												R Mkr #	Northing	Easting	Station	Offset	Alignment
1/4 line Xing	6348+50.26	373566.40	1877019.82	PI	= 6361+68.35	T-152-N R-80-W				121	372276.86	1880805.79	6389+30	41' Rt	SCL_HWY52_RP118						
TS	6352+61.99	373307.58	1877340.04	Delta	= 30° 18' 54" (LT)	N 1/4 Cor Sec 3	8-A	373281.73	1871502.41												
SC	6355+21.99	373147.24	1877544.67	Da	= 2° 00' 00"	NE Closing Cor Sec 3	9-A	373263.99	1874120.93												
PI SCS27658	6361+68.35	372737.84	1878044.93	R	= 2864.93	N 1/4 Cor Sec 2	10-A	373253.10	1876792.13												
CS	6367+77.81	372644.71	1878684.61	L	= 1255.82	NE Closing Cor Sec 2	11-A	373242.95	1879463.23												
ST	6370+37.81	372601.80	1878941.02	Ls	= 260.00	E 1/4 Cor Sec 2	11-B	370536.50	1879450.44												
Sec line Xing	6375+62.56	372523.04	1879459.83	Sc	= 2° 36' 00"																
Twp Line Xing	6428+82.26	371724.59	1884719.26	Ts	= 906.36	T-152-N R-79-W															
						NW Closing Cor Sec 6	1-A	373211.98	1884723.40												
						W 1/4 Cor Sec 6	1-B	370540.10	1884715.96												
						SW Cor Sec 6	1-C	367899.33	1884708.77												
NOTES: Sheet 3 of 5 Alignment for SCL_HWY52_RP117 based on the following R/W plats: Proj No. NH-4-052(031)112 (0052_112_2000_06_20), Proj. No. F 270 (7) (0052_117_1945_02_23) The partial alignment for SCL_HWY52_RP118 and most PCSS corners shown hereon are the same as those shown on Preliminary Survey Coordinate and Curve Data sheet 2 for Project No. INF-X-4-052(099)101 which was and verified as correct by the undersigning surveyor. See Project No. INF-X-4-052(099)101 for Primary Control Monument Coordinates.										<input type="checkbox"/> Assumed Coordinates <input checked="" type="checkbox"/> All coordinates on this sheet are McHenry County ground coordinates. They are derived from the NAD83(2011) reference frame; North Dakota North Zone Combination Factor (cf) = 0.9998830											
Date Survey Completed 11/20/2022										All coordinates and measurements on this document derived from the International Foot definition. INITIALIZING BENCH MARK NDGPS Stations (OPUS) <input checked="" type="checkbox"/> NAVD-88 <input type="checkbox"/> _____ <input type="checkbox"/> GEOID12B <input type="checkbox"/> _____ <input checked="" type="checkbox"/> GEOID18											

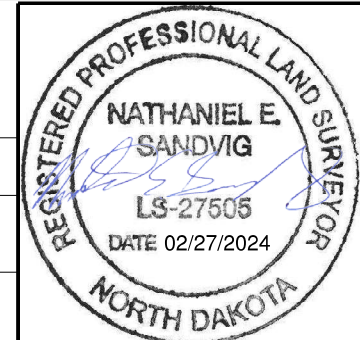


PRELIMINARY SURVEY COORDINATE AND CURVE DATA - US 52 - RR Accel/Decel Lanes

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	HEN-9-052(485)006	81	4

HORIZONTAL ALIGNMENT				CURVE DATA		US PUBLIC LAND SURVEY DATA				SURVEY CONTROL POINTS											
PNT	STATION	NORTHING	EASTING	ARC DEFINITION		CORNER	IRN	NORTHING	EASTING	PNT	NORTHING	EASTING	ELEV	STATION	OFFSET						
										MONUMENT DESCRIPTION											
US 52 (SCL_HWY52_RP127)										T-152-N R-79-W											
Sec line Xing	6694+99.15	367121.30	1910934.09	Curve C27332		NE Cor Sec 11	11-C	367597.08	1910934.90	PRIMARY CONTROL											
Twp line Xing	6748+61.31	366176.25	1916212.31	PI	= 6757+74.38	E 1/4 Cor Sec 11	11-D	364953.43	1910930.37												
PC	6751+68.23	366122.16	1916514.43	Delta	= 12° 30' 41" (RT)	SE Cor Sec 11	11-E	362310.65	1910922.14												
PI C27332	6757+74.38	366015.33	1917111.09	Da	= 1° 02' 10"	N 1/4 Cor Sec 12	12-C	367571.75	1913573.48												
PT	6763+75.71	365781.78	1917670.44	R	= 5529.65	T-152-N R-78-W				GPS 52-5	368351.30	1905672.47	1577.00	6641+03	283' Lt						
End 1/4 line Xing	6776+26.34	365299.92	1918824.50	T	= 606.15	NW Cor Sec 7	1-C	367546.68	1916212.36	#5 rebar with plastic cap "ULTEIG CONTROL POINT"											
				L	= 1207.48	W 1/4 Cor Sec 7	1-D	364897.78	1916212.27												
						SW Cor Sec 7	1-E	362261.69	1916208.93	GPS 39	327479.18	2023348.85	1620.99	7902+19	83' Lt						
						N 1/4 Cor Sec 7	2-C	367537.20	1918825.40	#6 Rebar 2" Aluminum Cap Marked GPS Control											
						S 1/4 Cor Sec 7	2-E	362247.58	1918823.28												
						NE Cor Sec 7	3-C	367527.50	1921459.91	GPS 40	331049.65	2015469.09	1605.72	7815+23	52' Rt						
						SE Cor Sec 7	3-E	362233.82	1921469.05	SECONDARY CONTROL											
US 52 (SCL_RP141)																BM Y220	335518.33	1992798.90	1592.45	7581+24	99' Rt
Rec Sec Cor	7552+04.65	335621.98	1989879.68			W 1/4 Cor Sec 4	5-B	338260.89	1989871.10							CP 25014	335581.06	1993658.24	1590.14	7589+83	35' Rt
Rec 1/4 Cor	7578+51.82	335617.96	1992526.86			SW Cor Sec 4	5-C	335621.98	1989879.69							CP 25022	335519.02	1994452.38	1597.86	7597+77	96' Rt
						N 1/4 Cor Sec 4	6-A	340923.43	1992512.76	REFERENCE MARKERS											
						NE Cor Sec 4	7-A	340920.69	1995163.09												
						S 1/4 Cor Sec 4	6-C	335617.96	1992526.86												
						SE Cor Sec 4	7-C	335613.93	1995174.03												
US 52 (SCL_RP149)										R Mkr #	Northing	Easting	Station	Offset	Alignment						
PC	7875+63.46	328904.22	2021115.44	Curve SCL_RP147_1		W 1/4 Cor Sec 9	5-D	332967.63	1989890.24	127	366886.60	1911958.65	6705+49	50' Rt	SCL_HWY52_RP118						
Sec line Xing	7881+66.25 (Bk Tan)	328685.26	2021677.06	PI	= 7887+19.60	SW Cor Sec 9	5-E	330325.86	1989901.93	128	365907.48	1917148.30	6758+39	59' Rt	SCL_HWY52_RP118						
PI SCL_RP147_1	7887+19.60	328484.26	2022192.62	Delta	= 22° 49' 00" (RT)	S 1/4 Cor Sec 9	6-E	330322.78	1992550.03	143	335583.55	1990473.45	7557+98	38' RT	SCL_RP141						
PT	7898+45.11	327679.46	2023022.66	Da	= 1° 00' 00"	SE Cor Sec 9	7-E	330319.89	1995196.61	144	335576.60	1995119.98	7604+45	37' RT	SCL_RP141						
Sec line Xing	7936+13.25	325056.43	2025727.94	R	= 5729.58	T-151-N R-75-W				150	326040.08	2024669.31	7921+68	31' RT	SCL_RP149						
				T	= 1156.15	NE Cor Sec 17	5-E	330332.33	2021672.56	INITIALIZING BENCH MARK NDGPS Stations (OPUS)											
				L	= 2281.66	E 1/4 Cor Sec 17	5-F	327694.04	2021679.77												
						SE Cor Sec 17	5-G	325055.78	2021686.98												
						NW Cor Sec 22	7-G	325056.63	2026974.30												
NOTES: Sheet 4 of 5 The partial alignment for SCL_HWY52_RP127 and PLSS corners for T-152-N R-79-W and T-152-N R-78-W shown hereon are the same as those shown on Preliminary Survey Coordinate and Curve Data sheets 3 and 4 for Project No. INF-X-4-052(099)101 and verified as correct by the undersigning surveyor. The partial alignment for SCL_RP141 and SCL_RP149, and PLSS corners for T-151-N R-76-W and T-151-N R-75-W shown hereon are the same as those shown on Preliminary Survey Coordinate and Curve Data sheet 1 for Project No. HEN-4-052(100)140 and verified as correct by the undersigning surveyor. See Project No. INF-X-4-052(099)101 and HEN-4-052(100)140 for Primary Control Monument Coordinates.										<input type="checkbox"/> Assumed Coordinates <input checked="" type="checkbox"/> All coordinates on this sheet are McHenry County ground coordinates. They are derived from the NAD83(2011) reference frame; North Dakota North Zone Combination Factor (cf) = 0.9998830											
										Date Survey Completed 11/20/2022											

All coordinates and measurements on this document derived from the International Foot definition.



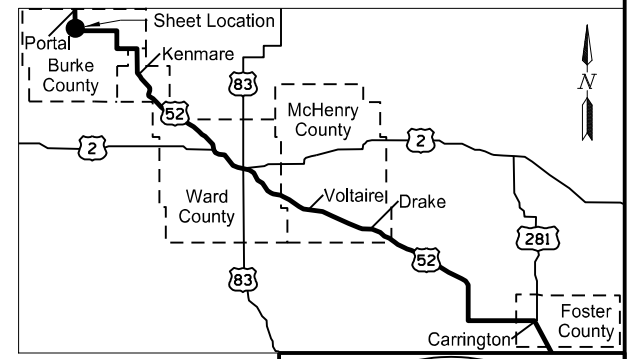
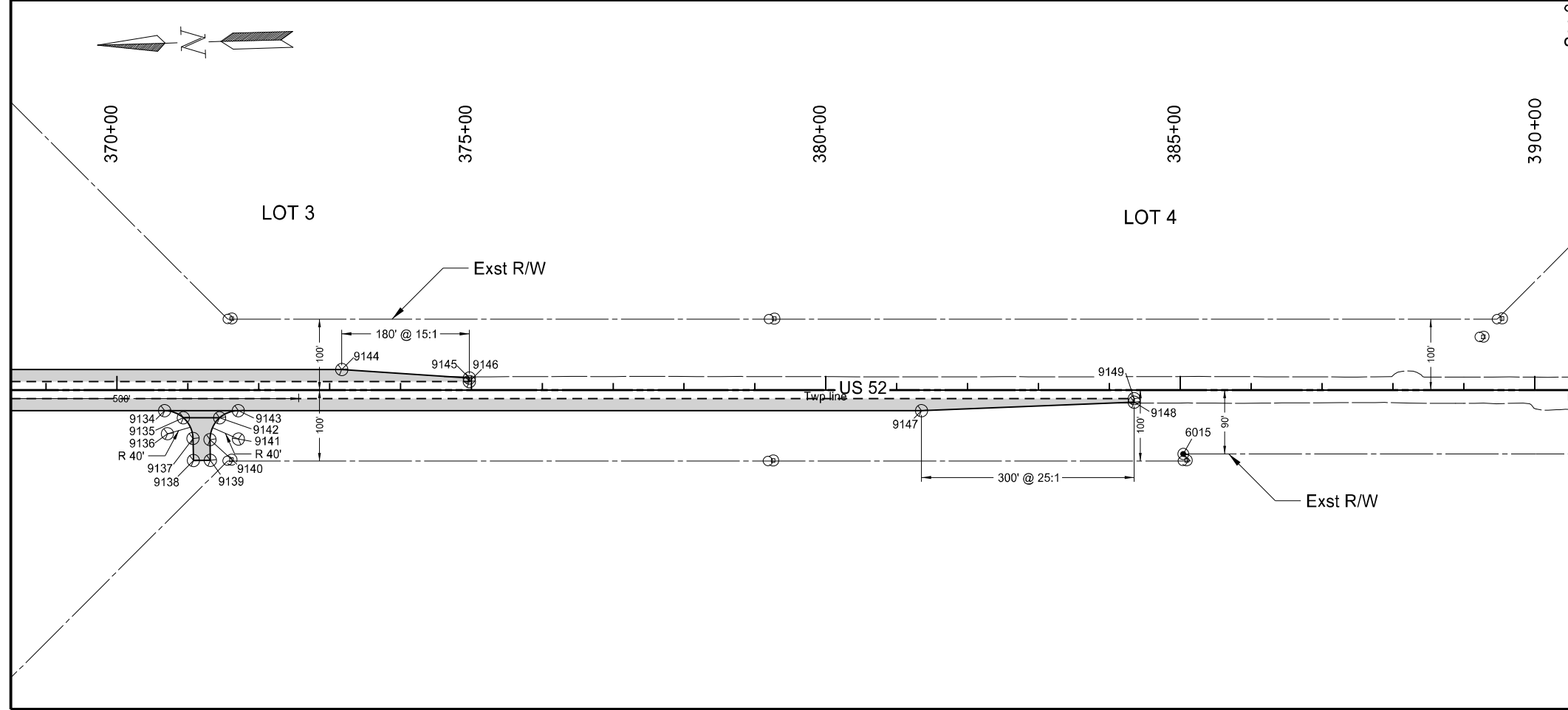
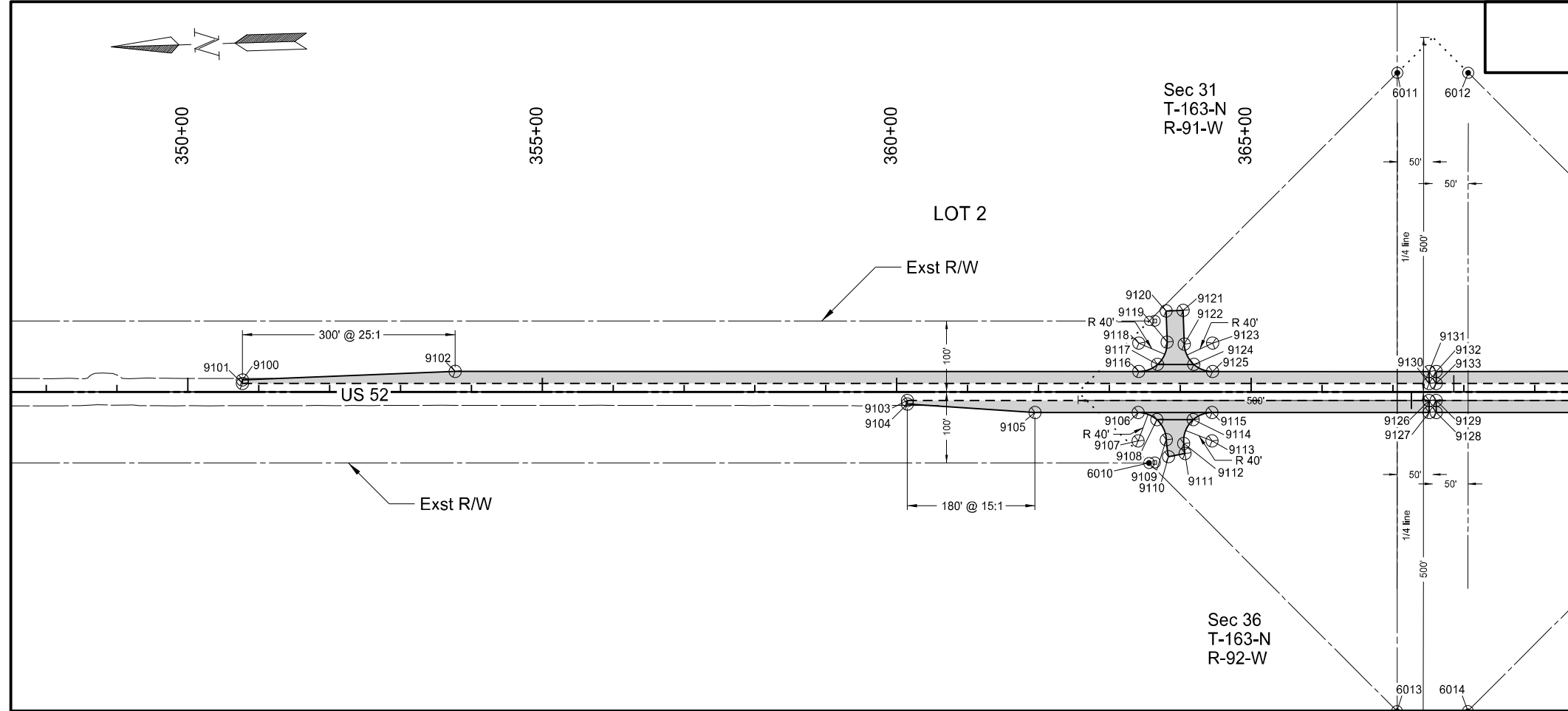
PRELIMINARY SURVEY COORDINATE AND CURVE DATA - US 52 - RR Accel/Decel Lanes

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	HEN-9-052(485)006	81	5

HORIZONTAL ALIGNMENT				CURVE DATA		US PUBLIC LAND SURVEY DATA				SURVEY CONTROL POINTS					
PNT	STATION	NORTHING	EASTING	ARC DEFINITION		CORNER	IRN	NORTHING	EASTING	PNT	NORTHING	EASTING	ELEV	STATION	OFFSET
										MONUMENT DESCRIPTION					
US 52/ND 200 (EX_HWY52_RP215)															
TS Begin	11696+20.63	169390.44	2304487.78			SE Cor Sec 22	9-J	164401.56	2294995.71	GPS52-38	169371.03	2304223.31	1589.21	11693+70	86' Rt
SC	11699+20.63	169318.48	2304779.00	Curve C200408		SE Cor Sec 23	11-J	164461.71	2300288.25	#5 Rebar w/ Aluminum NDDOT control cap					
Twp line Xing	11706+53.74 (Bk Tan)	169129.50	2305487.40	PI = 11707+40.01		SE Cor Sec 24	13-J	164536.04	2305560.80	GPS52-39	169799.89	2308174.63	1602.56	11733+93	49' Lt
PI C200408	11707+40.01	169107.72	2305570.86	Delta = 28° 28' 21" (LT)		T-146-N R-66-W				#5 Rebar w/ Plastic cap "ULTEIG CONTROL PT"					
CS	11715+18.85	169307.58	2306365.55	Da = 1° 30' 00"		NE Cor Sec 18	3-E	175191.91	2310616.49						
ST	11718+18.85	169375.54	2306657.73	R = 3819.83		SE Cor Sec 18	3-G	169900.88	2310716.44						
Sec line Xing	11739+20.87	169878.47	2308698.7	L = 1598.21		SE Cor Sec 19	3-J	164613.36	2310811.38	REFERENCE MARKERS					
TS	11741+72.40	169938.65	2308942.92	Ls = 300.00						R Mkr #	Northing	Easting	Station	Offset	Alignment
SC	11744+72.40	170002.76	2309235.91	Sc = 2° 15' 00"						222	169441.37	2307043.99	11722+10	28' Rt	EX_HWY52_RP215
PI C200199	11747+19.83	170069.63	2309474.45	Ts = 1119.37											
CS	11749+55.35	170020.41	2309717.25												
ST	11752+55.35	169977.93	2310014.14	Curve C200199											
PC	11755+25.02	169932.76	2310280.01	PI= 11747+19.83											
Sec line Xing	11757+30.79 (Bk Tan)	169898.29	2310482.87	Delta= 23° 29' 08" (RT)											
PI C200202	11757+34.56	169897.66	2310486.59	Da= 2° 59' 59"											
PT	11759+42.94	169900.60	2310696.11	R= 1910.08											
Rec Sec Cor End	11759+56.32	169900.88	2310716.44	L= 482.95											
				Ls= 300.00											
				Sc= 4° 29' 58"											
				Ts= 547.42											
				Curve C200202											
				PI= 11757+34.56											
				Delta= 10° 26' 50" (LT)											
				Da= 2° 29' 59"											
				R= 2292.01											
				T= 209.54											
				L= 417.92											
NOTES: Sheet 5 of 5 Alignment based on the following RW plats: Proj. No. F-3-052(02)198 (0052_198_1977_10_07) N.H.R.P. No. 151 (0052_215_1935_05_03)				Date Survey Completed 07/13/22		<input type="checkbox"/> Assumed Coordinates <input checked="" type="checkbox"/> All coordinates on this sheet are Foster County ground coordinates. They are derived from the NAD83(2011) reference frame; North Dakota North Zone Combination Factor (cf) = 0.9999205				All coordinates and measurements on this document derived from the International Foot definition. INITIALIZING BENCH MARK NDGPS Station (OPUS) <input checked="" type="checkbox"/> NAVD-88 <input type="checkbox"/> _____ <input type="checkbox"/> GEOID12B <input type="checkbox"/> _____ <input checked="" type="checkbox"/> GEOID18					



STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	HEN-9-052(485)006	82	1



- Legend**
- Iron Pin Reference Monument
 - Alignment Monument
 - ⊙ Iron Pin R/W Monument
 - ⊕ Temporary R/W / Staking Point
 - Found R/W Monument or Property Corner
 - ⊖ Found R/W Marker



Survey Data Layouts
RP 6.9

US 52
South of Portal to Carrington
Burke County

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	HEN-9-052(485)006	82	2

Station & offsets from Chain SCL52_RP6.9

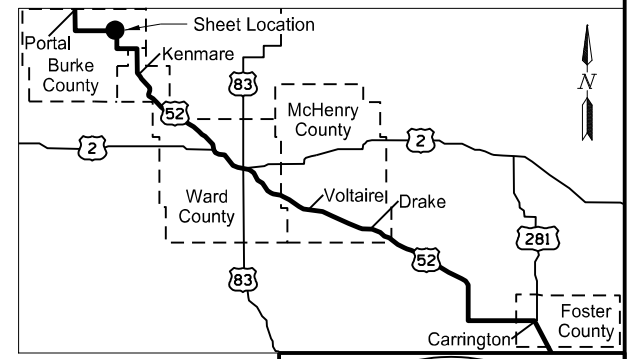
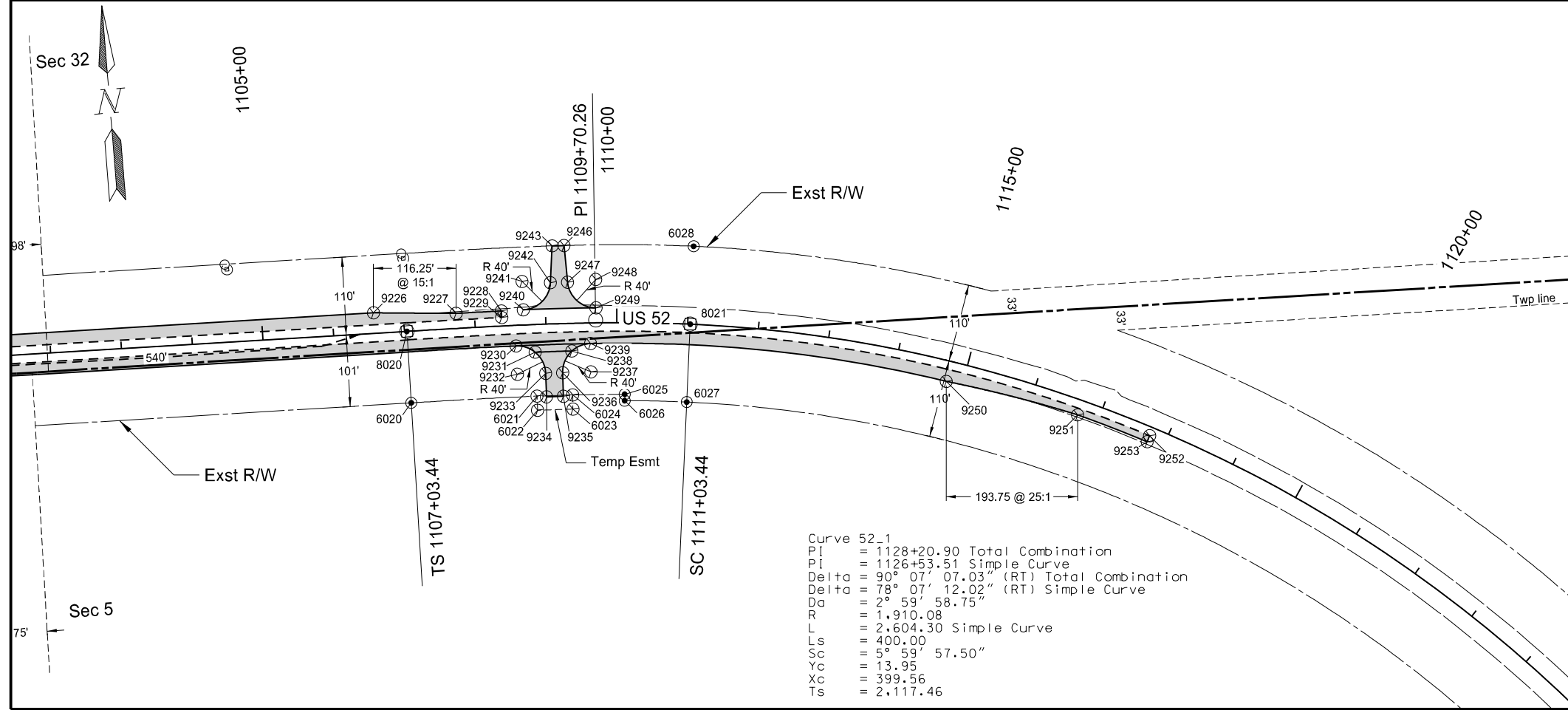
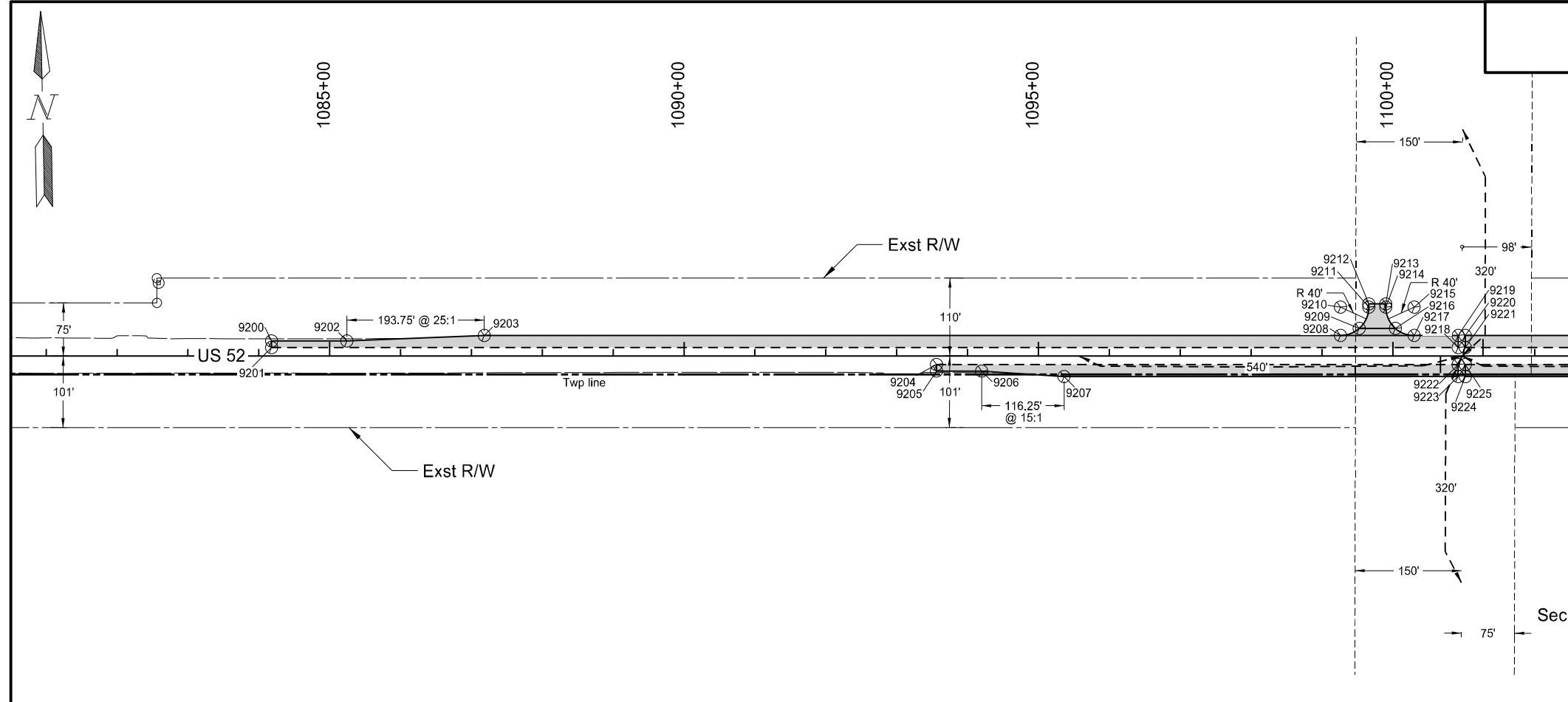
Point	North	East	Station	Offset	Feature
6010	700585.11	1476444.88	363+55.96	100.00	I PN R/W MON
6011	700218.78	1476984.33	367+06.38	-450.02	I PN R/W MON
6012	700118.82	1476981.40	368+06.38	-450.00	I PN R/W MON
6013	700245.76	1476084.73	367+05.79	449.98	I PN R/W MON
6014	700145.80	1476081.80	368+05.63	450.00	I PN R/W MON
6015	698437.46	1476392.16	385+04.19	90.00	I PN R/W MON
9100	701860.06	1476599.54	350+77.00	-17.00	ASP
9101	701860.21	1476594.55	350+77.00	-12.00	MILL EDGE
9102	701559.84	1476602.69	353+77.00	-29.00	ASP
9103	700923.33	1476542.89	360+15.00	12.00	MILL EDGE
9104	700923.47	1476537.90	360+15.00	17.00	ASP
9105	700743.91	1476520.59	361+95.00	29.00	ASP
9106	700598.47	1476516.30	363+40.50	29.00	ASP
9107	700599.65	1476476.32	363+40.50	69.00	RAD
9108	700572.32	1476505.53	363+66.96	39.00	ASP
9109	700559.65	1476476.91	363+80.46	67.23	GRV
9110	700557.50	1476452.87	363+83.32	91.19	GRV
9111	700533.83	1476456.78	364+06.87	86.59	GRV
9112	700535.41	1476470.78	364+04.87	72.64	GRV
9113	700495.49	1476473.25	364+44.71	69.00	RAD
9114	700521.05	1476504.01	364+18.25	39.00	ASP
9115	700494.31	1476513.23	364+44.71	29.00	ASP
9116	700595.77	1476574.25	363+41.49	-29.00	ASP
9117	700569.03	1476583.46	363+67.94	-39.00	ASP
9118	700594.59	1476614.23	363+41.49	-69.00	RAD
9119	700554.59	1476614.42	363+81.46	-70.37	GRV
9120	700554.81	1476658.38	363+79.95	-114.30	GRV
9121	700530.81	1476658.50	364+03.94	-115.13	GRV
9122	700530.58	1476610.97	364+05.57	-67.63	GRV
9123	700490.58	1476611.16	364+45.55	-69.00	RAD
9124	700517.91	1476581.96	364+19.09	-39.00	ASP
9125	700491.76	1476571.18	364+45.55	-29.00	ASP
9126	700187.69	1476521.21	367+50.96	12.00	MILL EDGE
9127	700188.18	1476504.21	367+50.96	29.00	ASP
9128	700178.07	1476503.92	367+61.07	29.00	ASP
9129	700177.56	1476520.91	367+61.09	12.00	MILL EDGE
9130	700186.97	1476545.20	367+50.97	-12.00	MILL EDGE
9131	700186.47	1476562.19	367+50.98	-29.00	ASP
9132	700176.33	1476561.89	367+61.12	-29.00	ASP
9133	700176.84	1476544.90	367+61.11	-12.00	MILL EDGE
9134	699872.09	1476495.00	370+67.18	29.00	ASP
9135	699845.94	1476484.23	370+93.63	39.00	ASP
9136	699869.10	1476462.40	370+71.11	61.50	RAD
9137	699833.26	1476454.61	371+07.17	68.24	GRV
9138	699833.58	1476423.47	371+07.76	99.38	GRV
9139	699809.58	1476423.23	371+31.75	98.92	GRV
9140	699809.28	1476452.40	371+31.20	69.76	GRV
9141	699769.29	1476451.99	371+71.19	69.00	RAD
9142	699794.86	1476482.75	371+44.74	39.00	ASP
9143	699768.12	1476491.97	371+71.19	29.00	ASP
9144	699620.69	1476545.70	373+17.00	-29.00	ASP
9145	699441.11	1476528.46	374+97.00	-17.00	ASP
9146	699441.26	1476523.46	374+97.00	-12.00	MILL EDGE
9147	698804.72	1476463.89	381+35.00	29.00	ASP
9148	698504.50	1476467.15	384+35.00	17.00	ASP
9149	698504.36	1476472.14	384+35.00	12.00	MILL_EDGE



Survey Data Layouts
RP 6.9

US 52
South of Portal to Carrington
Burke County

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	HEN-9-052(485)006	82	3



- Legend**
- Iron Pin Reference Monument
 - Alignment Monument
 - Iron Pin R/W Monument
 - ⊙ Temporary R/W / Staking Point
 - Found R/W Monument or Property Corner
 - ⊕ Found R/W Marker



Survey Data Layouts
RP 20.6

US 52
South of Portal to Carrington
Burke County

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	HEN-9-052(485)006	82	4

Station & offsets from Chain SCL52_RP20.6

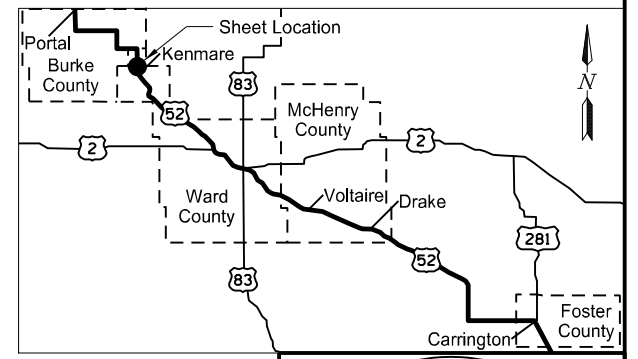
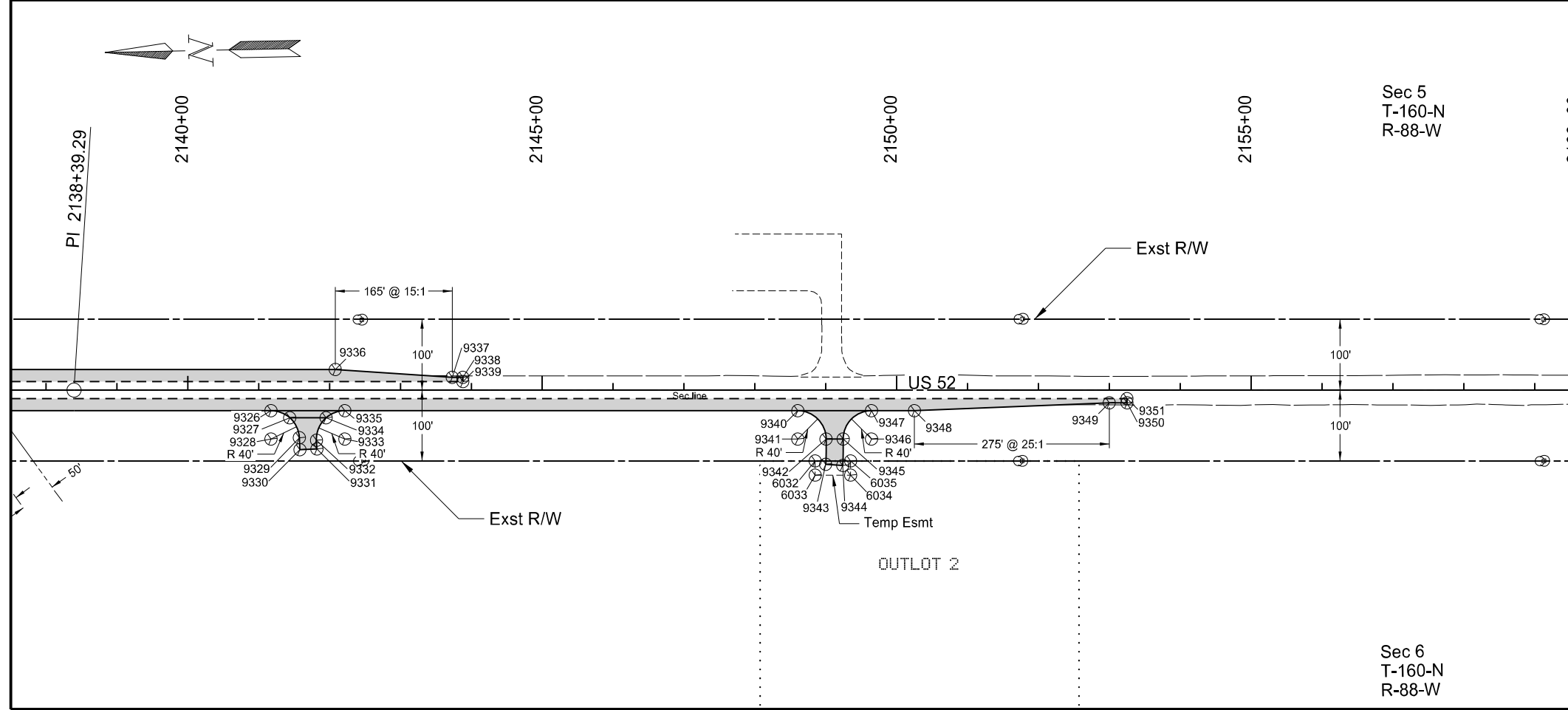
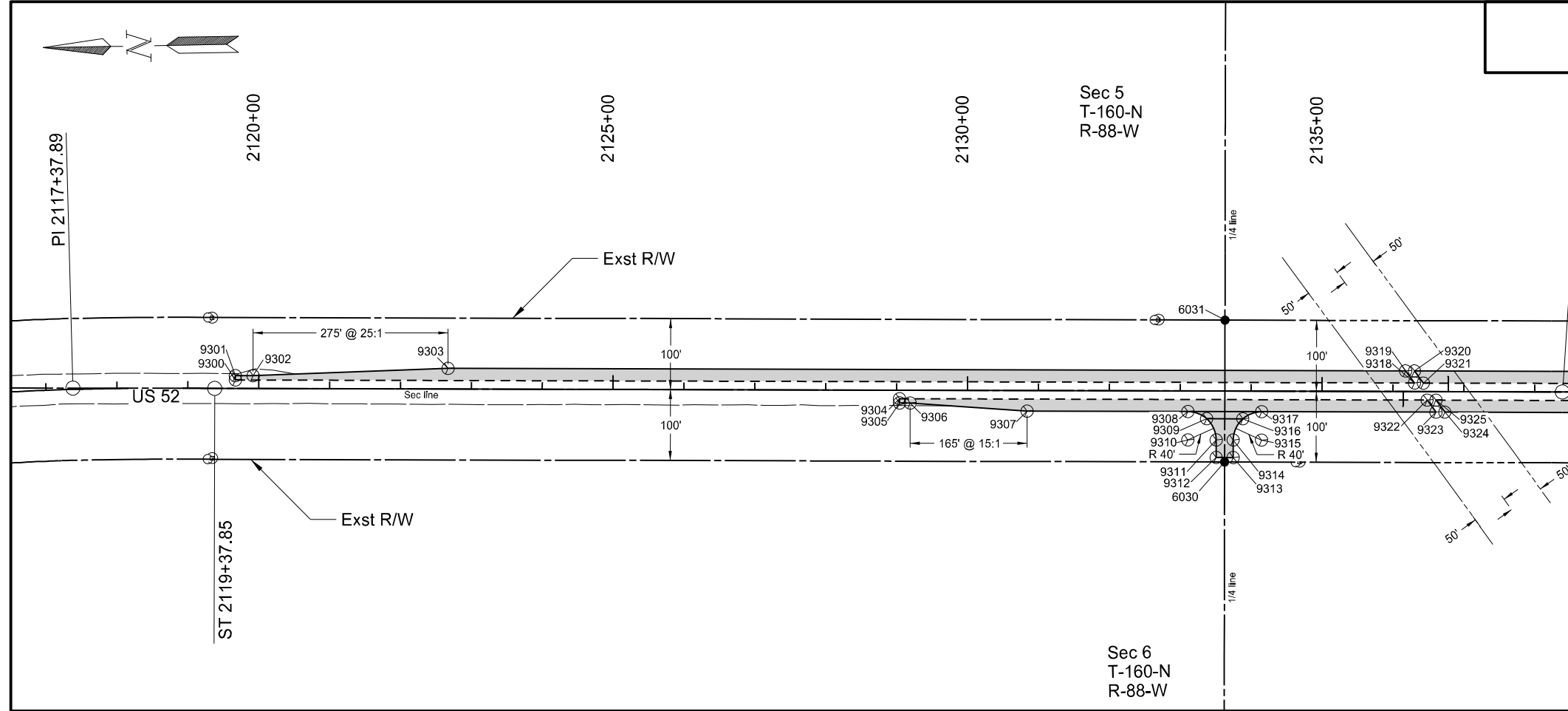
Point	North	East	Station	Offset	Feature
6020	695738.18	1548004.12	1107+03.44	101.00	TS R/W MON
6021	695733.31	1548181.82	1108+83.36	100.96	TEMP ESMT
6022	695713.33	1548180.99	1108+83.36	120.96	TEMP ESMT
6023	695710.87	1548230.93	1109+35.04	121.00	TEMP ESMT
6024	695730.84	1548232.04	1109+35.04	101.00	TEMP ESMT
6025	695725.82	1548305.28	1110+11.17	101.00	I PN R/W MON
6026	695716.85	1548304.52	1110+11.15	110.00	I PN R/W MON
6027	695707.85	1548391.64	1111+03.44	110.00	SC R/W MON
6028	695926.13	1548419.13	1111+03.44	-110.00	SC R/W MON
8020	695839.16	1548006.19	1107+03.44	0.00	TS MON
8021	695816.99	1548405.38	1111+03.44	0.00	SC MON
9200	695907.42	1545721.67	1084+18.00	-21.25	ASP
9201	695898.18	1545721.48	1084+18.00	-12.00	MILL_EDGE
9202	695905.24	1545827.90	1085+24.25	-21.25	ASP
9203	695909.00	1546021.77	1087+18.00	-29.00	ASP
9204	695854.88	1546658.79	1093+56.00	12.00	MILL_EDGE
9205	695845.63	1546658.60	1093+56.00	21.25	ASP
9206	695844.32	1546722.34	1094+19.75	21.25	ASP
9207	695834.18	1546838.40	1095+36.00	29.00	ASP
9208	695884.15	1547229.51	1099+26.00	-29.00	ASP
9209	695893.60	1547256.17	1099+52.46	-39.00	ASP
9210	695924.14	1547230.34	1099+26.00	-69.00	RAD
9211	695923.31	1547270.33	1099+66.00	-69.00	GRV
9212	695927.88	1547270.42	1099+66.00	-73.57	GRV
9213	695927.39	1547294.42	1099+90.00	-73.57	GRV
9214	695922.82	1547294.32	1099+90.00	-69.00	GRV
9215	695922.00	1547334.31	1100+30.00	-69.00	RAD
9216	695892.55	1547307.25	1100+03.54	-39.00	ASP
9217	695882.01	1547333.49	1100+30.00	-29.00	ASP
9218	695863.73	1547395.22	1100+92.09	-12.00	MILL_EDGE
9219	695880.73	1547395.60	1100+92.12	-29.00	ASP
9220	695880.52	1547405.72	1101+02.24	-29.00	ASP
9221	695863.52	1547405.34	1101+02.21	-12.00	MILL_EDGE
9222	695839.74	1547394.68	1100+92.05	12.00	MILL_EDGE
9223	695822.74	1547394.30	1100+92.01	29.00	ASP
9224	695822.53	1547404.42	1101+02.14	29.00	ASP
9225	695839.53	1547404.80	1101+02.17	12.00	MILL_EDGE
9226	695869.09	1547961.36	1106+58.00	-29.00	ASP
9227	695858.87	1548077.49	1107+74.25	-21.25	ASP
9228	695857.10	1548141.40	1108+38.00	-21.25	ASP
9229	695847.85	1548141.10	1108+38.00	-12.00	MILL_EDGE
9230	695806.25	1548158.10	1108+56.45	29.00	ASP
9231	695795.22	1548184.27	1108+83.22	39.00	ASP
9232	695766.27	1548156.67	1108+56.45	69.00	RAD
9233	695764.34	1548196.62	1108+97.08	69.32	GRV
9234	695731.19	1548195.02	1108+96.97	102.51	GRV
9235	695730.03	1548218.99	1109+21.65	102.51	GRV
9236	695763.12	1548220.59	1109+21.54	69.38	GRV
9237	695761.18	1548260.54	1109+62.42	69.00	RAD
9238	695792.72	1548235.93	1109+35.49	39.00	ASP
9239	695801.10	1548263.12	1109+62.42	29.00	ASP
9240	695856.13	1548172.38	1108+68.86	-21.38	ASP
9241	695896.10	1548173.84	1108+68.78	-61.38	RAD
9242	695891.14	1548213.53	1109+08.08	-58.13	ASP
9243	695942.75	1548220.19	1109+12.14	-110.00	ASP
9246	695941.89	1548236.91	1109+28.38	-110.00	ASP
9247	695889.90	1548237.69	1109+31.89	-58.13	ASP
9248	695890.50	1548277.69	1109+71.01	-61.17	RAD
9249	695850.60	1548274.84	1109+70.86	-21.17	ASP
9250	695707.27	1548759.03	1114+76.00	29.00	ASP
9251	695645.18	1548939.95	1116+69.75	21.25	ASP
9252	695607.75	1549038.81	1117+76.00	12.00	MILL_EDGE
9253	695599.53	1549034.56	1117+76.00	21.25	ASP



