



North Dakota Department of Transportation

Thomas K. Sorel
Director

Doug Burgum
Governor

November 13, 2017

ADDENDUM 2 – JOB 15

TO: All prospective bidders on project NH-1-200(073)236 and NH-1-003(048)134, Job No. 15 scheduled for the November 17, 2017 bid opening.

The following plan revisions shall be made:

Plan Revisions for NH-1-200(073)236:

Remove and replace sheets 2-1, 6-2, 8-1, 8-2, 51-1 to 6, 60-6, 60-11, 60-12, 60-15, 60-18, 60-20, 60-22 to 24, 60-26 to 31, 60-34, 60-35, 60-37, 60-38, and 60-40 with the enclosed sheets revised 11/9/2017.

Add sheets 51-7 to 12 with a revised date of 11/9/2017.

Section 2 Sheet 1:

Revised Section 51 page numbers

Section 6 Sheets 2:

Revised Note 411-P02 MILLED MATERIAL

Section 8 Sheets 1 and 2:

Changed Bid Item Quantities

Section 51 Sheet 1 to 6:

Updated Allowable Pipe List Table

Section 51 Sheet 7 to 12:

Added sheets to Allowable Pipe List

Section 60 Sheets 6, 11, 12, 15, 18, 20, 22, 23, 24, 26, 27, 28, 29, 30, 31, 34, 35, 37, 38, and 40:

Updated pipe information and quantities. Item 714 5820 was added on sheet 38.

Plan Revisions for NH-1-003(048)134:

Remove and replace sheets 8-1, 60-2, 60-5, and 60-6 with the enclosed sheets revised 11/13/2017.

Section 8 Sheet 1:

Changed Bid Item Quantities

Section 60 Sheets 2, 5, and 6:

Updated pipe information and quantities

Request for Proposal Revisions:

Remove and replace pages 5 and 7 to 10 of 12 of the Proposal pages located at the beginning of the Request for Proposal, with the enclosed pages revised 11/13/2017.

The following changes were made to the Bid Items:

Spec No.	Code No.	Description	Description of Change
202	0169	REMOVAL OF END SECTION-ALL TYPES & SIZES	Increased from 43 to 48 EA
202	0174	REMOVAL OF PIPE ALL TYPES & SIZES	Increased from 727 to 896 LF
714	0820	PIPE CONC REINF 30IN CL III	Increased from 202 to 210 LF
714	3020	END SECT-CONC REINF 24IN	Increased from 3 to 4 EA
714	4099	PIPE CONDUIT 18IN-APPROACH	Decreased from 422 to 408 LF
714	4113	PIPE CONDUIT 30IN-APPROACH	Increased from 161 to 233 LF
714	5015	PIPE CORR STEEL .064IN 18IN	Decreased from 1,118 to 1,108 LF
714	5820	END SECT CORR STEEL .064IN 24IN	Added Bid Item at 2 EA
714	9660	REMOVE & RELAY END SECTIONS-ALL TYPES & SIZES	Increased from 146 to 147 EA

This addendum is to be incorporated into the bidder's proposal for this project. AASHTOWare Project Bids files should be updated by downloading the addendum file from the Bid Express on-line bidding exchange at <http://www.bidx.com/> and load it into the AASHTOWare Project Bids program.



PHILLIP MURDOFF – CONSTRUCTION SERVICES ENGINEER
80:dch
Enclosure

BID ITEMS

Projects: NH-1-200(073)236 (PCN-21508) and NH-1-003(048)134 (PCN-21509)

Bidder must type or neatly print unit prices in numerals, make extensions for each item, and total. Do not carry unit prices further than three (3) decimal places.

Item No.	Spec No.	Code No.	Description	Unit	Approx. Quantity	Unit Price		Amount	
						\$\$\$\$	000	\$\$\$\$	00
001	103	0100	CONTRACT BOND	L SUM	1.				
002	202	0130	REMOVAL OF CURB & GUTTER	LF	54.				
003	202	0132	REMOVAL OF BITUMINOUS SURFACING	SY	3,440.				
004	202	0169	REMOVAL OF END SECTION-ALL TYPES & SIZES	EA	48.				
005	202	0174	REMOVAL OF PIPE ALL TYPES AND SIZES	LF	896.				
006	202	0400	REMOVAL OF RIPRAP - LOOSE ROCK	CY	1,023.				
007	203	0101	COMMON EXCAVATION-TYPE A	CY	17,133.				
008	203	0102	COMMON EXCAVATION-TYPE B	CY	3,825.				
009	203	0109	TOPSOIL	CY	101,769.				
010	203	0122	TOPSOIL-DEPT OPTION BORROW AREA	CY	82,102.				
011	203	0140	BORROW-EXCAVATION	CY	216,883.				
012	216	0100	WATER	M GAL	3,387.				
013	251	0200	SEEDING CLASS II	ACRE	184.410				
014	251	2000	TEMPORARY COVER CROP	ACRE	184.410				
015	253	0101	STRAW MULCH	ACRE	470.820				
016	255	0102	ECB TYPE 2	SY	4,366.				

BID ITEMS

Projects: NH-1-200(073)236 (PCN-21508) and NH-1-003(048)134 (PCN-21509)

Bidder must type or neatly print unit prices in numerals, make extensions for each item, and total. Do not carry unit prices further than three (3) decimal places.

Item No.	Spec No.	Code No.	Description	Unit	Approx. Quantity	Unit Price		Amount	
						\$\$\$\$	000	\$\$\$\$	00
033	702	0100	MOBILIZATION	L SUM	1.				
034	704	0100	FLAGGING	MHR	2,500.				
035	704	1000	TRAFFIC CONTROL SIGNS	UNIT	3,800.				
036	704	1052	TYPE III BARRICADE	EA	12.				
037	704	1060	DELINEATOR DRUMS	EA	16.				
038	704	1067	TUBULAR MARKERS	EA	444.				
039	704	1081	VERTICAL PANELS-BACK TO BACK	EA	83.				
040	704	1185	PILOT CAR	HR	1,250.				
041	706	0500	AGGREGATE LABORATORY	EA	1.				
042	706	0550	BITUMINOUS LABORATORY	EA	1.				
043	706	0600	CONTRACTOR'S LABORATORY	EA	1.				
044	709	0151	GEOSYNTHETIC MATERIAL TYPE R1	SY	300.				
045	709	0155	GEOSYNTHETIC MATERIAL TYPE RR	SY	150.				
046	714	0615	PIPE CONC REINF 24IN CL III	LF	584.				
047	714	0618	PIPE CONC REINF 24IN CL III-30DEG BEND	EA	1.				
048	714	0820	PIPE CONC REINF 30IN CL III	LF	210.				

BID ITEMS

Projects: NH-1-200(073)236 (PCN-21508) and NH-1-003(048)134 (PCN-21509)

Bidder must type or neatly print unit prices in numerals, make extensions for each item, and total. Do not carry unit prices further than three (3) decimal places.

Item No.	Spec No.	Code No.	Description	Unit	Approx. Quantity	Unit Price		Amount	
						\$\$\$\$	000	\$\$\$\$	00
049	714	3020	END SECT-CONC REINF 24IN	EA	4.				
050	714	4099	PIPE CONDUIT 18IN-APPROACH	LF	408.				
051	714	4105	PIPE CONDUIT 24IN	LF	179.				
052	714	4106	PIPE CONDUIT 24IN-APPROACH	LF	334.				
053	714	4113	PIPE CONDUIT 30IN-APPROACH	LF	233.				
054	714	4116	PIPE CONDUIT 36IN-APPROACH	LF	99.				
055	714	4122	PIPE CONDUIT 42IN-APPROACH	LF	96.				
056	714	5015	PIPE CORR STEEL .064IN 18IN	LF	1,108.				
057	714	5025	PIPE CORR STEEL .064IN 21IN	LF	22.				
058	714	5035	PIPE CORR STEEL .064IN 24IN	LF	158.				
059	714	5040	PIPE CORR STEEL .064IN 30IN	LF	36.				
060	714	5810	END SECT CORR STEEL .064IN 18IN	EA	25.				
061	714	5820	END SECT CORR STEEL .064IN 24IN	EA	2.				
062	714	9200	CATTLE PASS CONC INTERMED SECTION	LF	56.				
063	714	9660	REMOVE & RELAY END SECTION-ALL TYPE & SIZES	EA	147.				
064	714	9680	PLUG PIPE-ALL TYPES & SIZES	EA	1.				