Survey Data Layouts
RP 20.6

US 52
South of Portal to Carrington
Burke County

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	HEN-9-052(485)006	82	5



- Legend**
- Iron Pin Reference Monument
 - Alignment Monument
 - ⊙ Iron Pin R/W Monument
 - ⊕ Temporary R/W / Staking Point
 - Found R/W Monument or Property Corner
 - ⊖ Found R/W Marker



Survey Data Layouts
RP 40.4

US 52
South of Portal to Carrington
Ward County

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	HEN-9-052(485)006	82	6

Station & offsets from Chain SCL52_RP40.4

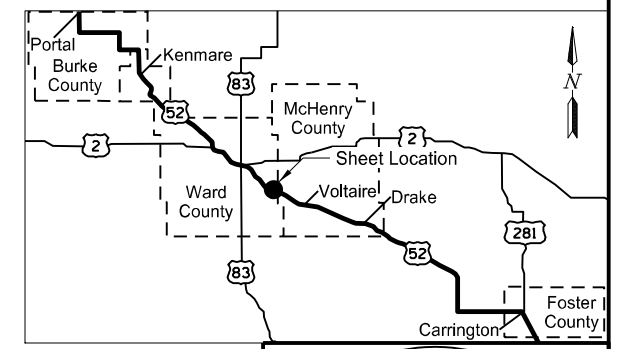
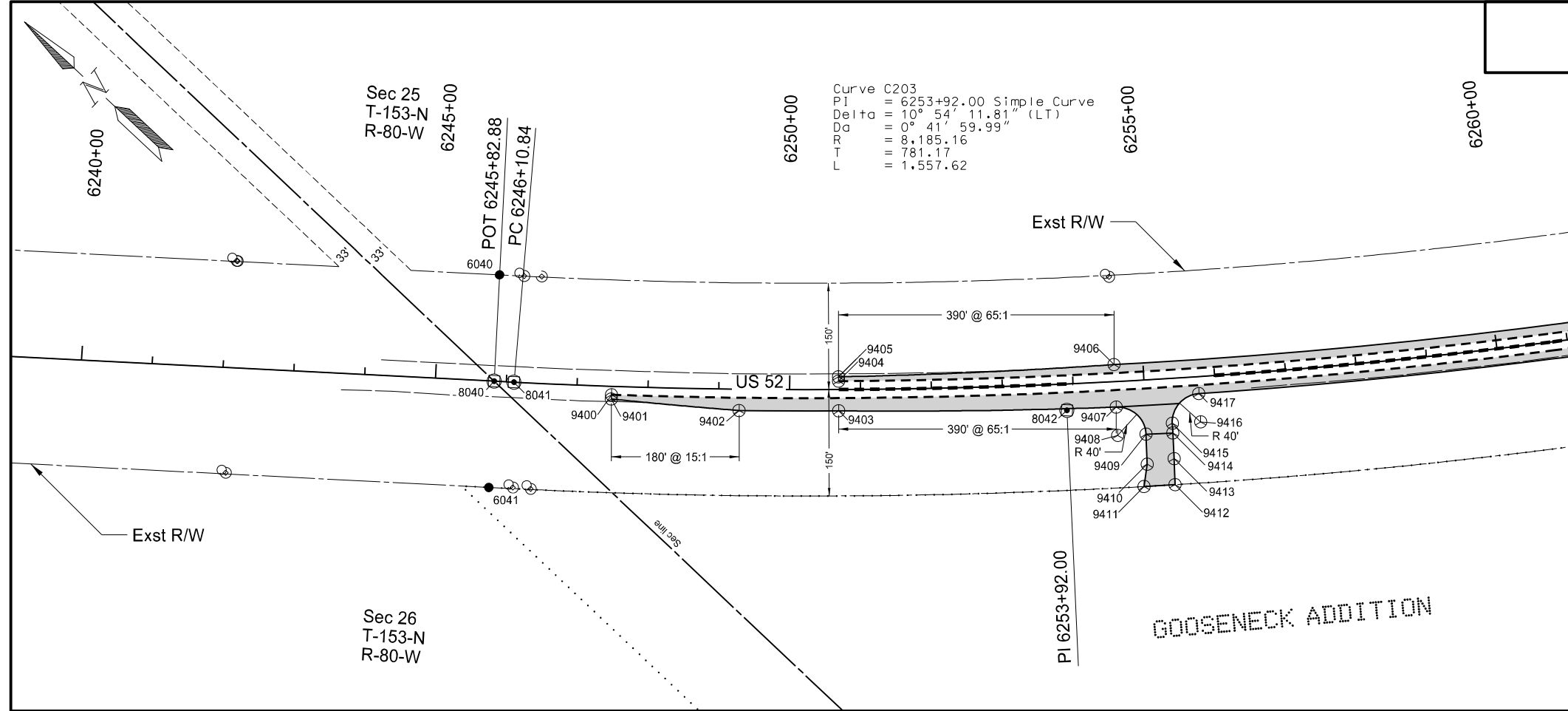
Point	North	East	Station	Offset	Feature
6030	628839.92	1586579.59	2133+62.85	100.00	1/4 XING MON
6031	628835.85	1586779.55	2133+62.85	-100.00	1/4 XING MON
6032	627318.09	1586548.56	2148+85.00	100.00	TEMP ESMT
6033	627318.50	1586528.56	2148+85.00	120.00	TEMP ESMT
6034	627268.51	1586527.54	2149+35.00	120.00	TEMP ESMT
6035	627268.10	1586547.54	2149+35.00	100.00	TEMP ESMT
9300	630233.20	1586719.99	2119+67.00	-12.00	MILL_EDGE
9301	630233.08	1586725.99	2119+67.00	-18.00	ASP
9302	630208.08	1586725.48	2119+92.00	-18.00	ASP
9303	629932.92	1586730.88	2122+67.00	-29.00	ASP
9304	629296.88	1586676.92	2129+04.00	12.00	MILL_EDGE
9305	629297.01	1586670.92	2129+04.00	18.00	ASP
9306	629282.01	1586670.61	2129+19.00	18.00	ASP
9307	629117.27	1586656.26	2130+84.00	29.00	ASP
9308	628890.38	1586651.64	2133+10.93	29.00	ASP
9309	628864.13	1586641.10	2133+37.39	39.00	ASP
9310	628891.20	1586611.64	2133+10.93	69.00	RAD
9311	628851.20	1586610.83	2133+50.93	69.00	GRV
9312	628851.71	1586586.11	2133+50.93	93.72	GRV
9313	628827.71	1586585.63	2133+74.93	93.72	GRV
9314	628827.21	1586610.34	2133+74.93	69.00	GRV
9315	628787.22	1586609.53	2134+14.93	69.00	RAD
9316	628813.06	1586640.06	2133+88.48	39.00	ASP
9317	628786.40	1586649.52	2134+14.93	29.00	ASP
9318	628570.06	1586686.12	2136+30.49	-12.00	MILL_EDGE
9319	628582.33	1586703.37	2136+17.87	-29.00	ASP
9320	628569.80	1586703.12	2136+30.40	-29.00	ASP
9321	628557.55	1586685.86	2136+43.00	-12.00	MILL_EDGE
9322	628552.73	1586661.76	2136+48.31	12.00	MILL_EDGE
9323	628540.46	1586644.51	2136+60.93	29.00	ASP
9324	628528.01	1586644.25	2136+73.39	29.00	ASP
9325	628540.26	1586661.51	2136+60.79	12.00	MILL_EDGE
9326	628084.13	1586635.20	2141+17.35	29.00	ASP
9327	628057.88	1586624.66	2141+43.81	39.00	ASP
9328	628084.95	1586595.21	2141+17.35	69.00	RAD
9329	628044.96	1586596.18	2141+57.31	67.22	GRV
9330	628044.55	1586579.36	2141+58.06	84.02	GRV
9331	628020.56	1586579.94	2141+82.04	82.95	GRV
9332	628020.86	1586592.12	2141+81.49	70.78	GRV
9333	627980.87	1586593.09	2142+21.45	69.00	RAD
9334	628006.71	1586623.62	2141+95.00	39.00	ASP
9335	627980.05	1586633.08	2142+21.45	29.00	ASP
9336	627992.32	1586691.34	2142+08.00	-29.00	ASP
9337	627827.58	1586676.98	2143+73.00	-18.00	ASP
9338	627812.58	1586676.67	2143+88.00	-18.00	ASP
9339	627812.70	1586670.67	2143+88.00	-12.00	MILL_EDGE
9340	627341.19	1586620.04	2148+60.45	29.00	ASP
9341	627341.13	1586580.89	2148+61.31	68.14	RAD
9342	627302.02	1586579.23	2149+00.45	69.00	ASP
9343	627303.33	1586543.56	2148+99.87	104.70	GRV
9344	627279.41	1586541.54	2149+23.82	106.22	GRV
9345	627278.02	1586578.74	2149+24.45	69.00	ASP
9346	627238.03	1586577.93	2149+64.45	69.00	RAD
9347	627237.21	1586617.92	2149+64.45	29.00	ASP
9348	627176.67	1586616.68	2150+25.00	29.00	ASP
9349	626901.51	1586622.07	2153+00.00	18.00	ASP
9350	626876.51	1586621.56	2153+25.00	18.00	ASP
9351	626876.39	1586627.56	2153+25.00	12.00	MILL_EDGE



Survey Data Layouts
RP 40.4

US 52
South of Portal to Carrington
Ward County

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	HEN-9-052(485)006	82	7



- Legend
- Iron Pin Reference Monument
 - Alignment Monument
 - ⊙ Iron Pin R/W Monument
 - ⊕ Temporary R/W / Staking Point
 - Found R/W Monument or Property Corner
 - ⊖ Found R/W Marker



Survey Data Layouts
 RP 118.5

US 52
 South of Portal to Carrington
 McHenry County

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	HEN-9-052(485)006	82	8

Station & offsets from Chain SCL_HWY52_RP117

Point	North	East	Station	Offset	Feature
6040	380230.05	1869253.17	6245+82.88	-150.00	POT R/W MON
6041	380036.61	1869023.86	6245+82.88	150.00	POT R/W MON
6042	378682.04	1870451.98	6265+26.57	150.00	1/16 XING MON
6043	378611.61	1870451.08	6265+70.14	205.35	SEC XING MON
6044	378544.32	1870622.38	6267+45.67	150.00	SEC XING MON
6045	378692.47	1870916.33	6268+81.15	-150.00	POT R/W MON
8040	380133.33	1869138.51	6245+82.88	0.00	POT MON
8041	380111.96	1869156.54	6246+10.84	0.00	PC MON
8042	379514.86	1869660.23	6253+89.65	37.19	PI MON
8043	379023.82	1870267.76	6261+68.46	-0.00	PT MON
8044	378575.81	1870822.04	6268+81.15	0.00	POT MON
9400	379999.22	1869237.47	6247+49.00	12.00	MILL_EDGE
9401	379995.27	1869232.95	6247+49.00	18.00	ASP
9402	379852.60	1869344.20	6249+29.00	30.00	ASP
9403	379749.61	1869439.79	6250+69.00	30.00	ASP
9404	379778.44	1869470.33	6250+69.00	-12.00	MILL_EDGE
9405	379782.56	1869474.69	6250+69.00	-18.00	ASP
9406	379510.41	1869752.65	6254+59.00	-24.00	ASP
9407	379467.19	1869711.04	6254+59.00	36.00	ASP
9408	379438.37	1869683.29	6254+59.00	76.00	RAD
9409	379410.42	1869711.91	6254+98.63	76.39	ASP
9410	379380.26	1869682.10	6254+97.88	118.79	GRV
9411	379362.02	1869656.00	6254+91.69	150.00	GRV
9412	379331.82	1869687.79	6255+34.75	150.00	GRV
9413	379357.84	1869713.69	6255+35.69	113.29	GRV
9414	379384.00	1869738.96	6255+36.09	76.93	ASP
9415	379393.80	1869748.53	6255+36.31	63.24	ASP
9416	379365.85	1869777.14	6255+76.00	64.00	RAD
9417	379395.06	1869804.47	6255+76.00	24.00	ASP
9418	378981.55	1870281.87	6262+06.00	24.00	ASP
9419	379011.97	1870320.60	6262+17.00	-24.00	ASP
9420	379043.08	1870345.75	6262+17.00	-64.00	RAD
9421	379017.93	1870376.86	6262+57.00	-64.00	ASP
9422	379089.00	1870410.18	6262+38.25	-140.22	GRV
9423	379082.83	1870433.38	6262+60.16	-150.00	GRV
9424	379002.85	1870395.52	6262+81.00	-64.00	ASP
9425	378977.70	1870426.63	6263+21.00	-64.00	RAD
9426	378946.59	1870401.49	6263+21.00	-24.00	ASP
9427	378905.73	1870452.04	6263+86.00	-24.00	ASP
9428	378655.91	1870751.58	6267+76.00	-18.00	ASP
9429	378651.24	1870747.81	6267+76.00	-12.00	MILL_EDGE
9430	378632.58	1870732.72	6267+76.00	12.00	MILL_EDGE
9431	378627.91	1870728.95	6267+76.00	18.00	ASP



Survey Data Layouts
 RP 118.5

US 52
 South of Portal to Carrington
 McHenry County

Station & offsets from Chain SCL_HWY52_RP118

Point	North	East	Station	Offset	Feature
6050	373644.17	1877082.68	6348+50.26	-100.00	POT R/W MON
6051	372507.39	1878657.34	6367+77.81	140.00	CS R/W MON
6052	372463.39	1878920.01	6370+37.81	140.00	ST R/W MON
6053	372667.52	1879174.40	6372+58.68	-100.00	I PN R/W MON
6054	372397.02	1879357.19	6374+80.00	140.00	TEMP ESMT
6055	372327.81	1879346.68	6374+80.00	210.00	TEMP ESMT
6056	372315.79	1879425.85	6375+60.07	210.00	TEMP ESMT
6057	372305.78	1879491.80	6376+26.78	210.00	I PN R/W MON
6058	372298.54	1879539.47	6376+75.00	210.00	I PN R/W MON
6059	372407.30	1879555.98	6376+75.00	100.00	I PN R/W MON
6060	372805.96	1879502.78	6375+62.56	-286.16	POT R/W MON
6061	372823.32	1879544.25	6376+00.95	-309.55	I PN R/W MON
6062	372621.63	1879543.29	6376+30.28	-110.00	I PN R/W MON
8050	373566.40	1877019.82	6348+50.26	0.00	POT MON
8051	373307.58	1877340.04	6352+61.99	0.00	TS MON
8052	373250.75	1877410.35	6353+52.40	0.17	TWP XING MON
8053	373147.24	1877544.67	6355+21.99	-0.00	SC MON
8054	372644.71	1878684.61	6367+77.81	-0.00	CS MON
8055	372523.04	1879459.83	6375+62.56	0.00	POT MON
9500	373479.98	1877155.37	6350+10.00	-18.00	MILL_EDGE
9501	373484.65	1877159.14	6350+10.00	-24.00	ASP
9502	373453.22	1877198.03	6350+60.00	-24.00	ASP
9503	373303.90	1877398.72	6353+10.00	-34.00	ASP
9504	373234.79	1877485.62	6354+21.56	-34.00	ASP
9505	373274.21	1877516.38	6354+21.56	-84.00	RAD
9506	373234.57	1877546.85	6354+70.84	-71.22	ASP
9507	373254.98	1877585.06	6354+89.49	-110.54	ASP
9508	373261.91	1877632.06	6355+24.54	-144.15	ASP
9509	373261.88	1877638.47	6355+30.00	-147.92	GRV
9510	373237.88	1877638.38	6355+44.76	-128.46	GRV
9511	373237.91	1877631.97	6355+39.32	-124.72	ASP
9512	373187.91	1877631.78	6355+69.44	-84.00	RAD
9513	373147.15	1877602.81	6355+69.44	-34.00	ASP
9514	373129.79	1877627.52	6356+00.00	-34.00	ASP
9515	373116.65	1877618.40	6356+00.00	-18.00	MILL_EDGE
9516	372907.96	1877956.97	6360+00.09	-12.00	MILL_EDGE
9517	372923.18	1877964.55	6360+00.00	-29.00	ASP
9518	372836.61	1878050.17	6361+15.00	12.00	MILL_EDGE
9519	372831.15	1878047.69	6361+15.00	18.00	ASP
9520	372824.93	1878061.44	6361+30.00	18.00	ASP
9521	372751.02	1878210.85	6362+95.00	29.00	ASP
9522	372805.21	1878231.53	6362+95.00	-29.00	ASP
9523	372720.78	1878500.46	6365+80.00	-32.00	ASP
9524	372680.52	1878577.22	6366+65.00	-12.00	MILL_EDGE
9525	372630.17	1878585.96	6366+85.00	35.00	ASP
9526	372632.90	1878682.46	6367+78.00	12.00	MILL_EDGE
9527	372663.37	1878776.29	6368+65.00	-35.00	ASP
9528	372585.03	1878907.16	6370+06.87	21.67	MILL_EDGE
9529	372574.26	1878889.45	6369+91.00	35.00	ASP
9530	372571.90	1878904.85	6370+06.56	35.00	ASP
9531	372582.17	1878921.77	6370+21.73	22.30	MILL_EDGE
9532	372617.14	1878959.95	6370+54.22	-18.00	MILL_EDGE
9533	372614.78	1878975.46	6370+69.91	-18.00	MILL_EDGE
9534	372630.90	1878982.57	6370+74.52	-35.00	ASP
9535	372628.54	1878998.10	6370+90.23	-35.00	ASP
9536	372563.87	1878957.71	6370+60.00	35.00	ASP
9537	372547.20	1879100.82	6372+04.00	30.00	MILL_EDGE
9538	372528.23	1879119.19	6372+25.00	46.00	ASP
9539	372593.75	1879113.96	6372+10.00	-18.00	MILL_EDGE

Station & offsets from Chain SCL_HWY52_RP118

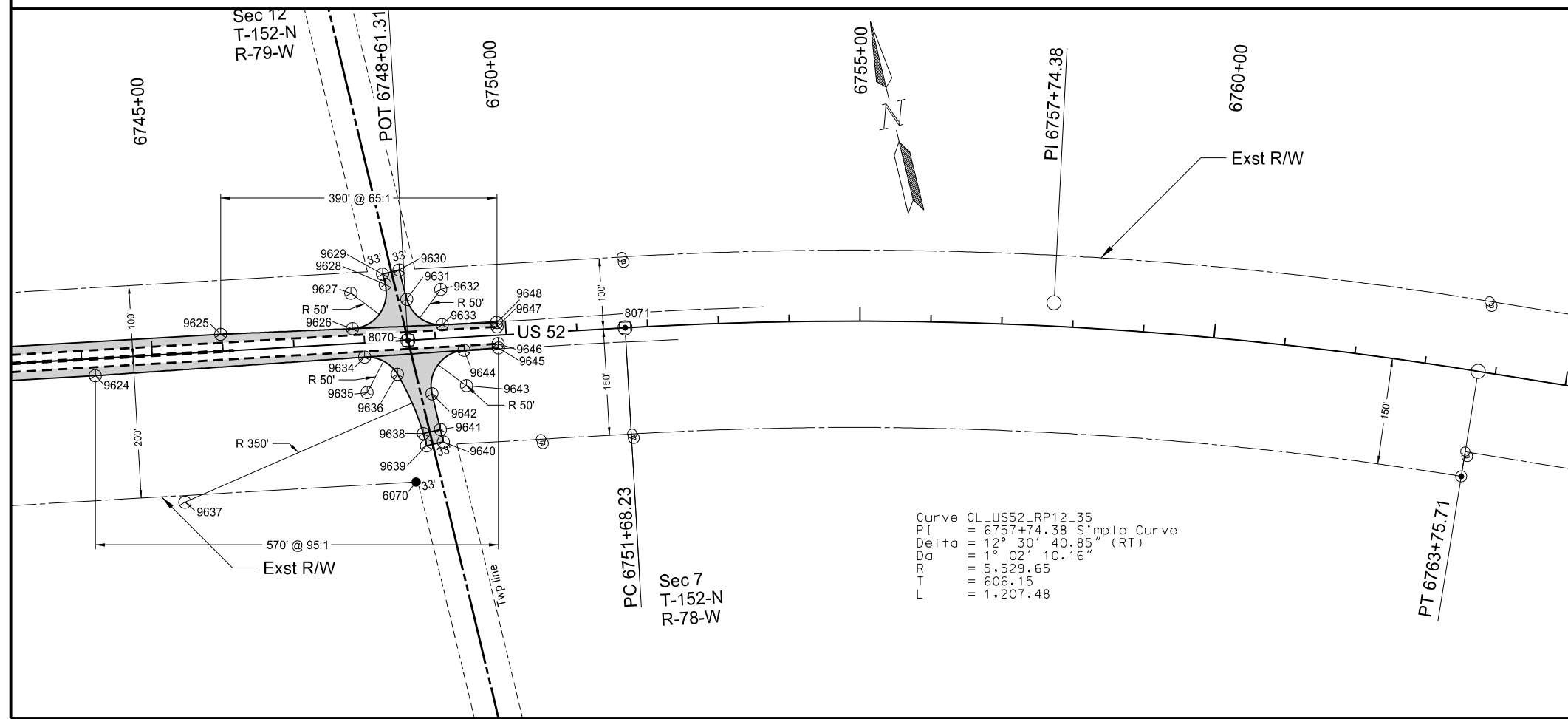
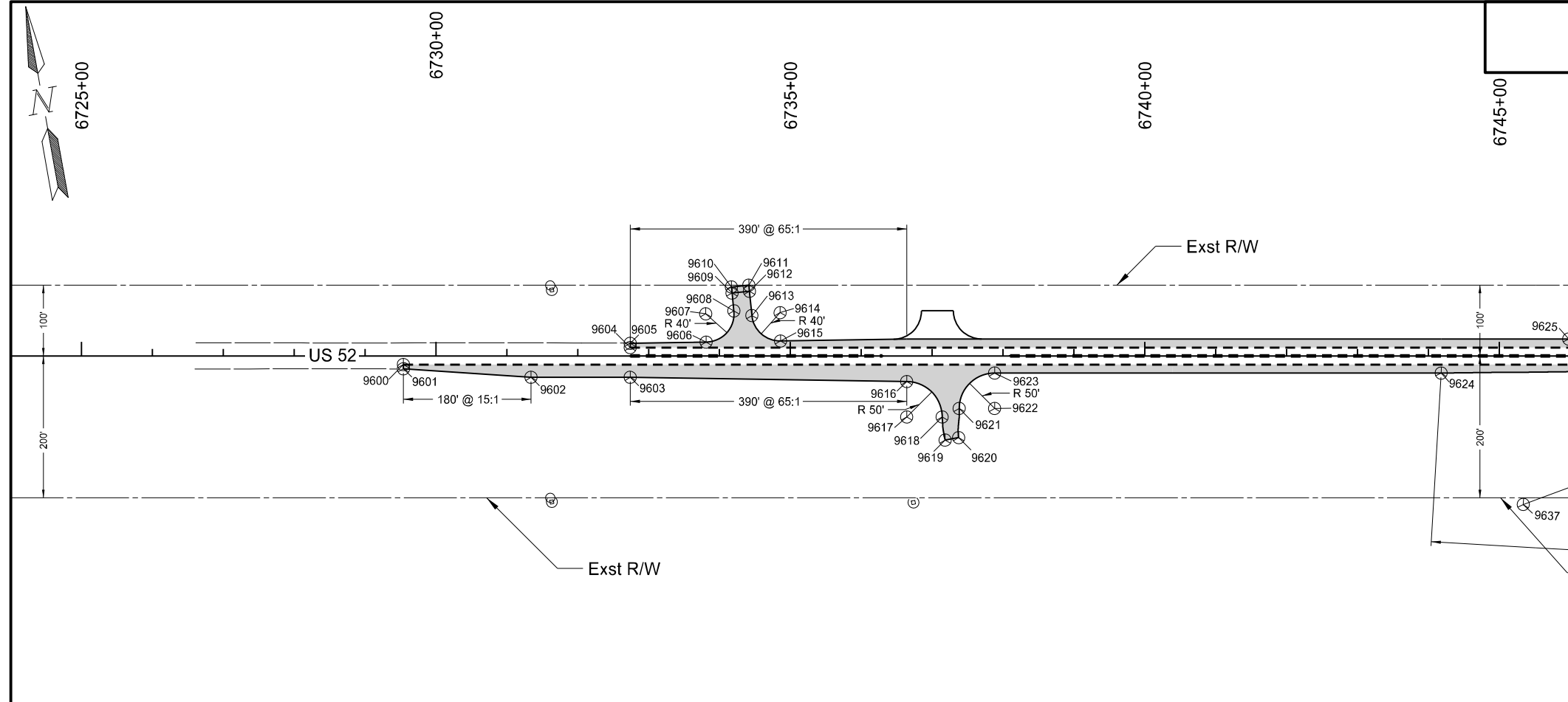
Point	North	East	Station	Offset	Feature
9543	372582.18	1879303.44	6373+99.07	-35.00	ASP
9544	372928.22	1879355.97	6373+99.07	-385.00	RAD
9545	372582.62	1879411.27	6375+05.61	-51.61	ASP
9546	372636.92	1879402.58	6374+88.87	-104.00	RAD
9547	372636.66	1879457.58	6375+43.28	-112.00	ASP
9548	372674.08	1879461.75	6375+41.80	-149.62	GRV
9549	372673.97	1879485.75	6375+65.54	-153.11	GRV
9550	372636.51	1879489.48	6375+74.85	-116.64	ASP
9551	372615.07	1879489.17	6375+77.76	-95.39	ASP
9552	372612.40	1879544.11	6376+32.47	-101.00	RAD
9553	372558.03	1879535.85	6376+32.47	-46.00	ASP
9554	372541.08	1879540.89	6376+40.00	-30.00	MILL_EDGE
9555	372487.51	1879387.42	6374+96.31	46.00	ASP
9556	372433.13	1879379.17	6374+96.31	101.00	RAD
9557	372422.39	1879433.11	6375+51.25	103.52	ASP
9558	372417.10	1879432.06	6375+51.01	108.91	ASP
9559	372352.47	1879372.99	6375+02.31	181.67	GRV
9560	372335.90	1879482.17	6376+12.74	181.67	GRV
9561	372408.81	1879486.64	6376+06.21	108.91	ASP
9562	372405.45	1879541.54	6376+60.99	104.00	RAD
9563	372459.75	1879532.85	6376+44.25	51.61	ASP
9564	372479.81	1879544.74	6376+53.00	30.00	MILL_EDGE
9565	372114.15	1879588.14	6377+50.79	385.00	RAD
9566	372460.19	1879640.67	6377+50.79	35.00	ASP
9567	372450.10	1879820.40	6379+30.00	18.00	MILL_EDGE
9568	372494.55	1879847.38	6379+50.00	-30.00	MILL_EDGE
9569	372479.30	1880054.44	6381+57.00	-46.00	ASP
9570	372441.41	1880230.75	6383+37.00	-35.00	ASP
9571	372365.60	1880263.74	6383+81.00	35.00	ASP
9572	372406.21	1880309.35	6384+20.00	-12.00	MILL_EDGE
9573	372382.48	1880305.75	6384+20.00	12.00	MILL_EDGE
9574	372402.53	1880406.91	6385+17.00	-23.00	ASP
9575	372377.91	1880569.05	6386+81.00	-23.00	ASP
9576	372332.43	1880562.14	6386+81.00	23.00	ASP
9577	372324.19	1880889.62	6390+06.00	-18.00	ASP
9578	372288.59	1880884.21	6390+06.00	18.00	ASP
9579	372314.43	1880953.88	6390+71.00	-18.00	ASP
9580	372308.50	1880952.98	6390+71.00	-12.00	MILL_EDGE
9581	372284.77	1880949.38	6390+71.00	12.00	MILL_EDGE
9582	372278.84	1880948.48	6390+71.00	18.00	ASP



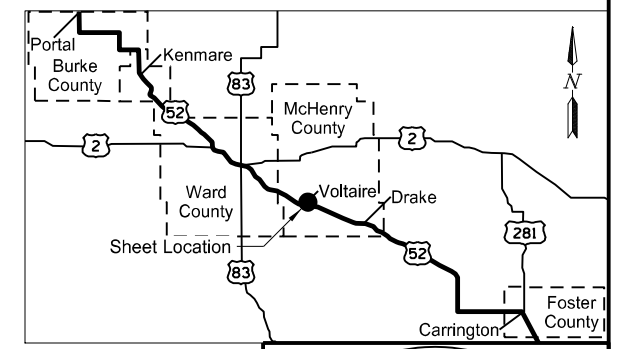
Survey Data Layouts
RP 120.5

US 52
South of Portal to Carrington
McHenry County

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	HEN-9-052(485)006	82	11



Curve CL_US52_RP12_35
 PI = 6757+74.38 Simple Curve
 Delta = 12° 30' 40.85" (RT)
 Da = 1° 02' 10.16"
 R = 5,529.65
 T = 606.15
 L = 1,207.48



- Legend**
- Iron Pin Reference Monument
 - Alignment Monument
 - ⊙ Iron Pin R/W Monument
 - ⊕ Temporary R/W / Staking Point
 - Found R/W Monument or Property Corner
 - ⊖ Found R/W Marker



Survey Data Layouts
 RP 127.6

US 52
 South of Portal to Carrington
 McHenry County

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	HEN-9-052(485)006	82	12

Station & offsets from Chain SCL_HWY52_RP118

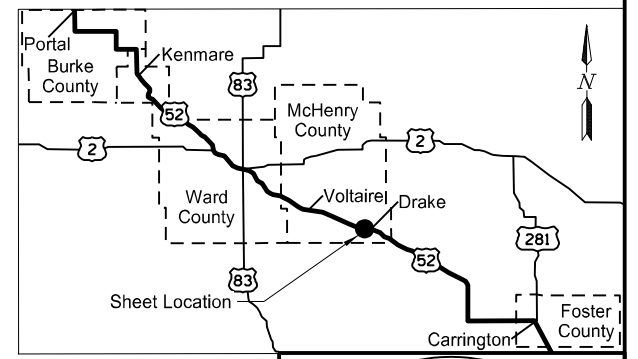
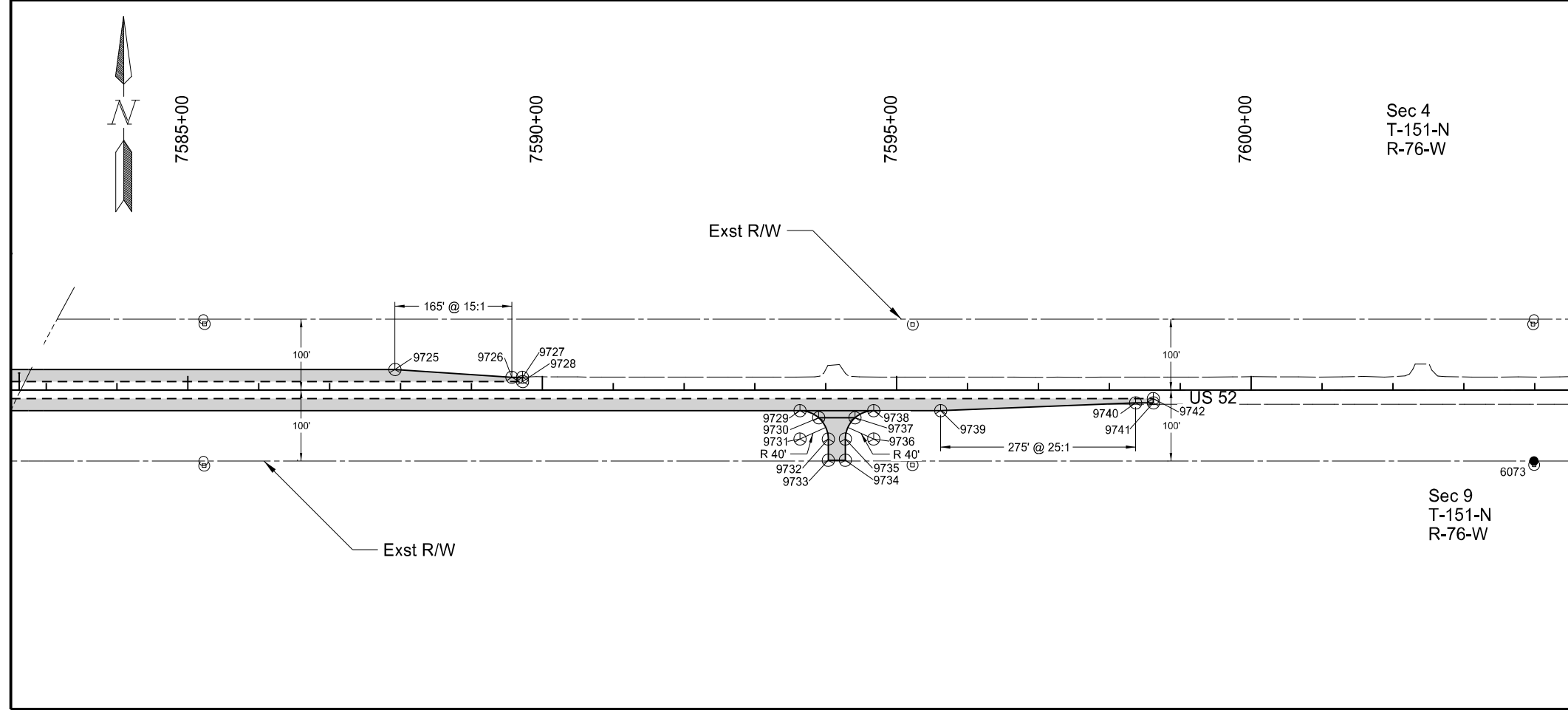
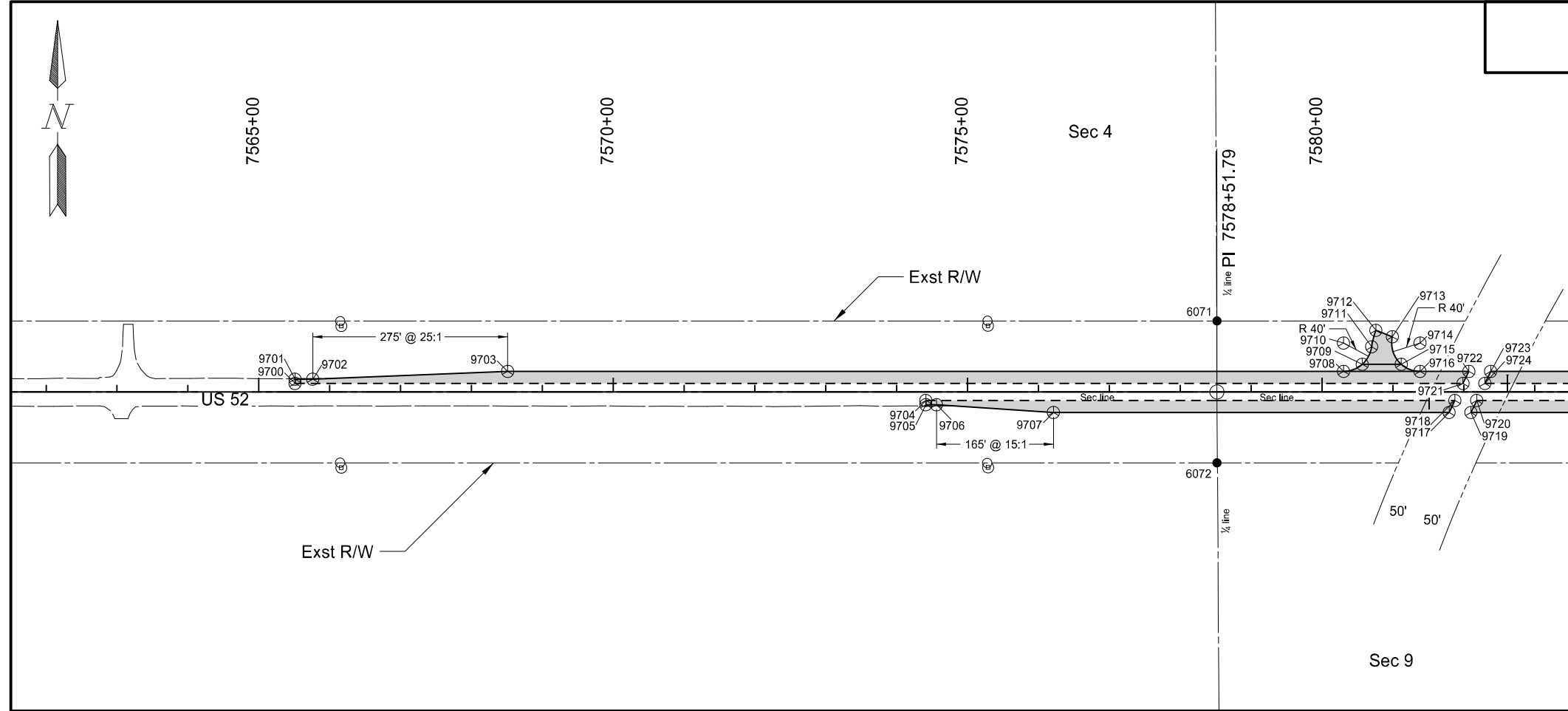
Point	North	East	Station	Offset	Feature
6070	365979.39	1916177.06	6748+61.31	200.00	SEC XING R/W
8070	366176.25	1916212.31	6748+61.31	0.00	POT MON
8071	366122.16	1916514.43	6751+68.23	0.00	PC MON
9600	366500.59	1914332.74	6729+54.00	12.00	MILL_EDGE
9601	366494.69	1914331.68	6729+54.00	18.00	ASP
9602	366451.15	1914506.75	6731+34.00	30.00	ASP
9603	366426.48	1914644.56	6732+74.00	30.00	ASP
9604	366467.82	1914651.96	6732+74.00	-12.00	MILL_EDGE
9605	366473.73	1914653.02	6732+74.00	-18.00	ASP
9606	366456.49	1914758.66	6733+81.02	-19.65	ASP
9607	366495.96	1914765.10	6733+80.41	-59.64	RAD
9608	366492.93	1914804.98	6734+20.20	-63.69	ASP
9609	366518.31	1914806.91	6734+17.63	-89.01	ASP
9610	366526.83	1914807.56	6734+16.76	-97.51	GRV
9611	366524.96	1914832.12	6734+41.26	-100.00	GRV
9612	366516.45	1914831.47	6734+42.13	-91.50	ASP
9613	366482.08	1914828.86	6734+45.62	-57.21	ASP
9614	366479.05	1914868.74	6734+85.41	-61.26	RAD
9615	366439.57	1914862.30	6734+86.03	-21.26	ASP
9616	366351.84	1915027.40	6736+64.00	36.00	ASP
9617	366302.62	1915018.58	6736+64.00	86.00	RAD
9618	366293.81	1915067.80	6737+14.00	86.00	ASP
9619	366260.96	1915066.26	6737+18.27	118.60	ASP
9620	366260.96	1915085.53	6737+37.24	115.21	ASP
9621	366301.39	1915093.54	6737+38.00	74.00	ASP
9622	366292.58	1915142.76	6737+88.00	74.00	RAD
9623	366341.80	1915151.57	6737+88.00	24.00	ASP
9624	366230.76	1915771.71	6744+18.00	24.00	ASP
9625	366246.29	1915957.35	6745+98.00	-24.00	ASP
9626	366210.68	1916139.98	6747+84.05	-21.14	ASP
9627	366259.75	1916149.55	6747+84.82	-71.13	RAD
9628	366260.61	1916199.55	6748+33.88	-80.78	ASP
9629	366275.45	1916199.29	6748+31.01	-95.34	ASP
9630	366275.86	1916223.41	6748+54.68	-100.00	ASP
9631	366232.91	1916224.14	6748+62.97	-57.86	ASP
9632	366235.47	1916274.10	6749+11.70	-69.18	RAD
9633	366186.39	1916264.53	6749+10.93	-19.19	ASP
9634	366167.57	1916147.42	6747+98.96	19.99	ASP
9635	366118.26	1916139.12	6747+99.49	69.99	RAD
9636	366133.34	1916186.79	6748+43.76	46.74	ASP
9637	366027.79	1915853.09	6745+33.88	209.45	RAD
9638	366043.47	1916202.74	6748+75.29	132.39	ASP
9639	366025.52	1916203.08	6748+78.79	150.00	GRV
9640	366025.45	1916227.51	6749+02.85	145.77	GRV
9641	366043.40	1916227.56	6748+99.74	128.09	ASP
9642	366095.13	1916227.72	6748+90.78	77.13	ASP
9643	366094.95	1916277.72	6749+40.03	68.51	RAD
9644	366144.25	1916286.02	6749+39.51	18.51	ASP
9645	366136.21	1916333.84	6749+88.00	18.00	ASP
9646	366142.11	1916334.90	6749+88.00	12.00	MILL_EDGE
9647	366165.74	1916339.13	6749+88.00	-12.00	MILL_EDGE
9648	366171.64	1916340.19	6749+88.00	-18.00	ASP



Survey Data Layouts
 RP 127.6

US 52
 South of Portal to Carrington
 McHenry County

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	HEN-9-052(485)006	82	13



- Legend**
- Iron Pin Reference Monument
 - Alignment Monument
 - ⊙ Iron Pin R/W Monument
 - ⊕ Temporary R/W / Staking Point
 - Found R/W Monument or Property Corner
 - ⊖ Found R/W Marker



Survey Data Layouts
RP 143.5

US 52
South of Portal to Carrington
McHenry County

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	HEN-9-052(485)006	82	14

Station & offsets from Chain SCL_HWY52_RP141

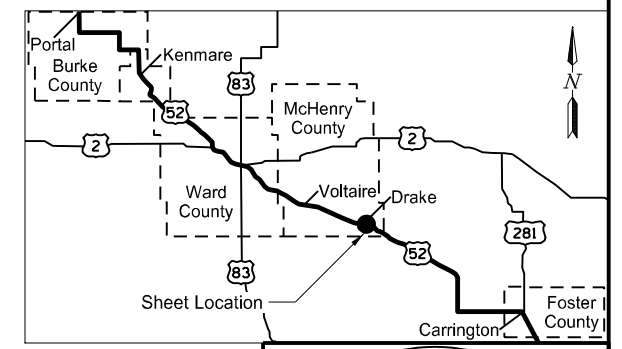
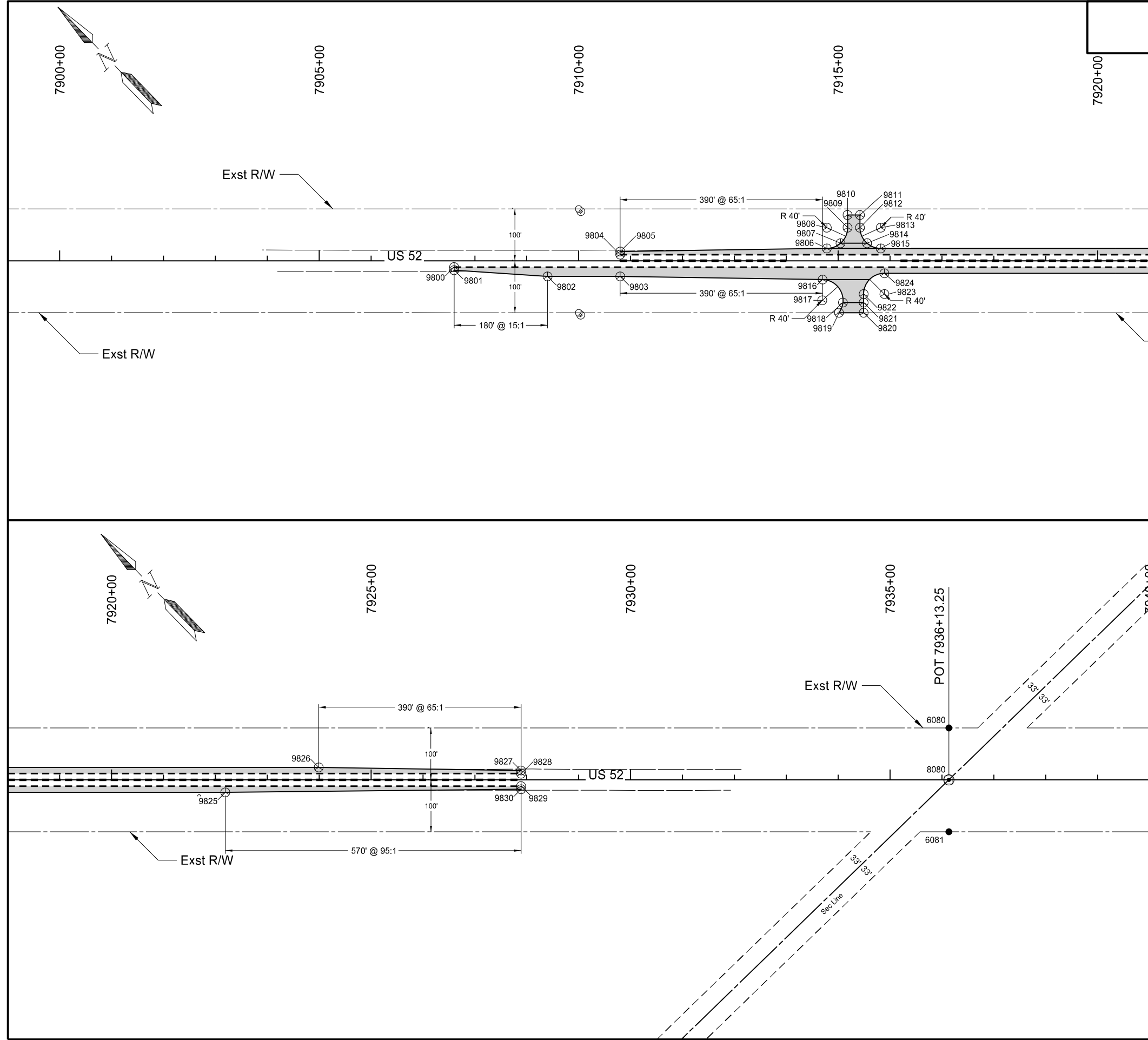
Point	North	East	Station	Offset	Feature
6071	335717.95	1992527.01	7578+51.82	-100.02	PI R/W MON
6072	335517.96	1992526.71	7578+51.82	99.98	PI R/W MON
6073	335514.08	1995073.88	7603+99.00	100.00	SEC XING MON
9700	335631.92	1991226.06	7565+51.00	-12.00	MILL_EDGE
9701	335637.92	1991226.07	7565+51.00	-18.00	ASP
9702	335637.89	1991251.07	7565+76.00	-18.00	ASP
9703	335648.47	1991526.08	7568+51.00	-29.00	ASP
9704	335606.57	1992116.02	7574+41.00	12.00	MILL_EDGE
9705	335600.57	1992116.01	7574+41.00	18.00	ASP
9706	335600.54	1992131.01	7574+56.00	18.00	ASP
9707	335589.29	1992295.99	7576+21.00	29.00	ASP
9708	335646.67	1992705.38	7580+30.30	-29.00	ASP
9709	335656.63	1992731.85	7580+56.76	-39.00	ASP
9710	335686.67	1992705.44	7580+30.30	-69.00	RAD
9711	335681.21	1992745.07	7580+69.93	-63.60	GRV
9712	335704.39	1992751.10	7580+75.93	-86.79	GRV
9713	335695.32	1992774.31	7580+99.16	-77.76	GRV
9714	335686.50	1992813.33	7581+38.19	-69.00	RAD
9715	335656.54	1992786.82	7581+11.73	-39.00	ASP
9716	335646.50	1992813.27	7581+38.19	-29.00	ASP
9717	335588.44	1992854.27	7581+79.28	29.00	ASP
9718	335605.43	1992862.36	7581+87.34	12.00	MILL_EDGE
9719	335588.40	1992884.97	7582+09.98	29.00	ASP
9720	335605.38	1992893.17	7582+18.16	12.00	MILL_EDGE
9721	335629.41	1992873.93	7581+98.88	-12.00	MILL_EDGE
9722	335646.40	1992882.24	7582+07.16	-29.00	ASP
9723	335646.35	1992912.95	7582+37.87	-29.00	ASP
9724	335629.37	1992904.75	7582+29.70	-12.00	MILL_EDGE
9725	335645.51	1993467.08	7587+92.00	-29.00	ASP
9726	335634.26	1993632.06	7589+57.00	-18.00	ASP
9727	335634.24	1993647.06	7589+72.00	-18.00	ASP
9728	335628.24	1993647.05	7589+72.00	-12.00	MILL_EDGE
9729	335586.65	1994038.50	7593+63.51	29.00	ASP
9730	335576.61	1994064.94	7593+89.97	39.00	ASP
9731	335546.65	1994038.44	7593+63.51	69.00	RAD
9732	335546.59	1994078.44	7594+03.51	69.00	GRV
9733	335516.68	1994078.39	7594+03.51	98.91	GRV
9734	335516.64	1994102.39	7594+27.51	98.91	GRV
9735	335546.55	1994102.44	7594+27.51	69.00	GRV
9736	335546.49	1994142.44	7594+67.51	69.00	RAD
9737	335576.53	1994116.03	7594+41.05	39.00	ASP
9738	335586.49	1994142.50	7594+67.51	29.00	ASP
9739	335586.35	1994236.99	7595+62.00	29.00	ASP
9740	335596.93	1994512.01	7598+37.00	18.00	ASP
9741	335596.89	1994537.01	7598+62.00	18.00	ASP
9742	335602.89	1994537.02	7598+62.00	12.00	MILL_EDGE



Survey Data Layouts
RP 143.5

US 52
South of Portal to Carrington
McHenry County

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	HEN-9-052(485)006	82	15



- Legend**
- Iron Pin Reference Monument
 - Alignment Monument
 - ⊙ Iron Pin R/W Monument
 - ⊕ Temporary R/W / Staking Point
 - Found R/W Monument or Property Corner
 - ⊖ Found R/W Marker



Survey Data Layouts
RP 149.9

US 52
South of Portal to Carrington
McHenry County

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	HEN-9-052(485)006	82	16

Station & offsets from Chain SCL_HWY52_RP149

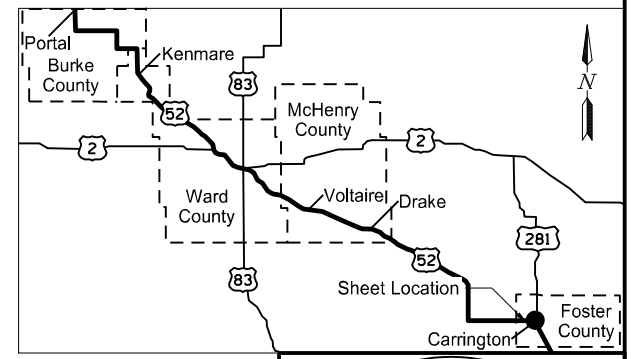
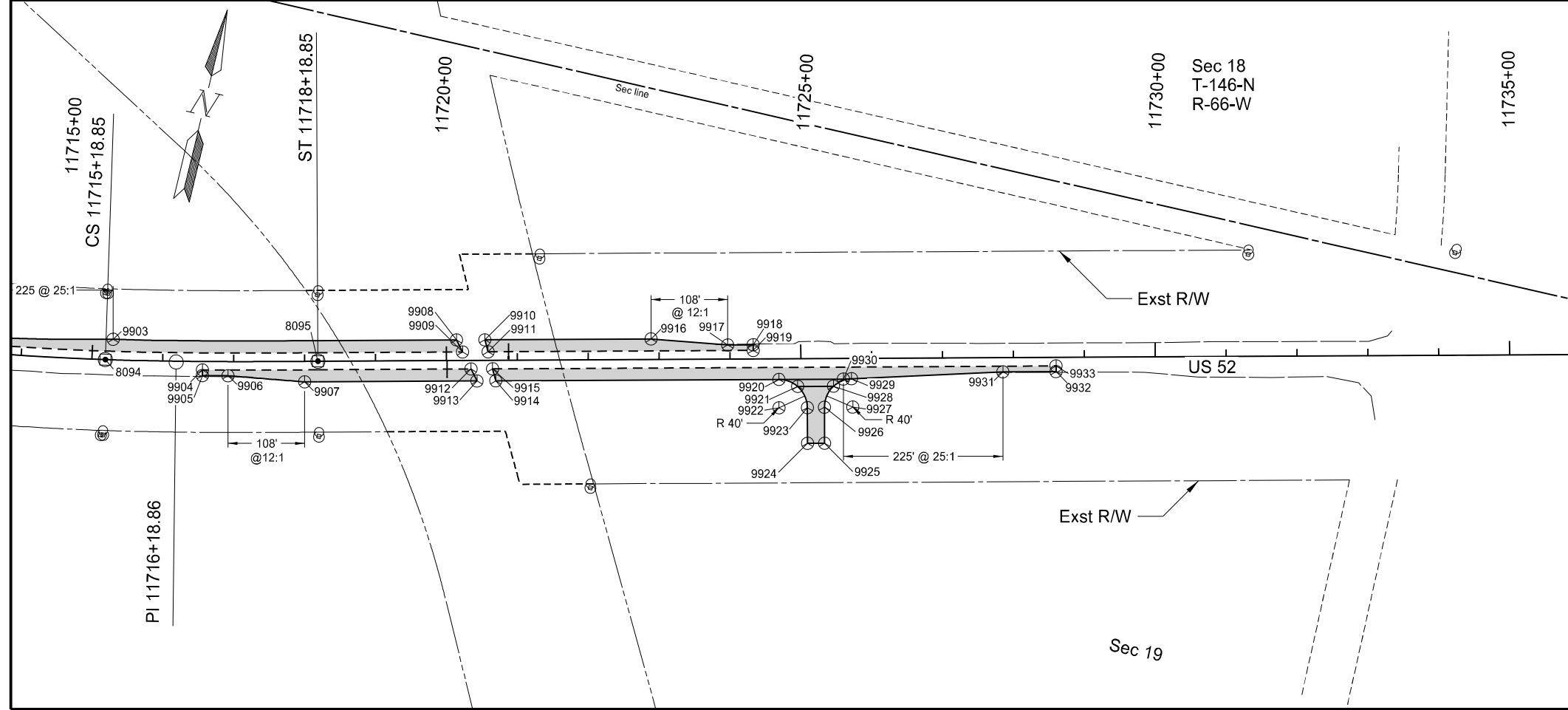
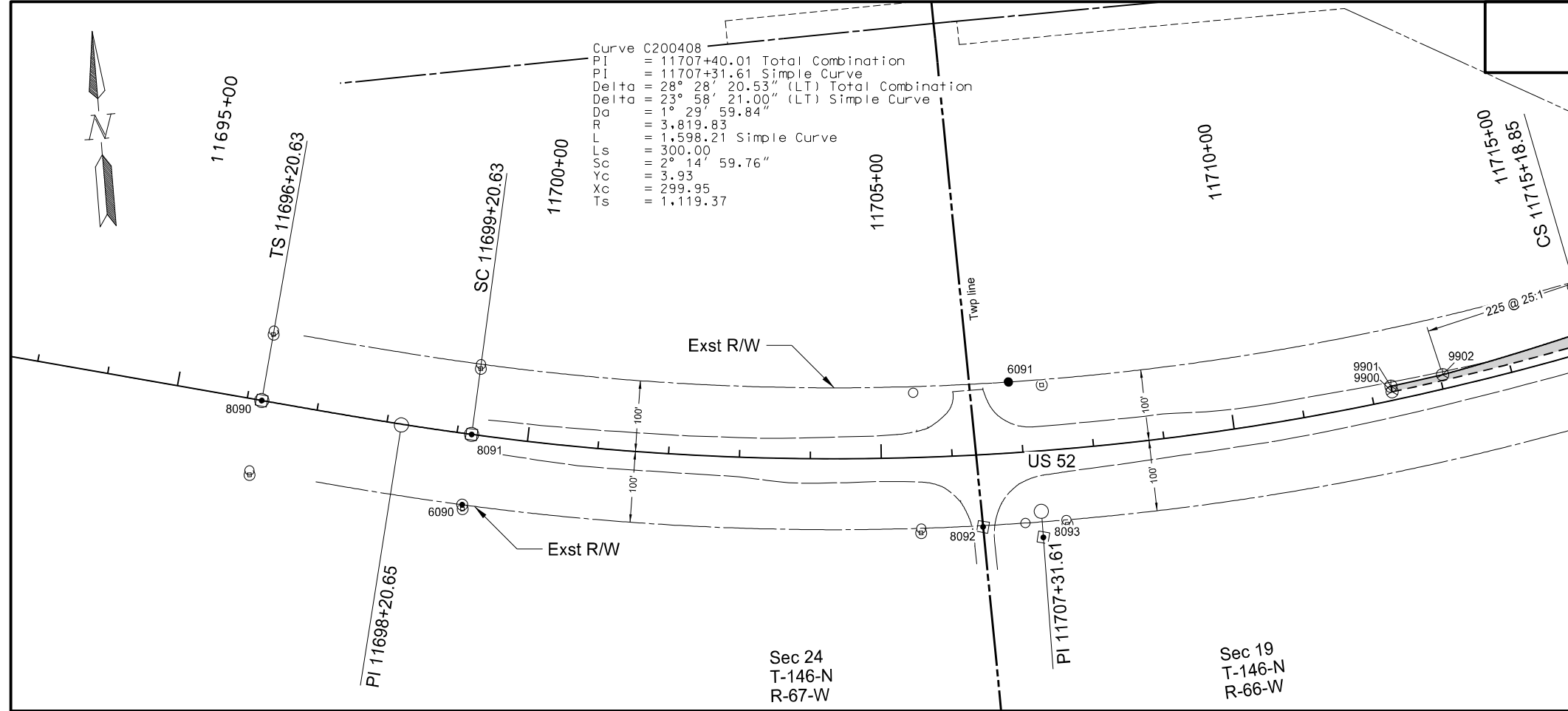
Point	North	East	Station	Offset	Feature
6080	325128.22	2025797.56	7936+13.25	-100.00	POT R/W MON
6081	324984.64	2025658.33	7936+13.25	100.00	POT R/W MON
8080	325056.43	2025727.94	7936+13.25	0.00	POT MON
9800	327033.99	2023671.14	7907+60.00	12.00	MILL_EDGE
9801	327029.68	2023666.96	7907+60.00	18.00	ASP
9802	326895.76	2023787.84	7909+40.00	30.00	ASP
9803	326798.31	2023888.35	7910+80.00	30.00	ASP
9804	326828.46	2023917.58	7910+80.00	-12.00	MILL_EDGE
9805	326832.77	2023921.76	7910+80.00	-18.00	ASP
9806	326560.02	2024211.68	7914+78.00	-24.00	ASP
9807	326548.79	2024237.63	7915+04.46	-34.00	ASP
9808	326588.74	2024239.52	7914+78.00	-64.00	RAD
9809	326560.90	2024268.24	7915+18.00	-64.00	GRV
9810	326578.36	2024285.18	7915+18.00	-88.33	GRV
9811	326561.66	2024302.41	7915+42.00	-88.33	GRV
9812	326544.19	2024285.47	7915+42.00	-64.00	GRV
9813	326516.35	2024314.19	7915+82.00	-64.00	RAD
9814	326513.23	2024274.31	7915+55.54	-34.00	ASP
9815	326487.63	2024286.34	7915+82.00	-24.00	ASP
9816	326522.52	2024164.17	7914+70.00	36.00	ASP
9817	326494.23	2024135.88	7914+69.38	76.00	RAD
9818	326463.45	2024161.43	7915+09.15	80.31	ASP
9819	326454.73	2024142.20	7915+01.41	99.95	GRV
9820	326421.61	2024176.37	7915+49.00	99.95	GRV
9821	326435.71	2024190.04	7915+49.00	80.31	ASP
9822	326447.42	2024201.40	7915+49.00	64.00	ASP
9823	326419.58	2024230.11	7915+89.00	64.00	RAD
9824	326448.29	2024257.96	7915+89.00	24.00	ASP
9825	326009.74	2024710.26	7922+19.00	24.00	ASP
9826	325918.91	2024872.90	7923+99.00	-24.00	ASP
9827	325643.12	2025148.72	7927+89.00	-18.00	ASP
9828	325638.81	2025144.54	7927+89.00	-12.00	MILL_EDGE
9829	325621.58	2025127.84	7927+89.00	12.00	MILL_EDGE
9830	325617.27	2025123.66	7927+89.00	18.00	ASP



Survey Data Layouts
 RP 149.9

US 52
 South of Portal to Carrington
 McHenry County

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	HEN-9-052(485)006	82	17



- Legend**
- Iron Pin Reference Monument
 - Alignment Monument
 - ⊙ Iron Pin R/W Monument
 - ⊕ Temporary R/W / Staking Point
 - Found R/W Monument or Property Corner
 - ⊗ Found R/W Marker



Survey Data Layouts
 RP 222.0

US 52
 South of Portal to Carrington
 Foster County

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	HEN-9-052(485)006	82	18

Station & offsets from Chain EX_HWY52_RP215

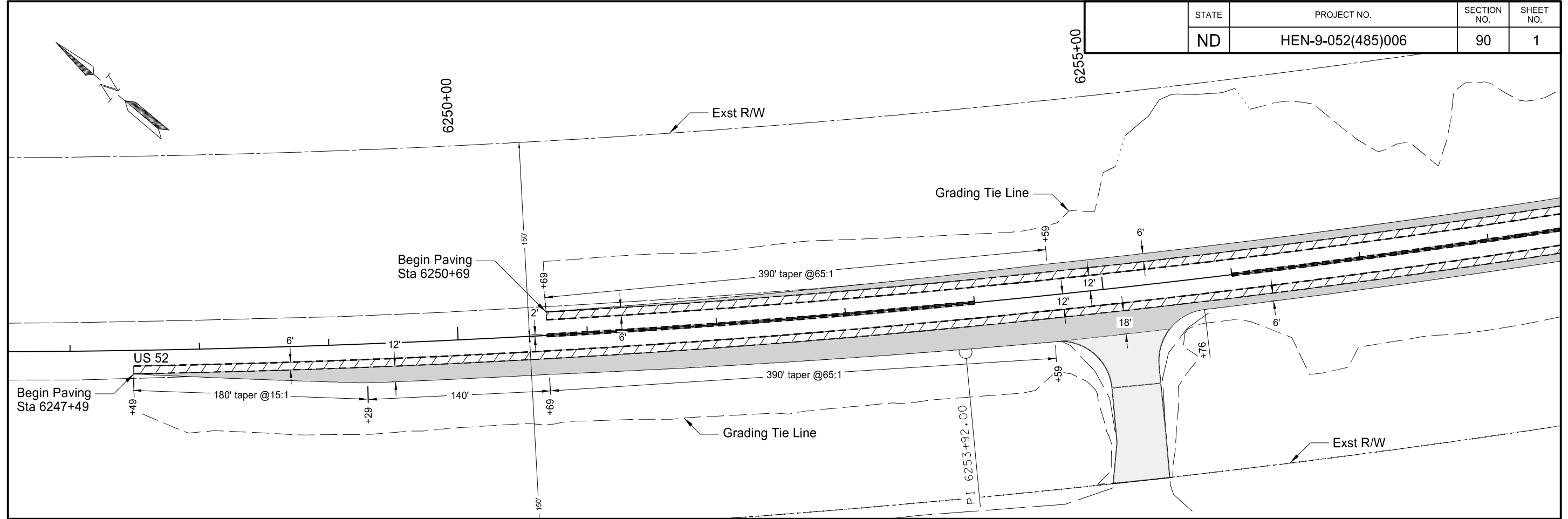
Point	North	East	Station	Offset	Feature
6090	169220.80	2304757.56	11699+20.63	100.00	SC R/W MON
6091	169330.11	2305539.76	11706+86.24	-100.00	SEC XING R/W
8090	169390.44	2304487.78	11696+20.63	0.00	TS MON
8091	169318.48	2304779.00	11699+20.63	-0.00	SC MON
8092	169129.50	2305487.40	11706+38.29	101.71	SEC XING MON
8093	169107.72	2305570.86	11707+19.74	122.04	PI MON
8094	169307.58	2306365.55	11715+18.85	0.00	CS MON
8095	169375.54	2306657.73	11718+18.85	-0.00	ST MON
9900	169272.06	2306078.16	11712+29.00	-12.00	MILL_EDGE
9901	169280.00	2306077.15	11712+29.00	-20.00	ASP
9902	169290.14	2306151.07	11713+04.00	-20.00	ASP
9903	169338.03	2306369.59	11715+29.00	-29.00	ASP
9904	169325.50	2306502.20	11716+56.00	12.00	MILL_EDGE
9905	169317.71	2306504.02	11716+56.00	20.00	ASP
9906	169326.02	2306539.14	11716+92.00	20.00	ASP
9907	169342.87	2306646.36	11718+00.00	29.00	ASP
9908	169450.51	2306840.78	11720+14.52	-29.00	ASP
9909	169436.01	2306852.99	11720+22.91	-12.00	MILL_EDGE
9910	169460.08	2306879.61	11720+54.51	-29.00	ASP
9911	169444.63	2306887.98	11720+58.94	-12.00	MILL_EDGE
9912	169415.53	2306870.16	11720+34.68	12.00	MILL_EDGE
9913	169401.00	2306882.28	11720+42.97	29.00	ASP
9914	169407.37	2306908.12	11720+69.59	29.00	ASP
9915	169422.82	2306899.78	11720+65.18	12.00	MILL_EDGE
9916	169516.18	2307107.29	11722+89.00	-29.00	ASP
9917	169533.29	2307214.30	11723+97.00	-20.00	ASP
9918	169541.90	2307249.26	11724+33.00	-20.00	ASP
9919	169534.13	2307251.17	11724+33.00	-12.00	MILL_EDGE
9920	169502.94	2307295.93	11724+69.00	29.00	ASP
9921	169499.56	2307324.02	11724+95.46	39.00	ASP
9922	169464.10	2307305.51	11724+69.00	69.00	RAD
9923	169473.67	2307344.34	11725+09.00	69.00	GRV
9924	169424.81	2307356.38	11725+09.00	119.32	GRV
9925	169430.55	2307379.69	11725+33.00	119.32	GRV
9926	169479.88	2307367.53	11725+33.00	68.51	GRV
9927	169489.45	2307406.37	11725+73.00	68.51	RAD
9928	169511.65	2307373.09	11725+46.00	39.00	ASP
9929	169527.88	2307395.25	11725+71.40	28.54	ASP
9930	169524.71	2307384.29	11725+60.00	29.00	ASP
9931	169587.28	2307600.60	11727+85.00	20.00	ASP
9932	169605.22	2307673.43	11728+60.00	20.00	ASP
9933	169612.99	2307671.51	11728+60.00	12.00	MILL_EDGE



Survey Data Layouts
RP 222.0

US 52
South of Portal to Carrington
Foster County

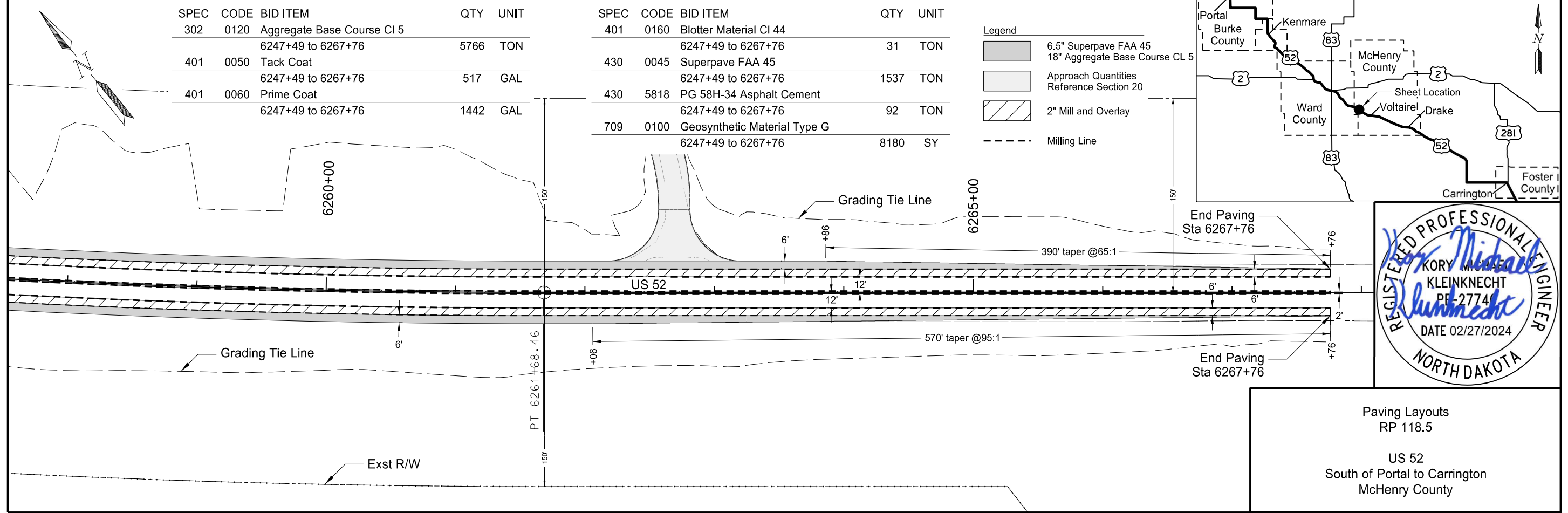
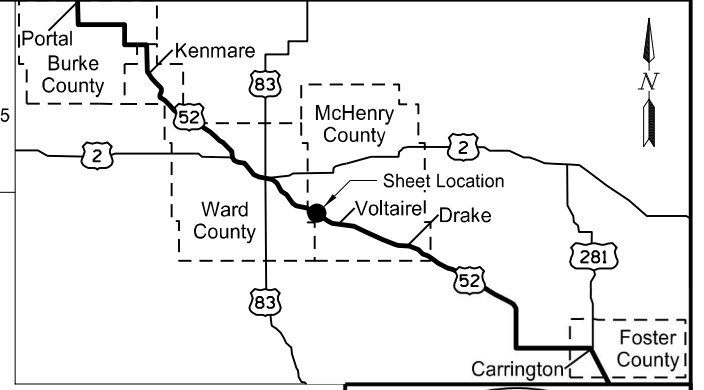
STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	HEN-9-052(485)006	90	1



SPEC	CODE	BID ITEM	QTY	UNIT
302	0120	Aggregate Base Course Cl 5		
		6247+49 to 6267+76	5766	TON
401	0050	Tack Coat		
		6247+49 to 6267+76	517	GAL
401	0060	Prime Coat		
		6247+49 to 6267+76	1442	GAL

SPEC	CODE	BID ITEM	QTY	UNIT
401	0160	Blotter Material Cl 44		
		6247+49 to 6267+76	31	TON
430	0045	Superpave FAA 45		
		6247+49 to 6267+76	1537	TON
430	5818	PG 58H-34 Asphalt Cement		
		6247+49 to 6267+76	92	TON
709	0100	Geosynthetic Material Type G		
		6247+49 to 6267+76	8180	SY

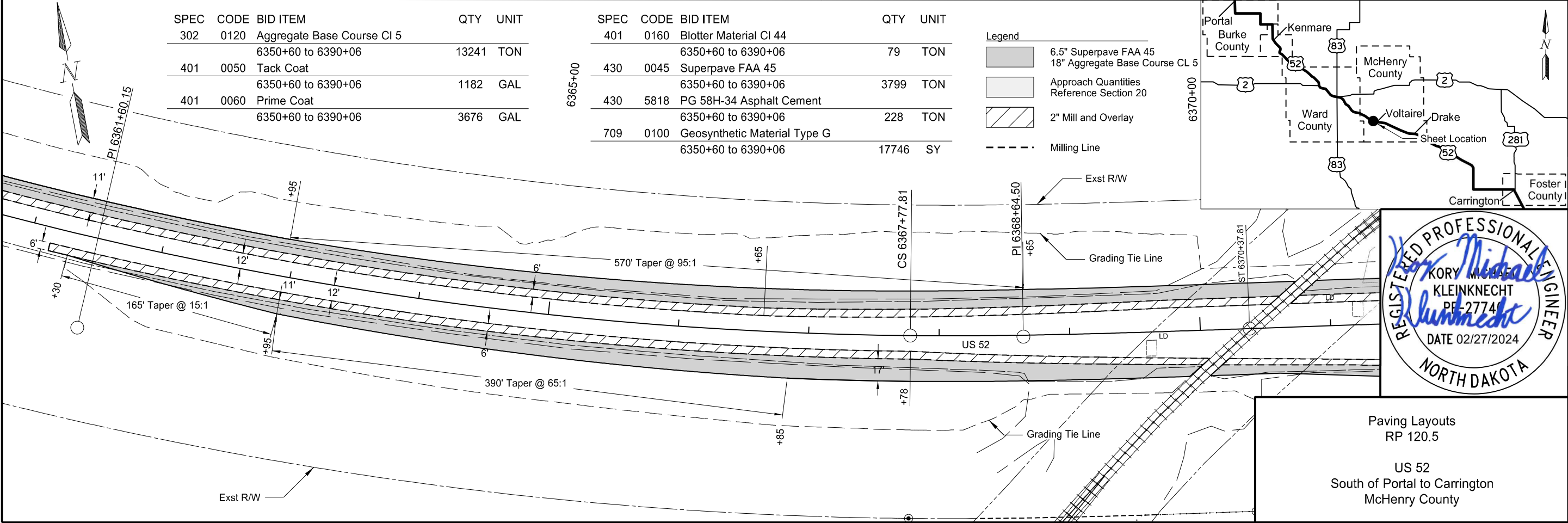
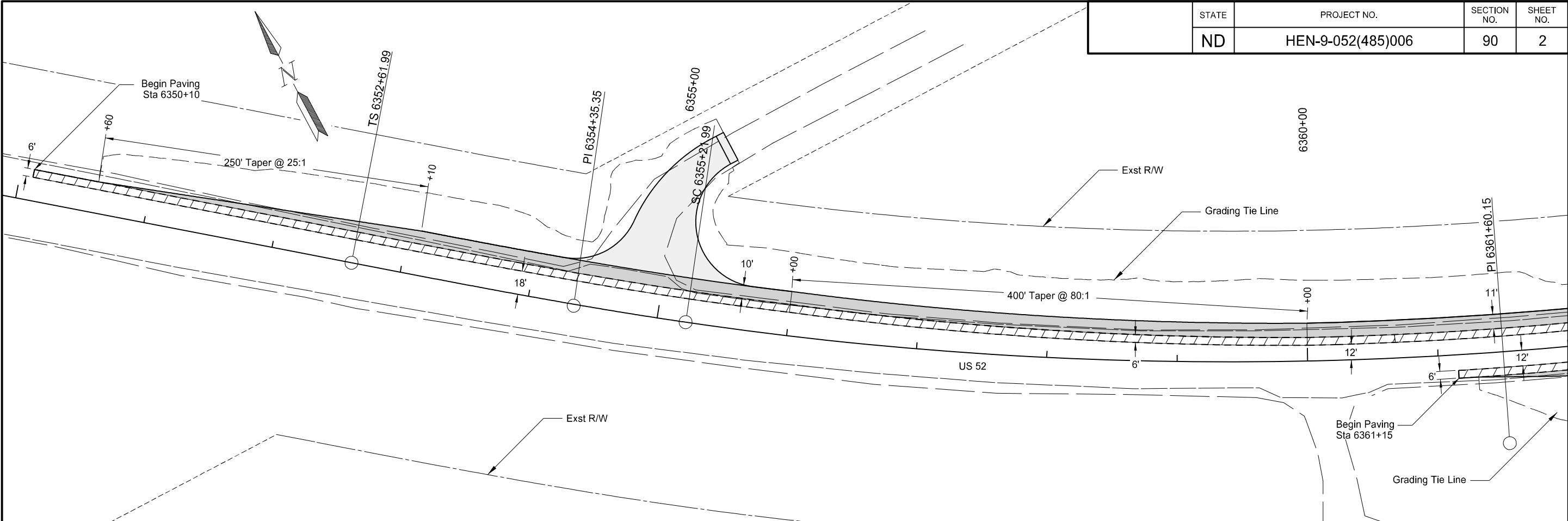
- Legend
- 6.5" Superpave FAA 45
18" Aggregate Base Course CL 5
 - Approach Quantities
Reference Section 20
 - 2" Mill and Overlay
 - Milling Line



Paving Layouts
RP 118.5

US 52
South of Portal to Carrington
McHenry County

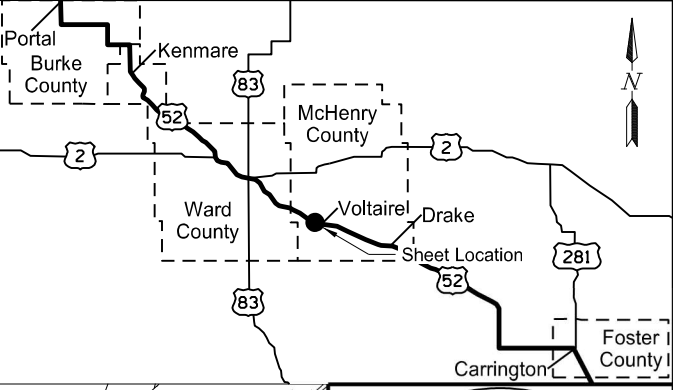
STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	HEN-9-052(485)006	90	2



SPEC	CODE	BID ITEM	QTY	UNIT	SPEC	CODE	BID ITEM	QTY	UNIT
302	0120	Aggregate Base Course Cl 5	13241	TON	401	0160	Blotter Material Cl 44	79	TON
		6350+60 to 6390+06			430	0045	Superpave FAA 45	3799	TON
401	0050	Tack Coat	1182	GAL	430	5818	PG 58H-34 Asphalt Cement	228	TON
		6350+60 to 6390+06					6350+60 to 6390+06		
401	0060	Prime Coat	3676	GAL	709	0100	Geosynthetic Material Type G	17746	SY
		6350+60 to 6390+06					6350+60 to 6390+06		

Legend

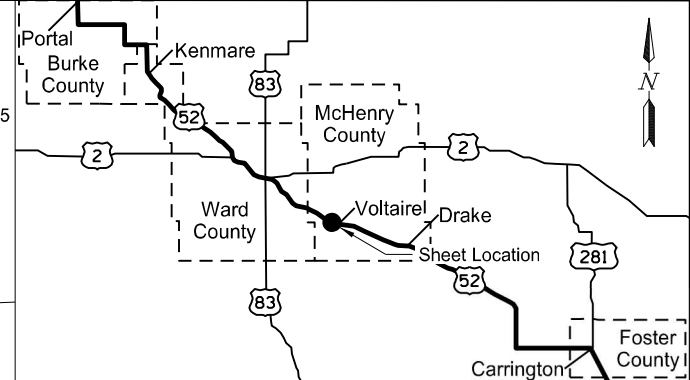
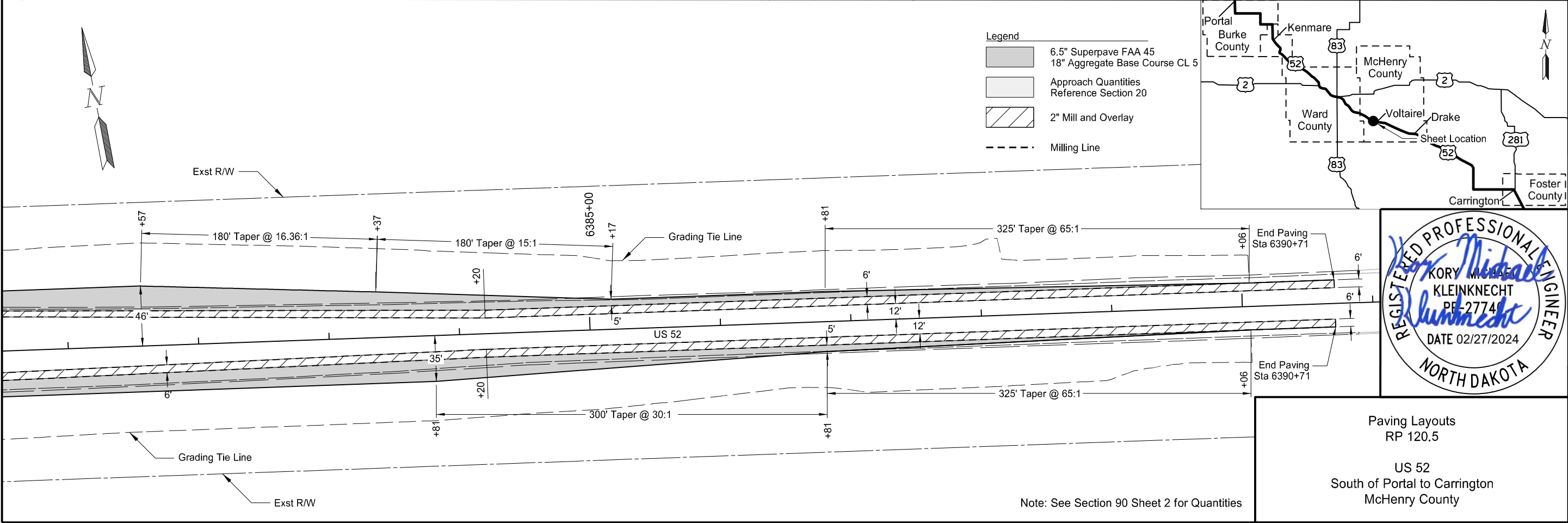
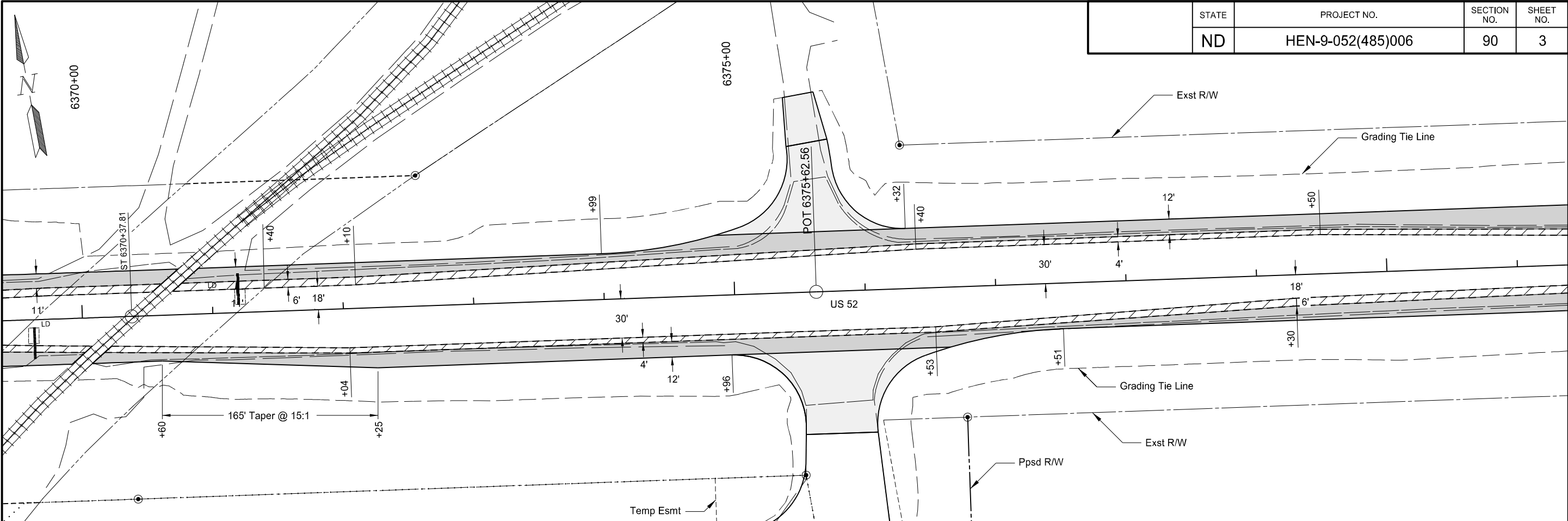
- 6.5" Superpave FAA 45
- 18" Aggregate Base Course CL 5
- Approach Quantities Reference Section 20
- 2" Mill and Overlay
- Milling Line



Paving Layouts
RP 120.5

US 52
South of Portal to Carrington
McHenry County

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	HEN-9-052(485)006	90	3

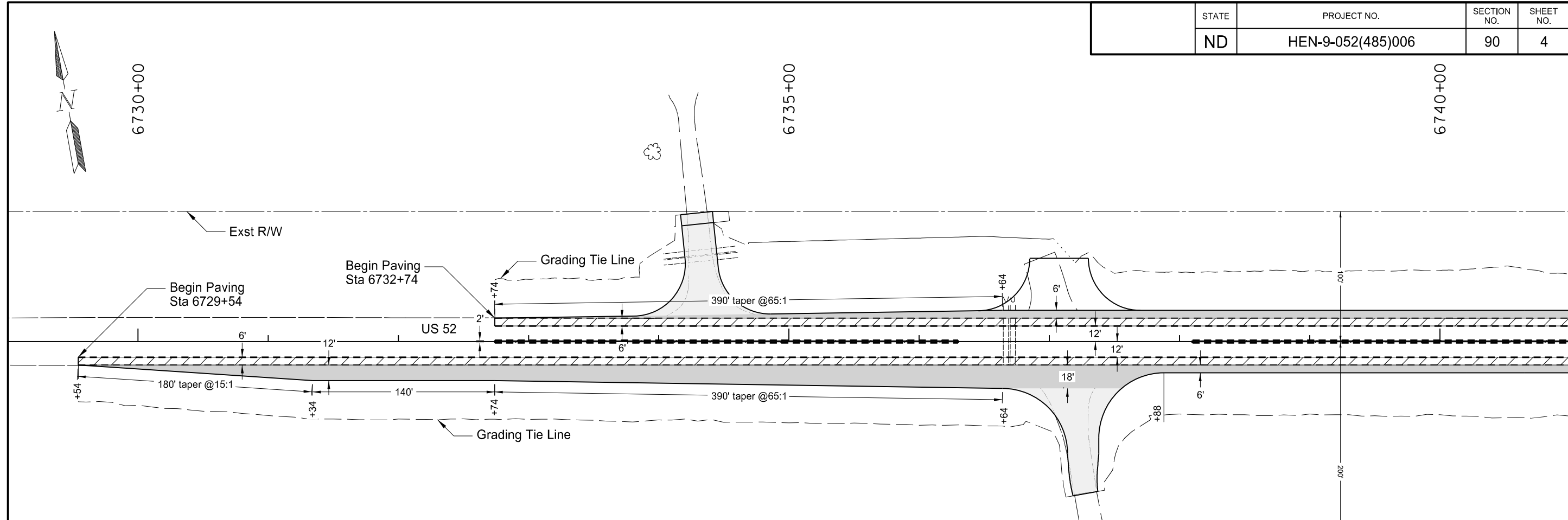


Paving Layouts
RP 120.5

US 52
South of Portal to Carrington
McHenry County

Note: See Section 90 Sheet 2 for Quantities

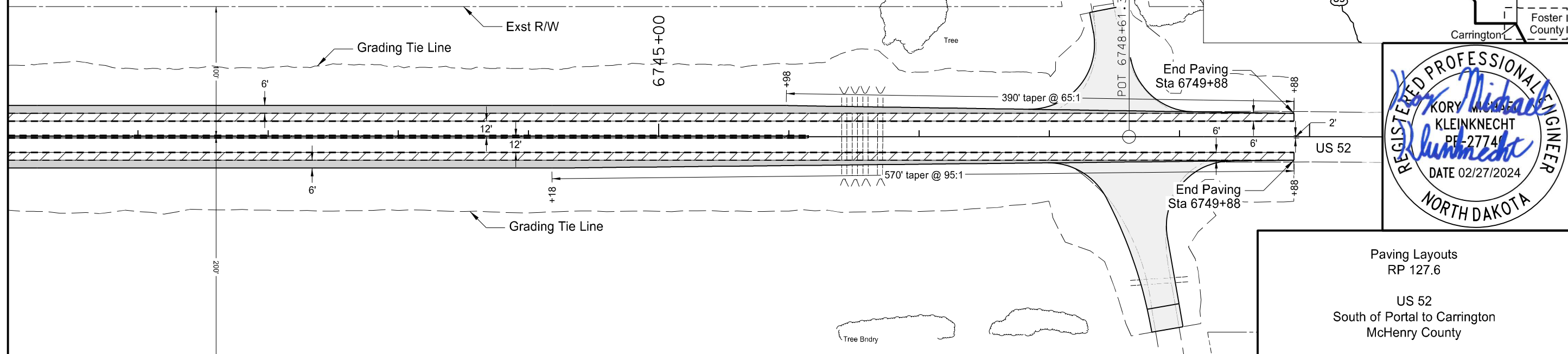
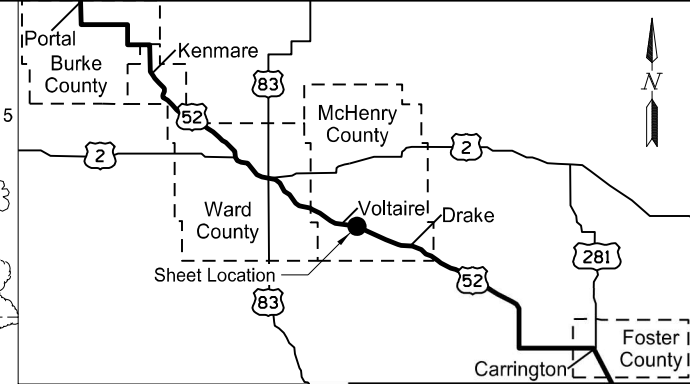
STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	HEN-9-052(485)006	90	4



SPEC	CODE	BID ITEM	QTY	UNIT
302	0120	Aggregate Base Course Cl 5		
		6729+40 to 6749+85	5505	TON
401	0050	Tack Coat		
		6729+40 to 6749+85	506	GAL
401	0060	Prime Coat		
		6729+40 to 6749+85	1404	GAL