BID ITEMS

Projects: NH-1-200(073)236 (PCN-21508) and NH-1-003(048)134 (PCN-21509)

Bidder must type or neatly print unit prices in numerals, make extensions for each item, and total. Do not carry unit prices further than three (3) decimal places.

Item No.	Spec No.	Code No.	Description	Unit	Approx. Quantity	Unit Price		Amount	
						\$\$\$\$	000	\$\$\$\$	00
065	720	0110	RIGHT OF WAY MARKERS	EA	128.				
066	720	0125	ALIGNMENT MONUMENTS	EA	47.				
067	720	0130	IRON PIN R/W MONUMENTS	EA	81.				
068	720	0135	IRON PIN REFERENCE MONUMENTS	EA	46.				
069	754	0110	FLAT SHEET FOR SIGNS-TYPE XI REFL SHEETING	SF	483.				
070	754	0112	FLAT SHEET FOR SIGNS-TYPE IV REFL SHEETING	SF	140.				
071	754	0206	STEEL GALV POSTS-TELESCOPING PERFORATED TUBE	LF	1,734.				
072	754	0563	REFERENCE MARKER-TYPE C	EA	16.				
073	754	0592	RESET SIGN PANEL	EA	47.				
074	754	0593	RESET SIGN SUPPORT	EA	4.				
075	754	0803	OBJECT MARKERS - TYPE III	EA	6.				
076	754	0805	OBJECT MARKERS - CULVERTS	EA	100.				
077	760	0005	RUMBLE STRIPS - ASPHALT SHOULDER	MILE	36.				
078	760	0007	RUMBLE STRIPS - ASPHALT CENTERLINE	MILE	18.				
079	762	0430	SHORT TERM 4IN LINE-TYPE NR	LF	271,931.				
080	762	1104	PVMT MK PAINTED 4IN LINE	LF	253,921.				

BID ITEMS

Projects: NH-1-200(073)236 (PCN-21508) and NH-1-003(048)134 (PCN-21509)

Bidder must type or neatly print unit prices in numerals, make extensions for each item, and total. Do not carry unit prices further than three (3) decimal places.

Item No.	Spec No.	Code No.	Description	Unit	Approx. Quantity	Unit Price		Amount	
						\$\$\$\$\$	000	\$\$\$\$\$	00
081	762	1108	PVMT MK PAINTED 8IN LINE	LF	122.				
082	762	1124	PVMT MK PAINTED 24IN LINE	LF	108.				
083	766	0100	MAILBOX-ALL TYPES	EA	5.				
			TOTAL SUM BID						

TABLE OF CONTENTS

Revised 11/9/2017	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	NH-1-200(073)236	2	1

PLAN SECTIONS

Section	Page(s)	Description
1	1	Title Sheet
2	1 - 2	Table of Contents
4	1	Scope of Work
6	1 - 3	Notes
6	4	Environmental Notes
8	1 - 3	Quantities
10	1 - 2	Basis of Estimate
11	1	Data Tables
20	1 - 10	General Details
30	1 - 8	Typical Sections
50	1	Hydraulic Data
51	1 - 12	Allowable Pipe List
60	1 - 48	Plan & Profile
75	1 - 26	Wetland Impacts
76	1 - 21	Temporary Erosion Control
77	1 - 21	Permanent Erosion Control
81	1 - 3	Survey Coordinate and Curve Data
82	1 - 25	Survey Data Layouts
90	1 - 4	Paving Layouts
100	1 - 3	Work Zone Traffic Control
110	1 - 11	Signing
180	1 - 7	Pit Plats and Borrow Areas
200	1 - 195	ND 200 Cross Sections
200	196 - 208	ND 200 Centerline Pipe Cross Sections
200	209 - 235	Radial T Cross Sections

SPECIAL PROVISIONS

Number	Description
SP 003(14)	Temporary Erosion and Sediment Best Management Practices
SP 004(14)	Federal Migratory Bird Treaty Act
SP 451(14)	Flexible Pavement Surface Tolerance
SP 5180(14)	Permits and Environmental Considerations

NOTES		Revised 11/9/17		STATE	PROJECT NO.	SECTION NO.	SHEET NO.		
		ND		NH-1-200(073)236		6	2		
203-P02		COMPACTION AND DENSITY CONTROL: Compact material for the construction of the radial T intersections and for the centerline pipe replacement at Sta. 12979+60 as specified in Section 203.04 E.2, Compaction Control, Type A. Compact material for sliver grading as specified in Section 203.04 E.3, Compaction Control, Type B.		411-P01				MILLING: "Milling Pavement Surface" is paid at plan quantity. The quantity shown includes the entire length of the project, excluding Sta. 12978+10 to Sta. 12981+10 and Sta. 13201+00 to Sta. 13229+58, at a width of 24 feet, even when no milling is required for cross-slope correction. Other milling, such as transitions, is also included as detailed.	
203-P03		MANDATORY BORROW SITE: The first 100' outside the right of way of borrow site #1 is the mandatory borrow portion of that site. The portion of borrow site #1 outside the mandatory area remains a Department Optioned Borrow Site. Remove mandatory borrow before using other borrow. Leave a minimum elevation at the right of way of 2' above the ditch bottom. Leave a maximum elevation at the right of way of 1' above the existing roadway centerline. Maintain the existing drainage pattern. Provide a backslope at the right of way between 4:1 and 3:1 (within the right of way.) The engineer will measure material removed from within the right of way at this location as "Common Excavation-Type B."		411-P02				MILLED MATERIAL: An estimated 15,684 ton of milled material is available from the project. A quantity of 11,865 ton of milled material will be needed to achieve 25% RAP. Stockpile excess milled material not used on this project at the State owned pit in Denhoff; located on the north side of ND 200 at RP 234.400. Material will meet a maximum size of 1 ½", with 90% passing the 1" sieve. Upon stockpiling at the pit, the material becomes the property of the state.	
261-P01		TEMPORARY EROSION CONTROL: In widened areas, use the existing topsoil to create an earthen berm at the bottom of the foreslope. Use the earthen berm, along with the grass remaining in the ditch, fiber rolls, or silt fence as the temporary erosion control. Include all costs to create, maintain, and dismantle the berm in the unit price bid for "Topsoil". Shape the berm uniformly to a 12" minimum height in such a way that it will not fail when pressure from stormwater is applied. When the foreslope reaches final grade, remove the earthen berm and spread the soil on the foreslope before the permanent seeding and mulching work begins. Place weirs intermittently as needed throughout the length of the berm to allow stormwater to drain through the berm. Restrict the weir widths to a maximum of 5 feet each and install fiber rolls across the weir on the downslope side of the berm. To create a weir during conditions that would allow stormwater to flow through immediately, install the fiber roll before the weir in the earthen berm. Include all costs for fiber rolls for this purpose in the "Fiber Rolls 12in" pay item; 100 LF provided.		704-P01				TRAFFIC CONTROL FOR BITUMINOUS PAVEMENT: Provide traffic control consisting of a temporary road closure, flagging, and a pilot car. Traffic control device quantities are based on a 6 mile limitation and the list below. Provide additional devices at no additional cost to the Department. 1. Standard D-704-15, layout A; 2. Standard D-704-19, layout F; 3. Standard D-704-20, layout G; 4. Standard D-704-22, layout K; 5. Standard D-704-24, layouts S; 6. Standard D-704-26, layouts EE, GG, and KK; 7. Standard D-704-30 Place flaggers and traffic control devices as shown on Standard D-704-15, layout A at the Jct ND 3 when the lane closure spans across. Twelve type III barricades and four R11-2-48 signs are included for tangential approach closures during the north and south radial T intersection construction.	
261-P02		PERMANENT FIBER ROLLS: If fiber rolls are to remain on the project, use fiber rolls that are composed of netting that meets either of the following: - Plastic or natural fiber photodegradable netting that has a life expectancy between 12 to 24 months. If the photodegradable netting is plastic, the netting color must be either clear or green. Use no black plastic netting. - 100 percent biodegradable jute netting that has a life expectancy between 6 to 12 months.		704-P02				TRAFFIC CONTROL FOR PIPE REPLACEMENT: Bring traffic lanes even and open both lanes of traffic by end of the day at Sta. 12979+60 or continue flagging.	
262-P01		SILT CURTAIN: The quantity for Flotation Silt Curtain and Remove Flotation Silt Curtain shown on the quantity sheet are based on a 3 mile work area.		714-P01				PIPE CLEANOUT: Clean out all centerline and approach culverts designated in the plans for extension before extending them. When necessary, remove material 50 feet beyond the end of the pipe. Include the cost of cleaning the extended pipes in the price bid for the appropriate pipe bid item.	
				714-P02				CAP PIPE: Cap pipe ends on existing 12" CIP centerline pipe at Sta. 12978+48. Include all costs associated with capping the pipe in the unit price bid for "Plug Pipe-All Types & Sizes".	
								This document was originally issued and sealed by Brian J. Rosin, Registration Number PE-2928, on 11/9/17 and the original document is stored at the North Dakota Department of Transportation.	