SPEC	CODE	BID ITEM	QTY	UNIT
401	0160	Blotter Material Cl 44		
		6729+40 to 6749+85	30	TON
430	0045	Superpave FAA 45		
		6729+40 to 6749+85	1512	TON
430	5818	PG 58H-34 Asphalt Cement		
		6729+40 to 6749+85	91	TON
709	0100	Geosynthetic Material Type G		
		6729+40 to 6749+85	7733	SY

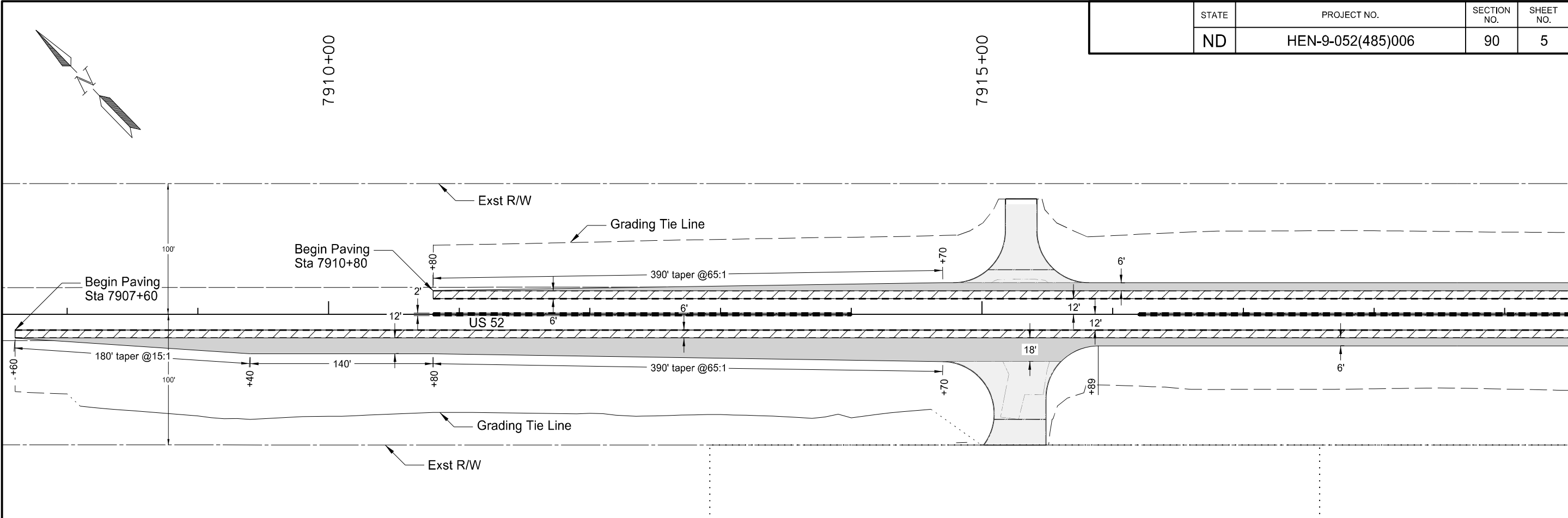
- Legend
- 6.5" Superpave FAA 45
 - 18" Aggregate Base Course CL 5
 - Approach Quantities Reference Section 20
 - 2" Mill and Overlay
 - Milling Line



Paving Layouts
RP 127.6

US 52
South of Portal to Carrington
McHenry County

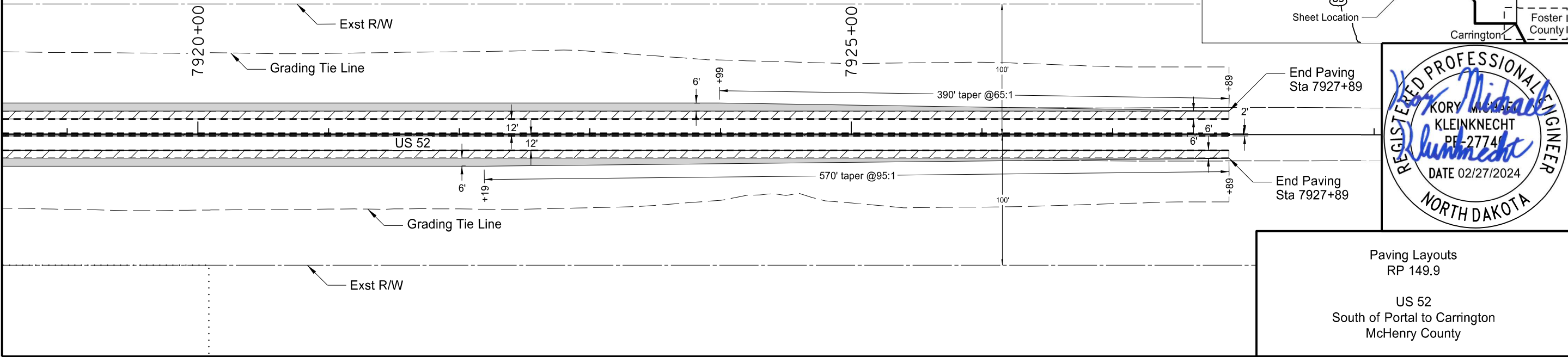
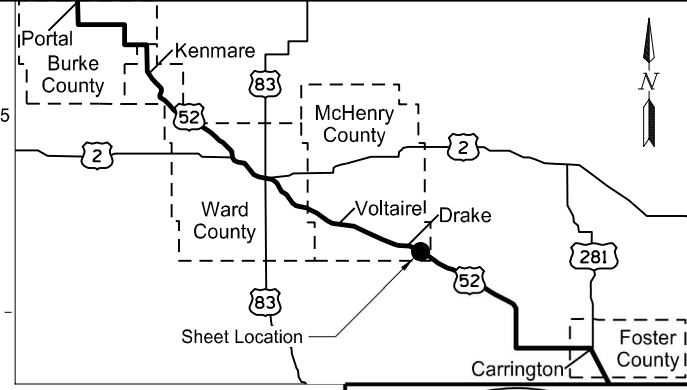
STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	HEN-9-052(485)006	90	5



SPEC	CODE	BID ITEM	QTY	UNIT	SPEC	CODE	BID ITEM	QTY	UNIT
302	0120	Aggregate Base Course Cl 5	5768	TON	401	0160	Blotter Material Cl 44	31	TON
		7907+60 to 7927+89					7907+60 to 7927+89		
401	0050	Tack Coat	517	GAL	430	0045	Superpave FAA 45	1538	TON
		7907+60 to 7927+89					7907+60 to 7927+89		
401	0060	Prime Coat	1443	GAL	430	5818	PG 58H-34 Asphalt Cement	92	TON
		7907+60 to 7927+89					7907+60 to 7927+89		
					709	0100	Geosynthetic Material Type G	8183	SY
							7907+60 to 7927+89		

Legend

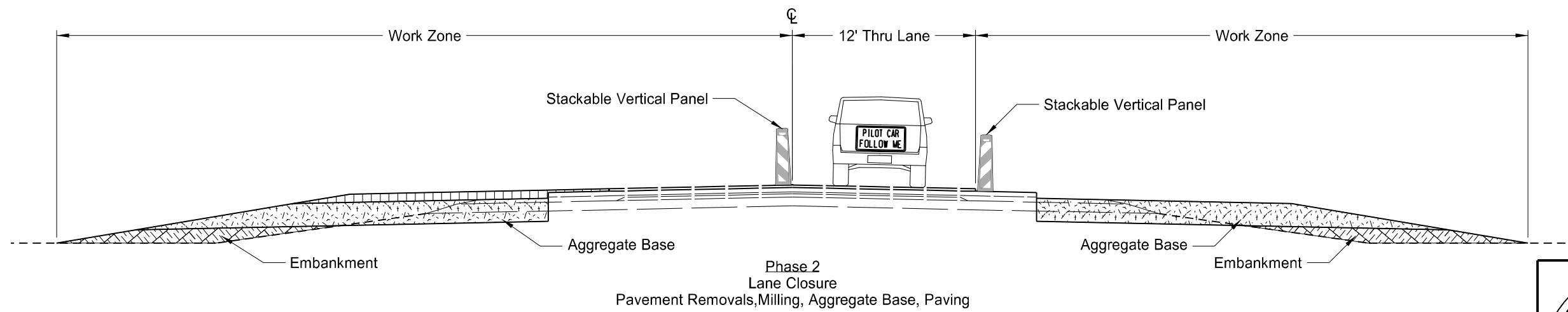
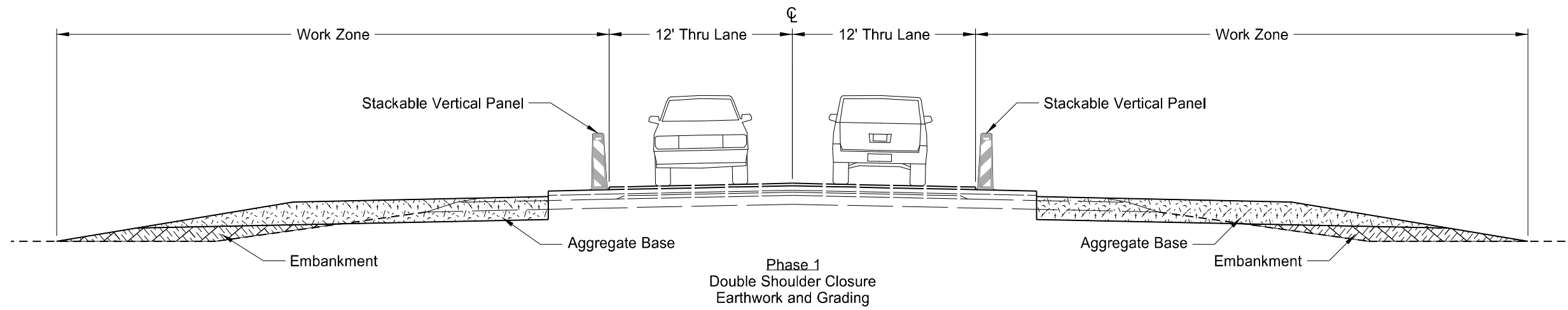
- 6.5" Superpave FAA 45
18" Aggregate Base Course CL 5
- Approach Quantities
Reference Section 20
- 2" Mill and Overlay
- Milling Line



REGISTERED PROFESSIONAL ENGINEER
 KORY MICHAEL KLEINKNECHT
 PE-2774
 DATE 02/27/2024
 NORTH DAKOTA

Paving Layouts
 RP 149.9
 US 52
 South of Portal to Carrington
 McHenry County

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	HEN-9-052(485)006	100	2

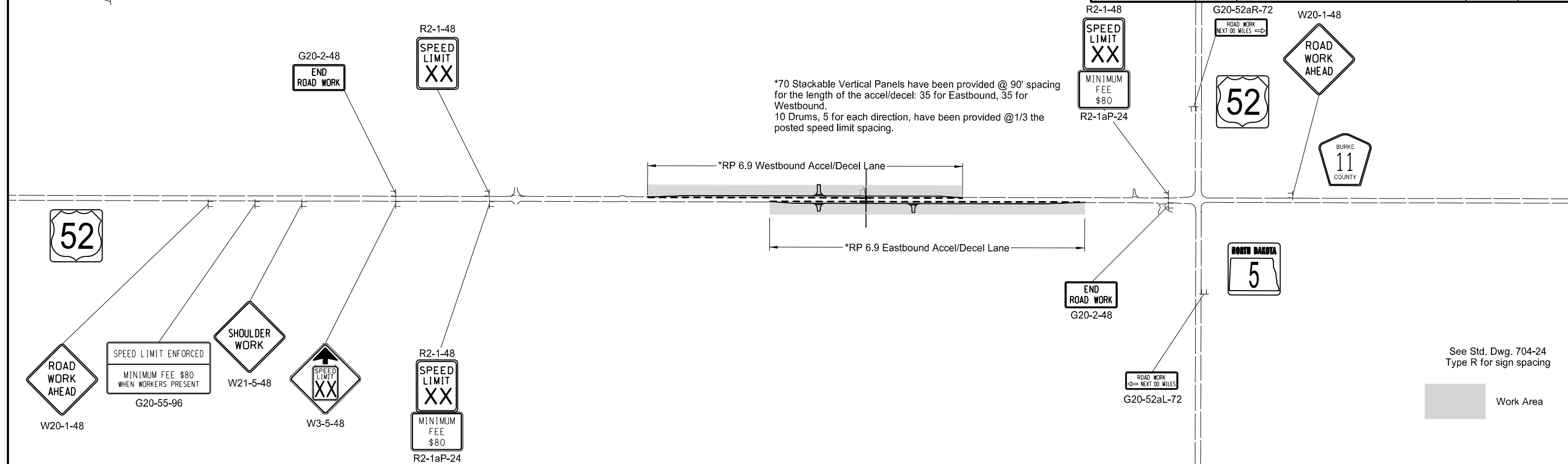


Work Zone Traffic Control
Typicals

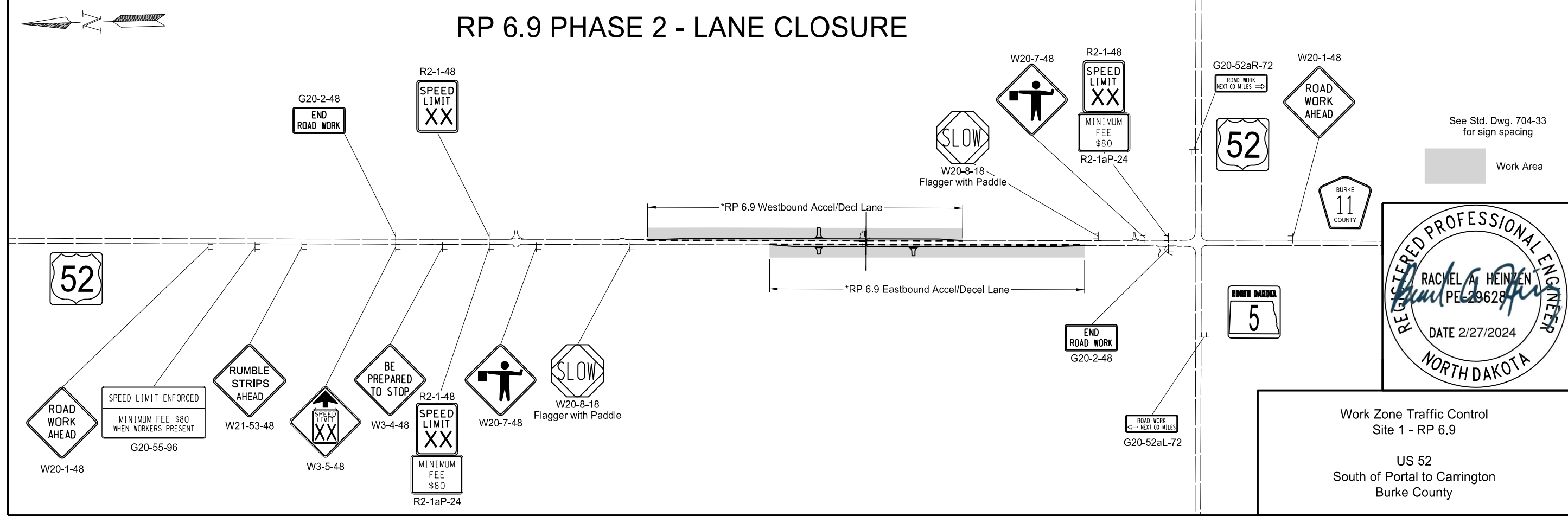
US 52
South of Portal to Carrington

RP 6.9 PHASE 1 - SHOULDER CLOSURE

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	HEN-9-052(485)006	100	3



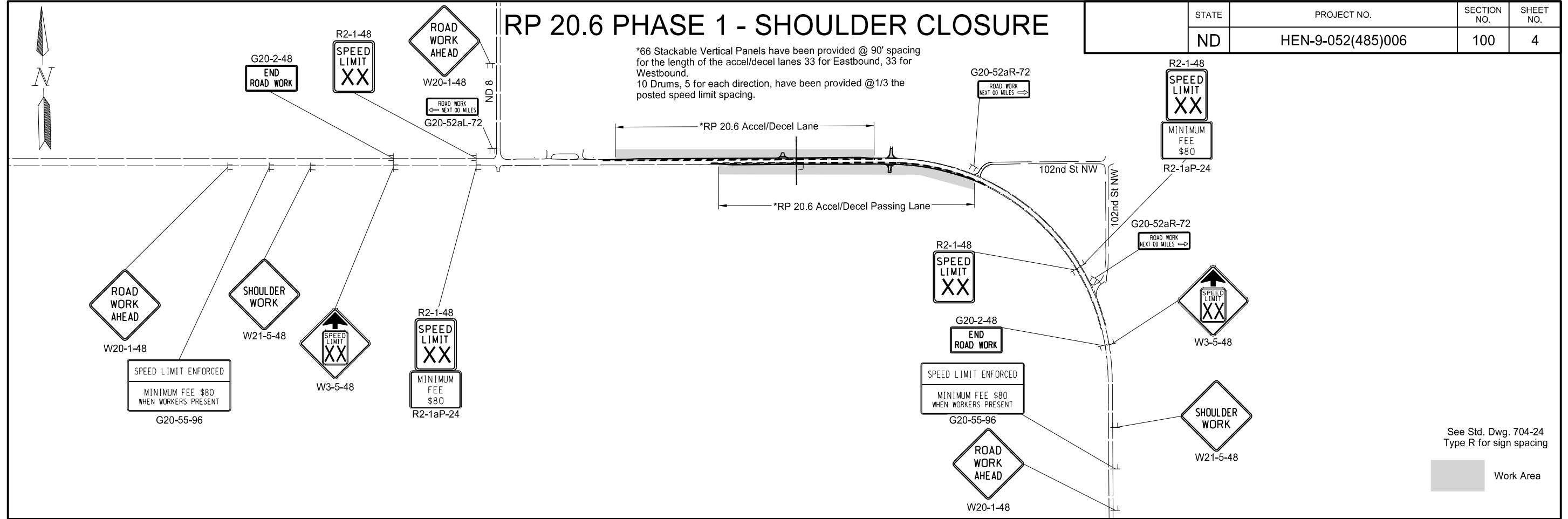
RP 6.9 PHASE 2 - LANE CLOSURE



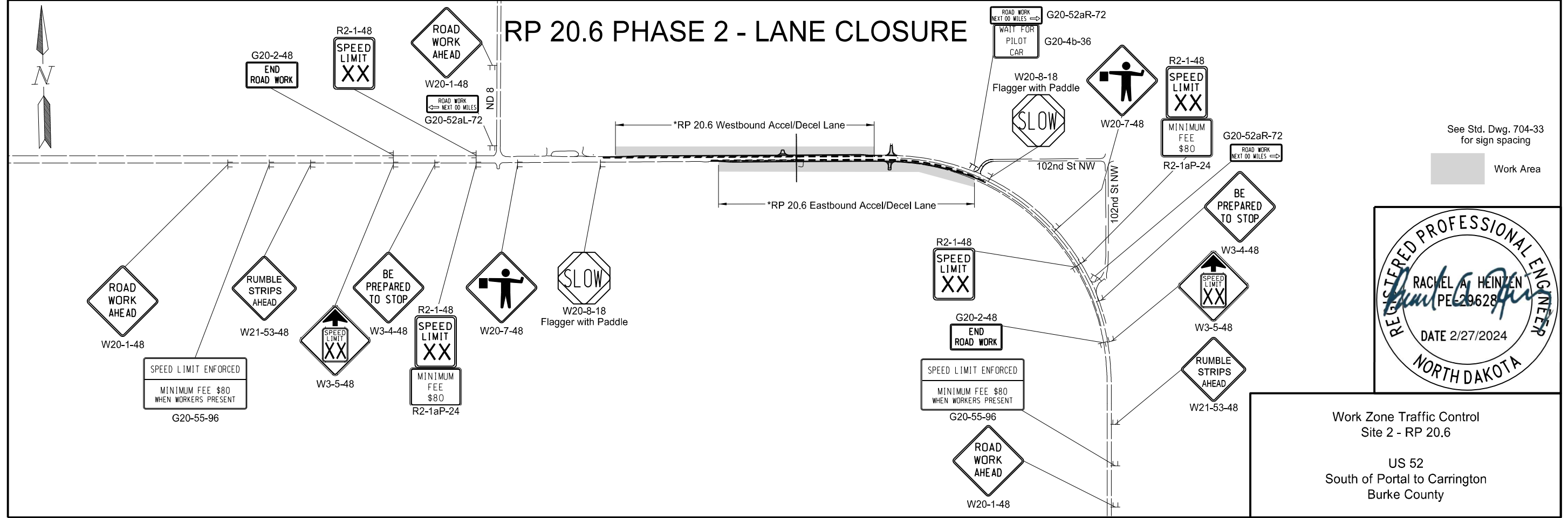
STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	HEN-9-052(485)006	100	4

RP 20.6 PHASE 1 - SHOULDER CLOSURE

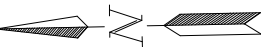
*66 Stackable Vertical Panels have been provided @ 90' spacing for the length of the accel/decel lanes 33 for Eastbound, 33 for Westbound.
 10 Drums, 5 for each direction, have been provided @ 1/3 the posted speed limit spacing.



RP 20.6 PHASE 2 - LANE CLOSURE



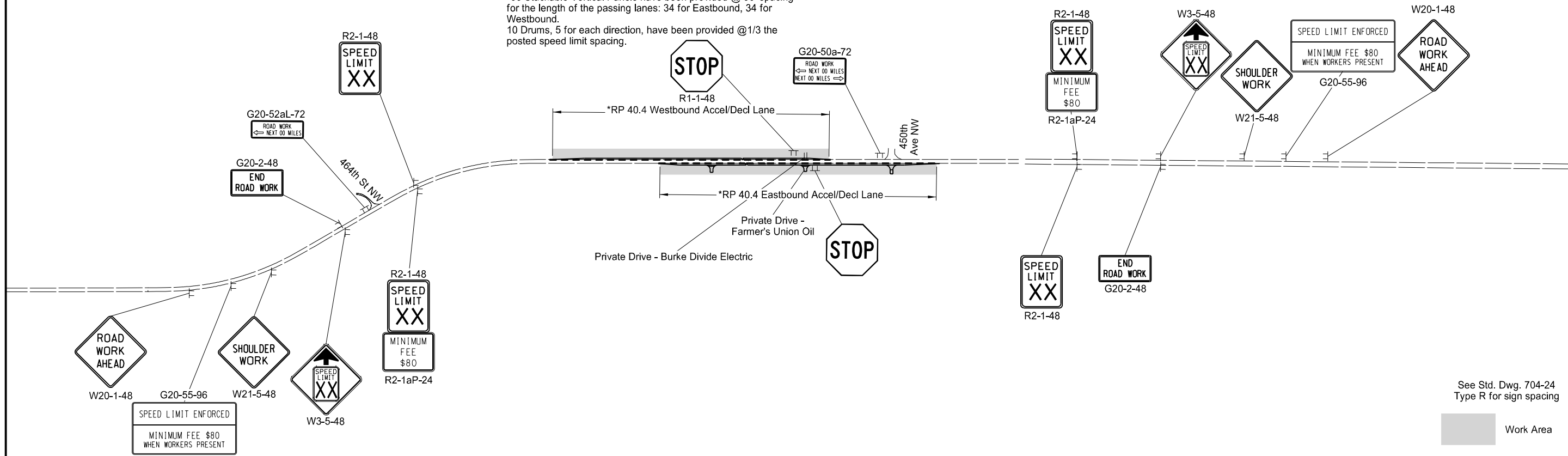
Work Zone Traffic Control
 Site 2 - RP 20.6
 US 52
 South of Portal to Carrington
 Burke County



RP 40.4 PHASE 1 - SHOULDER CLOSURE

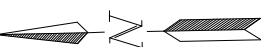
STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	HEN-9-052(485)006	100	5

*68 Stackable Vertical Panels have been provided @ 90' spacing for the length of the passing lanes: 34 for Eastbound, 34 for Westbound.
 10 Drums, 5 for each direction, have been provided @ 1/3 the posted speed limit spacing.

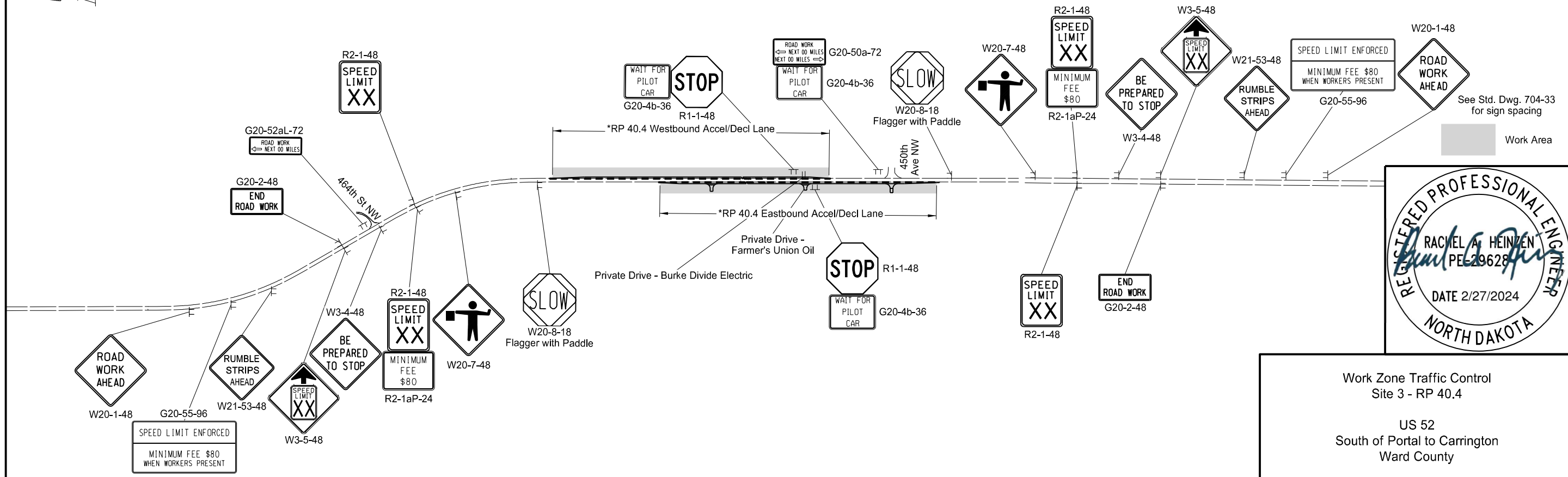


See Std. Dwg. 704-24
Type R for sign spacing

Work Area



RP 40.4 PHASE 2 - LANE CLOSURE



See Std. Dwg. 704-33
for sign spacing

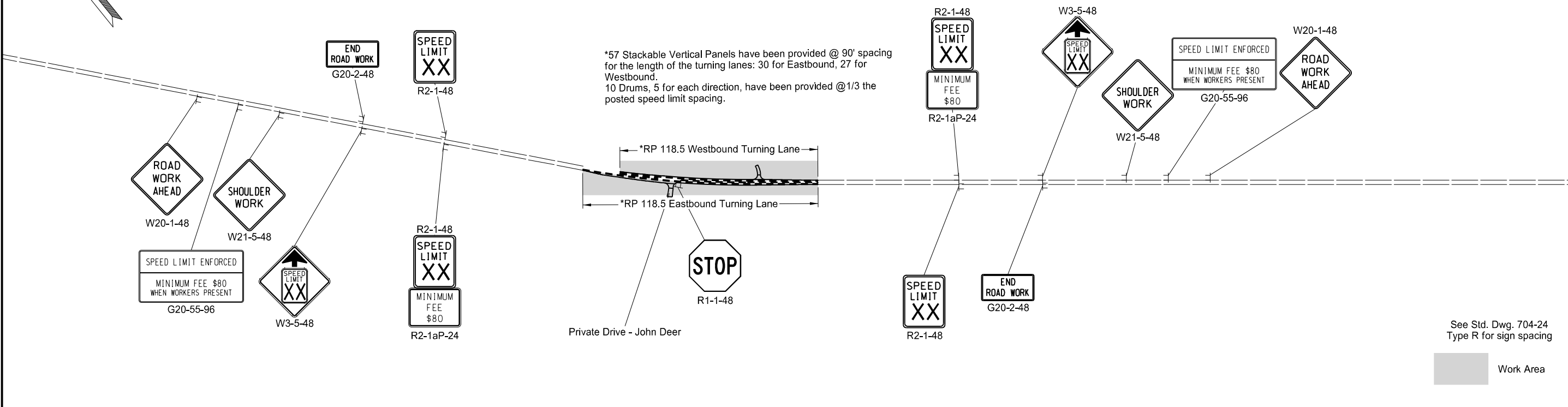
Work Area



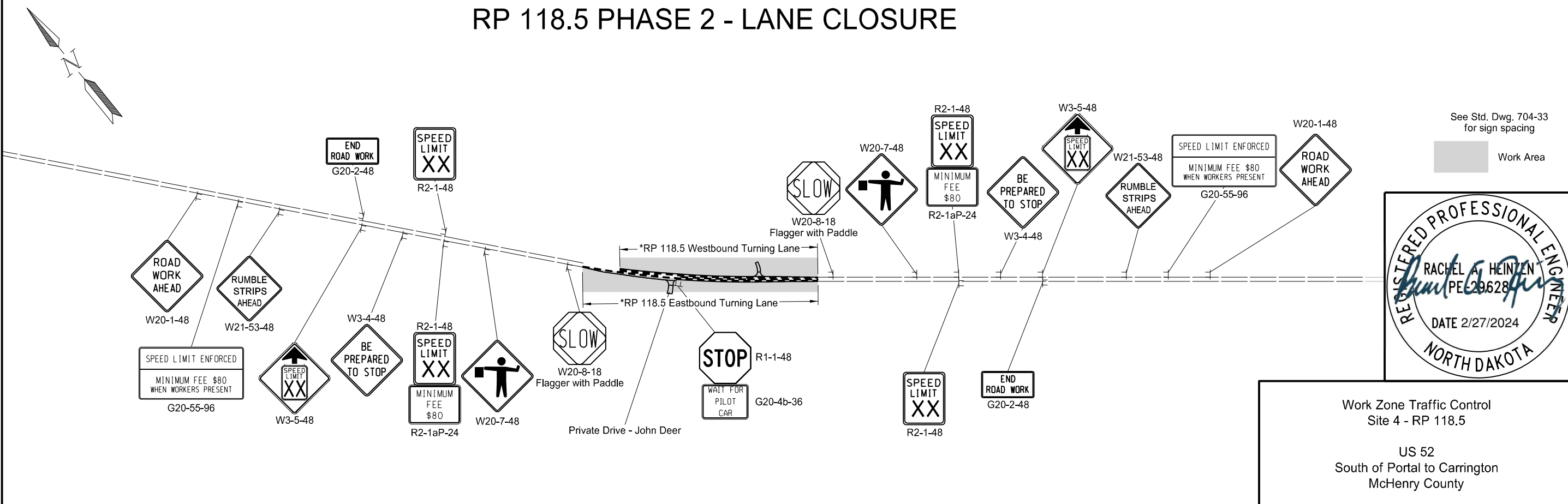
Work Zone Traffic Control
 Site 3 - RP 40.4
 US 52
 South of Portal to Carrington
 Ward County

RP 118.5 PHASE 1 - SHOULDER CLOSURE

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	HEN-9-052(485)006	100	6

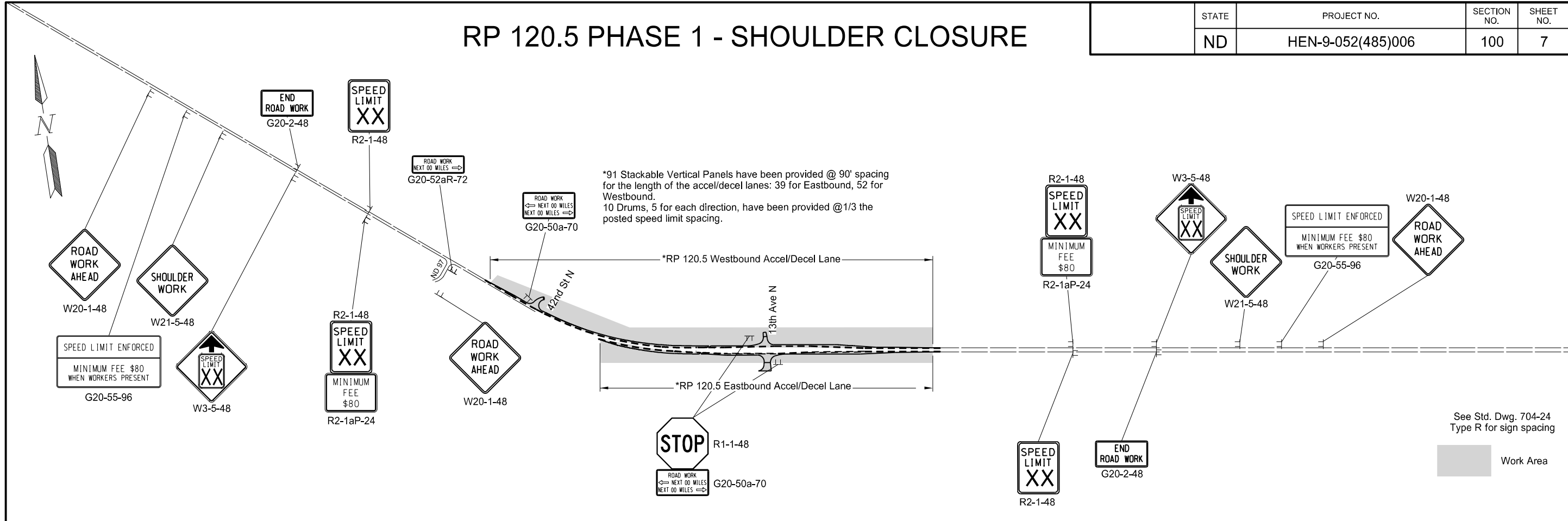


RP 118.5 PHASE 2 - LANE CLOSURE

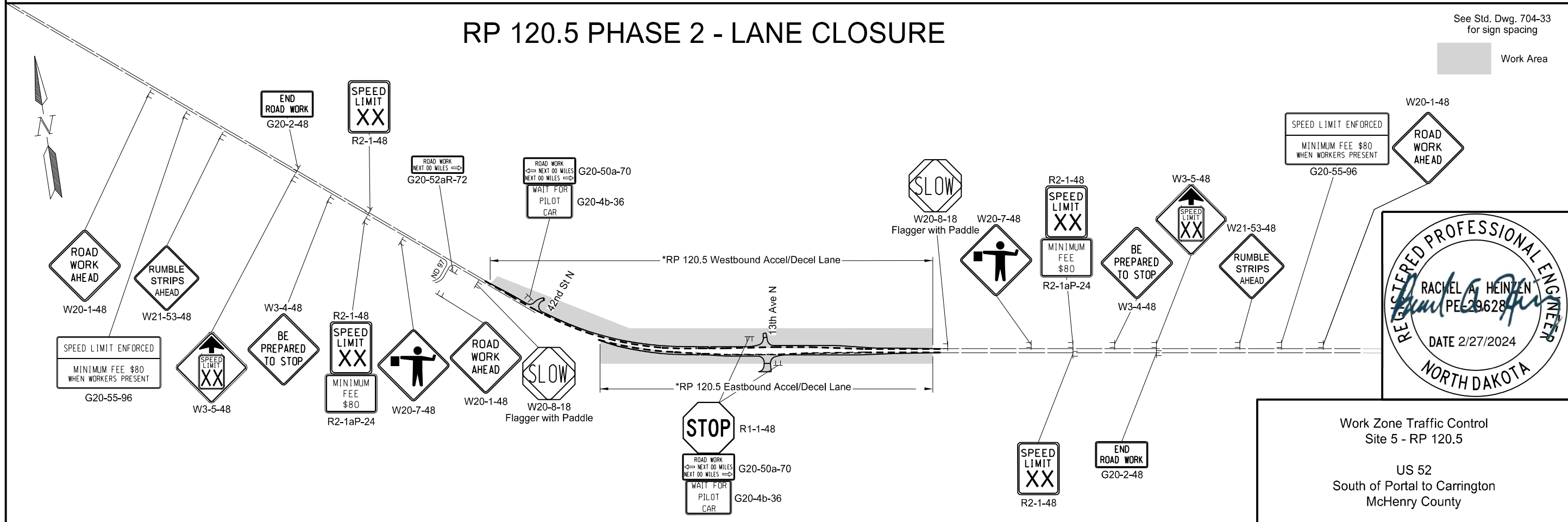


RP 120.5 PHASE 1 - SHOULDER CLOSURE

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	HEN-9-052(485)006	100	7



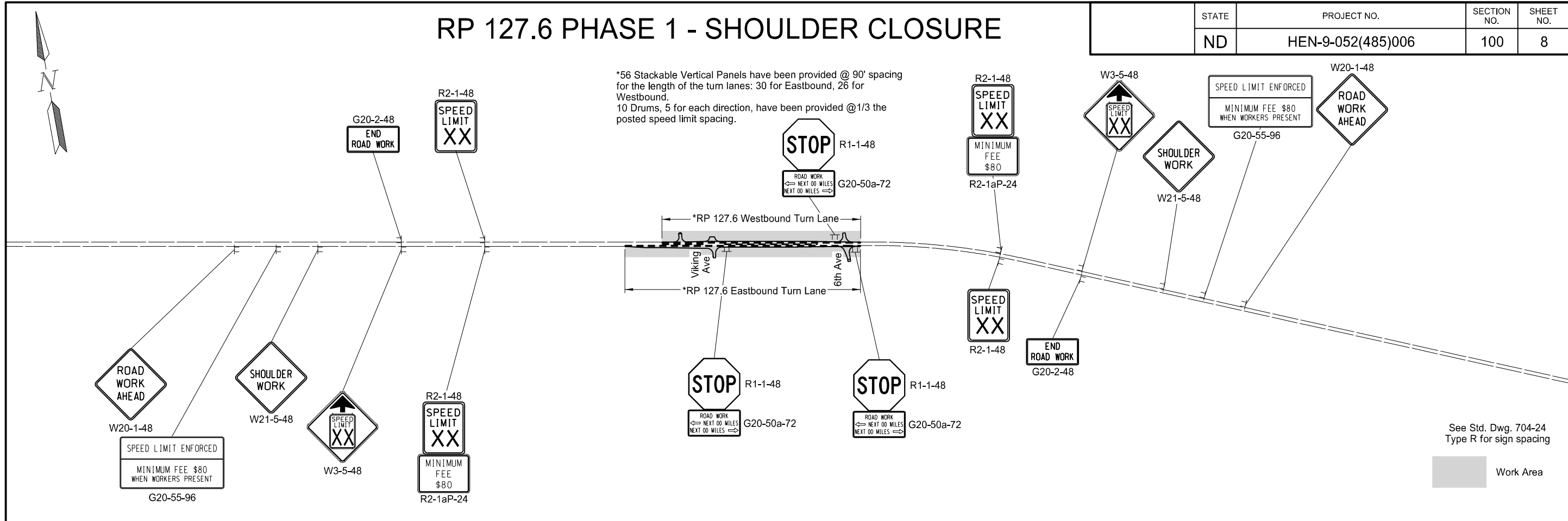
RP 120.5 PHASE 2 - LANE CLOSURE



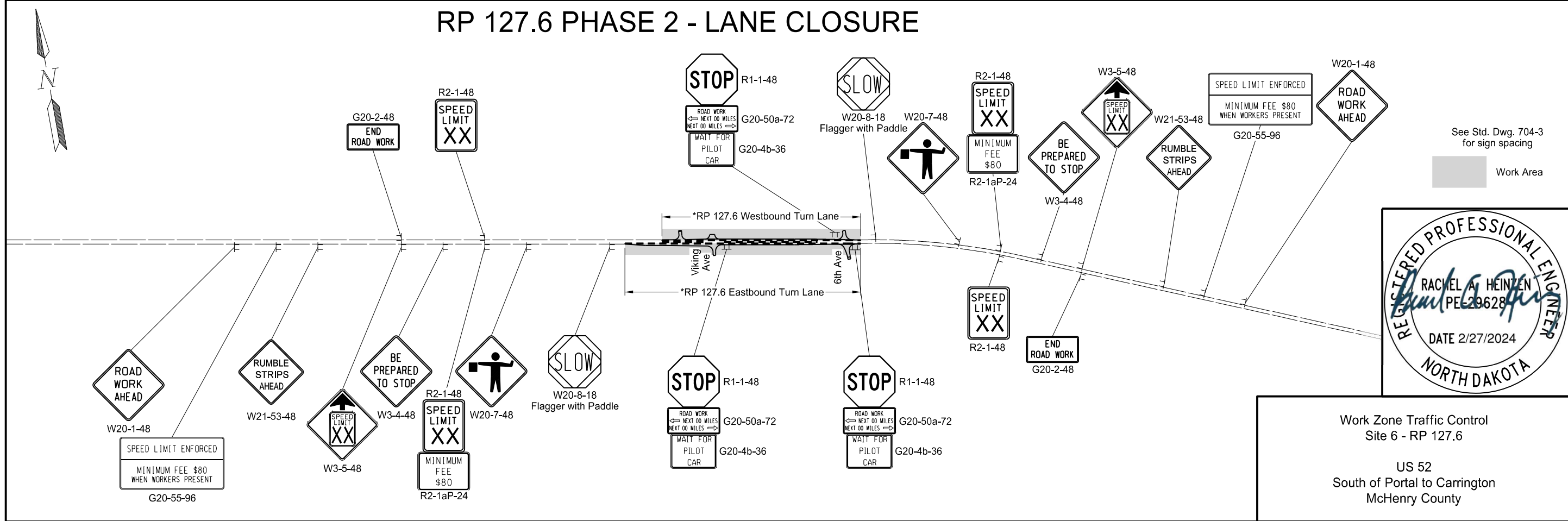
RP 127.6 PHASE 1 - SHOULDER CLOSURE

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	HEN-9-052(485)006	100	8

*56 Stackable Vertical Panels have been provided @ 90' spacing for the length of the turn lanes: 30 for Eastbound, 26 for Westbound.
10 Drums, 5 for each direction, have been provided @ 1/3 the posted speed limit spacing.