ESTIMATE OF QUANTITIES

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	NH-1-200(073)236	8	1

REVISED 11/09/2017

SPEC CODE	ITEM DESCRIPTION	UNIT	MAINLINE	TOTAL
-----	-----	----	-----	-----
103	0100 CONTRACT BOND	L SUM	0.95	0.95
202	0132 REMOVAL OF BITUMINOUS SURFACING	SY	3,397	3,397
202	0169 REMOVAL OF END SECTION-ALL TYPES & SIZES	EA	36	36
202	0174 REMOVAL OF PIPE ALL TYPES AND SIZES	LF	597	597
202	0400 REMOVAL OF RIPRAP - LOOSE ROCK	CY	1,023	1,023
203	0101 COMMON EXCAVATION-TYPE A	CY	17,133	17,133
203	0102 COMMON EXCAVATION-TYPE B	CY	3,825	3,825
203	0109 TOPSOIL	CY	98,292	98,292
203	0122 TOPSOIL-DEPT OPTION BORROW AREA	CY	82,102	82,102
203	0140 BORROW-EXCAVATION	CY	212,554	212,554
216	0100 WATER	M GAL	3,212	3,212
251	0200 SEEDING CLASS II	ACRE	178	178
251	2000 TEMPORARY COVER CROP	ACRE	178	178
253	0101 STRAW MULCH	ACRE	458	458
255	0102 ECB TYPE 2	SY	3,774	3,774
260	0200 SILT FENCE SUPPORTED	LF	22,094	22,094
260	0201 REMOVE SILT FENCE SUPPORTED	LF	22,094	22,094
261	0112 FIBER ROLLS 12IN	LF	135,695	135,695
261	0113 REMOVE FIBER ROLLS 12IN	LF	61,565	61,565
262	0100 FLOTATION SILT CURTAIN	LF	1,348	1,348
262	0101 REMOVE FLOTATION SILT CURTAIN	LF	1,348	1,348
265	0100 STABILIZED CONSTRUCTION ACCESS	EA	4	4
265	0101 REMOVE STABILIZED CONSTRUCTION ACCESS	EA	4	4
302	0120 AGGREGATE BASE COURSE CL 5	TON	32,627	32,627
401	0050 TACK COAT	GAL	26,776	26,776
401	0060 PRIME COAT	GAL	14,272	14,272
411	0105 MILLING PAVEMENT SURFACE	SY	217,027	217,027
430	0143 RAP - SUPERPAVE FAA 43	TON	47,459	47,459
430	1000 CORED SAMPLE	EA	361	361
430	5803 PG 58S-28 ASPHALT CEMENT	TON	2,040	2,040
702	0100 MOBILIZATION	L SUM	0.95	0.95
704	0100 FLAGGING	MHR	2,000	2,000
704	1000 TRAFFIC CONTROL SIGNS	UNIT	2,940	2,940

ESTIMATE OF QUANTITIES

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	NH-1-200(073)236	8	2

REVISED 11/09/2017

SPEC CODE	ITEM DESCRIPTION	UNIT	MAINLINE	TOTAL
704	1052 TYPE III BARRICADE	EA	12	12
704	1060 DELINEATOR DRUMS	EA	16	16
704	1067 TUBULAR MARKERS	EA	352	352
704	1081 VERTICAL PANELS-BACK TO BACK	EA	63	63
704	1185 PILOT CAR	HR	1,000	1,000
706	0500 AGGREGATE LABORATORY	EA	0.95	0.95
706	0550 BITUMINOUS LABORATORY	EA	0.95	0.95
706	0600 CONTRACTOR'S LABORATORY	EA	0.95	0.95
709	0151 GEOSYNTHETIC MATERIAL TYPE R1	SY	300	300
714	0615 PIPE CONC REINF 24IN CL III	LF	584	584
714	0618 PIPE CONC REINF 24IN CL III-30DEG BEND	EA	1	1
714	0820 PIPE CONC REINF 30IN CL III	LF	200	200
714	3020 END SECT-CONC REINF 24IN	EA	4	4
714	4099 PIPE CONDUIT 18IN-APPROACH	LF	154	154
714	4105 PIPE CONDUIT 24IN	LF	179	179
714	4106 PIPE CONDUIT 24IN-APPROACH	LF	76	76
714	4113 PIPE CONDUIT 30IN-APPROACH	LF	233	233
714	4116 PIPE CONDUIT 36IN-APPROACH	LF	99	99
714	4122 PIPE CONDUIT 42IN-APPROACH	LF	96	96
714	5015 PIPE CORR STEEL .064IN 18IN	LF	1,028	1,028
714	5025 PIPE CORR STEEL .064IN 21IN	LF	22	22
714	5035 PIPE CORR STEEL .064IN 24IN	LF	84	84
714	5040 PIPE CORR STEEL .064IN 30IN	LF	36	36
714	5810 END SECT CORR STEEL .064IN 18IN	EA	25	25
714	5820 END SECT CORR STEEL .064IN 24IN	EA	2	2
714	9200 CATTLE PASS CONC INTERMED SECTION	LF	56	56
714	9660 REMOVE & RELAY END SECTION-ALL TYPE & SIZES	EA	133	133
714	9680 PLUG PIPE-ALL TYPES & SIZES	EA	1	1
720	0110 RIGHT OF WAY MARKERS	EA	113	113
720	0125 ALIGNMENT MONUMENTS	EA	43	43
720	0130 IRON PIN R/W MONUMENTS	EA	75	75
720	0135 IRON PIN REFERENCE MONUMENTS	EA	40	40
754	0110 FLAT SHEET FOR SIGNS-TYPE XI REFL SHEETING	SF	468	468

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	R1 Fabric (Pay Item)	(*) End Sections		Applicable Backfill Detail
													Begin	End	
				In	Bid Item	LF		In	Type		In	SY	EA	EA	
12478+25	-36' LT	12478+25	-26' LT	30	Pipe Conc Reinf 30IN CL III (Extension)	10	Reinforced Concrete Pipe - Class III (barrel length = 10)	30				N/A	Remove & Relay		See Section 20
12478+25	24' RT	12478+25	40' RT	30	Pipe Conc Reinf 30IN CL III (Extension)	16	Reinforced Concrete Pipe - Class III (barrel length = 16)	30				N/A		Remove & Relay	See Section 20
12497+43	-42' LT	12497+52	-42' LT	18	Pipe Corr. Steel .064IN 18IN (Extension)	9	Corrugated Steel Pipe	18	Z,A,P	2	0.064	N/A	Remove & Relay		See Section 20
12497+49	41' RT	12497+63	41' RT	18	Pipe Corr. Steel .064IN 18IN (Extension)	14	Corrugated Steel Pipe	18	Z,A,P	2	0.064	N/A	Remove & Relay		See Section 20
12498+16	41' RT	12498+30	41' RT	18	Pipe Corr. Steel .064IN 18IN (Extension)	24	Corrugated Steel Pipe	18	Z,A,P	2	0.064	N/A		Remove & Relay	See Section 20
12504+35	-94' LT	12504+35	-64' LT	30	Pipe Conc Reinf 30IN CL III (Extension)	30	Reinforced Concrete Pipe - Class III (barrel length = 30)	30				N/A	Remove & Relay		See Section 20
12504+35	62' RT	12504+35	94' RT	30	Pipe Conc Reinf 30IN CL III (Extension)	32	Reinforced Concrete Pipe - Class III (barrel length = 32)	30				N/A		Remove & Relay	See Section 20
12521+16	-62' LT	12521+16	-40' LT	24	Pipe Conc Reinf 24IN CL III (Extension)	22	Reinforced Concrete Pipe - Class III (barrel length = 22)	24				N/A	Remove & Relay		See Section 20
12521+10	47' RT	12521+10	57' RT	24	Pipe Conc Reinf 24IN CL III (Extension)	10	Reinforced Concrete Pipe - Class III (barrel length = 10)	24				N/A		Remove & Relay	See Section 20
12526+09	-32' LT	12526+09	-26' LT	24	Pipe Conc Reinf 24IN CL III (Extension)	6	Reinforced Concrete Pipe - Class III (barrel length = 6)	24				N/A	Remove & Relay		See Section 20
12526+09	27' RT	12526+09	35' RT	24	Pipe Conc Reinf 24IN CL III (Extension)	8	Reinforced Concrete Pipe - Class III (barrel length = 8)	24				N/A		Remove & Relay	See Section 20
12545+67	45' RT	12545+67	67' RT	24	Pipe Conc Reinf 24IN CL III (Extension)	22	Reinforced Concrete Pipe - Class III (barrel length = 22)	24				N/A		Remove & Relay	See Section 20
12551+42	-31' LT	12551+42	-25' LT	24	Pipe Conc Reinf 24IN CL III (Extension)	6	Reinforced Concrete Pipe - Class III (barrel length = 6)	24				N/A	Remove & Relay		See Section 20
12551+42	27' RT	12551+42	33' RT	24	Pipe Conc Reinf 24IN CL III (Extension)	6	Reinforced Concrete Pipe - Class III (barrel length = 6)	24				N/A		Remove & Relay	See Section 20
12562+67	-51' LT	12562+67	-45' LT	24	Pipe Conc Reinf 24IN CL III (Extension)	6	Reinforced Concrete Pipe - Class III (barrel length = 6)	24				N/A	Remove & Relay		See Section 20
12562+67	55' RT	12562+67	61' RT	24	Pipe Conc Reinf 24IN CL III (Extension)	6	Reinforced Concrete Pipe - Class III (barrel length = 6)	24				N/A		Remove & Relay	See Section 20
12567+57	-53' LT	12567+57	-45' LT	24	Pipe Conc Reinf 24IN CL III (Extension)	8	Reinforced Concrete Pipe - Class III (barrel length = 8)	24				N/A	Remove & Relay		See Section 20

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"

(*) The price bid for "Pipe Conduit" bid items includes end sections. Pipe Extensions shall pay for end sections separately.
FES = Flared End Section
TES = Traversable End Section

This document was originally issued and sealed by
Brian J. Rosin,
Registration Number
PE- 2928,
on 11/9/17 and the original document is stored at the
North Dakota Department
of Transportation

Allowable Pipe List

Sliver Grading, Milling and RAP Overlay

ND 200, Jct 14 E to W Jct 3

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	R1 Fabric (Pay Item)	(*) End Sections		Applicable Backfill Detail
													Begin	End	
				In	Bid Item	LF		In	Type		In	SY	EA	EA	
12577+52	-66' LT	12577+52	-58' LT	24	Pipe Conc Reinf 24IN CL III (Extension)	8	Reinforced Concrete Pipe - Class III (barrel length = 8)	24				N/A	Remove & Relay		See Section 20
12577+52	40' RT	12577+52	64' RT	24	Pipe Conc Reinf 24IN CL III (Extension)	24	Reinforced Concrete Pipe - Class III (barrel length = 24)	24				N/A		Remove & Relay	See Section 20
12580+68	-65' LT	12580+68	-59' LT	30	Pipe Conc Reinf 30IN CL III (Extension)	6	Reinforced Concrete Pipe - Class III (barrel length = 6)	30				N/A	Remove & Relay		See Section 20
12580+68	43' RT	12580+68	77' RT	30	Pipe Conc Reinf 30IN CL III (Extension)	34	Reinforced Concrete Pipe - Class III (barrel length = 34)	30				N/A		Remove & Relay	See Section 20
12593+57	-41' LT	12593+57	-33' LT	24	Pipe Conc Reinf 24IN CL III (Extension)	8	Reinforced Concrete Pipe - Class III (barrel length = 8)	24				N/A	Remove & Relay		See Section 20
12593+57	33' RT	12593+57	37' RT	24	Pipe Conc Reinf 24IN CL III (Extension)	4	Reinforced Concrete Pipe - Class III (barrel length = 4)	24				N/A		Remove & Relay	See Section 20
12601+22	-33' LT	12601+22	-27' LT	24	Pipe Conc Reinf 24IN CL III (Extension)	6	Reinforced Concrete Pipe - Class III (barrel length = 6)	24				N/A	Remove & Relay		See Section 20
12601+22	25' RT	12601+22	35' RT	24	Pipe Conc Reinf 24IN CL III (Extension)	10	Reinforced Concrete Pipe - Class III (barrel length = 10)	24				N/A		Remove & Relay	See Section 20
12607+63	-46' LT	12607+63	-40' LT	24	Pipe Conc Reinf 24IN CL III (Extension)	6	Reinforced Concrete Pipe - Class III (barrel length = 6)	24				N/A	Remove & Relay		See Section 20
12607+63	44' RT	12607+63	50' RT	24	Pipe Conc Reinf 24IN CL III (Extension)	6	Reinforced Concrete Pipe - Class III (barrel length = 6)	24				N/A		Remove & Relay	See Section 20
12624+79	-42' LT	12625+03	-42' LT	18	Pipe Corr. Steel .064IN 18IN (Extension)	24	Corrugated Steel Pipe	18	Z,A,P	2	0.064	N/A	Install		See Section 20
12625+45	-42' LT	12625+67	-43' LT	18	Pipe Corr. Steel .064IN 18IN (Extension)	22	Corrugated Steel Pipe	18	Z,A,P	2	0.064	N/A		Install	See Section 20
12654+09	-43' LT	12654+31	-43' LT	18	Pipe Corr. Steel .064IN 18IN (Extension)	22	Corrugated Steel Pipe	18	Z,A,P	2	0.064	N/A	Remove & Relay		See Section 20
12654+90	-44' LT	12655+02	-44' LT	18	Pipe Corr. Steel .064IN 18IN (Extension)	12	Corrugated Steel Pipe	18	Z,A,P	2	0.064	N/A		Remove & Relay	See Section 20
12654+09	43' RT	12654+33	42' RT	18	Pipe Corr. Steel .064IN 18IN (Extension)	24	Corrugated Steel Pipe	18	Z,A,P	2	0.064	N/A	Remove & Relay		See Section 20
12654+80	41' RT	12655+04	41' RT	18	Pipe Corr. Steel .064IN 18IN (Extension)	24	Corrugated Steel Pipe	18	Z,A,P	2	0.064	N/A		Remove & Relay	See Section 20
12664+55	-60' LT	12664+55	-38' LT	30	Pipe Conc Reinf 30IN CL III (Extension)	22	Reinforced Concrete Pipe - Class III (barrel length = 22)	30				N/A	Remove & Relay		See Section 20

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"

(*) The price bid for "Pipe Conduit" bid items includes end sections. Pipe Extensions shall pay for end sections separately.
FES = Flared End Section
TES = Traversable End Section

This document was originally issued and sealed by
Brian J. Rosin,
Registration Number
PE- 2928,
on 11/9/17 and the original document is stored at the
North Dakota Department
of Transportation