RP 127.6 PHASE 2 - LANE CLOSURE

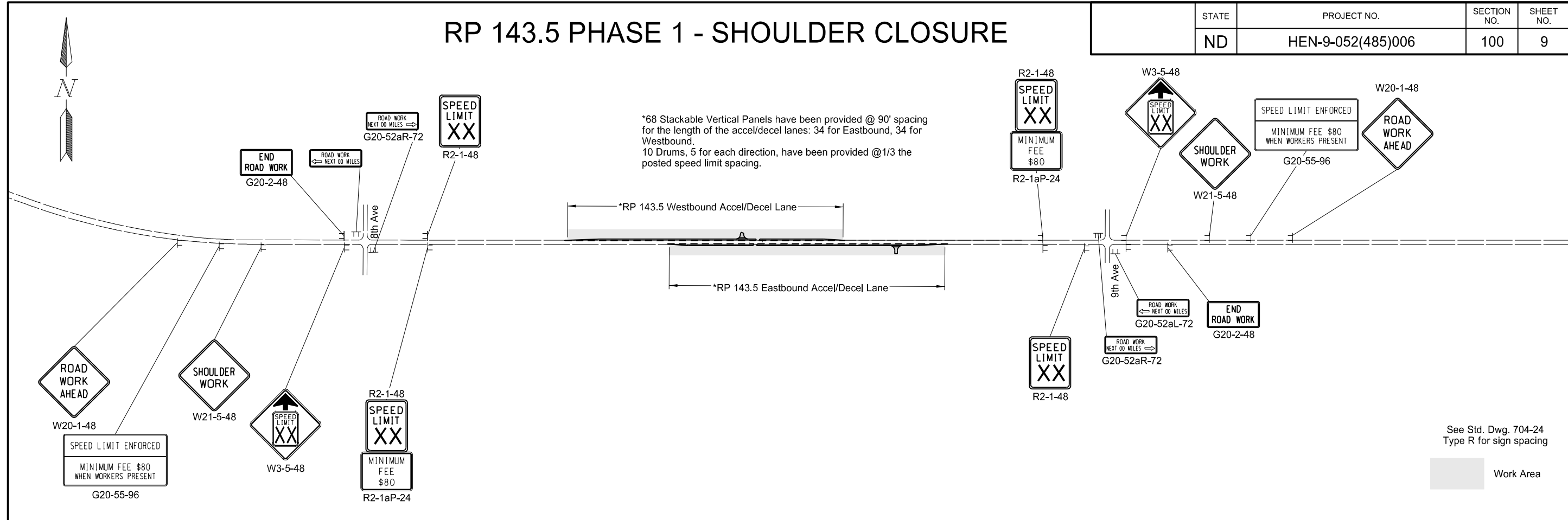


Work Zone Traffic Control
Site 6 - RP 127.6

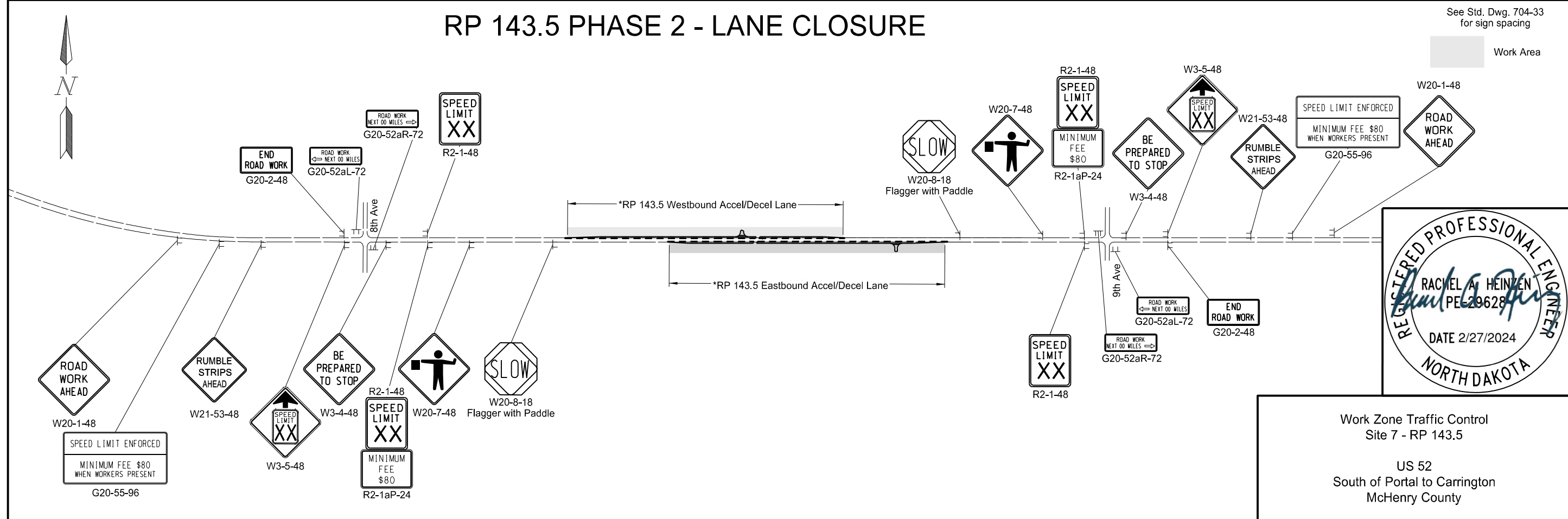
US 52
South of Portal to Carrington
McHenry County

RP 143.5 PHASE 1 - SHOULDER CLOSURE

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	HEN-9-052(485)006	100	9



RP 143.5 PHASE 2 - LANE CLOSURE

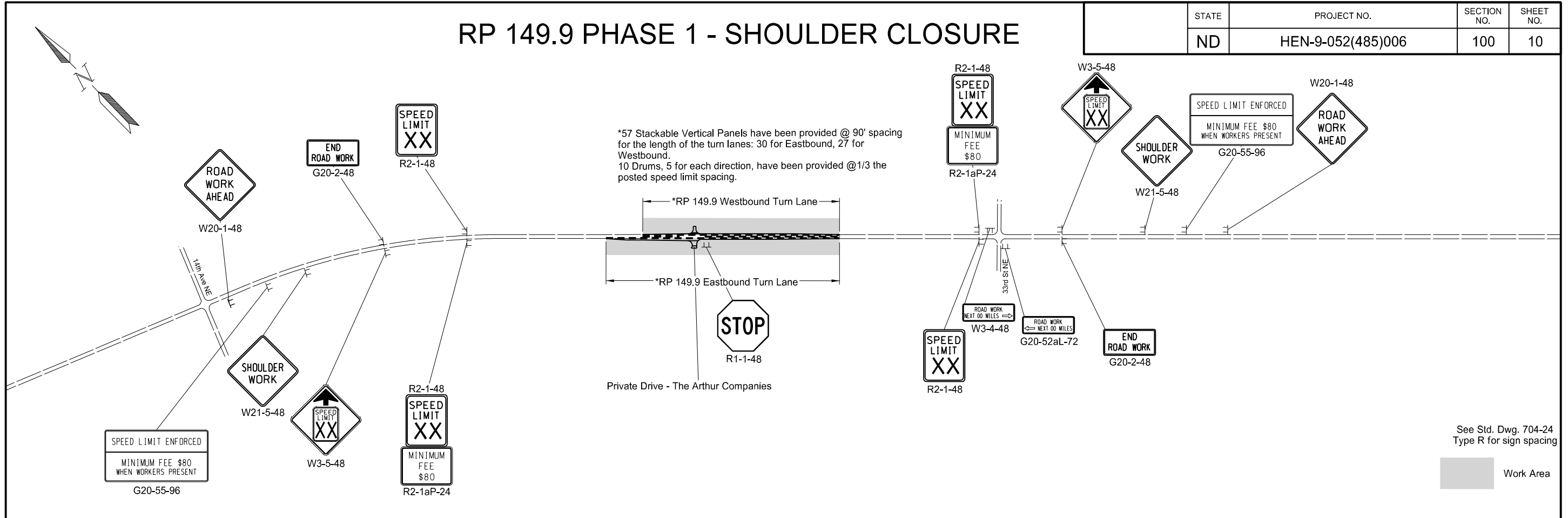


Work Zone Traffic Control
Site 7 - RP 143.5

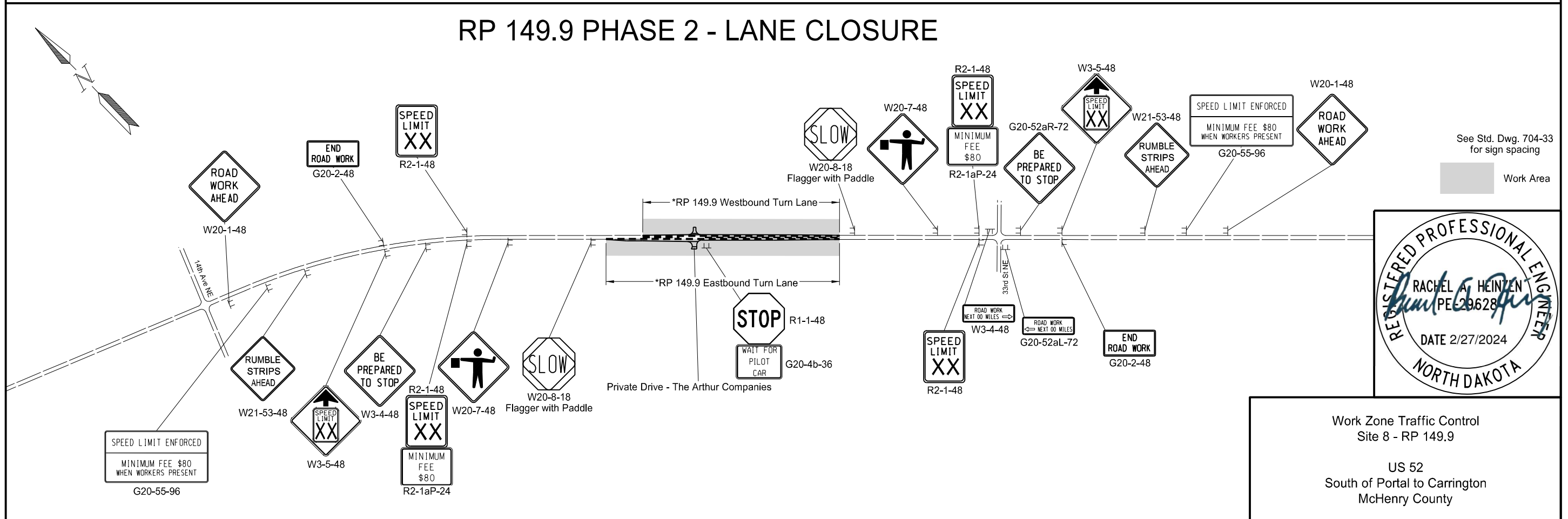
US 52
South of Portal to Carrington
McHenry County

RP 149.9 PHASE 1 - SHOULDER CLOSURE

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	HEN-9-052(485)006	100	10

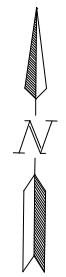


RP 149.9 PHASE 2 - LANE CLOSURE

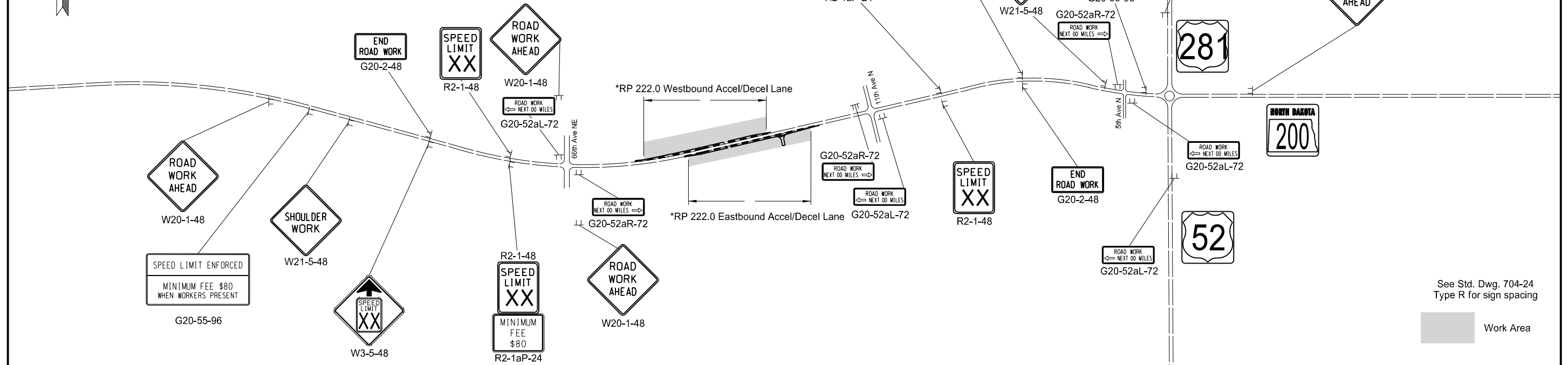


RP 222.0 PHASE 1 - SHOULDER CLOSURE

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	HEN-9-052(485)006	100	11



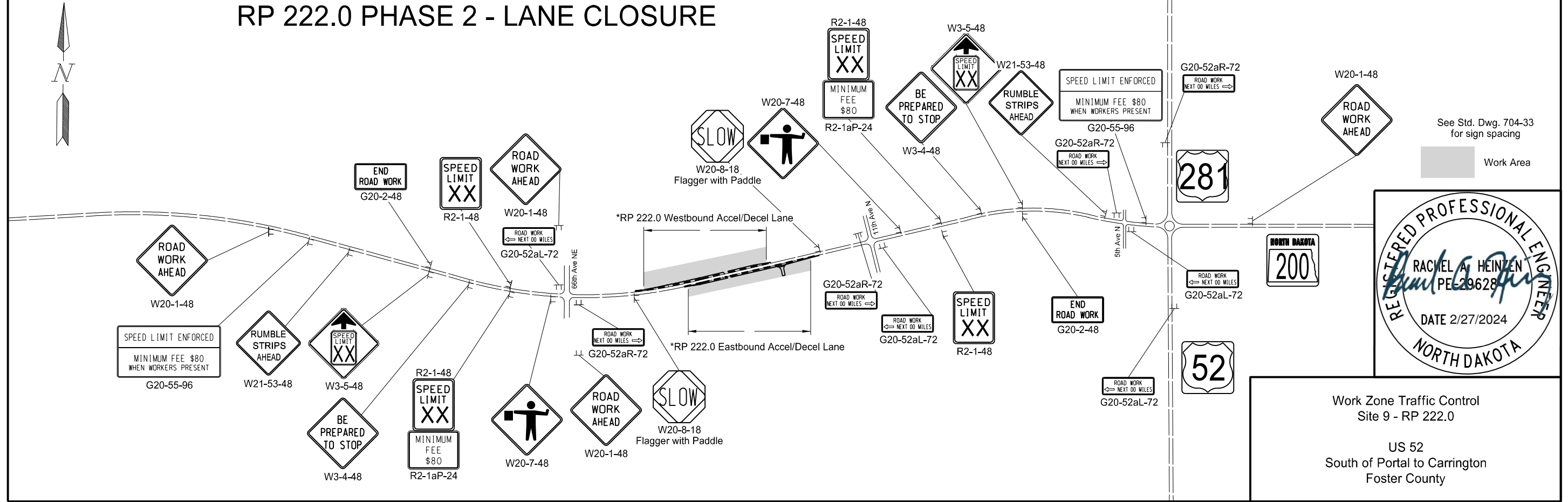
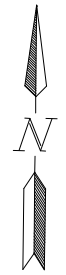
*38 Stackable Vertical Panels have been provided @ 80' spacing for the length of the accel/decel lanes: 19 for Eastbound, 19 for Westbound
10 Drums, 5 for each direction, have been provided @ 1/3 the posted speed limit spacing.



See Std. Dwg. 704-24
Type R for sign spacing

Work Area

RP 222.0 PHASE 2 - LANE CLOSURE



See Std. Dwg. 704-33
for sign spacing

Work Area



Work Zone Traffic Control
Site 9 - RP 222.0

US 52
South of Portal to Carrington
Foster County

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
N.D.	HEN-9-052(485)006	110	1

Station / RP	Sign No.	Assembly No.	Flat Sheet For Signs IV SF	XI SF	Sign Support Length 1st LF	2nd LF	3rd LF	4th LF	Vert Clearance FT	Support Size	Max Post Len LF	Sleeve Length 1st LF	2nd LF	3rd LF	4th LF	Sleeve Size	Anchor EA	Anchor LF	Anchor Size	Reset Sign Panel EA	Reset Sign Support EA	Break-Away EA	Comments
Site 1- RP 6.9: Acceleration and Deceleration Lane																							
333+75 Rt	D17-7		21.0		10.8	11.3			5.0	2.25 x 2.25 12 ga	15.3	1.7	2.2			2.5 x 2.5 12 ga	2	4	3 x 3 7 ga			2	
362+50 Rt	W10-1	63		7.1	10.6				5.0	2.5 x 2.5 12 ga	12.7						1	4	3 x 3 7 ga				
372+62 Lt	W10-1	63		7.1	10.6				5.0	2.5 x 2.5 12 ga	12.7						1	4	3 x 3 7 ga				
378+50 Rt	W3-1	19		6.3	11.4				5.0	2.25 x 2.25 12 ga	11.6						1	4	2.5 x 2.5 12 ga				
381+12 Rt	M2-1	391	6.2		11.3				5.0	2.25 x 2.25 12 ga	12.7						1	4	2.5 x 2.5 12 ga				
401+37 Lt	D17-7		21.0		10.6	11.1			5.0	2.25 x 2.25 12 ga	15.3	1.4	1.9			2.5 x 2.5 12 ga	2	4	3 x 3 7 ga			2	
Sub Total			48.2	20.5	Total 87.7												Total 32.0			0	0	4	
Site 2- RP 20.6: Acceleration and Deceleration Lan																							
1067+80 Rt	D17-7		21.0		10.6	11.1			5.0	2.25 x 2.25 12 ga	15.3	1.4	1.9			2.5 x 2.5 12 ga	2	4	3 x 3 7 ga			2	
1095+91 Rt	W10-1	63		7.1	10.6				5.0	2.5 x 2.5 12 ga	12.7						1	4	3 x 3 7 ga				
1098+53 Rt	W8-1			11.2	12.3	12.5			5.0	2.25 x 2.25 12 ga	16.0	2.5	2.7			2.5 x 2.5 12 ga	2	4	3 x 3 7 ga			2	
1103+02 Lt	W8-1			11.2	12.4	12.4			5.0	2.25 x 2.25 12 ga	16.0	2.6	2.6			2.5 x 2.5 12 ga	2	4	3 x 3 7 ga			2	
1103+03 Rt	W1-2	20		9.0	11.7				5.0	2.5 x 2.5 10 ga	12.9						1	4	3 x 3 7 ga			1	
1106+03 Lt	W10-1	63		7.1	10.6				5.0	2.5 x 2.5 12 ga	12.7						1	4	3 x 3 7 ga				
1134+14 Lt	D17-7		21.0		10.6	11.1			5.0	2.25 x 2.25 12 ga	15.3	1.4	1.9			2.5 x 2.5 12 ga	2	4	3 x 3 7 ga			2	
Sub Total			42.0	45.6	Total 125.9												Total 44.0			0	0	9	
Site 3- RP 40.4: Acceleration and Deceleration Lan																							
2102+79 Rt	D17-7		21.0		10.6	11.1			5.0	2.25 x 2.25 12 ga	15.3	1.4	1.9			2.5 x 2.5 12 ga	2	4	3 x 3 7 ga			2	
2125+13 Lt	W1-4	20		9.0	11.7				5.0	2.5 x 2.5 10 ga	12.9						1	4	3 x 3 7 ga			1	
2131+39 Rt	W10-1	63		7.1	10.6				5.0	2.5 x 2.5 12 ga	12.7						1	4	3 x 3 7 ga				
2141+54 Lt	W10-1	63		7.1	10.6				5.0	2.5 x 2.5 12 ga	12.7						1	4	3 x 3 7 ga				
2149+40 Rt	R1-1	1		5.2	10.1				5.0	2 x 2 12 ga	10.5						1	4	2.25 x 2.25 12 ga				
2170+13 Lt	D17-7		21.0		10.6	11.1			5.0	2.25 x 2.25 12 ga	15.3	1.4	1.9			2.5 x 2.5 12 ga	2	4	3 x 3 7 ga			2	
Sub Total			42.0	28.4	Total 86.4												Total 32.0			0	0	5	
Site 4- RP 118.5: EB and WB Turn Lanes																							
6255+50 Rt	R1-1	1		5.2	10.1				5.0	2 x 2 12 ga	10.5						1	4	2.25 x 2.25 12 ga				
Sub Total			0.0	5.2	Total 10.1												Total 4.0			0	0	0	



Sign Summary
Perforated Tube

Station / RP	Sign No.	Assembly No.	Flat Sheet For Signs		Sign Support Length				Vert Clearance FT	Support Size	Max Post Len LF	Sleeve Length				Sleeve Size	Anchor EA	Anchor LF	Anchor Size	Reset Sign Panel EA	Reset Sign Support EA	Break-Away EA	Comments
			IV SF	XI SF	1st LF	2nd LF	3rd LF	4th LF				1st LF	2nd LF	3rd LF	4th LF								
Site 5- RP 120.5: Acceleration and Deceleration La																							
6334+90 Rt	D17-7		21.0		10.6	11.1			5.0	2.25 x 2.25 12 ga	15.3	1.4	1.9		2.5 x 2.5 12 ga	2	4	3 x 3 7 ga			2		
6351+46 Lt	M3-4	379	8.2		12.3			5.0	2.5 x 2.5 12 ga	12.9						1	4	3 x 3 7 ga					
6357+94 Lt	M2-1	391	6.2		11.3			5.0	2.25 x 2.25 12 ga	12.7						1	4	2.5 x 2.5 12 ga					
6359+46 Rt	SN 1	40		12.0	10.4			5.0	2.25 x 2.25 12 ga	13.5	2.3			2.5 x 2.5 12 ga	1	4	3 x 3 7 ga			1			
6364+90 Rt	W10-1	63		7.1	10.6			5.0	2.5 x 2.5 12 ga	12.7					1	4	3 x 3 7 ga						
6366+95 Rt	W8-53	20		9.0	11.4			5.0	2.5 x 2.5 10 ga	12.9					1	4	3 x 3 7 ga				1		
6374+28 Lt	W1-2	20		9.0	11.4			5.0	2.5 x 2.5 10 ga	12.9					1	4	3 x 3 7 ga				1		
6375+35 Lt	R1-1	1		5.2	10.1			5.0	2 x 2 12 ga	10.5					1	4	2.25 x 2.25 12 ga						
6376+12 Rt	R1-1	1		5.2	10.1			5.0	2 x 2 12 ga	10.5					1	4	2.25 x 2.25 12 ga						
6376+78 Lt	W10-1	63		7.1	10.6			5.0	2.5 x 2.5 12 ga	12.7					1	4	3 x 3 7 ga						
6381+66 Lt	SN 1	40		12.0	10.4			5.0	2.25 x 2.25 12 ga	13.5	2.3			2.5 x 2.5 12 ga	1	4	3 x 3 7 ga			1			
6386+27 Lt	W8-53	20		9.0	11.4			5.0	2.5 x 2.5 10 ga	12.9					1	4	3 x 3 7 ga			1			
6480+42 Lt	D17-7		21.0		10.6	11.1		5.0	2.25 x 2.25 12 ga	15.3	1.4	1.9		2.5 x 2.5 12 ga	2	4	3 x 3 7 ga			2			
Sub Total			56.4	75.6		Total 163.4									Total 60.0				0	0	9		
Site 6- RP 127.6: EB and WB Turn Lanes																							
6734+51 Lt	W10-1	63		7.1	12.0			5.0	2.5 x 2.5 12 ga	12.7					1	4	3 x 3 7 ga						
6735+24 Rt	SN 2		5.3		9.0			5.0	2 x 2 12 ga	9.2					1	4	2.25 x 2.25 12 ga						
6735+65 Lt	Reset	9						5.0	2 x 2 12 ga										1	1			
6737+54 Lt	S.A. 2E			5.2	11.3			5.0	2 x 2 12 ga	12.0					1	4	2.25 x 2.25 12 ga			1			
6748+20 Lt	S.A. 2E			5.2	11.6			5.0	2 x 2 12 ga	12.0					1	4	2.25 x 2.25 12 ga			1			
6748+73 Lt	W10-1	63		7.1	10.6			5.0	2.5 x 2.5 12 ga	12.7					1	4	3 x 3 7 ga						
6749+02 Rt	R1-1	1		5.2	10.1			5.0	2 x 2 12 ga	10.5					1	4	2.25 x 2.25 12 ga						
Sub Total			5.3	29.8		Total 64.6									Total 24.0				3	1	0		
Site 7- RP 143.5: Acceleration and Deceleration La																							
7548+16 Rt	D17-7		21.0		10.6	11.1		5.0	2.25 x 2.25 12 ga	15.3	1.4	1.9		2.5 x 2.5 12 ga	2	4	3 x 3 7 ga			2			
7576+76 Rt	W10-1	63		7.1	10.6			5.0	2.5 x 2.5 12 ga	12.7					1	4	3 x 3 7 ga						
7578+76 Rt	W8-1	20		9.0	11.4			5.0	2.5 x 2.5 10 ga	12.9					1	4	3 x 3 7 ga				1		
7584+44 Rt	S.A.A				11.5			5.0	2.5 x 2.5 10 ga	12.8					1	4	3 x 3 7 ga		1		1		
7585+37 Lt	W8-1	20		9.0	11.4			5.0	2.5 x 2.5 10 ga	12.9					1	4	3 x 3 7 ga				1		
7587+37 Lt	W10-1	63		7.1	10.6			5.0	2.5 x 2.5 12 ga	12.7					1	4	3 x 3 7 ga						
7615+97 Lt	D17-7		21.0		10.6	11.1		5.0	2.25 x 2.25 12 ga	15.3	1.4	1.9		2.5 x 2.5 12 ga	2	4	3 x 3 7 ga			2			
Sub Total			42.0	32.2		Total 98.9									Total 36.0				1	0	7		



Sign Summary
Perforated Tube

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
N.D.	HEN-9-052(485)006	110	3

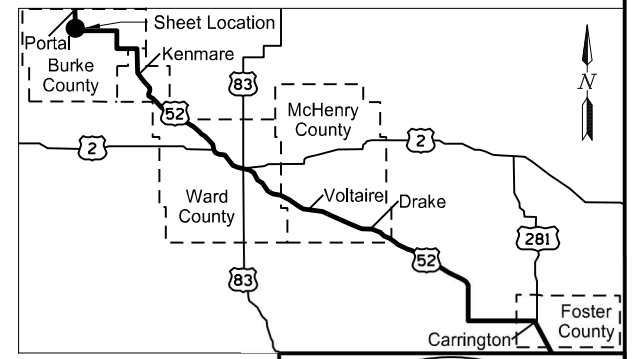
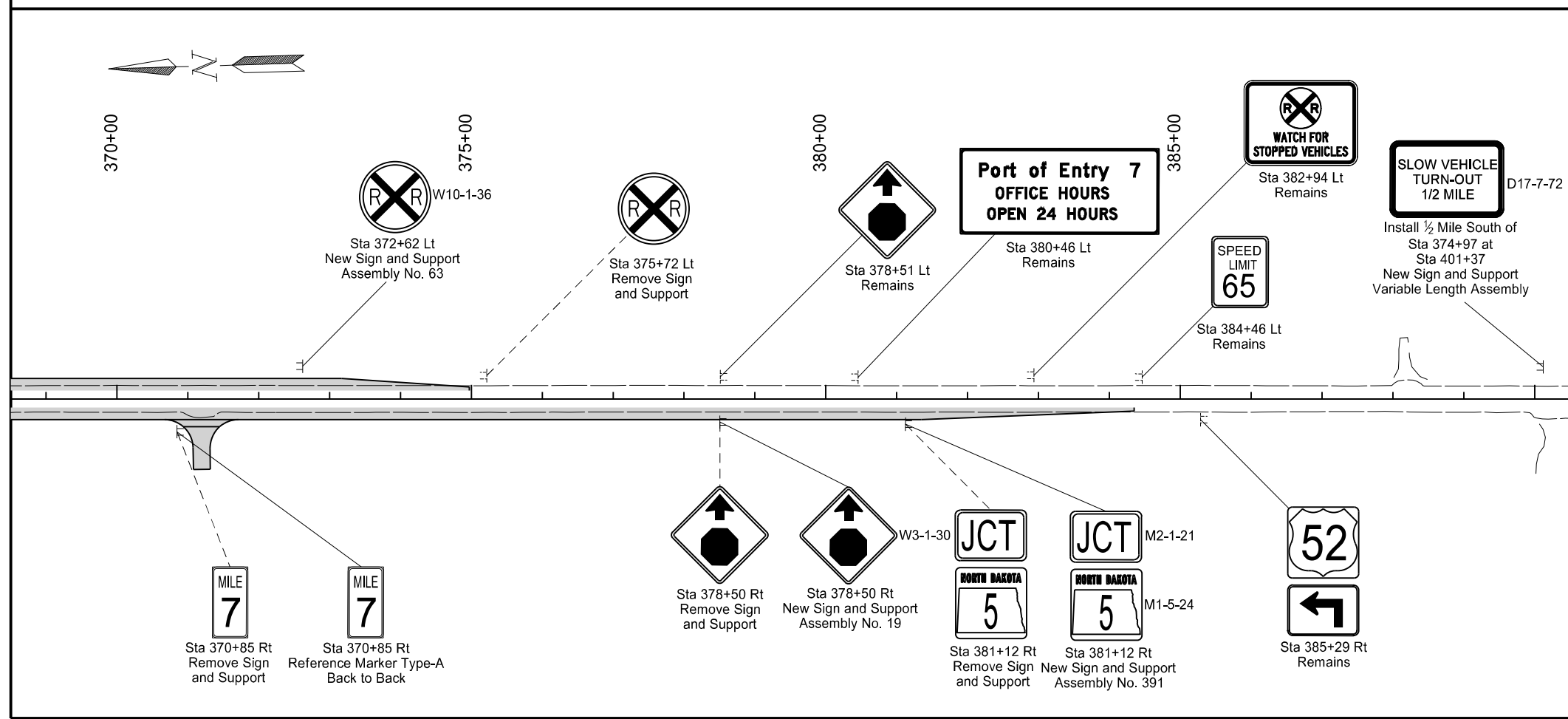
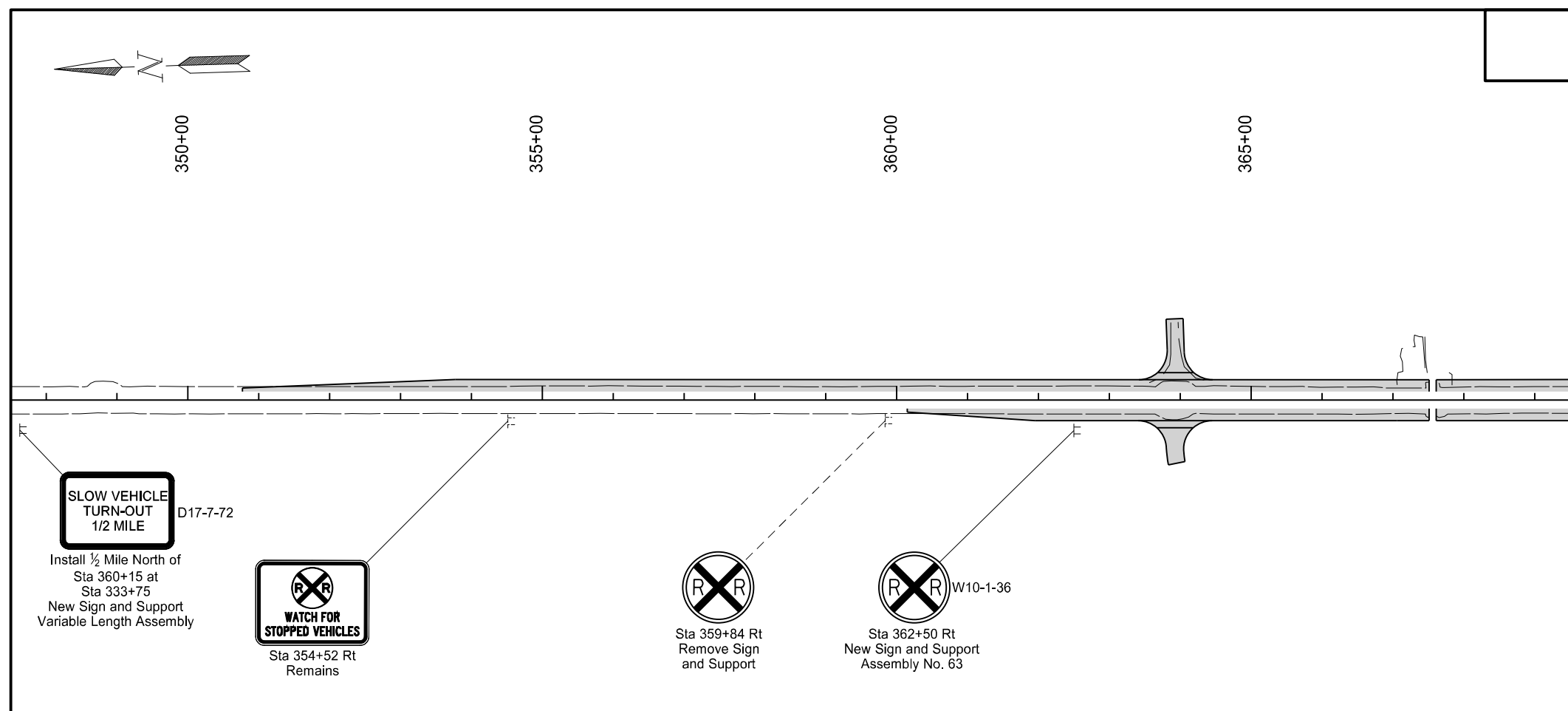
Station / RP	Sign No.	Assembly No.	Flat Sheet For Signs		Sign Support Length				Vert Clearance FT	Support Size	Max Post Len LF	Sleeve Length				Sleeve Size	Anchor EA	Anchor LF	Anchor Size	Reset Sign Panel EA	Reset Sign Support EA	Break-Away EA	Comments
			IV SF	XI SF	1st LF	2nd LF	3rd LF	4th LF				1st LF	2nd LF	3rd LF	4th LF								
Site 8- RP 149.9: EB and WB Turn Lanes																							
7915+64 Rt	R1-1	1		5.2	10.1				5.0	2 x 2 12 ga	10.5					1	4	2.25 x 2.25 12 ga					
7920+65 Rt	Reset				11.3				5.0	2.25 x 2.25 12 ga	13.7	2.8		2.5 x 2.5 12 ga	1	4	3 x 3 7 ga	1		1			
7922+41 Rt	ADOPT	15			10.8				5.0	2.25 x 2.25 12 ga	11.6				1	4	2.5 x 2.5 12 ga	1					
Sub Total			0.0	5.2		Total 32.2									Total 12.0				2	0	1		
Site 9- RP 222.0: Acceleration and Deceleration La																							
11690+52 Rt	D17-7		21.0		10.6	11.1			5.0	2.25 x 2.25 12 ga	15.3	1.4	1.9	2.5 x 2.5 12 ga	2	4	3 x 3 7 ga				2		
11714+58 Lt	M2-1	437	8.4		12.3				5.0	2.5 x 2.5 10 ga	15.2				1	4	3 x 3 7 ga				1		
11716+42 Lt	R2-1	10		7.5	11.0				5.0	2.5 x 2.5 12 ga	13.3				1	4	3 x 3 7 ga						
11718+27 Rt	W10-1	63		7.1	10.6				5.0	2.5 x 2.5 12 ga	12.7				1	4	3 x 3 7 ga						
11722+62 Lt	W10-1	63		7.1	10.6				5.0	2.5 x 2.5 12 ga	12.7				1	4	3 x 3 7 ga						
11723+68 Rt	WELL	15			10.8				5.0	2.25 x 2.25 12 ga	11.6				1	4	2.5 x 2.5 12 ga	1					
11750+37 Lt	D17-7		21.0		10.6	11.1			5.0	2.25 x 2.25 12 ga	15.3	1.4	1.9	2.5 x 2.5 12 ga	2	4	3 x 3 7 ga				2		
Sub Total			50.4	21.7		Total 98.7									Total 36.0				1	0	5		
Grand Total			286.3	264.2		Total 767.9									Total 280	0			7	1	40		



Sign Summary
Perforated Tube

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	HEN-9-052(485)006	110	4

SPEC	CODE	BID ITEM	QTY	UNIT
754	0561	Reference Marker - Type A		
		370+85 Rt	1	EA

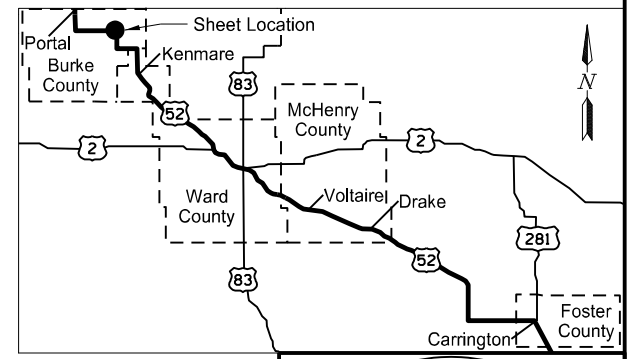
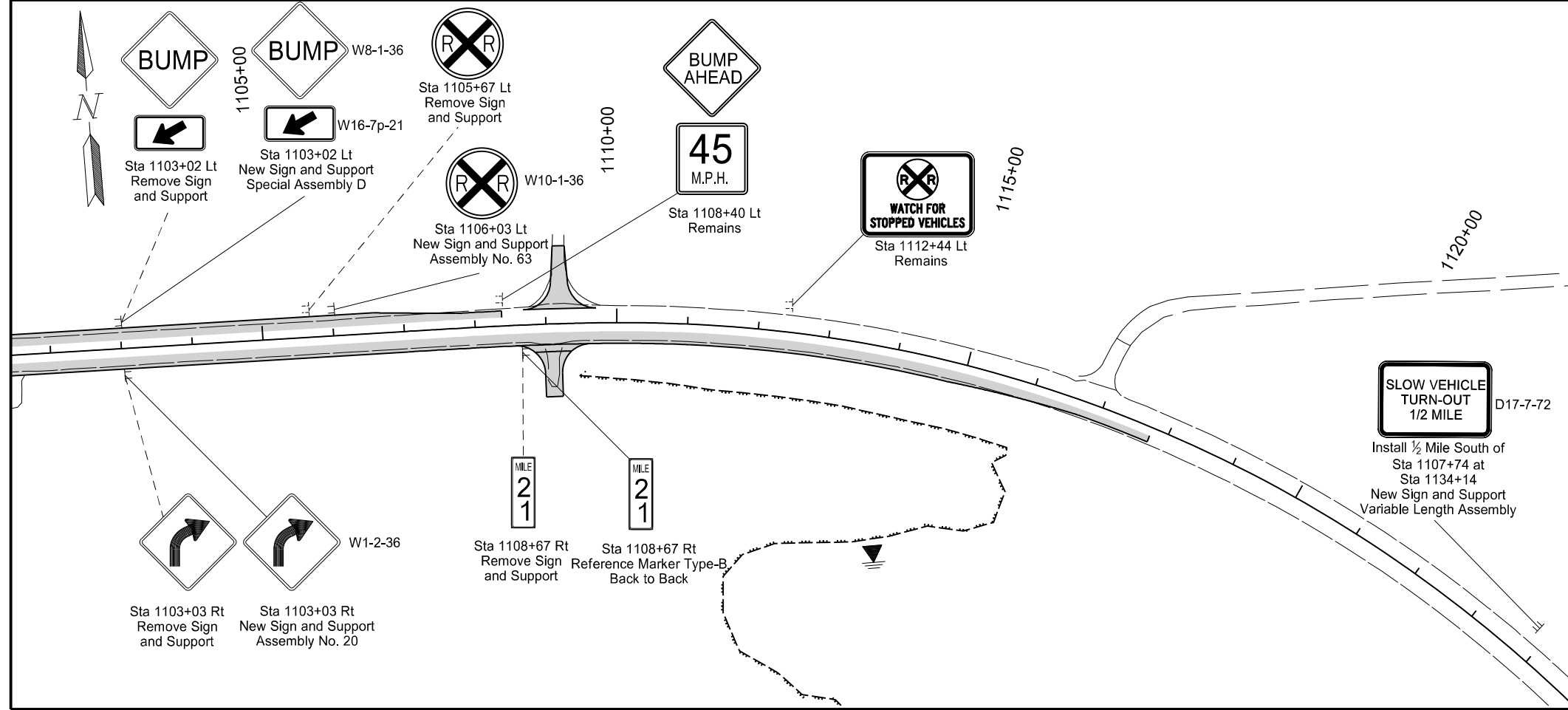
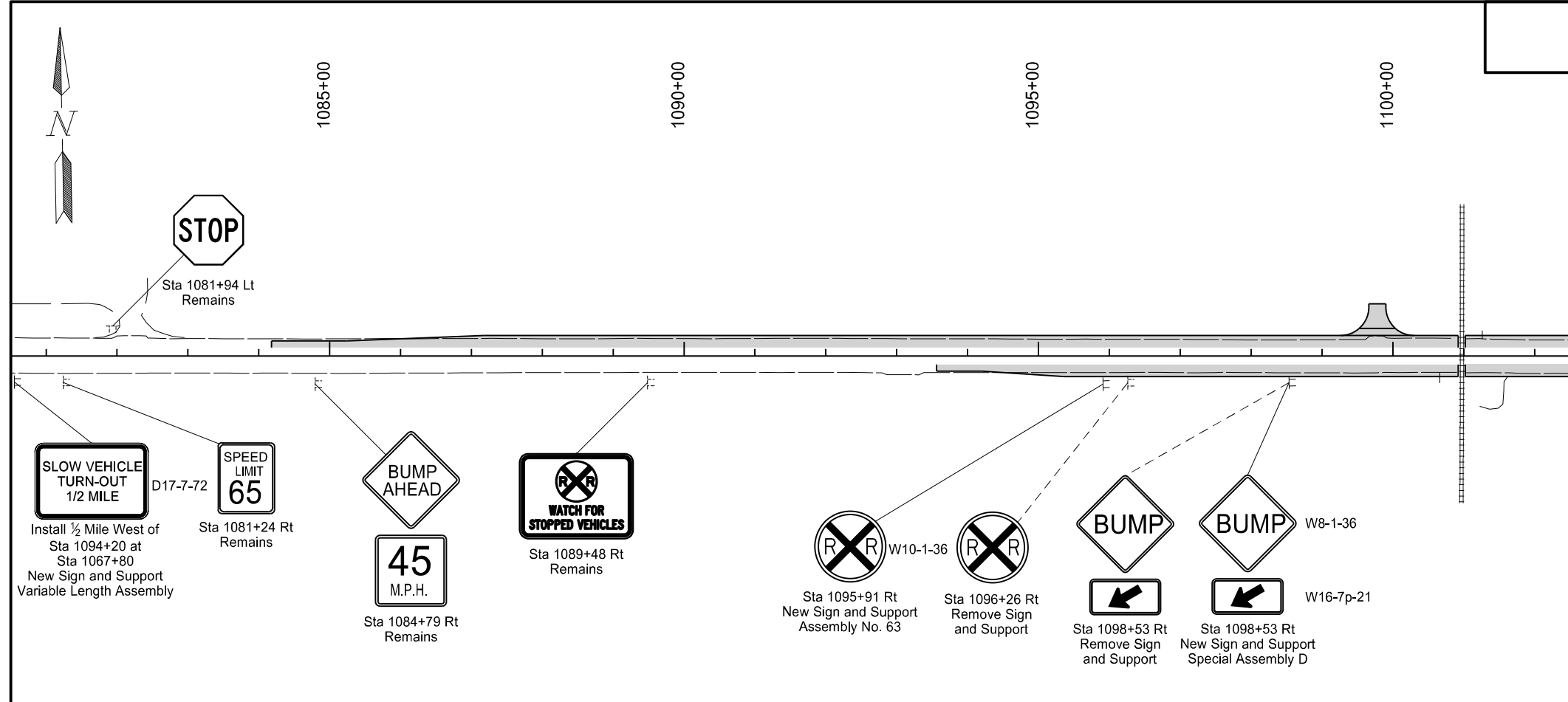


Signing
RP 6.9

US 52
South of Portal to Carrington
Burke County

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	HEN-9-052(485)006	110	5

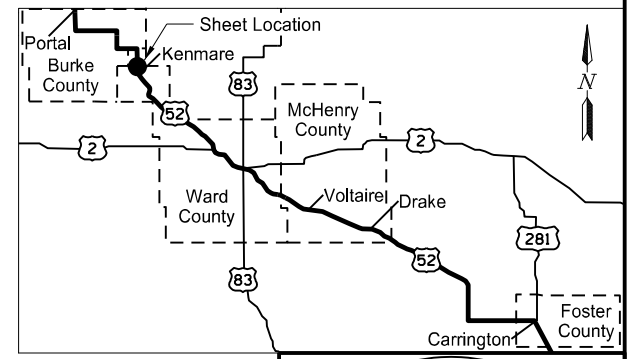
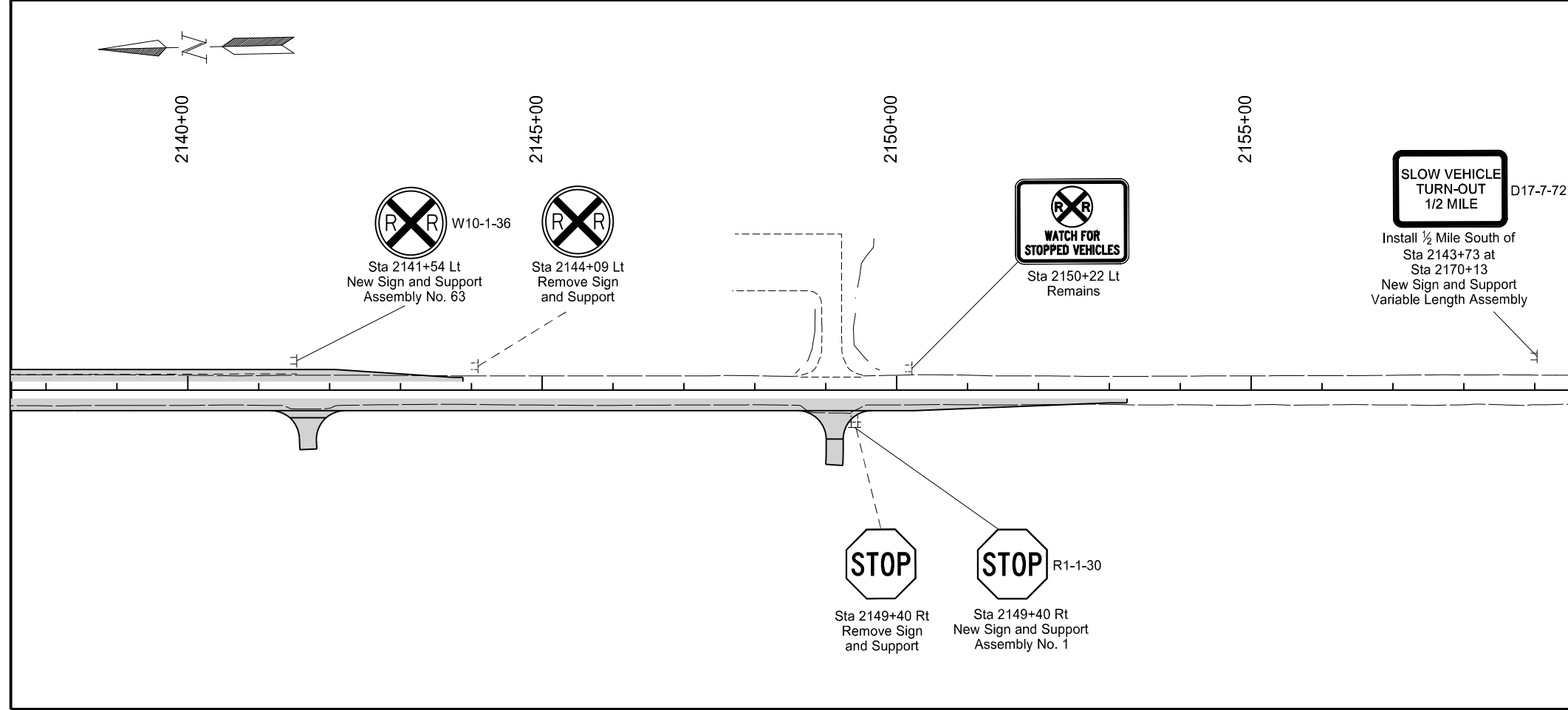
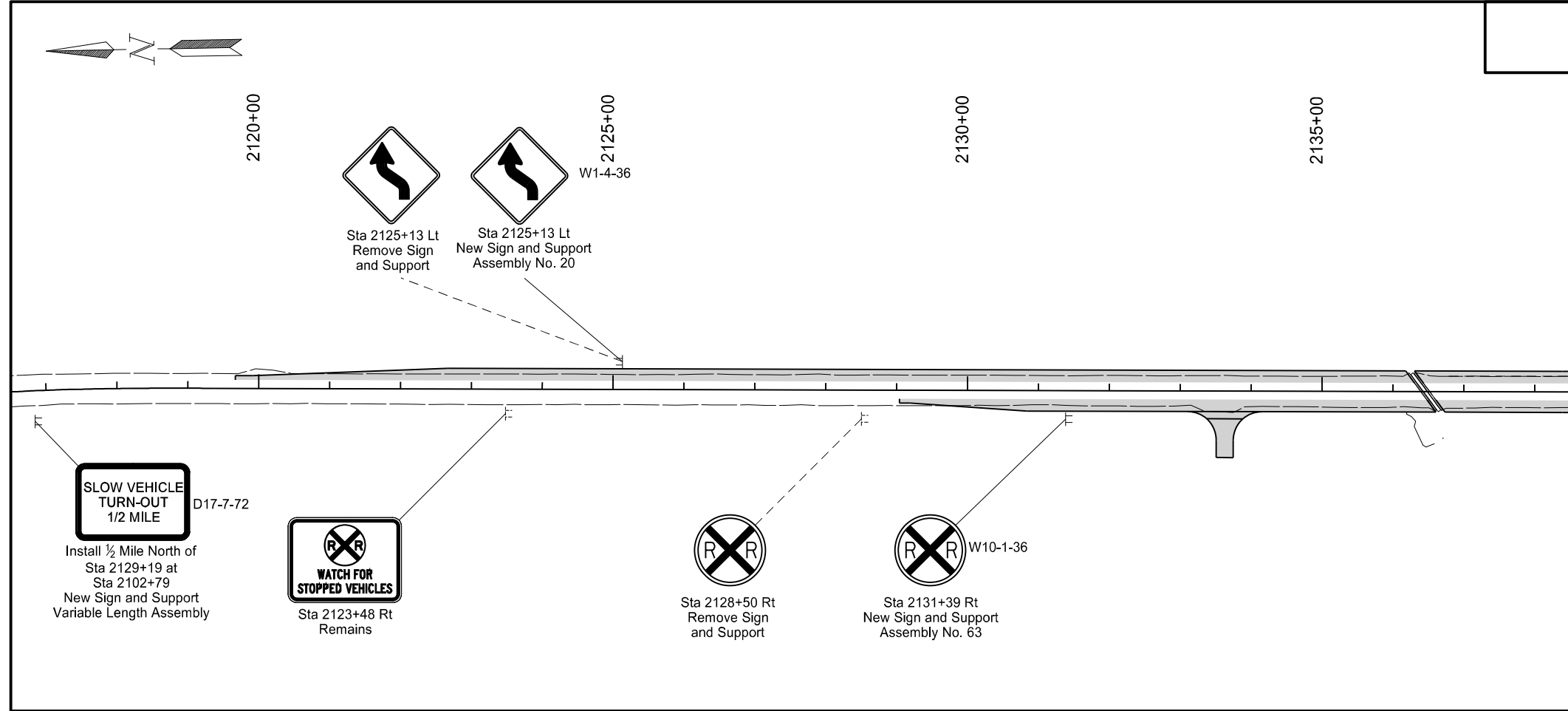
SPEC	CODE	BID ITEM	QTY	UNIT
754	0562	Reference Marker - Type B		
		1108+67 Rt	1	EA