Allowable Pipe List

Sliver Grading, Milling and RAP Overlay

ND 200, Jct 14 E to W Jct 3

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	R1 Fabric (Pay Item)	(*) End Sections		Applicable Backfill Detail
													Begin	End	
				In	Bid Item	LF		In	Type		In	SY	EA	EA	
12664+55	40' RT	12664+55	58' RT	30	Pipe Conc Reinf 30IN CL III (Extension)	18	Reinforced Concrete Pipe - Class III (barrel length = 18)	30				N/A		Remove & Relay	See Section 20
12669+31	59' RT	12669+55	59' RT	30	Pipe Corr. Steel .064IN 30IN (Extension)	24	Corrugated Steel Pipe	30	Z,A,P	2	0.064	N/A	Remove & Relay		See Section 20
12670+03	58' RT	12670+27	58' RT	30	Pipe Corr. Steel .064IN 30IN (Extension)	12	Corrugated Steel Pipe	30	Z,A,P	2	0.064	N/A		Remove & Relay	See Section 20
12682+55	-52' LT	12682+55	-42' LT	30	Pipe Conc Reinf 30IN CL III (Extension)	10	Reinforced Concrete Pipe - Class III (barrel length = 10)	30				N/A	Remove & Relay		See Section 20
12682+55	43' RT	12682+55	49' RT	30	Pipe Conc Reinf 30IN CL III (Extension)	6	Reinforced Concrete Pipe - Class III (barrel length = 6)	30				N/A		Remove & Relay	See Section 20
12685+10	-60' LT	12685+10	-60' LT	18	Pipe Corr. Steel .064IN 18IN (Extension)	10	Corrugated Steel Pipe	18	Z,A,P	2	0.064	N/A		Install	See Section 20
12684+55	43' RT	12684+71	43' RT	18	Pipe Corr. Steel .064IN 18IN (Extension)	16	Corrugated Steel Pipe	18	Z,A,P	2	0.064	N/A	Install		See Section 20
12685+59	44' RT	12685+69	44' RT	18	Pipe Corr. Steel .064IN 18IN (Extension)	10	Corrugated Steel Pipe	18	Z,A,P	2	0.064	N/A		Install	See Section 20
12684+75	79' RT	12684+82	79' RT	18	Pipe Corr. Steel .064IN 18IN (Extension)	7	Corrugated Steel Pipe	18	Z,A,P	2	0.064	N/A	Install		See Section 20
12685+34	80' RT	12685+42	80' RT	18	Pipe Corr. Steel .064IN 18IN (Extension)	8	Corrugated Steel Pipe	18	Z,A,P	2	0.064	N/A		Install	See Section 20
12688+49	-47' LT	12688+73	-47' LT	18	Pipe Corr. Steel .064IN 18IN (Extension)	24	Corrugated Steel Pipe	18	Z,A,P	2	0.064	N/A	Install		See Section 20
16689+15	-47' LT	1269+37	-47' LT	18	Pipe Corr. Steel .064IN 18IN (Extension)	22	Corrugated Steel Pipe	18	Z,A,P	2	0.064	N/A		Install	See Section 20
12694+49	-51' LT	12694+71	-51' LT	18	Pipe Corr. Steel .064IN 18IN (Extension)	22	Corrugated Steel Pipe	18	Z,A,P	2	0.064	N/A	Install		See Section 20
12695+05	-51' LT	12695+27	-51' LT	18	Pipe Corr. Steel .064IN 18IN (Extension)	22	Corrugated Steel Pipe	18	Z,A,P	2	0.064	N/A		Install	See Section 20
12694+45	46' RT	12694+65	46' RT	18	Pipe Corr. Steel .064IN 18IN (Extension)	20	Corrugated Steel Pipe	18	Z,A,P	2	0.064	N/A	Remove & Relay		See Section 20
12695+06	46' RT	12695+30	46' RT	18	Pipe Corr. Steel .064IN 18IN (Extension)	24	Corrugated Steel Pipe	18	Z,A,P	2	0.064	N/A		Remove & Relay	See Section 20
12705+32	-63' LT	12705+46	-63' LT	18	Pipe Corr. Steel .064IN 18IN (Extension)	14	Corrugated Steel Pipe	18	Z,A,P	2	0.064	N/A	Install		See Section 20

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"

(*) The price bid for "Pipe Conduit" bid items includes end sections. Pipe Extensions shall pay for end sections separately.
FES = Flared End Section
TES = Traversable End Section

This document was originally issued and sealed by
Brian J. Rosin,
Registration Number
PE- 2928,
on 11/9/17 and the original document is stored at the
North Dakota Department
of Transportation

Allowable Pipe List

Sliver Grading, Milling and RAP Overlay

ND 200, Jct 14 E to W Jct 3

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	R1 Fabric (Pay Item)	(*) End Sections		Applicable Backfill Detail
													Begin	End	
				In	Bid Item	LF		In	Type		In	SY	EA	EA	
12706+11	-62' LT	12706+25	-62' LT	18	Pipe Corr. Steel .064IN 18IN (Extension)	14	Corrugated Steel Pipe	18	Z,A,P	2	0.064	N/A		Install	See Section 20
12735+54	-44' LT	12735+54	-40' LT	24	Pipe Conc Reinf 24IN CL III (Extension)	4	Reinforced Concrete Pipe - Class III (barrel length = 4)	24				N/A	Remove & Relay		See Section 20
12735+54	36' RT	12735+54	44' RT	24	Pipe Conc Reinf 24IN CL III (Extension)	8	Reinforced Concrete Pipe - Class III (barrel length = 8)	24				N/A		Remove & Relay	See Section 20
12736+69	43' RT	12736+91	43' RT	18	Pipe Corr. Steel .064IN 18IN (Extension)	22	Corrugated Steel Pipe	18	Z,A,P	2	0.064	N/A	Install		See Section 20
12737+37	43' RT	12737+57	43' RT	18	Pipe Corr. Steel .064IN 18IN (Extension)	20	Corrugated Steel Pipe	18	Z,A,P	2	0.064	N/A		Install	See Section 20
12747+37	-43' LT	12747+67	-43' LT	18	Pipe Conc Reinf 18IN CL III (Extension)	30	Reinforced Concrete Pipe - Class III (barrel length = 30)	18				N/A	Install		See Section 20
12748+08	-43' LT	12748+32	-43' LT	18	Pipe Conc Reinf 18IN CL III (Extension)	24	Reinforced Concrete Pipe - Class III (barrel length = 24)	18				N/A		Install	See Section 20
12754+55	-45' LT	12754+55	-41' LT	24	Pipe Conc Reinf 24IN CL III (Extension)	4	Reinforced Concrete Pipe - Class III (barrel length = 4)	24				N/A	Remove & Relay		See Section 20
12763+06	47' RT	12763+24	47' RT	18	Pipe Corr. Steel .064IN 18IN (Extension)	18	Corrugated Steel Pipe	18	Z,A,P	2	0.064	N/A	Install		See Section 20
12763+92	48' RT	12764+02	48' RT	18	Pipe Corr. Steel .064IN 18IN (Extension)	10	Corrugated Steel Pipe	18	Z,A,P	2	0.064	N/A		Install	See Section 20
12800+29	-51' LT	12800+29	-43' LT	24	Pipe Conc Reinf 24IN CL III (Extension)	8	Reinforced Concrete Pipe - Class III (barrel length = 8)	24				N/A	Remove & Relay		See Section 20
12800+29	44' RT	12800+29	50' RT	24	Pipe Conc Reinf 24IN CL III (Extension)	6	Reinforced Concrete Pipe - Class III (barrel length = 6)	24				N/A		Remove & Relay	See Section 20
12803+34	44' RT	12803+61	44' RT	18	Pipe Corr. Steel .064IN 18IN (Extension)	27	Corrugated Steel Pipe	18	Z,A,P	2	0.064	N/A	Remove & Relay		See Section 20
12804+04	44' RT	12804+29	44' RT	18	Pipe Corr. Steel .064IN 18IN (Extension)	25	Corrugated Steel Pipe	18	Z,A,P	2	0.064	N/A		Remove & Relay	See Section 20
12809+82	-46' LT	12809+82	-38' LT	24	Pipe Conc Reinf 24IN CL III (Extension)	8	Reinforced Concrete Pipe - Class III (barrel length = 8)	24				N/A	Remove & Relay		See Section 20
12809+82	36' RT	12809+82	46' RT	24	Pipe Conc Reinf 24IN CL III (Extension)	10	Reinforced Concrete Pipe - Class III (barrel length = 10)	24				N/A		Remove & Relay	See Section 20
12812+51	43' RT	12812+63	43' RT	18	Pipe Corr. Steel .064IN 18IN (Extension)	12	Corrugated Steel Pipe	18	Z,A,P	2	0.064	N/A	Remove & Relay		See Section 20

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"

(*) The price bid for "Pipe Conduit" bid items includes end sections. Pipe Extensions shall pay for end sections separately.
FES = Flared End Section
TES = Traversable End Section

This document was originally issued and sealed by
Brian J. Rosin,
Registration Number
PE- 2928,
on 11/9/17 and the original document is stored at the
North Dakota Department
of Transportation