Signing
RP 20.6

US 52
South of Portal to Carrington
Burke County

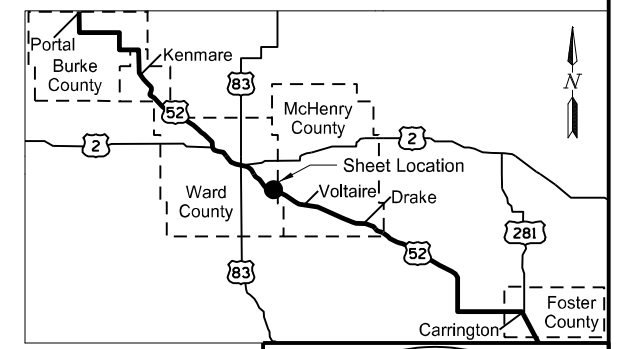
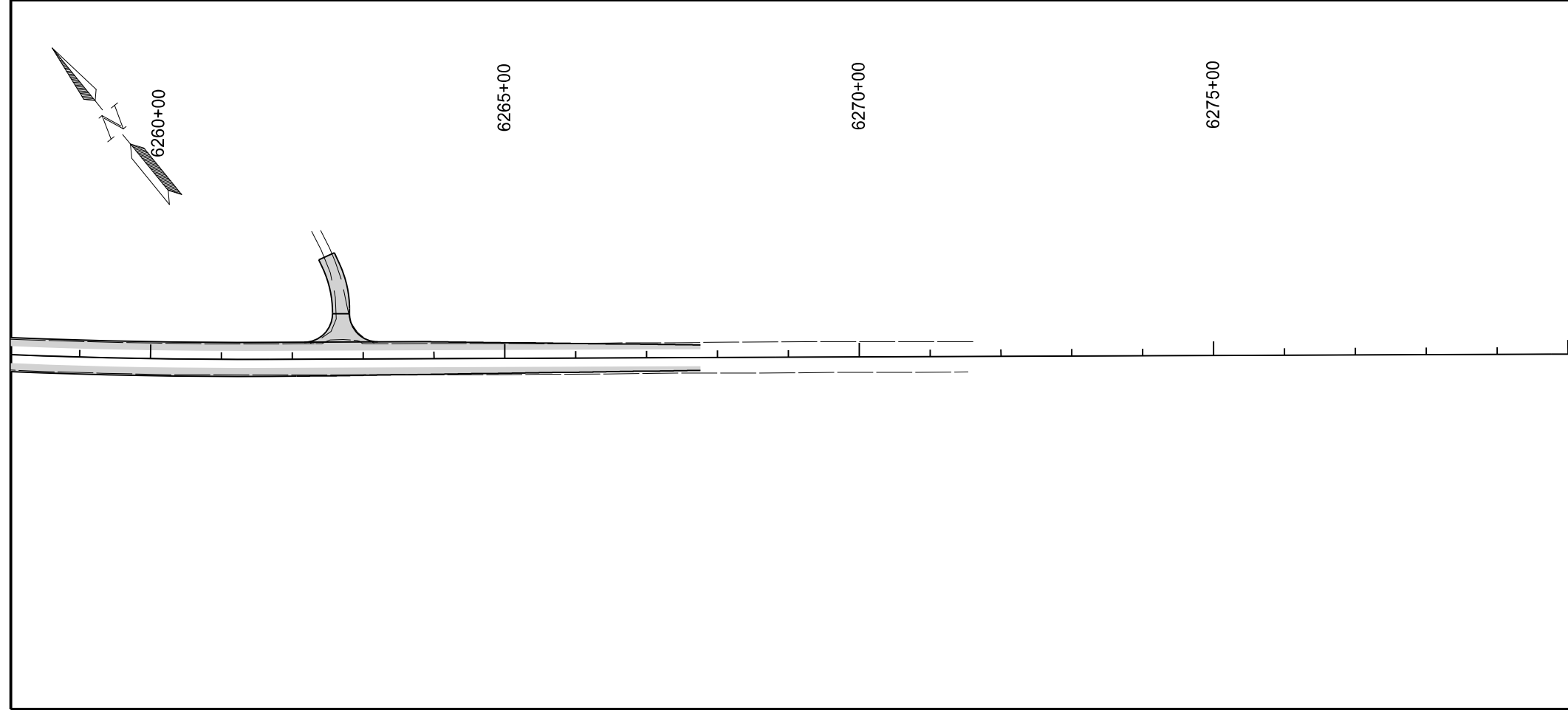
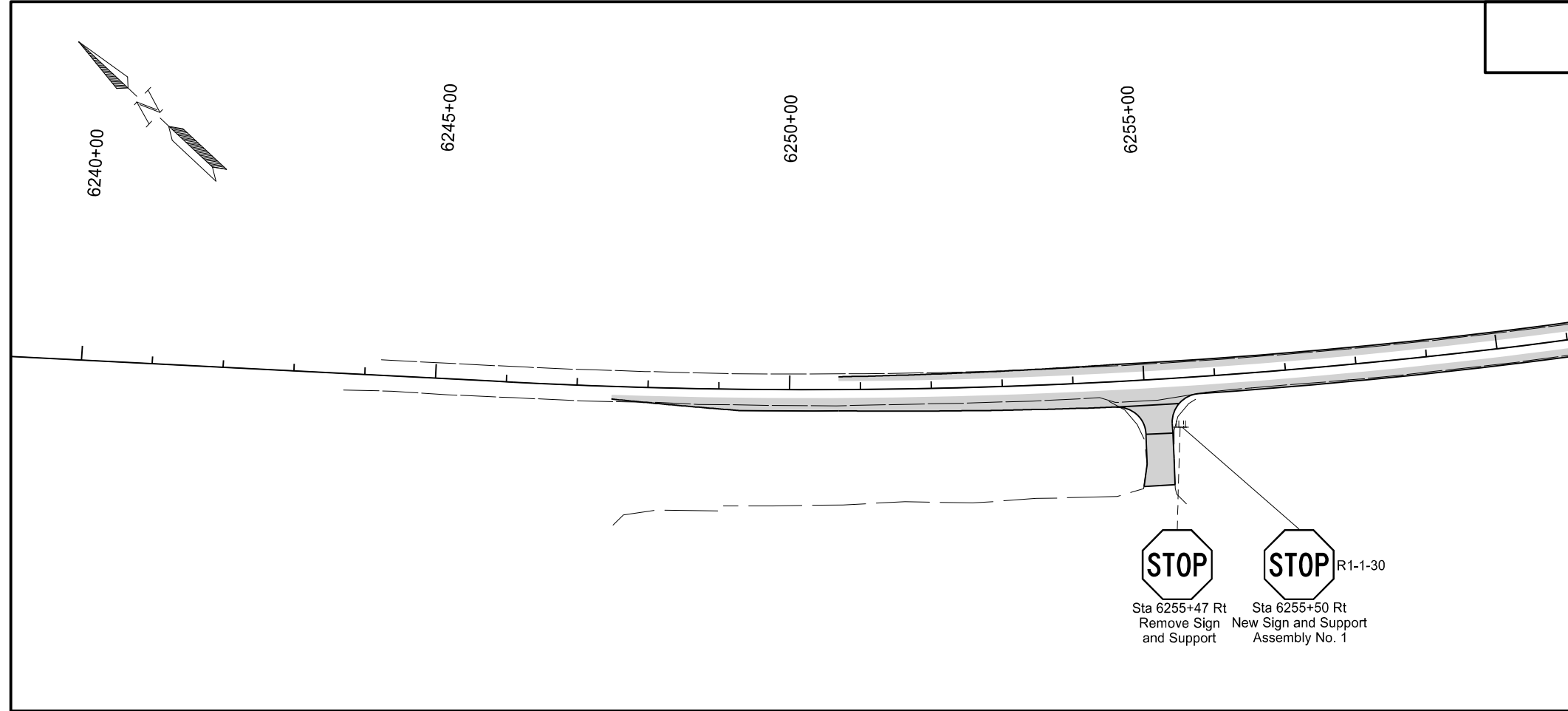
STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	HEN-9-052(485)006	110	6



Signing
 RP 40.4

 US 52
 South of Portal to Carrington
 Ward County

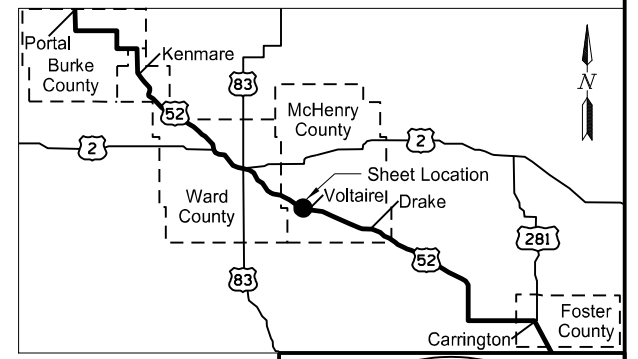
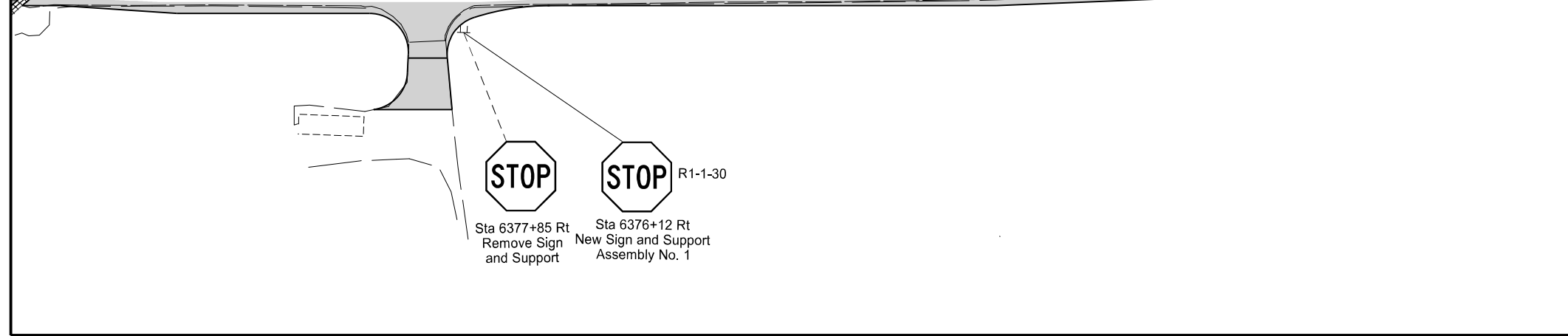
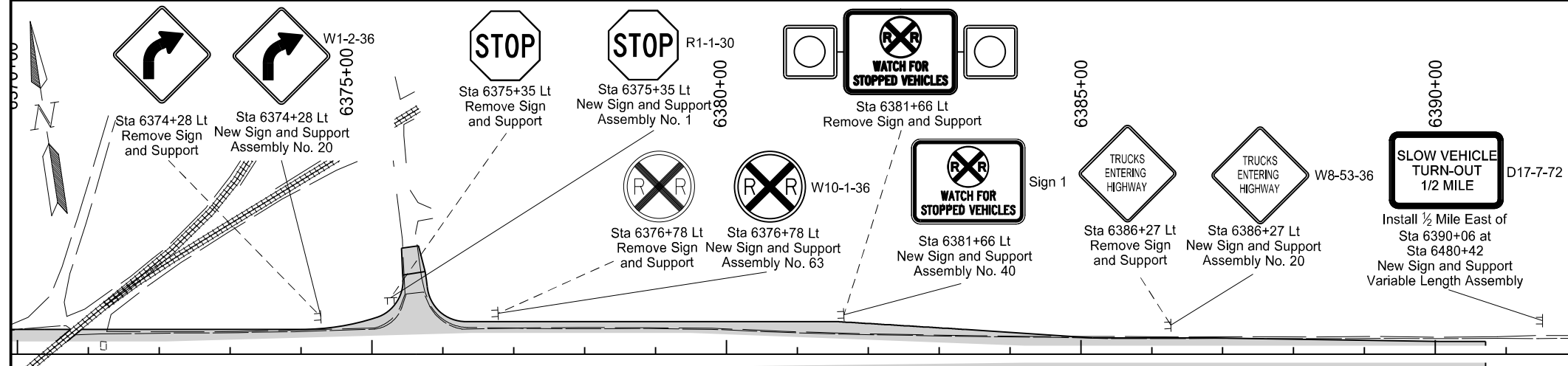
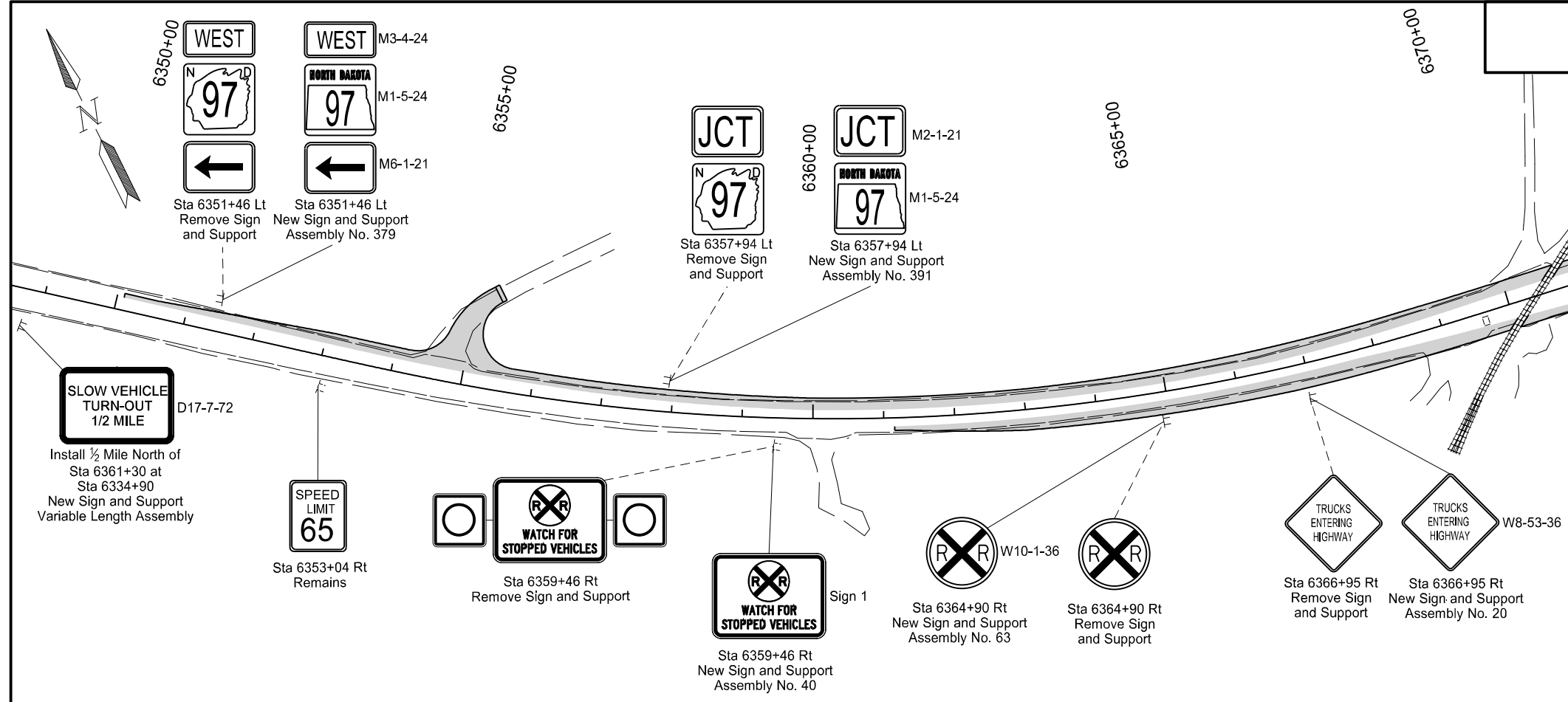
STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	HEN-9-052(485)006	110	7



Signing
RP 118.5

US 52
South of Portal to Carrington
McHenry County

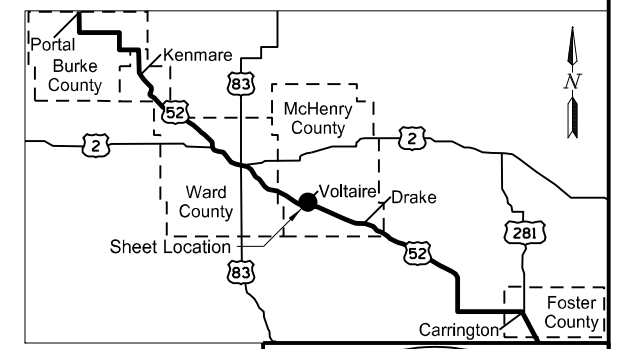
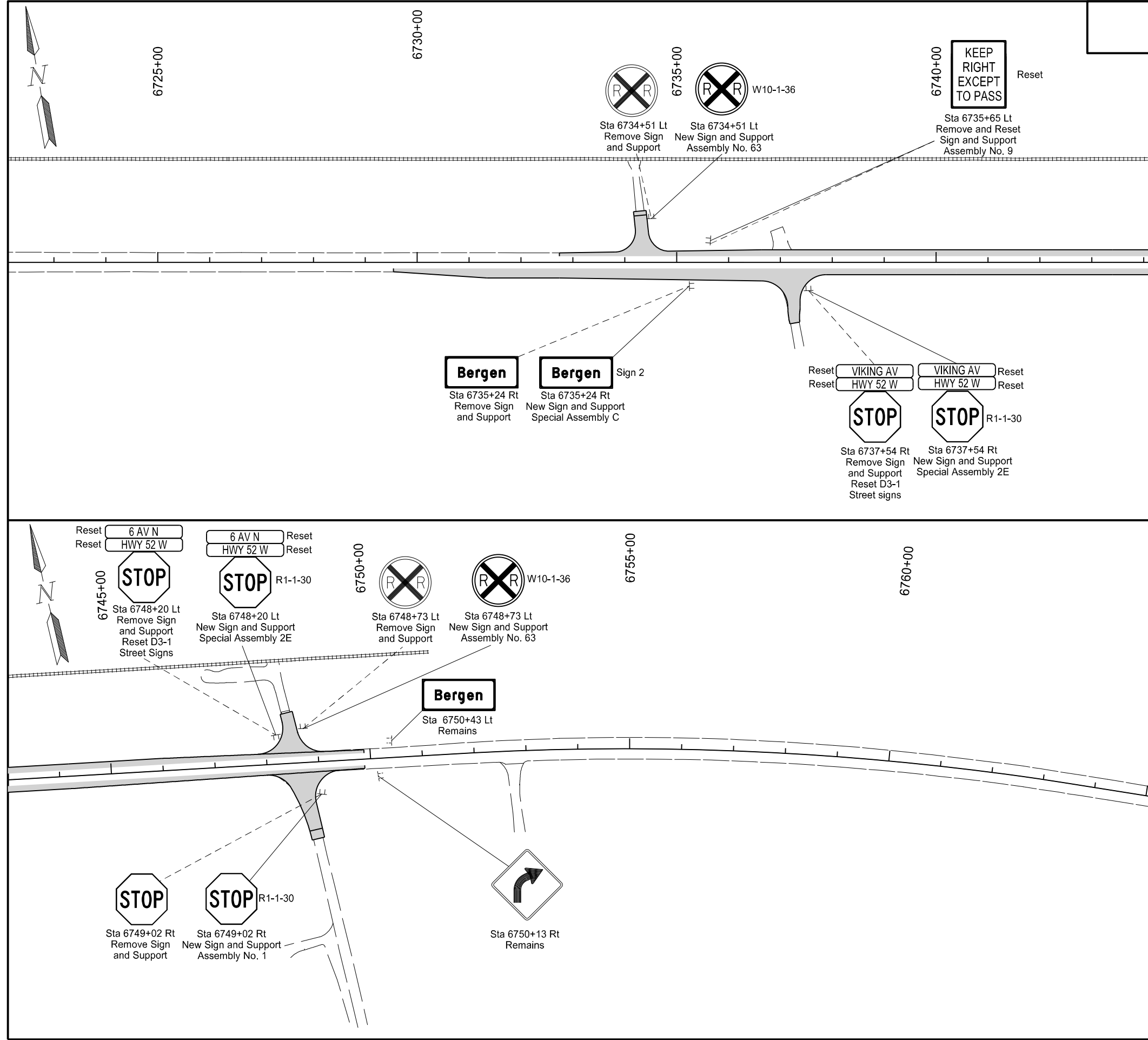
STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	HEN-9-052(485)006	110	8



Signing
RP 120.5

US 52
South of Portal to Carrington
McHenry County

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	HEN-9-052(485)006	110	9

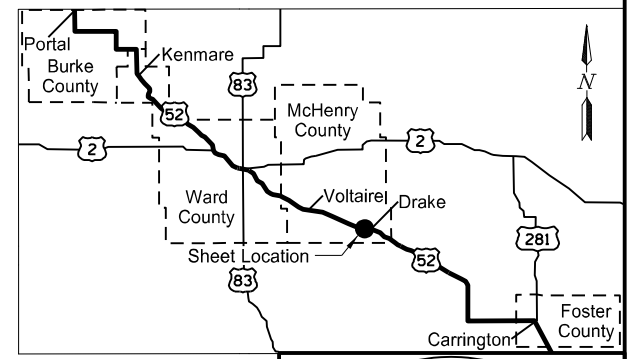
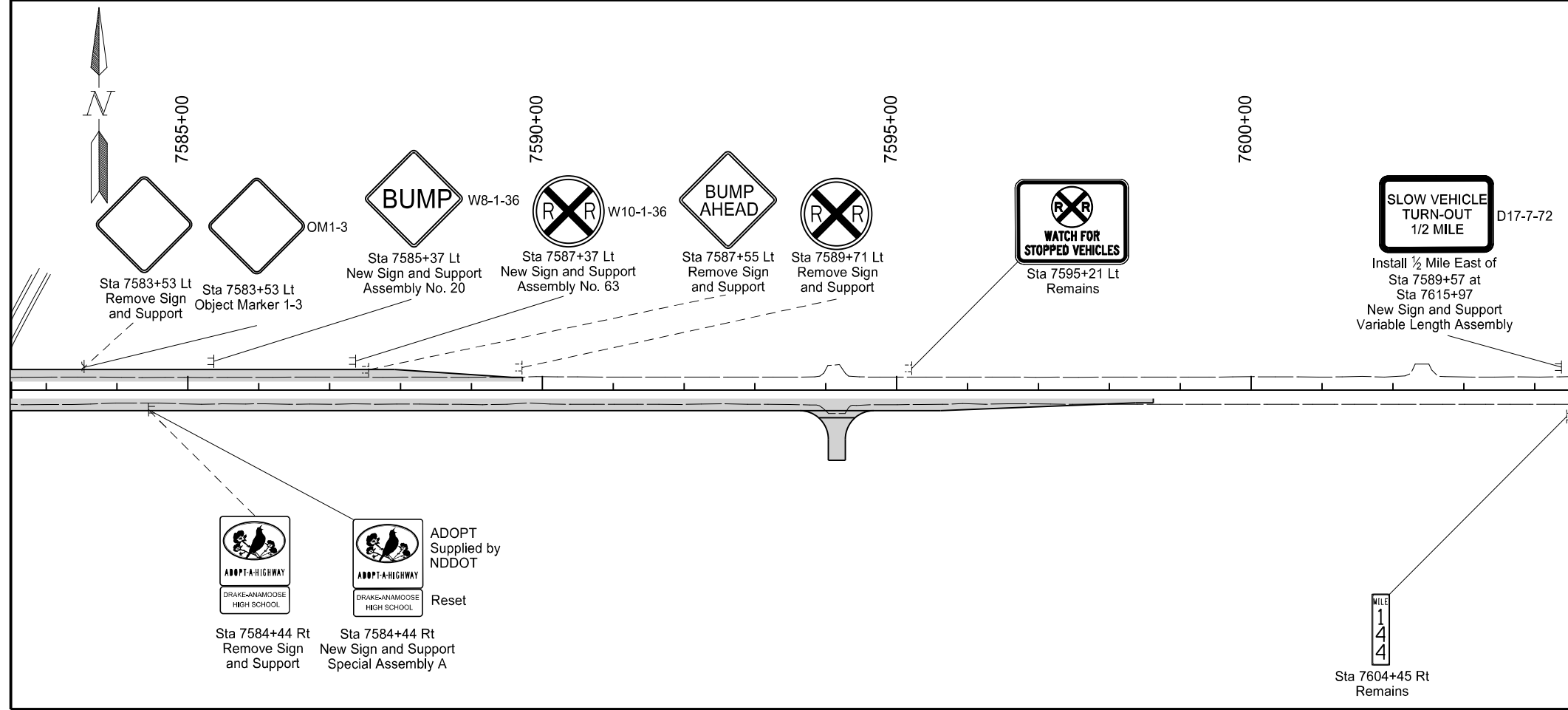
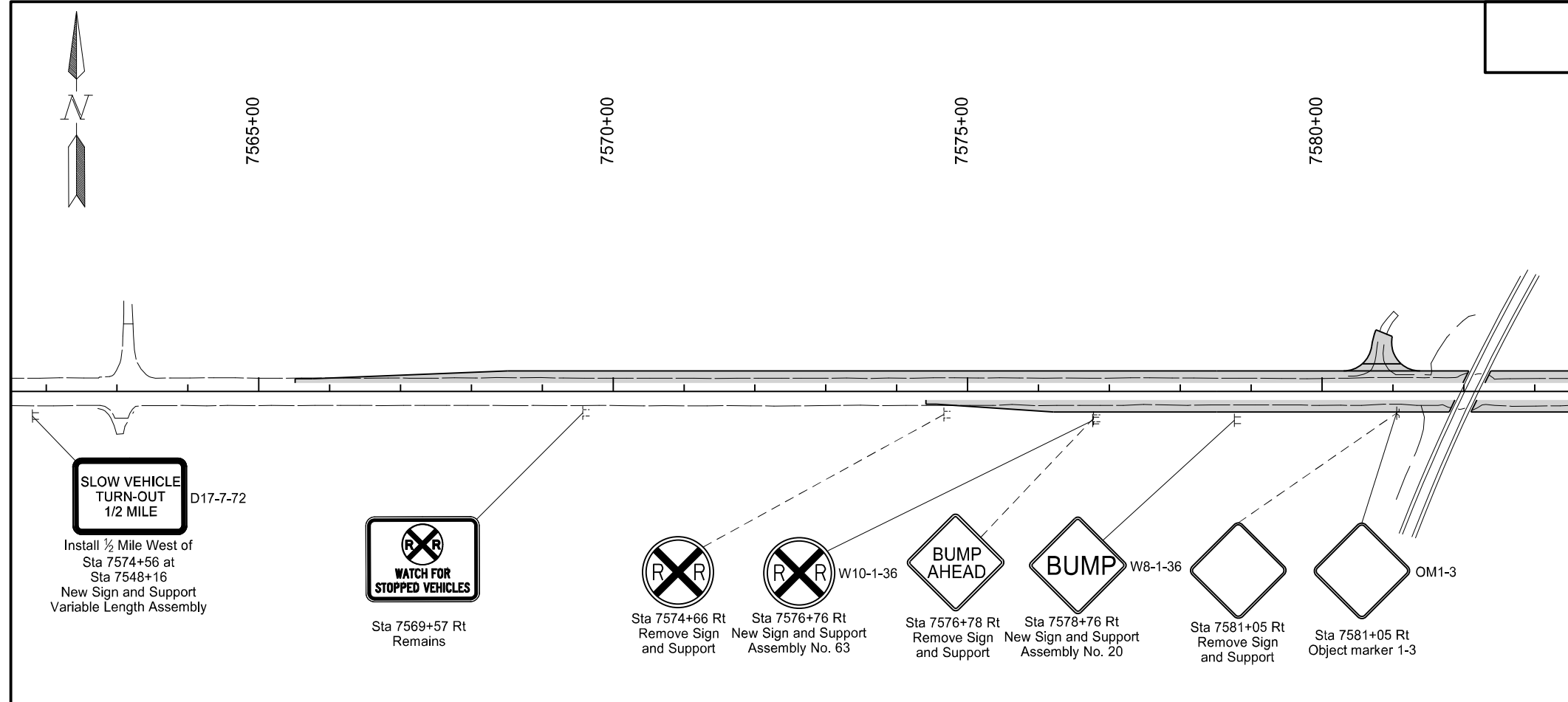


Signing
RP 127.6

US 52
South of Portal to Carrington
McHenry County

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	HEN-9-052(485)006	110	10

SPEC	CODE	BID ITEM	QTY	UNIT
754	0801	Object Markers - Type 1		
		7581+05 Rt	1	EA
		7583+53 Lt	1	EA

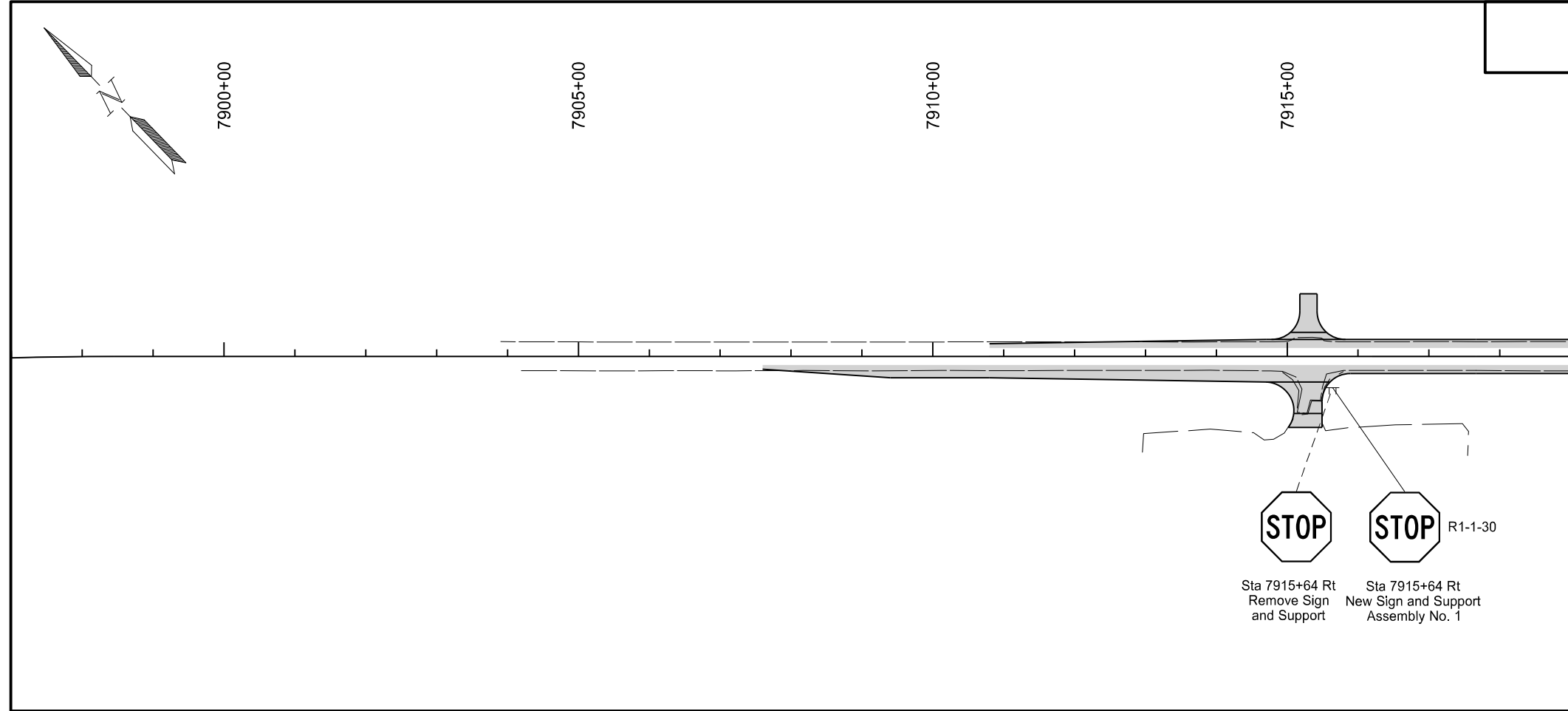




Signing
RP 143.5

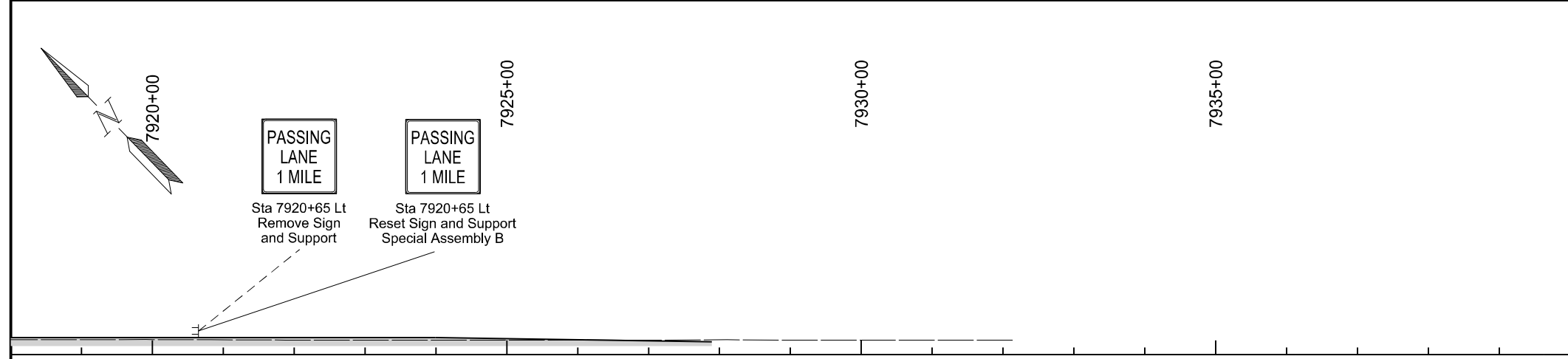
US 52
South of Portal to Carrington
McHenry County



STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	HEN-9-052(485)006	110	11

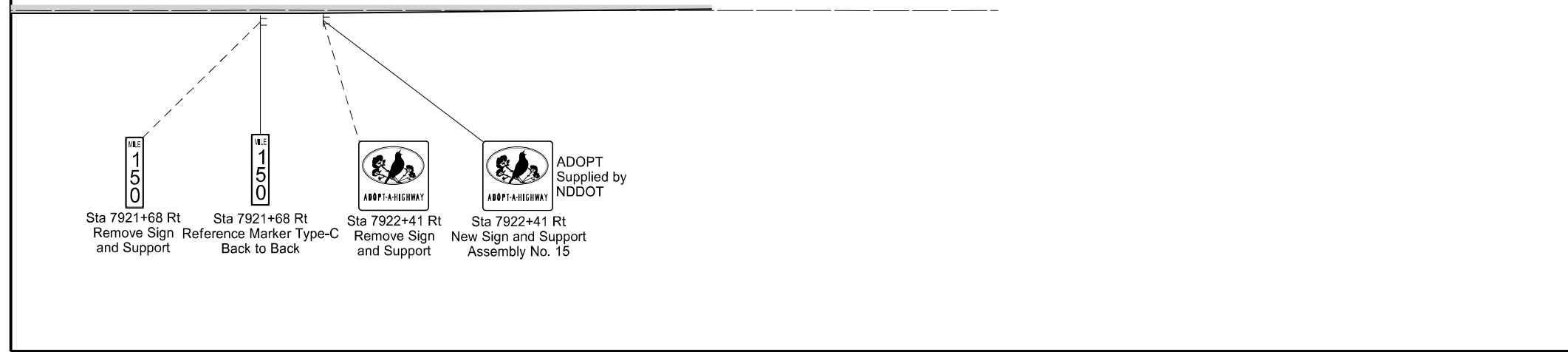
SPEC	CODE	BID ITEM	QTY	UNIT
754	0563	Reference Marker - Type C		
		7921+68 Rt	1	EA




 R1-1-30
 Sta 7915+64 Rt Remove Sign and Support
 Sta 7915+64 Rt New Sign and Support Assembly No. 1



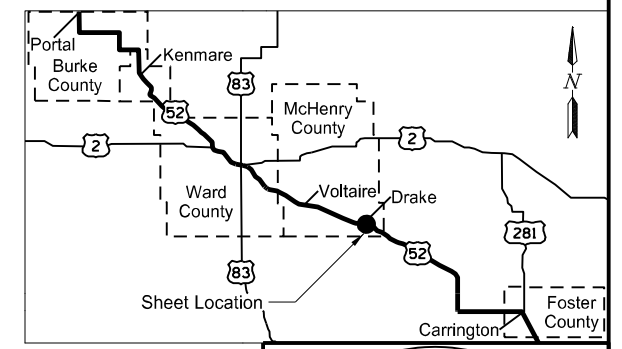


 Sta 7920+65 Lt Remove Sign and Support
 Sta 7920+65 Lt Reset Sign and Support Special Assembly B





 Sta 7921+68 Rt Remove Sign and Support
 Sta 7921+68 Rt Reference Marker Type-C Back to Back

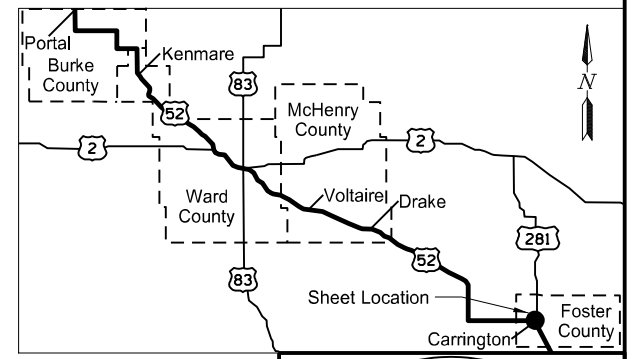
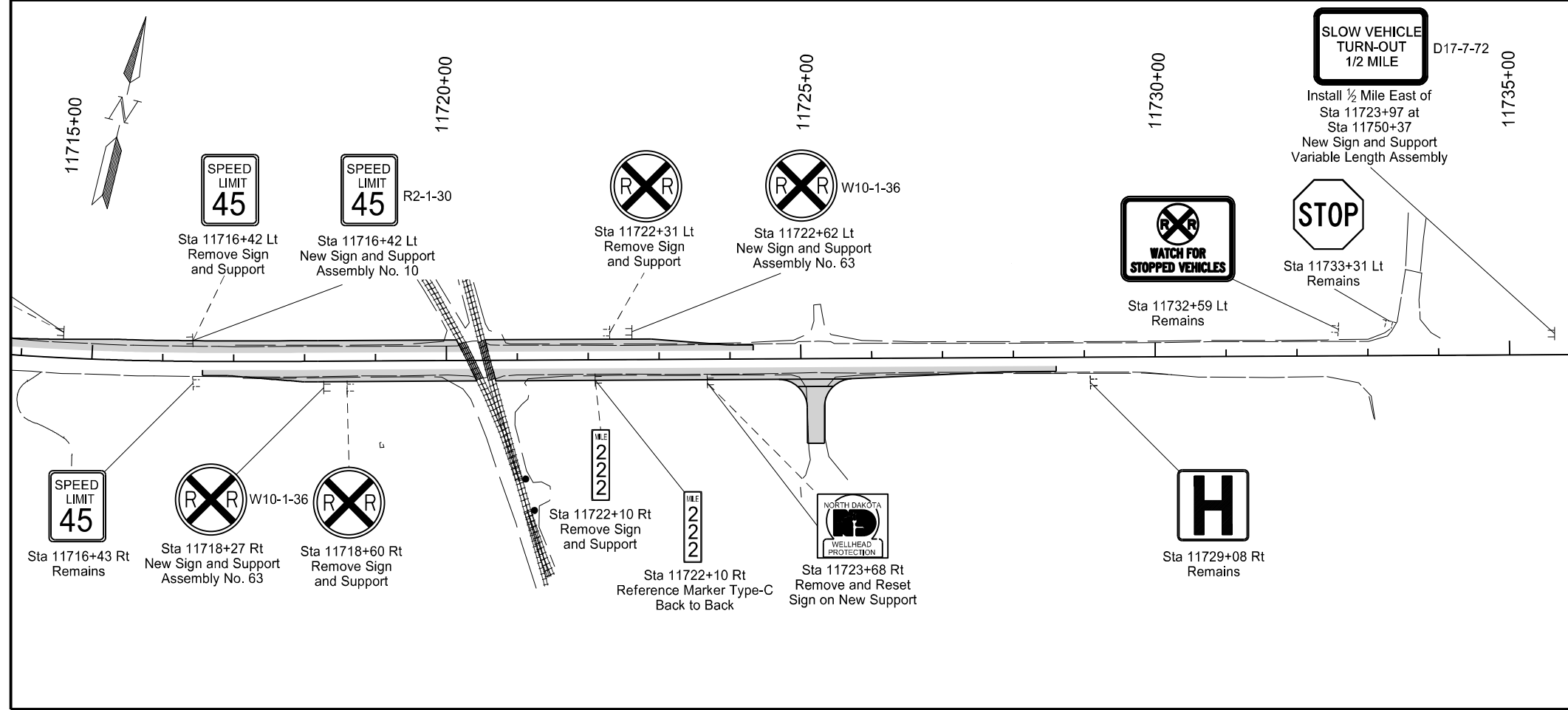
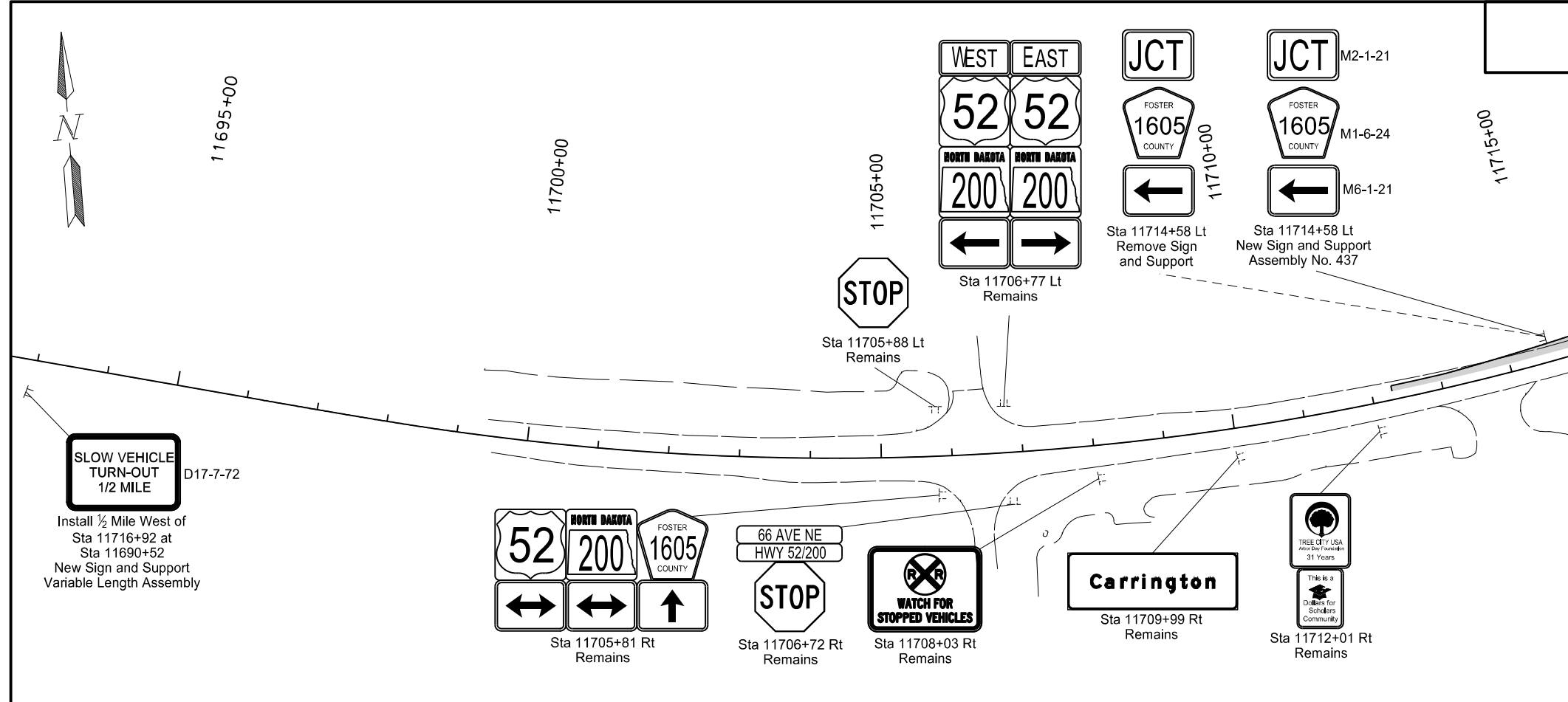

 Sta 7922+41 Rt Remove Sign and Support
 Sta 7922+41 Rt New Sign and Support Assembly No. 15
 ADOPT Supplied by NDDOT



Signing
 RP 149.9
 US 52
 South of Portal to Carrington
 McHenry County

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	HEN-9-052(485)006	110	12

SPEC	CODE	BID ITEM	QTY	UNIT
754	0563	Reference Marker - Type C	1	EA
		11722+10 Rt		

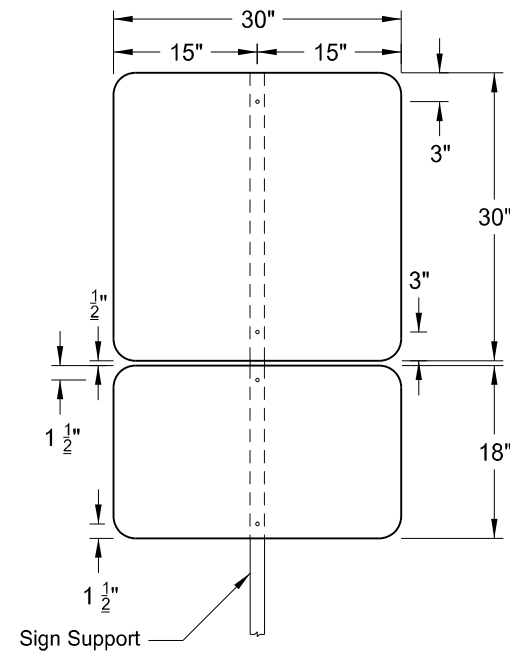


REGISTERED PROFESSIONAL ENGINEER
KORY MICHAEL KLEINKNECHT
PE-27746
DATE 02/27/2024
NORTH DAKOTA

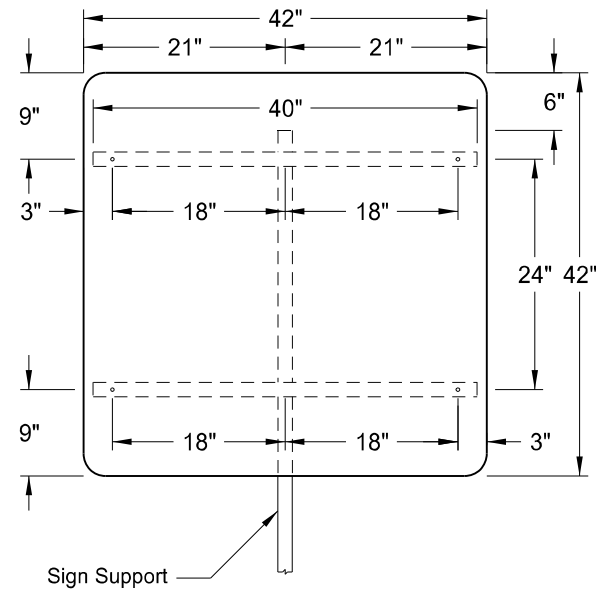
Signing
RP 222.0

US 52
South of Portal to Carrington
Foster County

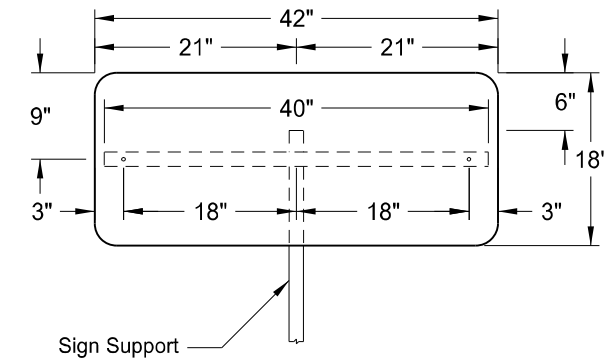
	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	HEN-9-052(485)006	110	13



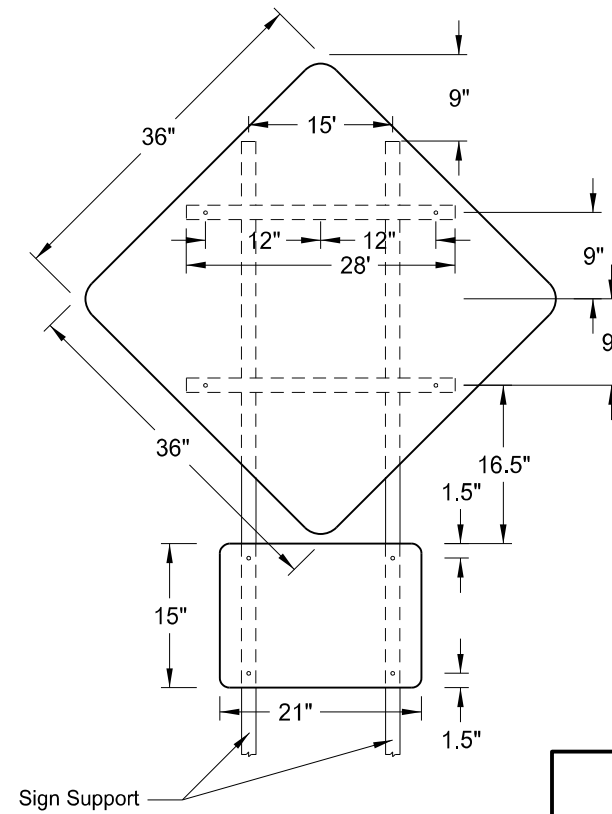
Special Assembly A
Sta 7584+44 Rt
Design Area: 10.0 Sq Ft



Special Assembly B
Sta 7920+65 Lt
Pay Area: 12.3 Sq Ft



Special Assembly C
Sta 6735+24 Lt
Pay Area: 5.3 Sq Ft



Special Assembly D
Sta 1098+53 Rt
Sta 1103+02 Lt
Pay Area: 11.2 Sq Ft

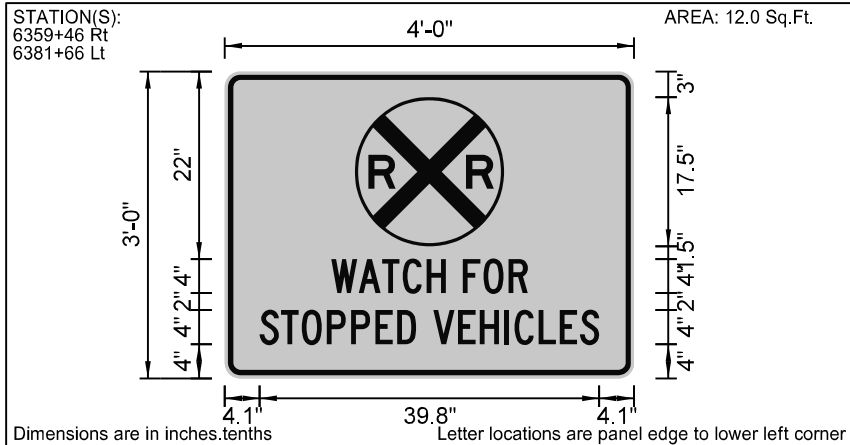


Signing Details
Special Assemblies

US 52
South of Portal to Carrington

SIGN NUMBER	SN 1
WIDTH X HEIGHT	4'-0" x 3'-0"
BORDER WIDTH	0.63" (inset 0.38")
CORNER RADIUS	1.5"
MOUNTING	Ground
BACKGROUND	TYPE: XI Reflective COLOR: Yellow
LEGEND/BORDER	TYPE: Non-reflective COLOR: Black

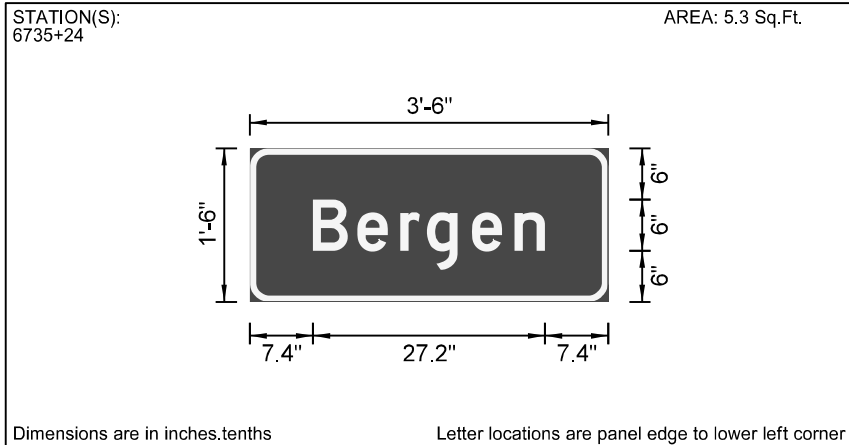
SYMBOL	X	Y	WID	HT	ANGLE
ADV_RR	15.3	15.5	17.5	17.5	0



LETTER POSITION (X)													LENGTH	SIZE	SERIES		
W	A	T	C	H	F	O	R						23	4	C 2000		
12.5	15.7	18.4	20.8	23.7	27.9	30.3	33.3										
S	T	O	P	P	E	D	V	E	H	I	C	L	E	S	39.8	4	C 2000
4.1	6.6	9	12	14.8	17.7	20.2	24.4	27.3	29.9	32.8	34	36.8	39.3	41.7			

SIGN NUMBER	SN 2
WIDTH X HEIGHT	3'-6" x 1'-6"
BORDER WIDTH	0.75" (inset 0")
CORNER RADIUS	2.25"
MOUNTING	Ground
BACKGROUND	TYPE: IV Reflective COLOR: Green
LEGEND/BORDER	TYPE: IV Reflective COLOR: White

SYMBOL	X	Y	WID	HT	ANGLE



LETTER POSITION (X)													LENGTH	SIZE	SERIES
B	e	r	g	e	n								27.2	6/4.5	D 2000
7.4	12.6	17.6	20.8	26	31.1										



Sign Details

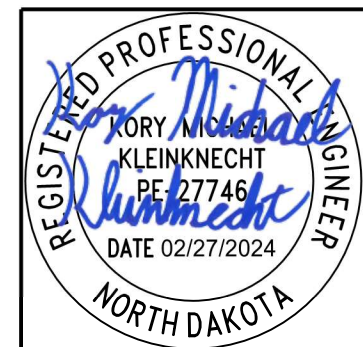
US 52
South of Portal to Carrington

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	HEN-9-052(485)006	120	1

US 52 Pavement Marking											
Description	Begin Sta.	End Sta.	762-0112			762-0114				762-0119	762-0117
			EPOXY PVMT MK MESSAGE			EPOXY PVMT MK 6IN LINE				EPOXY PVMT MK 10IN LINE	EPOXY PVMT MK 24IN LINE
			Left Turn Arrow 16 SF Each	Right Turn Arrow 16 SF Each	Railroad Cross and 2 R's 60.5 SF Each	Right Edge Line (LF)	Left Edge Line (LF)	Double Barrier (LF)	Lane Line Skips (LF)	10" Channel (LF)	24" Stop Bar (LF)
Site 1 - RP 6.9 - Acceleration and Deceleration Lanes	350+71	384+49	-	-	242	2411	2410	6696	965	-	144
Site 2 - RP 20.6 - Acceleration and Deceleration Lanes	1085+18	1116+76	-	-	242	2401	2411	6694	964	-	144
Site 3 - RP 40.4 - Acceleration and Deceleration Lanes	2119+92	2153+00	-	-	242	2409	2409	6690	964	-	144
Site 4 - RP 118.5 - EB and WB Turn Lanes	6247+49	6267+76	48	48	-	1914	1705	5744	-	1161	-
Site 5 - RP 120.5 - Acceleration and Deceleration Lane	6350+60	6390+06	96	80	242	2972	3957	10592	1159	2046	156
Site 6 - RP 127.6 - EB and WB Turn Lanes	6729+40	6749+85	48	48	-	1770	1482	5940	-	1160	-
Site 7 - RP 143.5 - Acceleration and Deceleration Lane	7565+76	7598+37	-	-	242	2351	2351	6460	906	-	144
Site 8 - RP 149.9 - EB and WB Turn Lanes	7907+60	7927+89	48	48	-	1910	1709	2883	-	1160	-
Subtotal:			240	224	1210	18138	18434	51699	4958	5527	732
Total:			1674			93229					

US 52 Pavement Marking								
Description	Begin Sta.	End Sta.	762-0103	762-1106			762-1124	
			PVMT MK PAINTED-MESSAGE	PVMT MK PAINTED 6IN LINE			PVMT MK PAINTED 24IN LINE	
			Railroad Cross and 2 R's 60.5 SF Each	Right Edge Line (LF)	Left Edge Line (LF)	Double Barrier (LF)	Lane Line Skips (LF)	24" Stop Bar (LF)
Site 9 - RP 222.0 - Acceleration and Deceleration Lane	11712+96	11727+96	242	1047	1127	3046	1453	144
Subtotal:			242	1047	1127	3046	1453	144
Total:			6673					

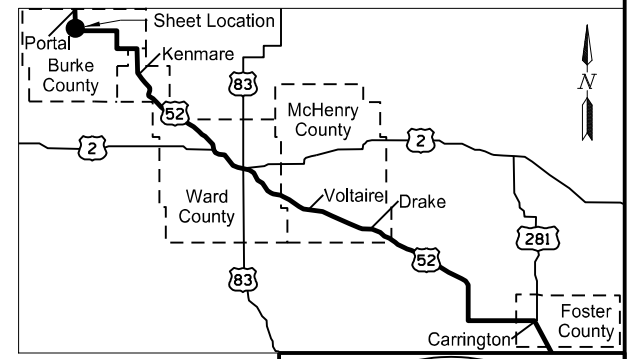
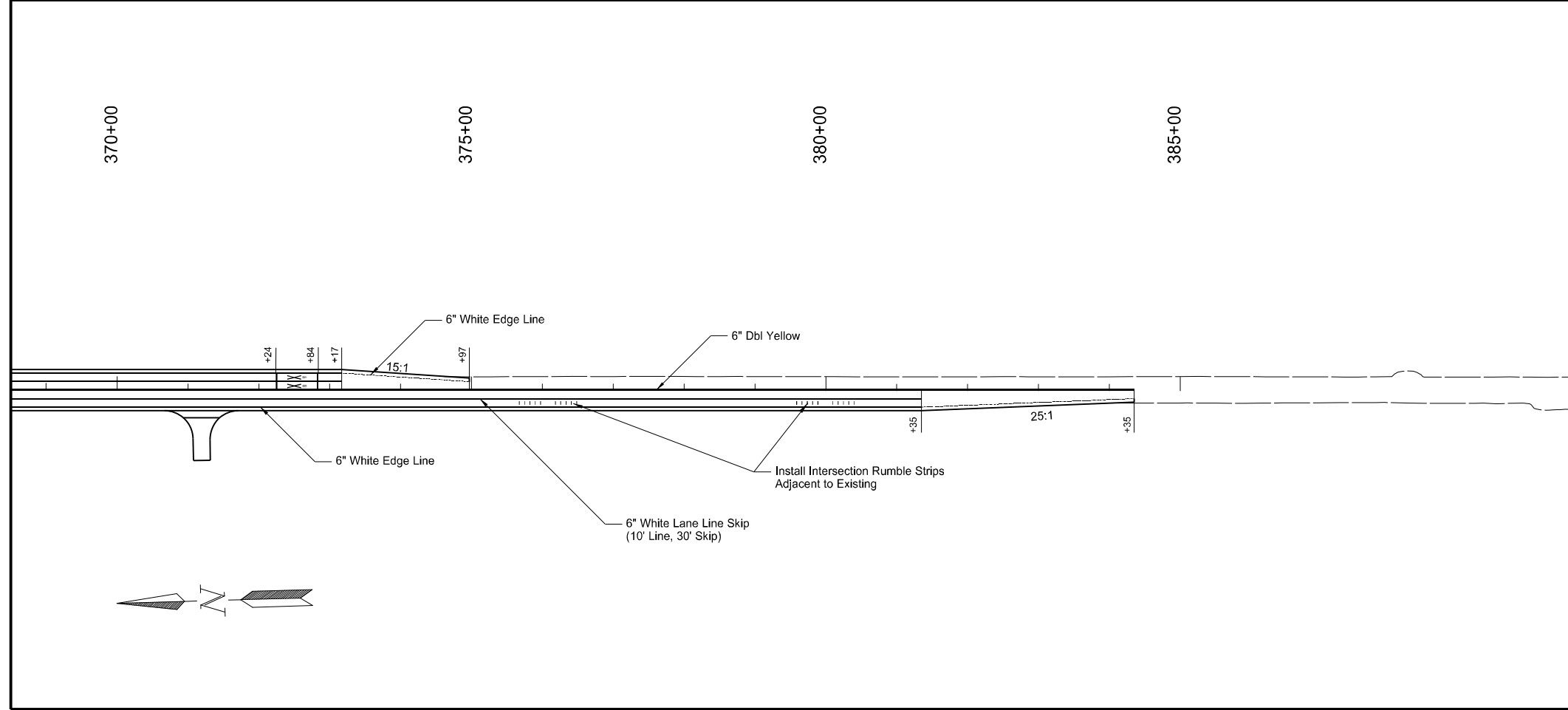
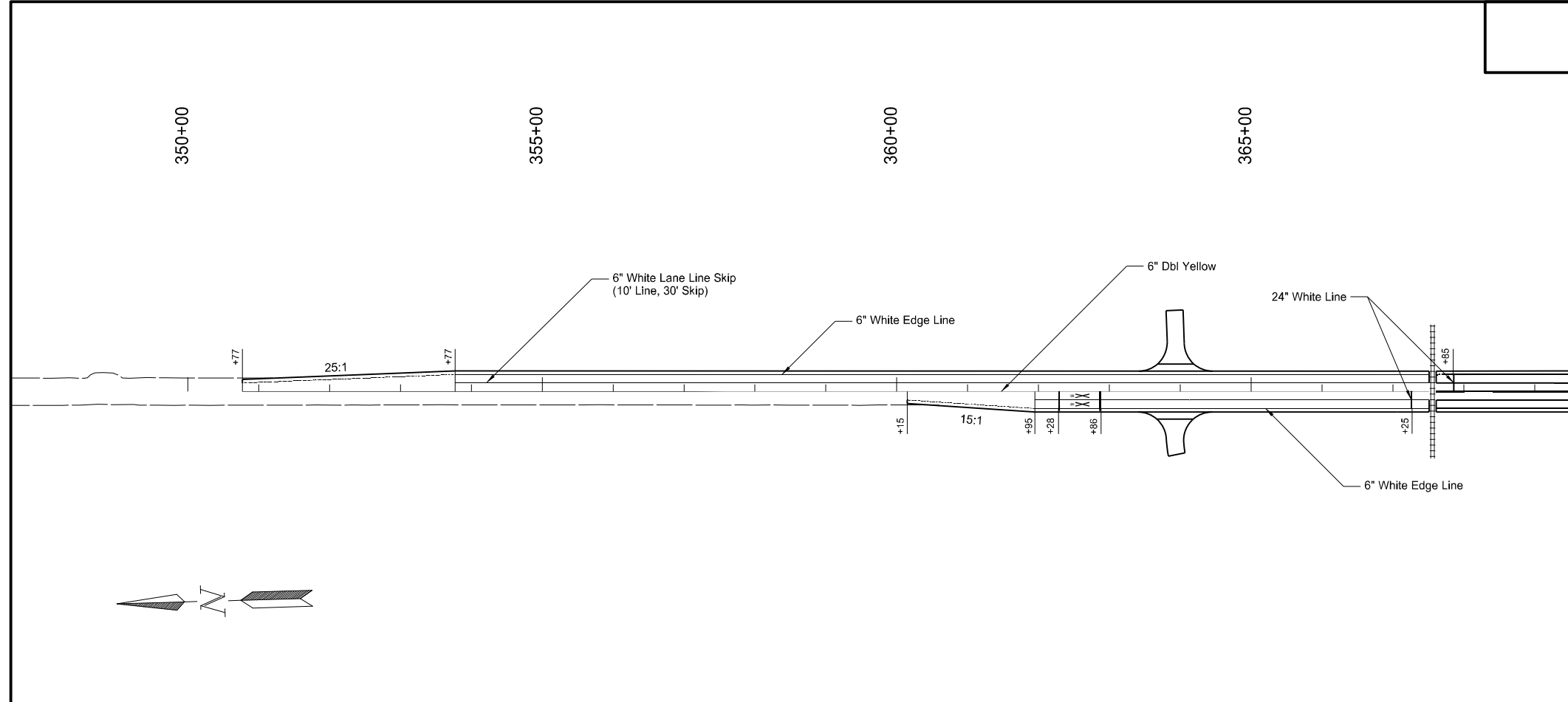
704-1500											
Description	Begin Sta.	End Sta.	OBLITERATION OF PAVEMENT MARKING								
			4" Edge Line (SF)	4" Double Barrier (SF)	4" CL Single Barrier and Skips (SF)	4" CL Skips (SF)	8" Channel (SF)	24" Stop Bar (SF)	Left Turn Arrow 16 SF Each	Right Turn Arrow 16 SF Each	Railroad Cross and 2 R's 60.5 SF Each
Site 1 - RP 6.9 - Acceleration and Deceleration Lanes	350+71	384+49			581	162		144			121
Site 2 - RP 20.6 - Acceleration and Deceleration Lanes	1085+18	1116+76			464	168		144			121
Site 3 - RP 40.4 - Acceleration and Deceleration Lanes	2119+92	2153+00			631	144		144			121
Site 4 - RP 118.5 - EB and WB Turn Lanes	6247+49	6267+76				44					
Site 5 - RP 120.5 - Acceleration and Deceleration Lanes	6350+60	6390+06	400	2796		44	619	192	96	96	121
Site 6 - RP 127.6 - EB and WB Turn Lanes	6729+40	6749+85				71					
Site 7 - RP 143.5 - Acceleration and Deceleration Lanes	7565+76	7598+37			818	104		144			121
Site 8 - RP 149.9 - EB and WB Turn Lanes	7907+60	7927+89				44					
Site 9 - RP 222.0 - Acceleration and Deceleration Lanes	11712+96	11727+96			598			144			121
Subtotal:			400	2796	3092	781	619	912	96	96	726
Total:			9518								



Basis of Estimate

US 52
South of Portal to Carrington

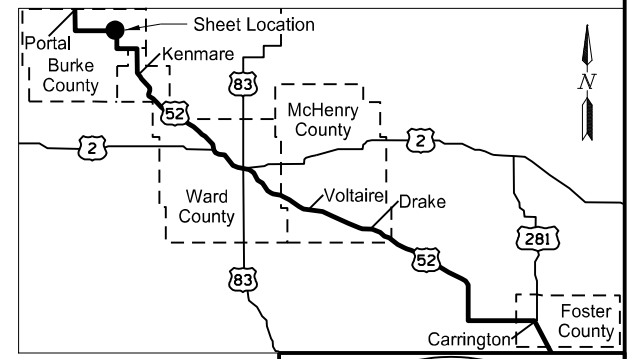
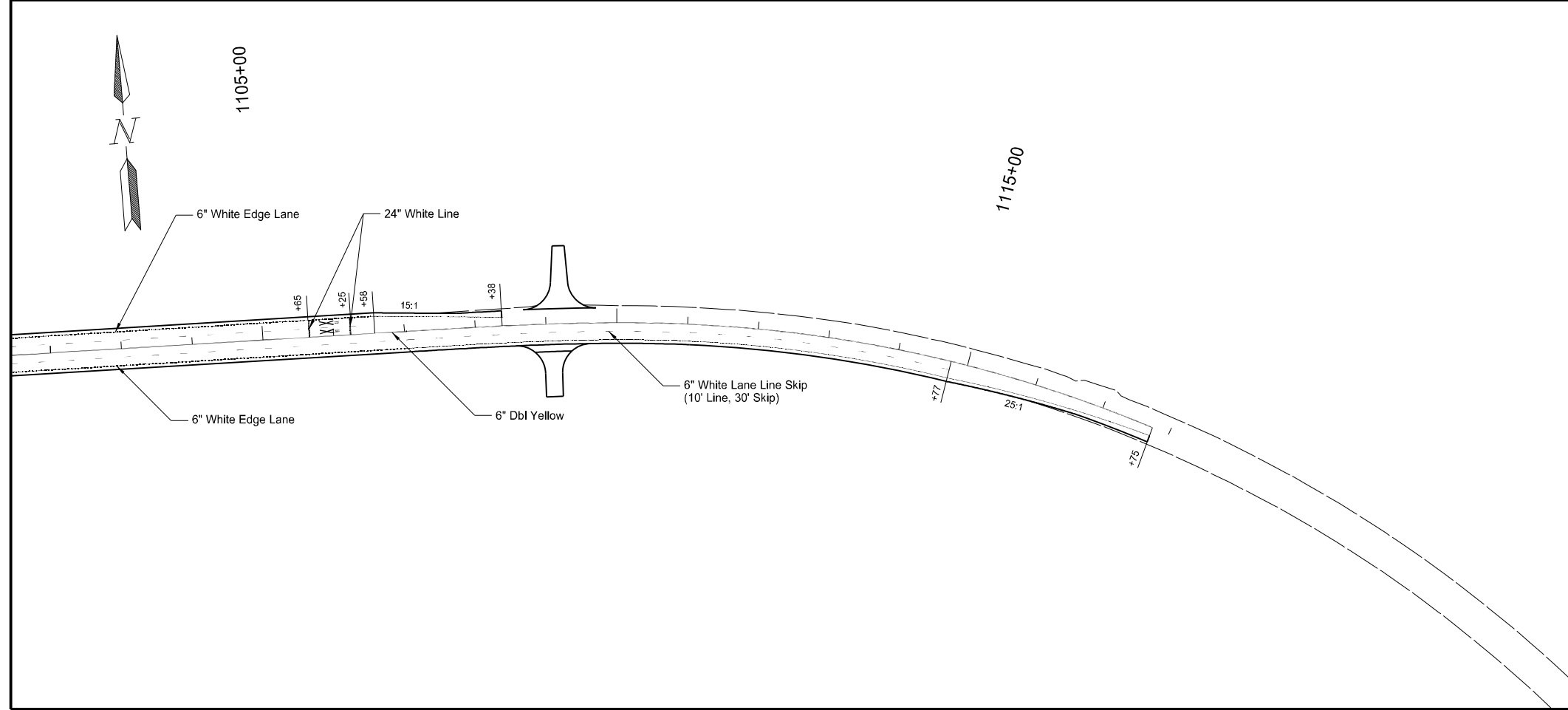
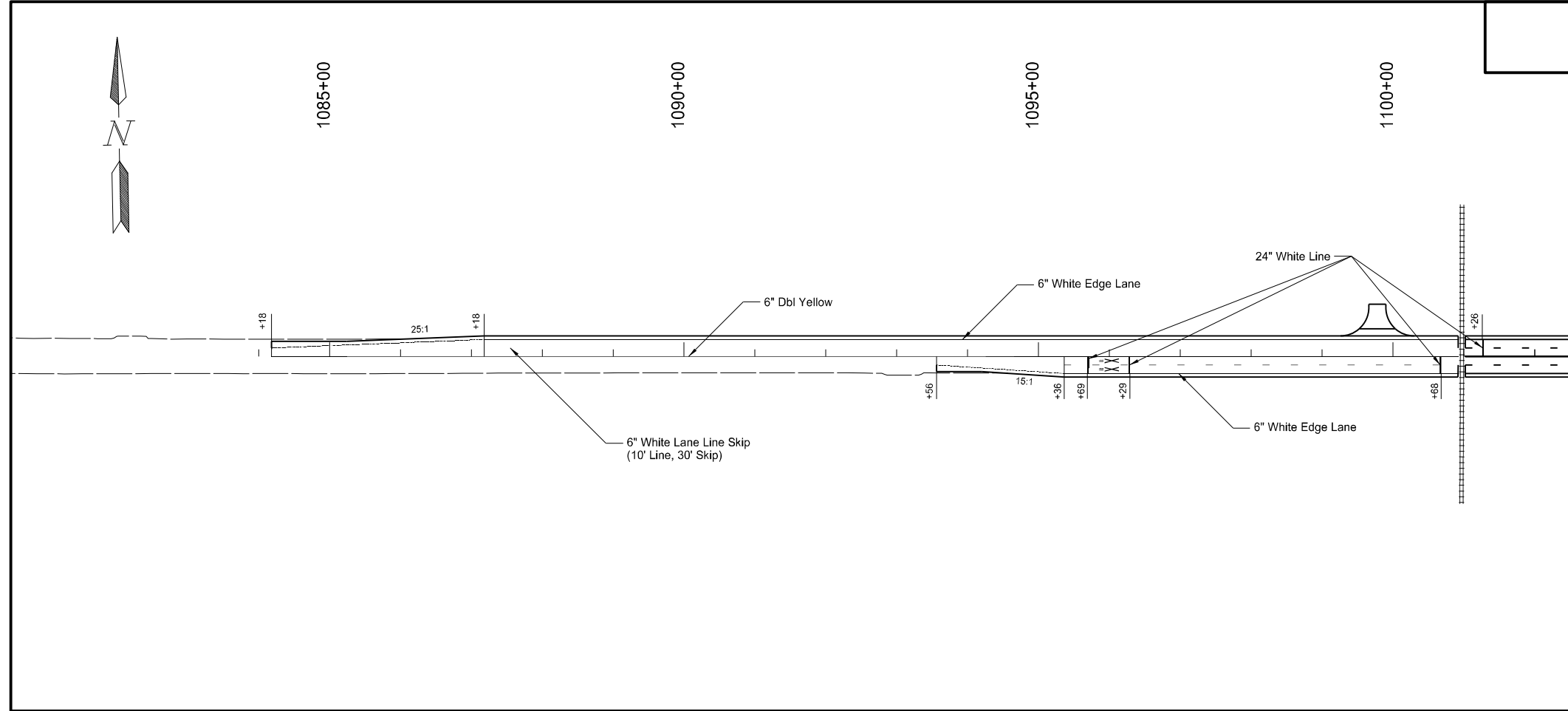
STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	HEN-9-052(485)006	120	2



Pavement Markings
RP 6.9

US 52
South of Portal to Carrington
Burke County

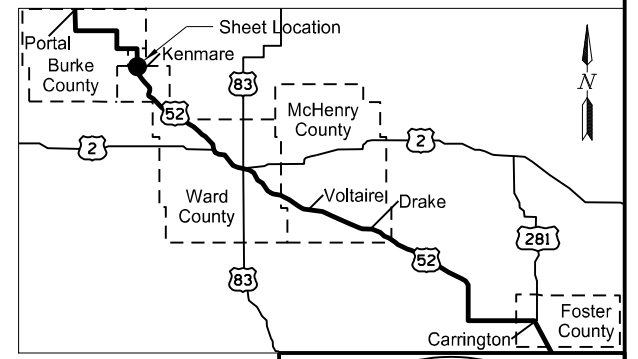
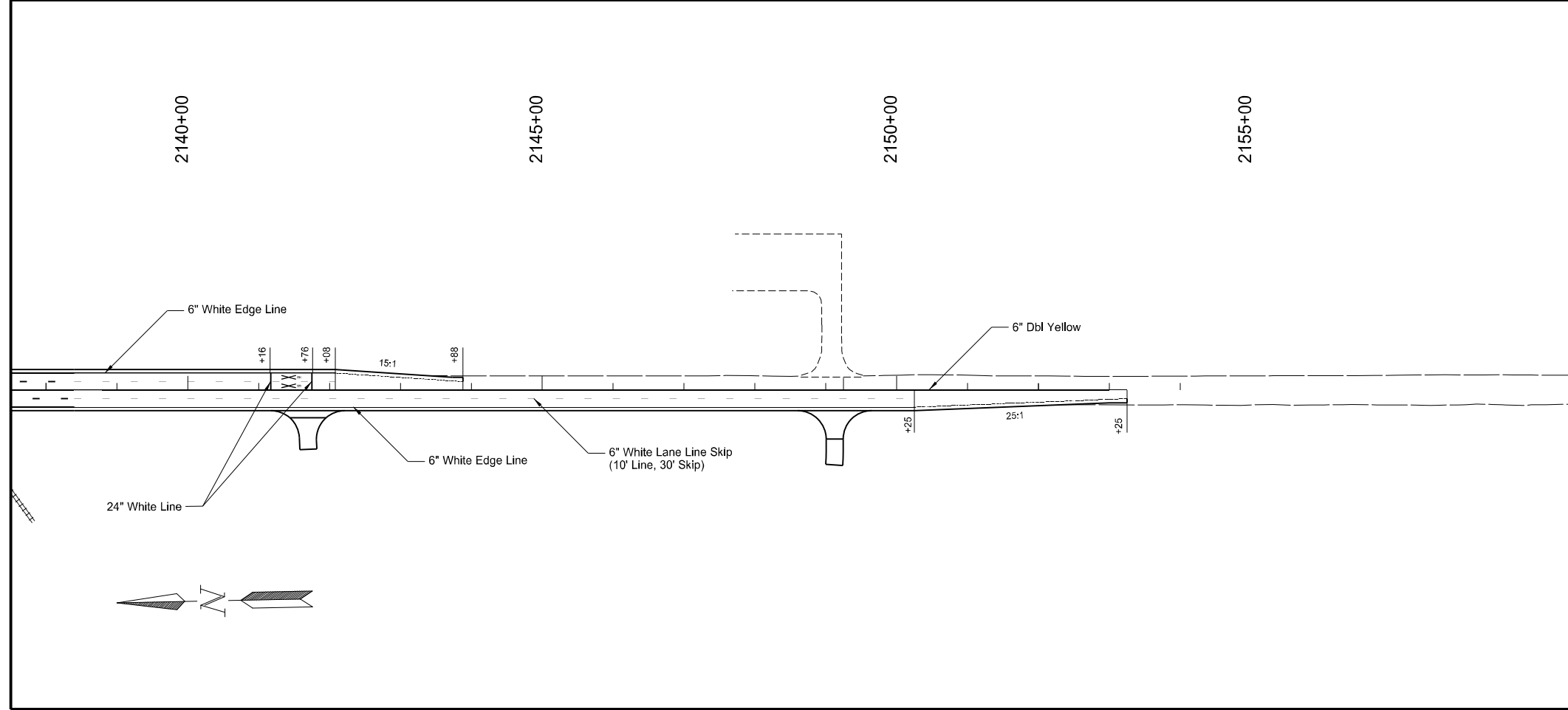
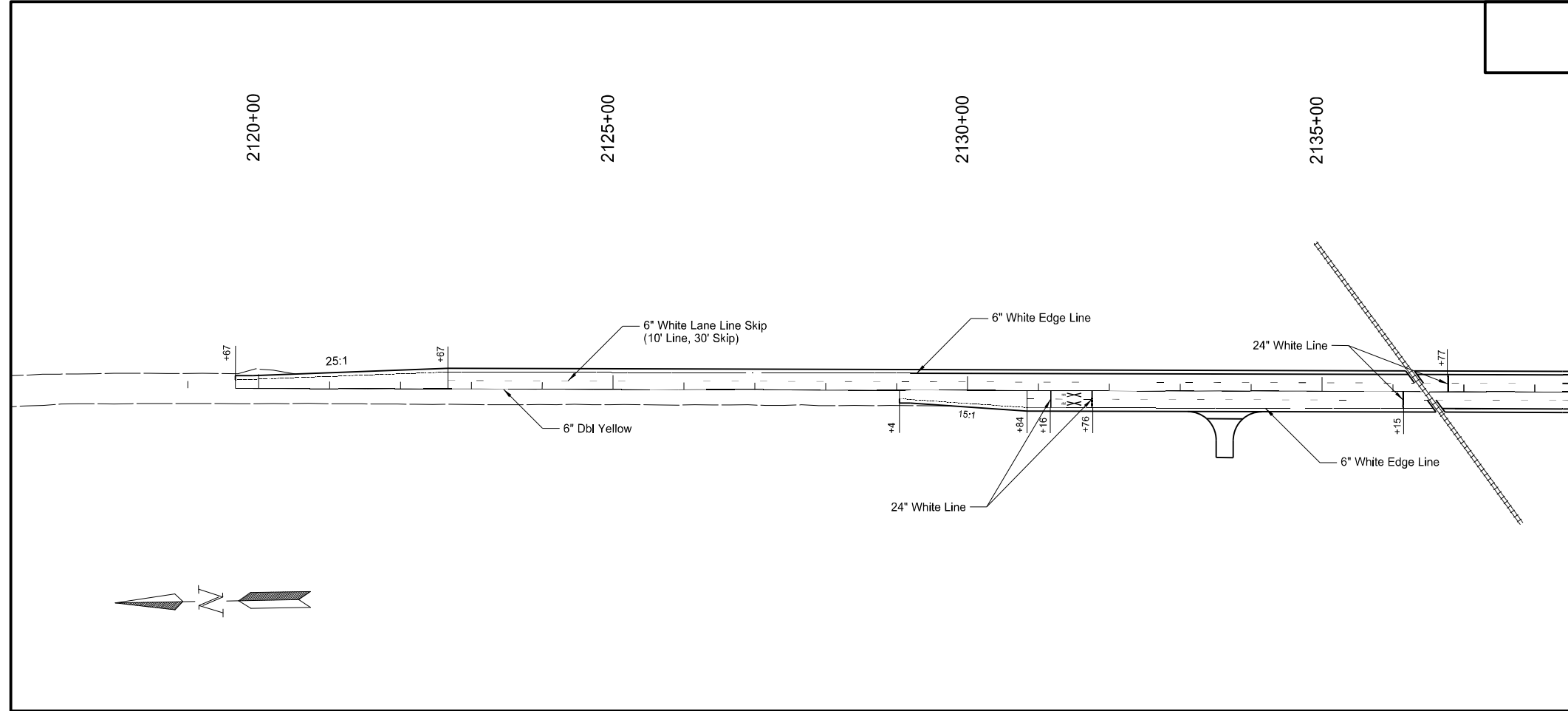
STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	HEN-9-052(485)006	120	3



Pavement Markings
RP 20.6

US 52
South of Portal to Carrington
Burke County

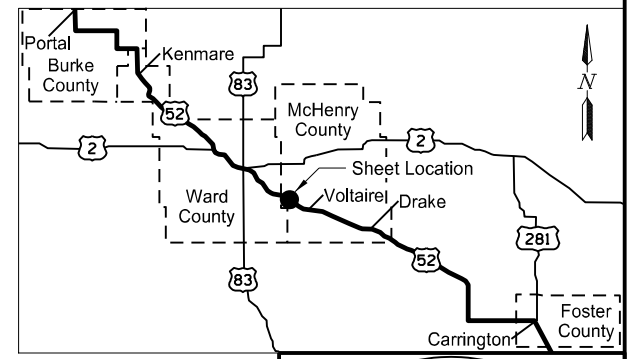
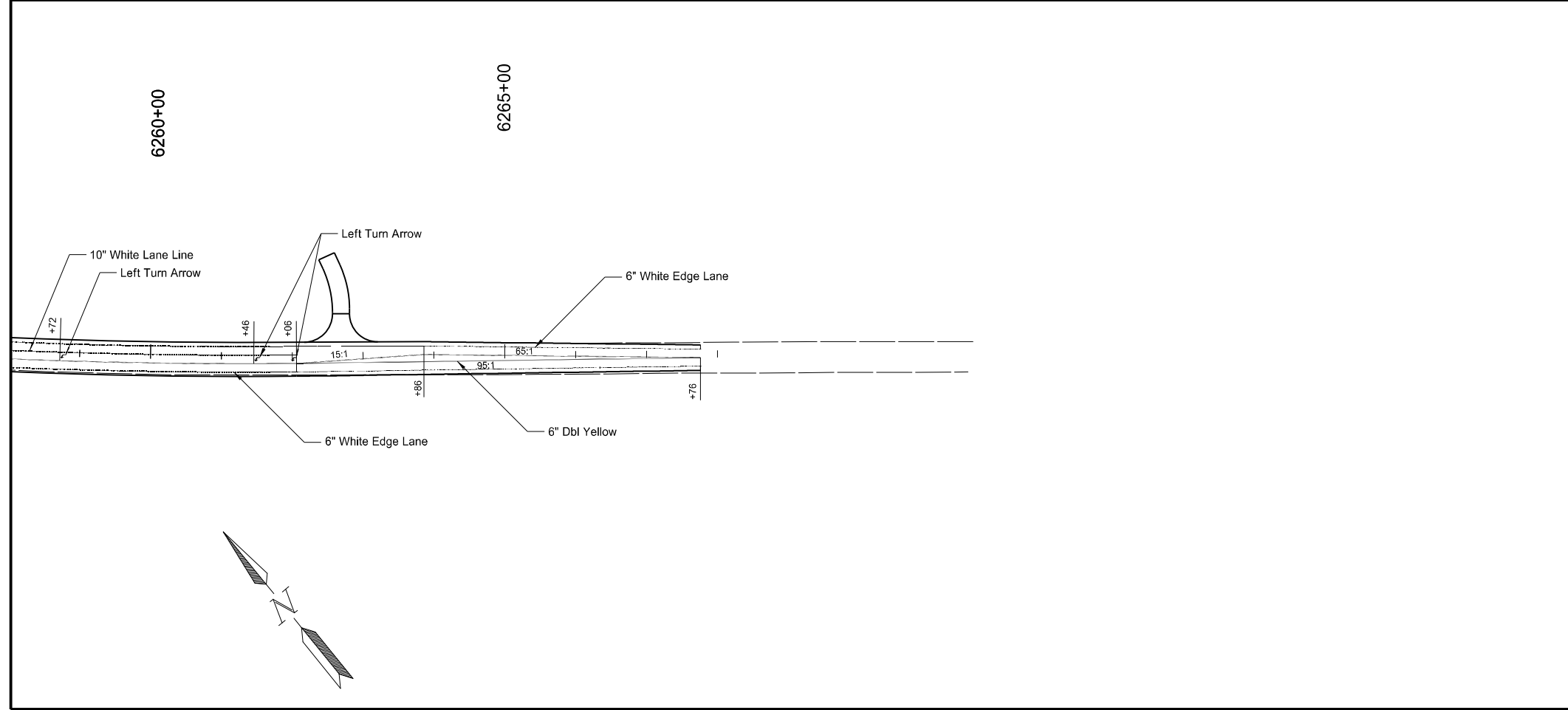
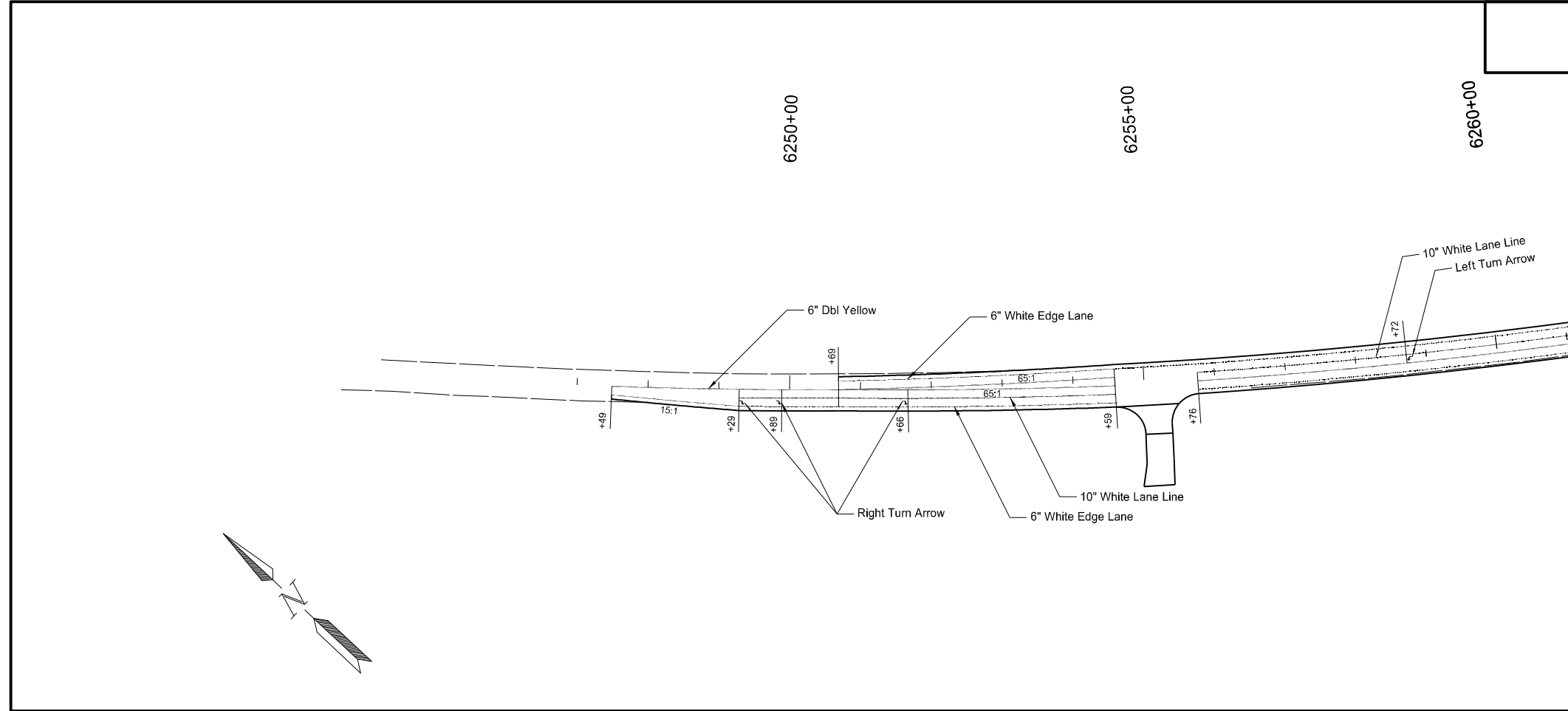
STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	HEN-9-052(485)006	120	4