Allowable Pipe List

Sliver Grading, Milling and RAP Overlay

ND 200, Jct 14 E to W Jct 3

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	R1 Fabric (Pay Item)	(*) End Sections		Applicable Backfill Detail
													Begin	End	
				In	Bid Item	LF		In	Type		In	SY	EA	EA	
12813+33	44' RT	12813+41	44' RT	18	Pipe Corr. Steel .064IN 18IN (Extension)	8	Corrugated Steel Pipe	18	Z,A,P	2	0.064	N/A		Remove & Relay	See Section 20
12822+08	-36' LT	12822+08	-28' LT	24	Pipe Conc Reinf 24IN CL III (Extension)	8	Reinforced Concrete Pipe - Class III (barrel length = 8)	24				N/A	Remove & Relay		See Section 20
12822+08	26' RT	12822+08	38' RT	24	Pipe Conc Reinf 24IN CL III (Extension)	12	Reinforced Concrete Pipe - Class III (barrel length = 12)	24				N/A		Remove & Relay	See Section 20
12822+21	53' RT	12822+31	53' RT	24	Pipe Conc Reinf 24IN CL III (Extension)	10	Reinforced Concrete Pipe - Class III (barrel length = 10)	24				N/A	Remove & Relay		See Section 20
12832+83	-48' LT	12832+83	-44' LT	30	Pipe Conc Reinf 30IN CL III (Extension)	4	Reinforced Concrete Pipe - Class III (barrel length = 4)	30				N/A	Remove & Relay		See Section 20
12832+83	44' RT	12832+83	48' RT	30	Pipe Conc Reinf 30IN CL III (Extension)	4	Reinforced Concrete Pipe - Class III (barrel length = 4)	30				N/A		Remove & Relay	See Section 20
12837+94	-50' LT	12837+94	-26' LT	24	Pipe Conc Reinf 24IN CL III (Extension)	24	Reinforced Concrete Pipe - Class III (barrel length = 24)	24				N/A	Remove & Relay		See Section 20
12837+94	26' RT	12837+94	44' RT	24	Pipe Conc Reinf 24IN CL III (Extension)	18	Reinforced Concrete Pipe - Class III (barrel length = 18)	24				N/A		Remove & Relay	See Section 20
12856+09	-49' LT	12856+09	-41' LT	24	Pipe Conc Reinf 24IN CL III (Extension)	8	Reinforced Concrete Pipe - Class III (barrel length = 8)	24				N/A	Remove & Relay		See Section 20
12856+09	38' RT	12856+09	46' RT	24	Pipe Conc Reinf 24IN CL III (Extension)	8	Reinforced Concrete Pipe - Class III (barrel length = 8)	24				N/A		Remove & Relay	See Section 20
12866+83	-39' LT	12866+83	-33' LT	24	Pipe Conc Reinf 24IN CL III (Extension)	6	Reinforced Concrete Pipe - Class III (barrel length = 6)	24				N/A	Remove & Relay		See Section 20
12866+83	29' RT	12866+83	37' RT	24	Pipe Conc Reinf 24IN CL III (Extension)	8	Reinforced Concrete Pipe - Class III (barrel length = 8)	24				N/A		Remove & Relay	See Section 20
12869+65	-41' LT	12869+70	-41' LT	18	Pipe Corr. Steel .064IN 18IN (Extension)	5	Corrugated Steel Pipe	18	Z,A,P	2	0.064	N/A	Remove & Relay		See Section 20
12870+56	-41' LT	12870+65	-41' LT	18	Pipe Corr. Steel .064IN 18IN (Extension)	9	Corrugated Steel Pipe	18	Z,A,P	2	0.064	N/A		Remove & Relay	See Section 20
12889+98	46' RT	12890+07	46' RT	18	Pipe Corr. Steel .064IN 18IN (Extension)	22	Corrugated Steel Pipe	18	Z,A,P	2	0.064	N/A	Remove & Relay		See Section 20
12890+63	46' RT	12890+81	46' RT	18	Pipe Corr. Steel .064IN 18IN (Extension)	18	Corrugated Steel Pipe	18	Z,A,P	2	0.064	N/A		Remove & Relay	See Section 20
12889+98	-61' LT	12890+08	-61' LT	18	Pipe Corr. Steel .064IN 18IN (Extension)	10	Corrugated Steel Pipe	18	Z,A,P	2	0.064	N/A	Remove & Relay		See Section 20

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"

(*) The price bid for "Pipe Conduit" bid items includes end sections. Pipe Extensions shall pay for end sections separately.
FES = Flared End Section
TES = Traversable End Section

This document was originally issued and sealed by
Brian J. Rosin,
Registration Number
PE- 2928,
on 11/9/17 and the original document is stored at the
North Dakota Department
of Transportation

Allowable Pipe List

Sliver Grading, Milling and RAP Overlay

ND 200, Jct 14 E to W Jct 3

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	R1 Fabric (Pay Item)	(*) End Sections		Applicable Backfill Detail
													Begin	End	
				In	Bid Item	LF		In	Type		In	SY	EA	EA	
12890+54	-62' LT	12890+64	-62' LT	18	Pipe Corr. Steel .064IN 18IN (Extension)	10	Corrugated Steel Pipe	18	Z,A,P	2	0.064	N/A		Remove & Relay	See Section 20
12893+67	43' RT	12893+93	43' RT	18	Pipe Corr. Steel .064IN 18IN (Extension)	26	Corrugated Steel Pipe	18	Z,A,P	2	0.064	N/A	Install		See Section 20
12894+27	43' RT	12894+57	43' RT	18	Pipe Corr. Steel .064IN 18IN (Extension)	30	Corrugated Steel Pipe	18	Z,A,P	2	0.064	N/A		Install	See Section 20
12893+88	-68' LT	12893+96	-68' LT	18	Pipe Corr. Steel .064IN 18IN (Extension)	8	Corrugated Steel Pipe	18	Z,A,P	2	0.064	N/A	Remove & Relay		See Section 20
12894+29	-69' LT	12894+39	-69' LT	18	Pipe Corr. Steel .064IN 18IN (Extension)	10	Corrugated Steel Pipe	18	Z,A,P	2	0.064	N/A		Remove & Relay	See Section 20
12897+91	-47' LT	12897+91	-37' LT	24	Pipe Conc Reinf 24IN CL III (Extension)	10	Reinforced Concrete Pipe - Class III (barrel length = 10)	24				N/A	Remove & Relay		See Section 20
12897+91	38' RT	12897+91	46' RT	24	Pipe Conc Reinf 24IN CL III (Extension)	8	Reinforced Concrete Pipe - Class III (barrel length = 8)	24				N/A		Remove & Relay	See Section 20
12922+61	-45' LT	12922+61	-39' LT	24	Pipe Conc Reinf 24IN CL III (Extension)	6	Reinforced Concrete Pipe - Class III (barrel length = 6)	24				N/A	Remove & Relay		See Section 20
12922+61	35' RT	12922+61	43' RT	24	Pipe Conc Reinf 24IN CL III (Extension)	8	Reinforced Concrete Pipe - Class III (barrel length = 8)	24				N/A		Remove & Relay	See Section 20
12953+05	54' RT	12953+19	54' RT	18	Pipe Corr. Steel .064IN 18IN (Extension)	14	Corrugated Steel Pipe	18	Z,A,P	2	0.064	N/A	Remove & Relay		See Section 20
12953+81	55' RT	12953+89	55' RT	18	Pipe Corr. Steel .064IN 18IN (Extension)	8	Corrugated Steel Pipe	18	Z,A,P	2	0.064	N/A		Remove & Relay	See Section 20
12955+38	-30' LT	12955+38	-22' LT	48x96	Cattle Pass (Extension)	8	Reinforced Concrete Box (Cattle Pass) 48"x96"	48x96				N/A	Remove & Relay		See Section 20
12955+38	21' RT	12955+38	29' RT	48x96	Cattle Pass (Extension)	8	Reinforced Concrete Box (Cattle Pass) 48"x96"	48x96				N/A		Remove & Relay	See Section 20
12992+20	-37' LT	12992+20	-25' LT	24	Pipe Conc Reinf 24IN CL III (Extension)	12	Reinforced Concrete Pipe - Class III (barrel length = 12)	24				N/A	Remove & Relay		See Section 20
12992+20	26' RT	12992+20	36' RT	24	Pipe Conc Reinf 24IN CL III (Extension)	10	Reinforced Concrete Pipe - Class III (barrel length = 10)	24				N/A		Remove & Relay	See Section 20
12993+39	-64' LT	12993+49	-64' LT	18	Pipe Corr. Steel .064IN 18IN (Extension)	10	Corrugated Steel Pipe	18	Z,A,P	2	0.064	N/A	Remove & Relay		See Section 20
12994+41	-64' LT	12994+51	-64' LT	18	Pipe Corr. Steel .064IN 18IN (Extension)	10	Corrugated Steel Pipe	18	Z,A,P	2	0.064	N/A		Remove & Relay	See Section 20

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"

(*) The price bid for "Pipe Conduit" bid items includes end sections. Pipe Extensions shall pay for end sections separately.
FES = Flared End Section
TES = Traversable End Section

This document was originally issued and sealed by
Brian J. Rosin,
Registration Number
PE- 2928,
on 11/9/17 and the original document is stored at the
North Dakota Department
of Transportation

Allowable Pipe List

Sliver Grading, Milling and RAP Overlay

ND 200, Jct 14 E to W Jct 3

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	R1 Fabric (Pay Item)	(*) End Sections		Applicable Backfill Detail
													Begin	End	
				In	Bid Item	LF		In	Type		In	SY	EA	EA	
12997+26	-26' LT	12997+26	-18' LT	48x96	Cattle Pass (Extension)	8	Reinforced Concrete Box (Cattle Pass) 48"x96"	48x96				N/A	Remove & Relay		See Section 20
12997+26	18' RT	12997+26	28' RT	48x96	Cattle Pass (Extension)	10	Reinforced Concrete Box (Cattle Pass) 48"x96"	48x96				N/A		Remove & Relay	See Section 20
13017+32	-39' LT	13017+32	-29' LT	24	Pipe Conc Reinf 24IN CL III (Extension)	10	Reinforced Concrete Pipe - Class III (barrel length = 10)	24				N/A	Remove & Relay		See Section 20
13017+32	25' RT	13017+32	35' RT	24	Pipe Conc Reinf 24IN CL III (Extension)	10	Reinforced Concrete Pipe - Class III (barrel length = 10)	24				N/A		Remove & Relay	See Section 20
13024+91	-39' LT	13024+91	-31' LT	24	Pipe Conc Reinf 24IN CL III (Extension)	8	Reinforced Concrete Pipe - Class III (barrel length = 8)	24				N/A	Install		See Section 20
13024+91	43' RT	13024+91	49' RT	24	Pipe Conc Reinf 24IN CL III (Extension)	6	Reinforced Concrete Pipe - Class III (barrel length = 6)	24				N/A		Install	See Section 20
13032+32	-70' LT	13032+32	-48' LT	24	Pipe Conc Reinf 24IN CL III (Extension)	22	Reinforced Concrete Pipe - Class III (barrel length = 22)	24				N/A	Remove & Relay		See Section 20
13032+32	30' RT	13032+32	50' RT	24	Pipe Conc Reinf 24IN CL III (Extension)	20	Reinforced Concrete Pipe - Class III (barrel length = 20)	24				N/A		Remove & Relay	See Section 20
13042+33	-48' LT	13042+33	-42' LT	24	Pipe Conc Reinf 24IN CL III (Extension)	6	Reinforced Concrete Pipe - Class III (barrel length = 6)	24				N/A	Remove & Relay		See Section 20
13042+33	42' RT	13042+33	50' RT	24	Pipe Conc Reinf 24IN CL III (Extension)	8	Reinforced Concrete Pipe - Class III (barrel length = 8)	24				N/A		Remove & Relay	See Section 20
13043+73	-50' LT	13043+79	-50' LT	18	Pipe Corr. Steel .064IN 18IN (Extension)	6	Corrugated Steel Pipe	18	Z,A,P	2	0.064	N/A	Install		See Section 20
13044+69	-50' LT	13044+83	-50' LT	18	Pipe Corr. Steel .064IN 18IN (Extension)	14	Corrugated Steel Pipe	18	Z,A,P	2	0.064	N/A		Install	See Section 20
13043+74	53' RT	13043+78	53' RT	18	Pipe Corr. Steel .064IN 18IN (Extension)	4	Corrugated Steel Pipe	18	Z,A,P	2	0.064	N/A	Install		See Section 20
13044+78	53' RT	13044+86	53' RT	18	Pipe Corr. Steel .064IN 18IN (Extension)	8	Corrugated Steel Pipe	18	Z,A,P	2	0.064	N/A		Install	See Section 20
13063+93	43' RT	13063+99	43' RT	18	Pipe Corr. Steel .064IN 18IN (Extension)	6	Corrugated Steel Pipe	18	Z,A,P	2	0.064	N/A		Remove & Relay	See Section 20
13065+81	-31' LT	13065+81	-19' LT	48x96	Cattle Pass (Extension)	12	Reinforced Concrete Box (Cattle Pass) 48"x96"	48x96				N/A	Remove & Relay		See Section 20
13065+81	18' RT	13065+80	28' RT	48x96	Cattle Pass (Extension)	10	Reinforced Concrete Box (Cattle Pass) 48"x96"	48x96				N/A		Remove & Relay	See Section 20

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"

(*) The price bid for "Pipe Conduit" bid items includes end sections. Pipe Extensions shall pay for end sections separately.
FES = Flared End Section
TES = Traversable End Section

This document was originally issued and sealed by
Brian J. Rosin,
Registration Number
PE- 2928,
on 11/9/17 and the original document is stored at the
North Dakota Department
of Transportation

Allowable Pipe List

Sliver Grading, Milling and RAP Overlay

ND 200, Jct 14 E to W Jct 3

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	R1 Fabric (Pay Item)	(*) End Sections		Applicable Backfill Detail
													Begin	End	
				In	Bid Item	LF		In	Type		In	SY	EA	EA	
13070+35	-54' LT	13070+49	-54' LT	18	Pipe Corr. Steel .064IN 18IN (Extension)	14	Corrugated Steel Pipe	18	Z,A,P	2	0.064	N/A	Remove & Relay		See Section 20
13070+91	-54' LT	13071+03	-54' LT	18	Pipe Corr. Steel .064IN 18IN (Extension)	12	Corrugated Steel Pipe	18	Z,A,P	2	0.064	N/A		Remove & Relay	See Section 20
13084+27	-32' LT	13084+27	-26' LT	24	Pipe Conc Reinf 24IN CL III (Extension)	6	Reinforced Concrete Pipe - Class III (barrel length = 6)	24				N/A	Remove & Relay		See Section 20
13084+27	36' RT	13084+27	44' RT	24	Pipe Conc Reinf 24IN CL III (Extension)	8	Reinforced Concrete Pipe - Class III (barrel length = 8)	24				N/A		Remove & Relay	See Section 20
13096+72	-55' LT	13096+86	-55' LT	18	Pipe Corr. Steel .064IN 18IN (Extension)	14	Corrugated Steel Pipe	18	Z,A,P	2	0.064	N/A	Remove & Relay		See Section 20
13097+34	-55' LT	13097+48	-55' LT	18	Pipe Corr. Steel .064IN 18IN (Extension)	14	Corrugated Steel Pipe	18	Z,A,P	2	0.064	N/A		Remove & Relay	See Section 20
13096+67	56' RT	13096+79	56' RT	18	Pipe Corr. Steel .064IN 18IN (Extension)	12	Corrugated Steel Pipe	18	Z,A,P	2	0.064	N/A	Remove & Relay		See Section 20
13097+49	57' RT	13097+57	57' RT	18	Pipe Corr. Steel .064IN 18IN (Extension)	8	Corrugated Steel Pipe	18	Z,A,P	2	0.064	N/A		Remove & Relay	See Section 20
13106+70	-45' LT	13106+70	-37' LT	24	Pipe Conc Reinf 24IN CL III (Extension)	8	Reinforced Concrete Pipe - Class III (barrel length = 8)	24				N/A	Remove & Relay		See Section 20
13106+70	27' RT	13106+70	33' RT	24	Pipe Conc Reinf 24IN CL III (Extension)	6	Reinforced Concrete Pipe - Class III (barrel length = 6)	24				N/A		Remove & Relay	See Section 20
13129+83	-57' LT	13129+83	-49' LT	24	Pipe Conc Reinf 24IN CL III (Extension)	8	Reinforced Concrete Pipe - Class III (barrel length = 8)	24				N/A	Remove & Relay		See Section 20
13129+83	36' RT	13129+83	42' RT	24	Pipe Conc Reinf 24IN CL III (Extension)	6	Reinforced Concrete Pipe - Class III (barrel length = 6)	24				N/A		Remove & Relay	See Section 20
13137+84	-49' LT	13137+84	-47' LT	24	Pipe Conc Reinf 24IN CL III (Extension)	2	Reinforced Concrete Pipe - Class III (barrel length = 2)	24				N/A	Remove & Relay		See Section 20
13137+84	39' RT	13137+84	45' RT	24	Pipe Conc Reinf 24IN CL III (Extension)	6	Reinforced Concrete Pipe - Class III (barrel length = 6)	24				N/A		Remove & Relay	See Section 20
13149+58	61' RT	13149+74	61' RT	18	Pipe Corr. Steel .064IN 18IN (Extension)	16	Corrugated Steel Pipe	18	Z,A,P	2	0.064	N/A	Remove & Relay		See Section 20
13150+36	61' RT	13150+56	61' RT	18	Pipe Corr. Steel .064IN 18IN (Extension)	20	Corrugated Steel Pipe	18	Z,A,P	2	0.064	N/A		Remove & Relay	See Section 20
13050+57	-64' LT	13150+57	-38' LT	24	Pipe Conc Reinf 24IN CL III (Extension)	26	Reinforced Concrete Pipe - Class III (barrel length = 26)	24				N/A	Remove & Relay		See Section 20

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"

(*) The price bid for "Pipe Conduit" bid items includes end sections. Pipe Extensions shall pay for end sections separately.
FES = Flared End Section
TES = Traversable End Section

This document was originally issued and sealed by
Brian J. Rosin,
Registration Number
PE- 2928,
on 11/9/17 and the original document is stored at the
North Dakota Department
of Transportation

Allowable Pipe List

Sliver Grading, Milling and RAP Overlay

ND 200, Jct 14 E to W Jct 3

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	R1 Fabric (Pay Item)	(*) End Sections		Applicable Backfill Detail
													Begin	End	
				In	Bid Item	LF		In	Type		In	SY	EA	EA	
13150+57	38' RT	13150+57	48' RT	24	Pipe Conc Reinf 24IN CL III (Extension)	10	Reinforced Concrete Pipe - Class III (barrel length = 10)	24				N/A		Remove & Relay	See Section 20
13157+21	-42' LT	13157+31	-42' LT	18	Pipe Corr. Steel .064IN 18IN (Extension)	10	Corrugated Steel Pipe	18	Z,A,P	2	0.064	N/A	Remove & Relay		See Section 20
13158+04	-41' LT	13158+12	-41' LT	18	Pipe Corr. Steel .064IN 18IN (Extension)	8	Corrugated Steel Pipe	18	Z,A,P	2	0.064	N/A		Remove & Relay	See Section 20
13157+21	46' RT	13157+39	46' RT	18	Pipe Corr. Steel .064IN 18IN (Extension)	18	Corrugated Steel Pipe	18	Z,A,P	2	0.064	N/A	Remove & Relay		See Section 20
13167+07	-34' LT	13167+07	-26' LT	24	Pipe Conc Reinf 24IN CL III (Extension)	8	Reinforced Concrete Pipe - Class III (barrel length = 8)	24				N/A	Install		See Section 20
13167+07	45' RT	13167+07	53' RT	24	Pipe Conc Reinf 24IN CL III (Extension)	8	Reinforced Concrete Pipe - Class III (barrel length = 8)	24				N/A		Install	See Section 20
13175+81	44' RT	13175+95	44' RT	18	Pipe Corr. Steel .064IN 18IN (Extension)	14	Corrugated Steel Pipe	18	Z,A,P	2	0.064	N/A	Remove & Relay		See Section 20
13176+61	44' RT	13176+75	44' RT	18	Pipe Corr. Steel .064IN 18IN (Extension)	14	Corrugated Steel Pipe	18	Z,A,P	2	0.064	N/A		Remove & Relay	See Section 20
13186+05	-42' LT	13186+05	-36' LT	24	Pipe Conc Reinf 24IN CL III (Extension)	6	Reinforced Concrete Pipe - Class III (barrel length = 6)	24				N/A	Remove & Relay		See Section 20
13186+05	34' RT	13186+05	40' RT	24	Pipe Conc Reinf 24IN CL III (Extension)	6	Reinforced Concrete Pipe - Class III (barrel length = 6)	24				N/A		Remove & Relay	See Section 20
13195+33	35' RT	13195+33	43' RT	30	Pipe Conc Reinf 30IN CL III (Extension)	8	Reinforced Concrete Pipe - Class III (barrel length = 8)	30				N/A		Remove & Relay	See Section 20
13201+61	-52' LT	13201+81	-56' LT	21	Pipe Corr. Steel .064IN 21IN (Extension)	22	Corrugated Steel Pipe	21	Z,A,P	2	0.064	N/A	Remove & Relay		See Section 20
13228+98	-46' LT	13229+14	-46' LT	24	Pipe Corr. Steel .064IN 24IN (Extension)	16	Corrugated Steel Pipe	24	Z,A,P	2	0.064	N/A	Install		See Section 20
13229+69	-46' LT	13229+83	-46' LT	24	Pipe Corr. Steel .064IN 24IN (Extension)	14	Corrugated Steel Pipe	24	Z,A,P	2	0.064	N/A		Install	See Section 20
13228+70	46' RT	13228+86	46' RT	24	Pipe Corr. Steel .064IN 24IN (Extension)	16	Corrugated Steel Pipe	24	Z,A,P	2	0.064	N/A	Remove & Relay		See Section 20
13229+38	45' RT	13229+20	45' RT	24	Pipe Corr. Steel .064IN 24IN (Extension)	18	Corrugated Steel Pipe	24	Z,A,P	2	0.064	N/A		Remove & Relay	See Section 20
13255+67	43' RT	13255+77	43' RT	24	Pipe Corr. Steel .064IN 24IN (Extension)	10	Corrugated Steel Pipe	24	Z,A,P	2	0.064	N/A	Remove & Relay		See Section 20

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"

(*) The price bid for "Pipe Conduit" bid items includes end sections. Pipe Extensions shall pay for end sections separately.
FES = Flared End Section
TES = Traversable End Section

This document was originally issued and sealed by
Brian J. Rosin,
Registration Number
PE- 2928,
on 11/9/17 and the original document is stored at the
North Dakota Department
of Transportation

Allowable Pipe List

Sliver Grading, Milling and RAP Overlay

ND 200, Jct 14 E to W Jct 3

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	R1 Fabric (Pay Item)	(*) End Sections		Applicable Backfill Detail
													Begin	End	
				In	Bid Item	LF		In	Type		In	SY	EA	EA	
13256+47	44' RT	13256+57	44' RT	24	Pipe Corr. Steel .064IN 24IN (Extension)	10	Corrugated Steel Pipe	24	Z,A,P	2	0.064	N/A		Remove & Relay	See Section 20
13268+82	44' RT	13268+94	44' RT	18	Pipe Corr. Steel .064IN 18IN (Extension)	12	Corrugated Steel Pipe	18	Z,A,P	2	0.064	N/A	Remove & Relay		See Section 20
13269+56	42' RT	13269+87	43' RT	18	Pipe Corr. Steel .064IN 18IN (Extension)	18	Corrugated Steel Pipe	18	Z,A,P	2	0.064	N/A		Remove & Relay	See Section 20
13287+13	-55' LT	13287+25	-54' LT	18	Pipe Corr. Steel .064IN 18IN (Extension)	12	Corrugated Steel Pipe	18	Z,A,P	2	0.064	N/A	Remove & Relay		See Section 20

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"

(*) The price bid for "Pipe Conduit" bid items includes end sections. Pipe Extensions shall pay for end sections separately.
FES = Flared End Section
TES = Traversable End Section

This document was originally issued and sealed by
Brian J. Rosin,
Registration Number
PE- 2928,
on 11/9/17 and the original document is stored at the
North Dakota Department
of Transportation

Allowable Pipe List

Sliver Grading, Milling and RAP Overlay

ND 200, Jct 14 E to W Jct 3

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	R1 Fabric (Pay Item)	(*) End Sections		Applicable Backfill Detail
													Begin	End	
				In	Bid Item	LF		In	Type		In	SY	EA	EA	
2+07 Radial T North	57.5' Lt	2+51 Radial T North	57.5' Lt	30	Pipe Conduit - Approach	44	Reinforced Concrete Pipe - Class III (barrel length = 40 LF)	24					FES	FES	Specification 714.04 A
							Corrugated Steel Pipe	30	Z, A, P	2	0.064				
							Spiral Rib Steel Pipe	30	P	3/4, 1	0.079				
2+