Pavement Markings
RP 40.4

US 52
South of Portal to Carrington
Ward County

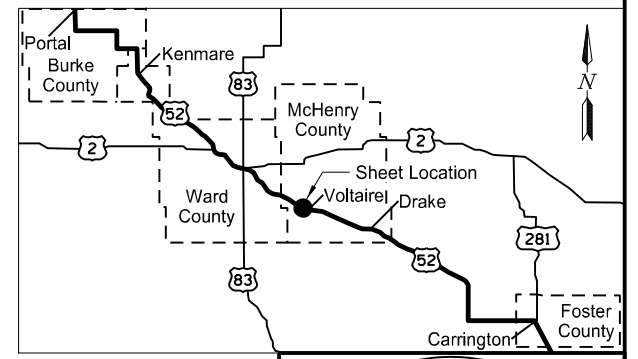
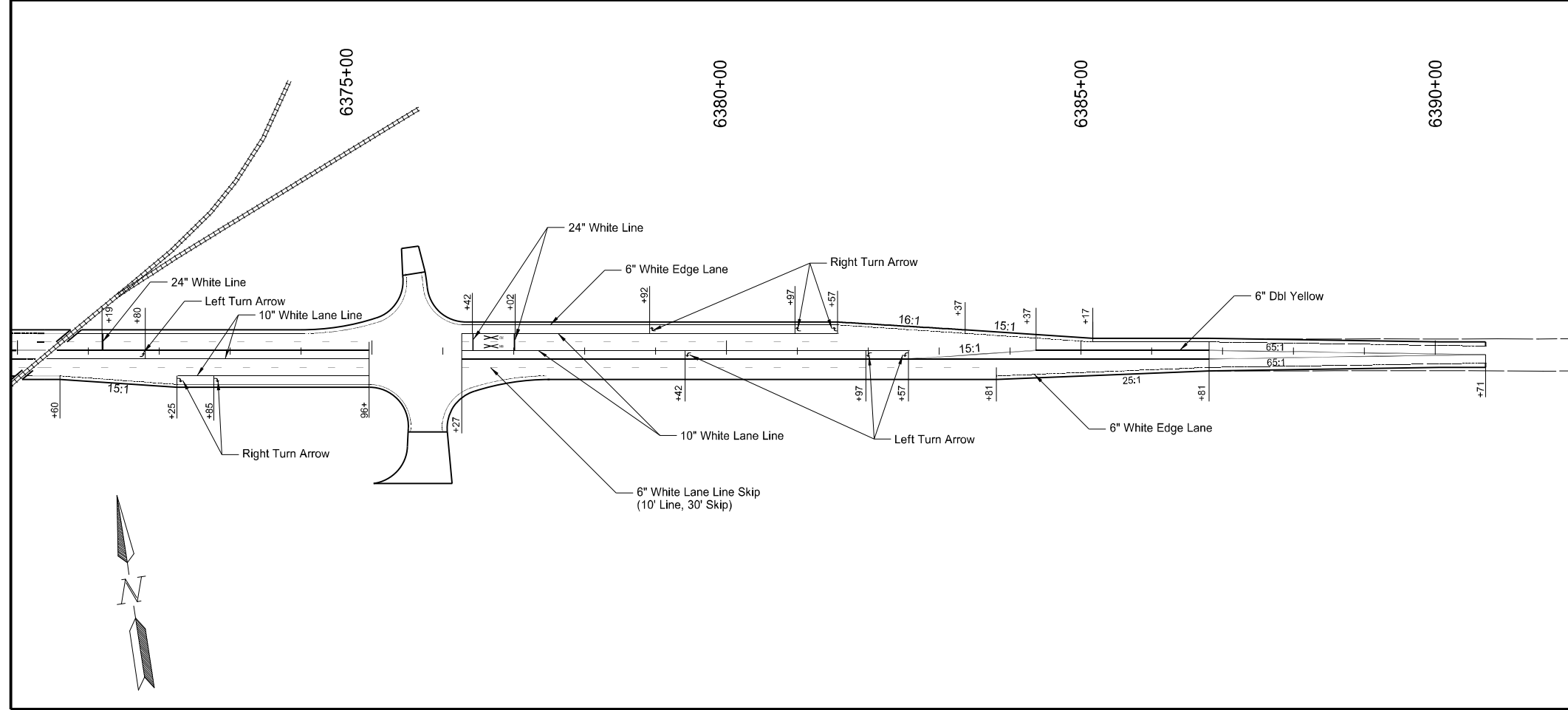
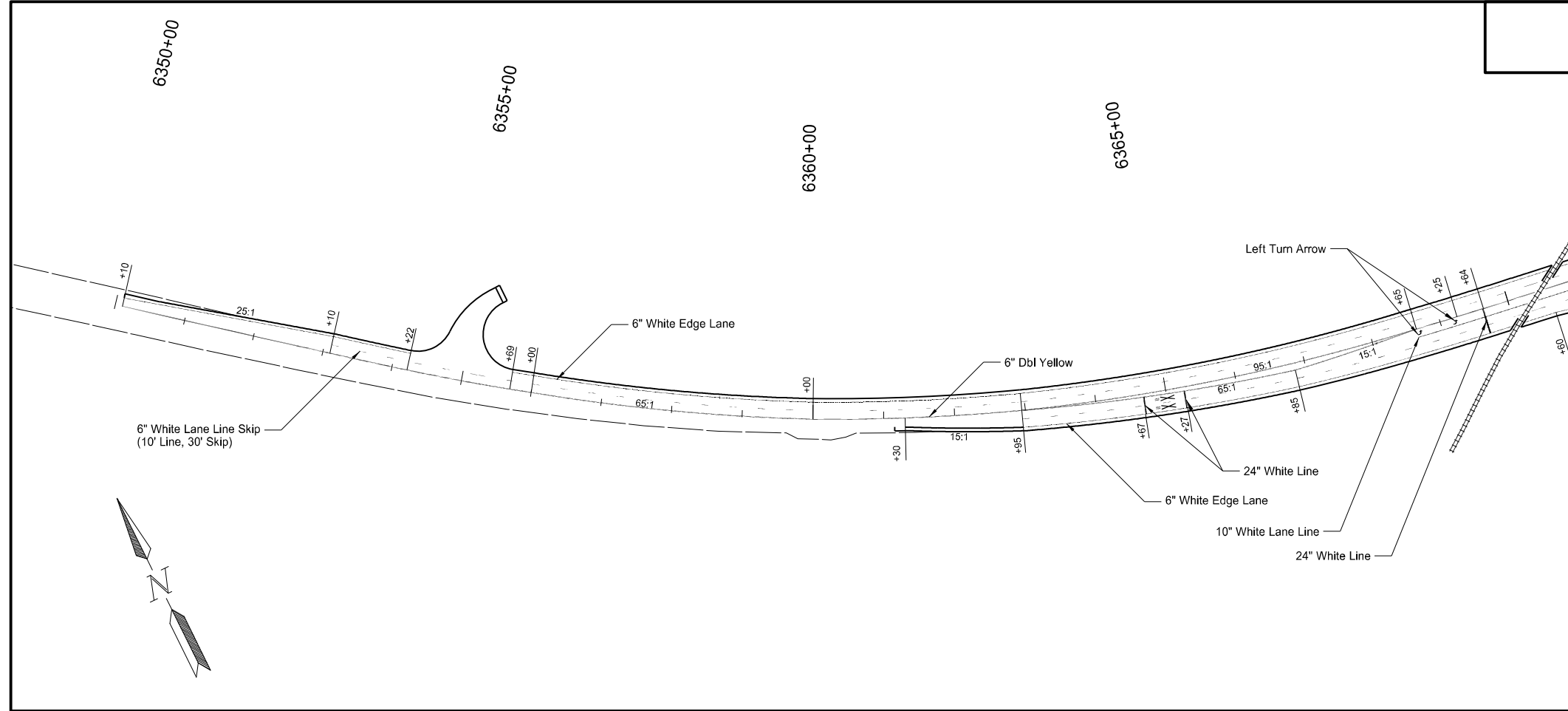
STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	HEN-9-052(485)006	120	5



REGISTERED PROFESSIONAL ENGINEER
 KORY MICHAEL KLEINKNECHT
 PE-27746
 DATE 02/27/2024
 NORTH DAKOTA

Pavement Markings
 RP 118.5
 US 52
 South of Portal to Carrington
 McHenry County

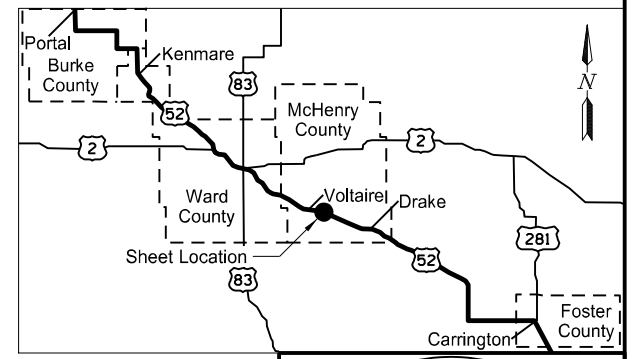
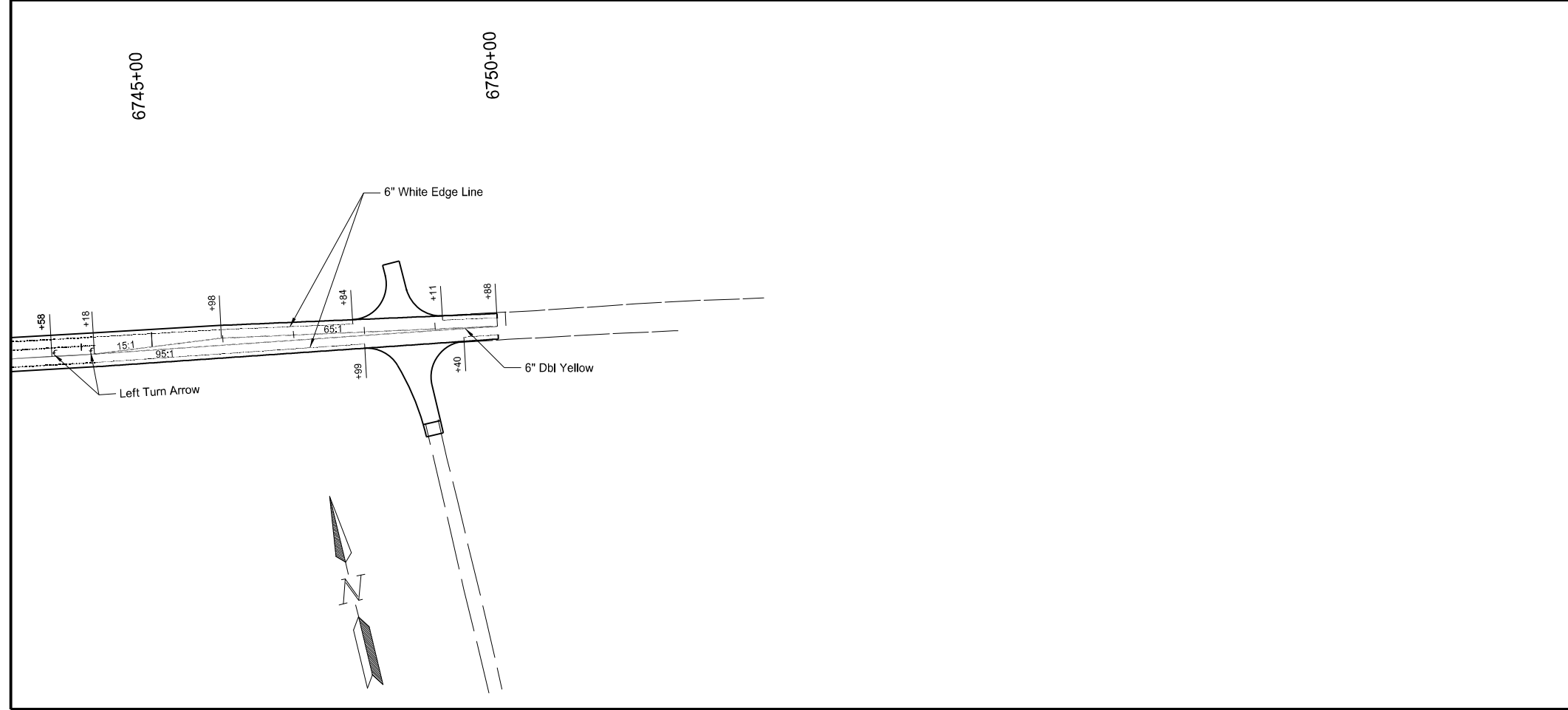
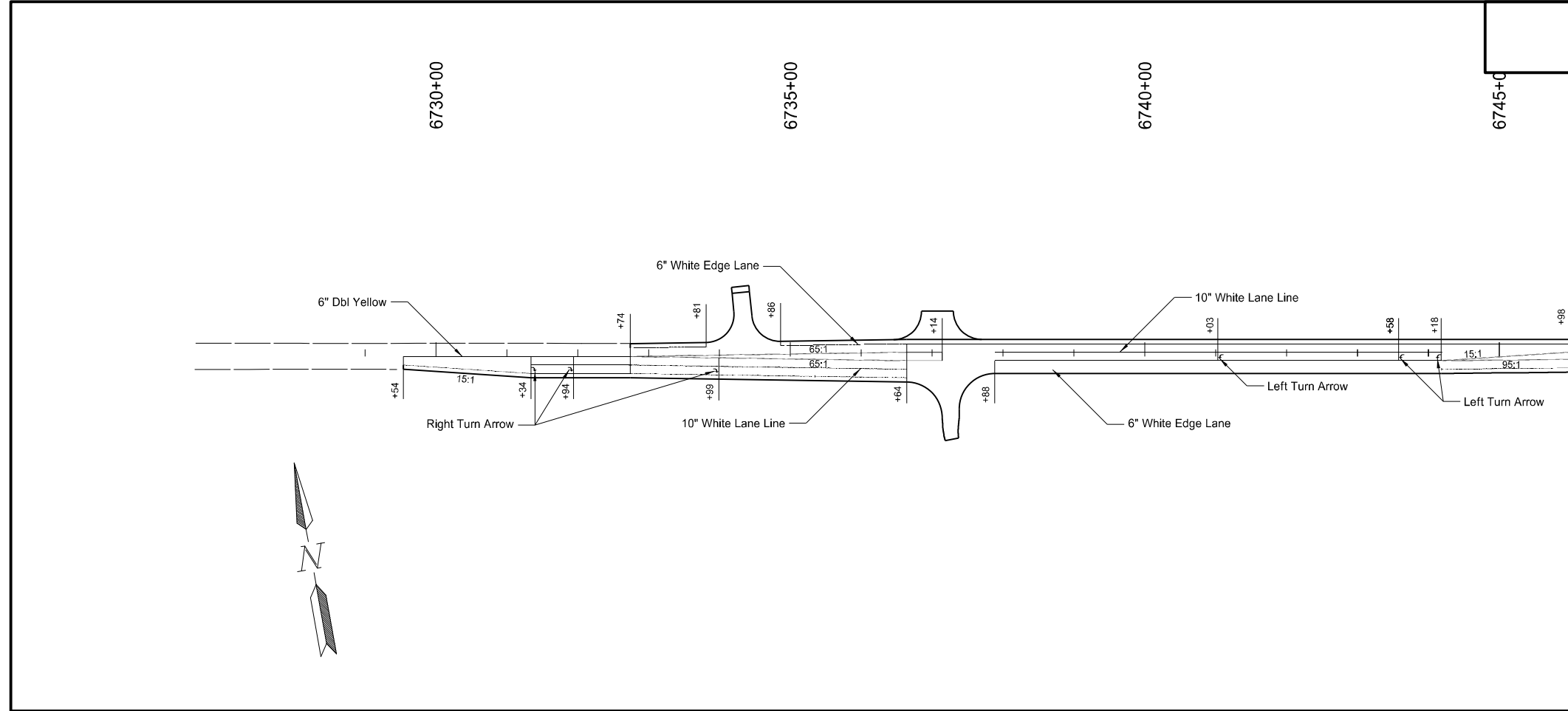
STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	HEN-9-052(485)006	120	6



Pavement Markings
RP 120.5

US 52
South of Portal to Carrington
McHenry County

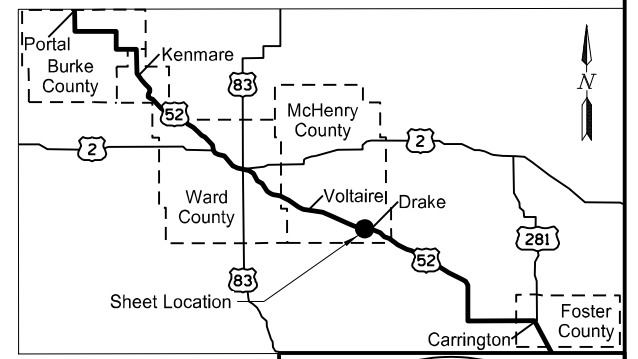
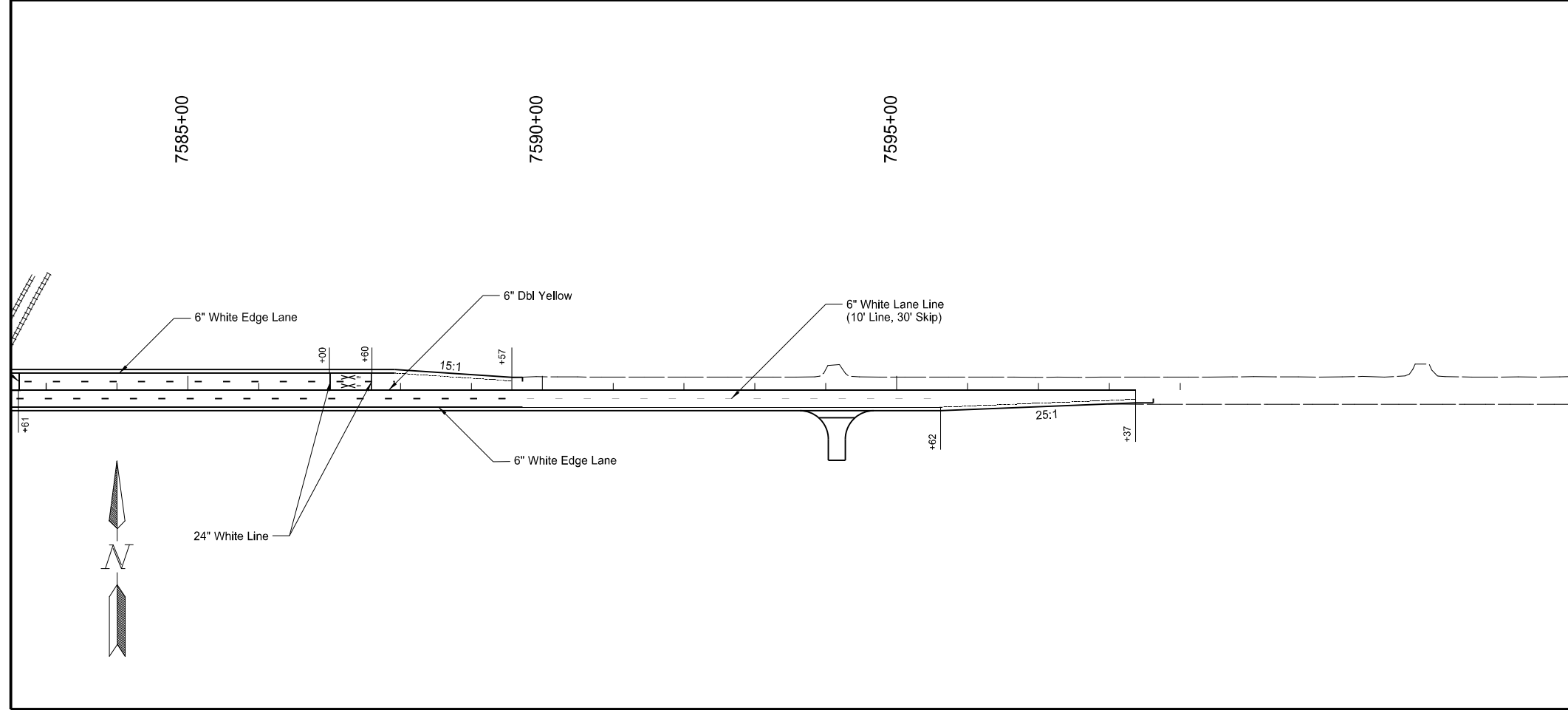
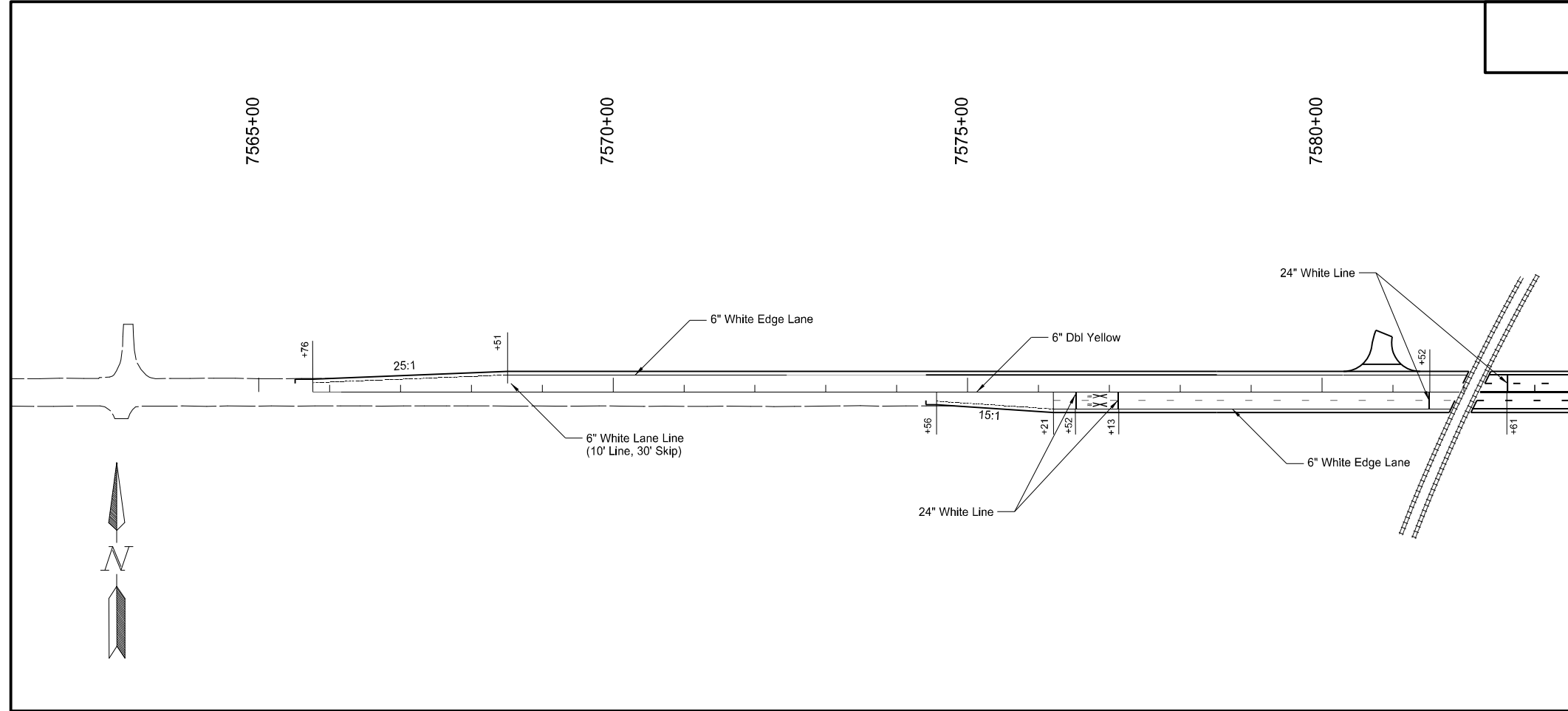
STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	HEN-9-052(485)006	120	7



Pavement Markings
RP 127.6

US 52
South of Portal to Carrington
McHenry County

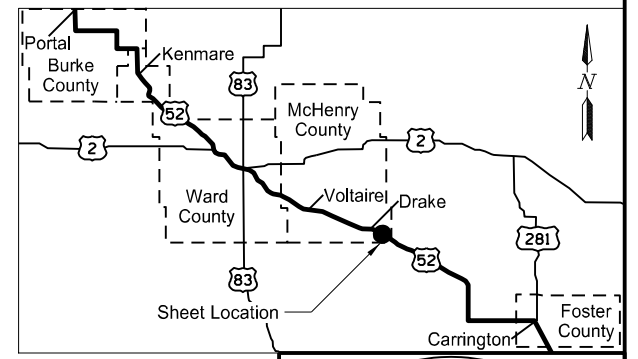
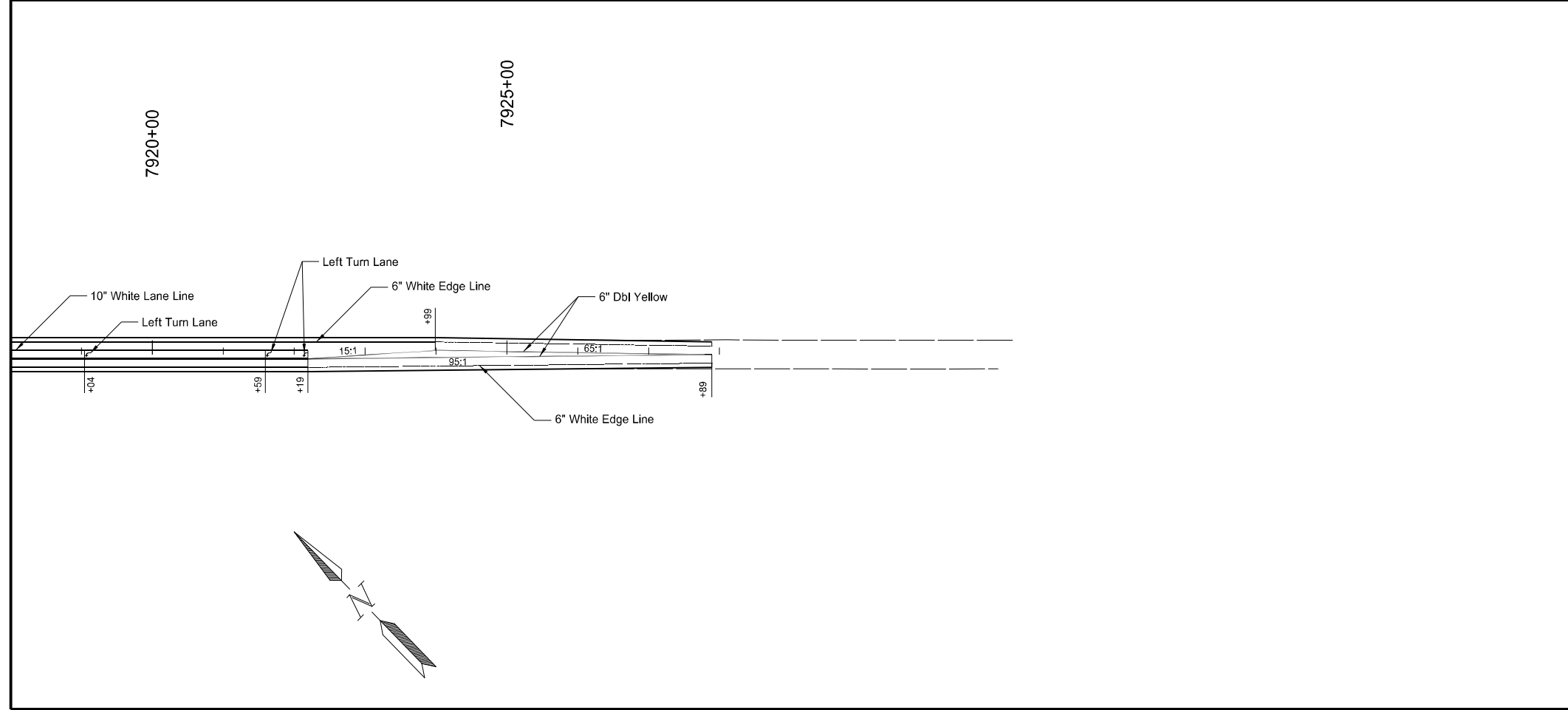
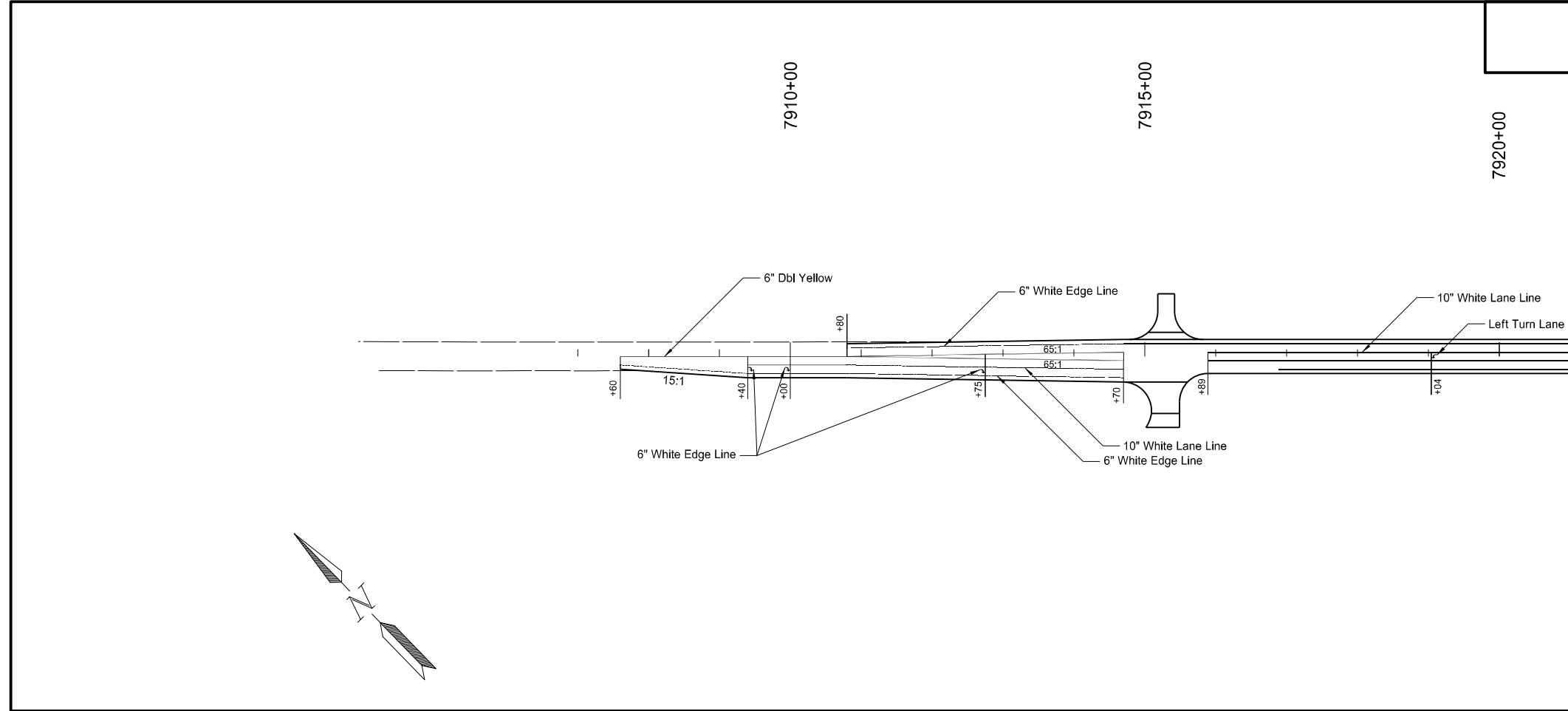
STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	HEN-9-052(485)006	120	8



Pavement Markings
RP 143.5

US 52
South of Portal to Carrington
McHenry County

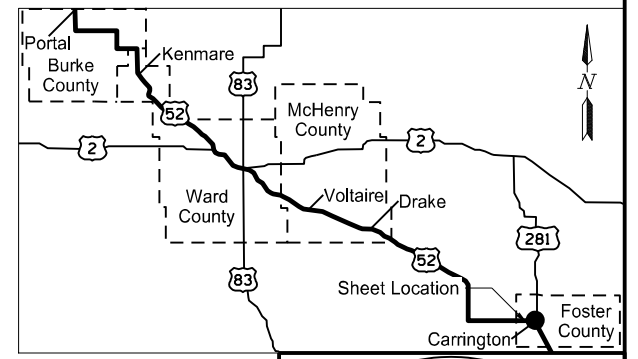
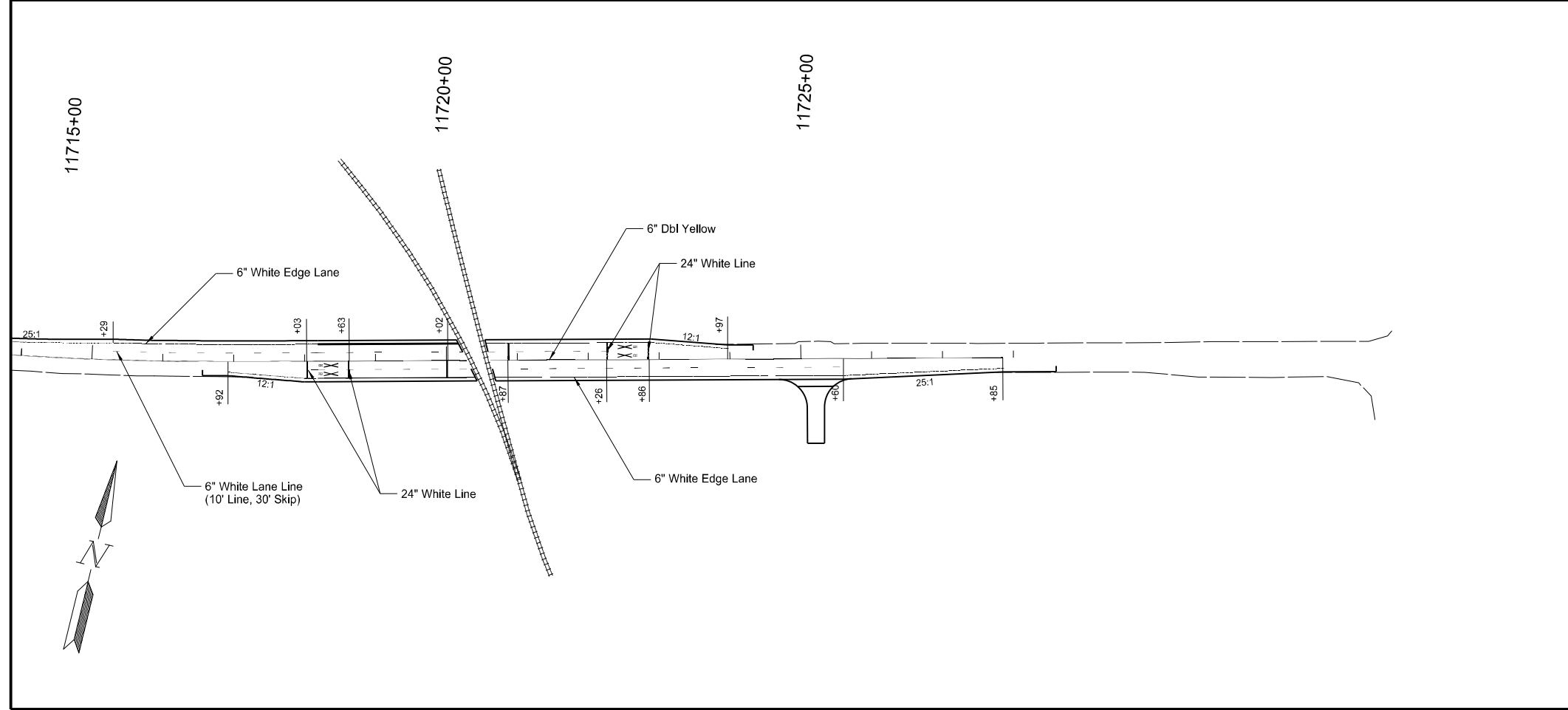
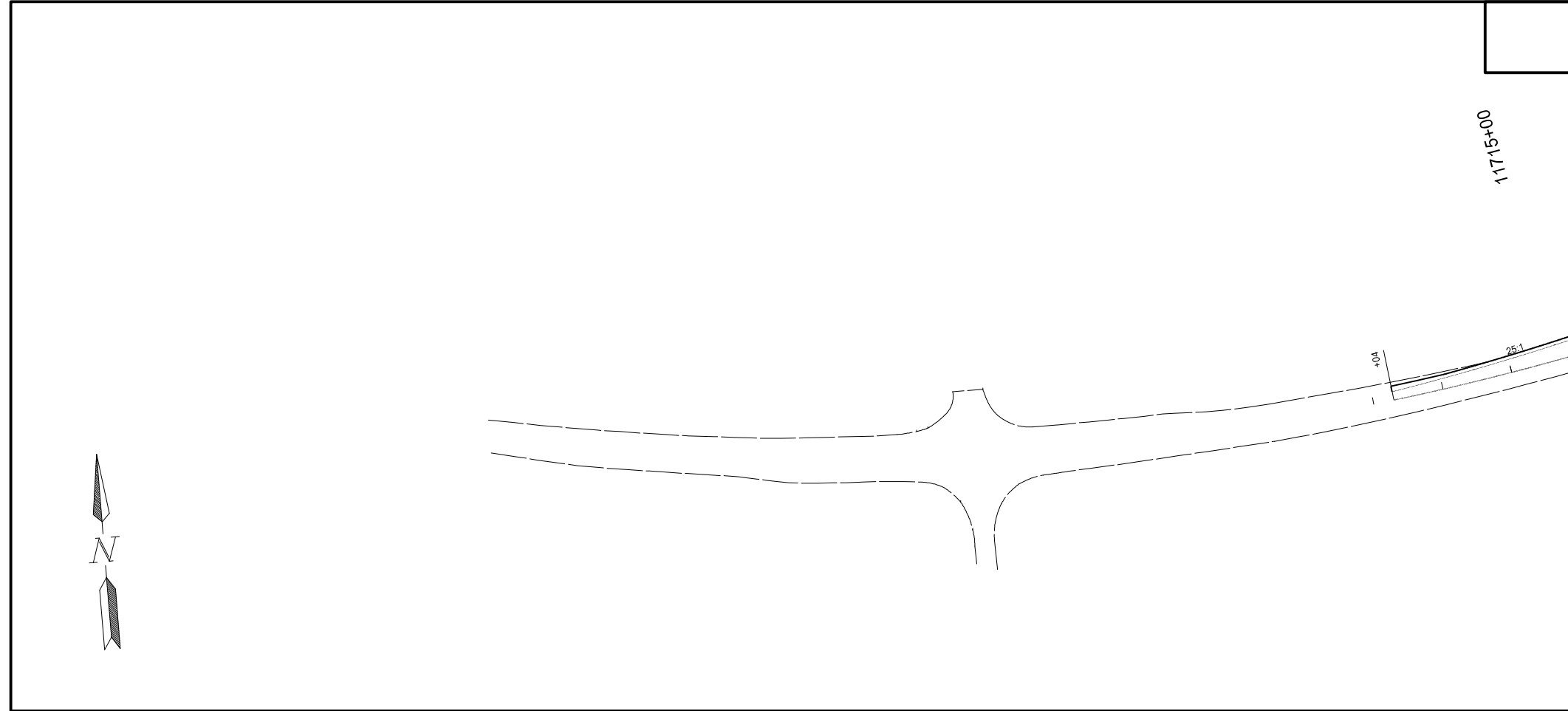
STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	HEN-9-052(485)006	120	9



Pavement Markings
RP 149.9

US 52
South of Portal to Carrington
McHenry County

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	HEN-9-052(485)006	120	10



Pavement Markings
RP 222.0

US 52
South of Portal to Carrington
Foster County

Please enter the appropriate information in each green box below.

Right of Way, Railroad, and Utility Certification Information

PROJECT NUMBER: HEN-9-052(485)006

PCN: 23404

DATE Submitted: 12/15/23

COUNTY: Burke, Ward, McHenry, and Foster

County or Counties in which project is located

PROJECT TYPE: Major Rehabilitation

Type of work listed for your project (Milestone or Title Sheet description)

Acquisition of additional Right of Way

Yes

Yes, this project required acquisition of right of way - including permanent R/W, Temporary Construction Easement, RAMA, or ADA/Sidewalk agreements.

No, this project did not require acquisition of right of way - Permanent, Temporary Construction Easement, RAMA, or ADA/Sidewalk agreements.

Right of Way Acquired by Dedication Through Normal Platting Process (Only for Urban projects)

Yes

Yes, a portion of the right of way on this project was acquired by dedication through the normal platting process.

No, none of the right of way on this project was acquired by dedication through the normal platting process?

Is any Railroad Work Required?

A. Yes

A. Yes, Railroad work is required on this project and will be completed prior to construction (Typically for railroad crossing upgrades, panels, crossing arms)

B. Yes, Railroad work is required on this project and arrangements and coordination are in place to have Railroad work be completed during construction.

No, Railroad work is not required on this project (Usually when project does not cross any railroad facilities) .

Are there any Right of Way Encroachments on this Project?

No

Yes, and arrangements and coordination are in place to have encroachments removed concurrent with highway construction.

No, there are no encroachments that interfere with the physical construction, operations, maintenance and safety on this project.

Utility Relocations or Adjustments?

No

Are there any Utility Relocations or Adjustments on this Project?

Submitted by: Thomas Fakler

Phone Number: 651-415-3876

Technical Support: Cavin Patch

Phone Number: 701-328-2640

R/W Program Manager:

Date: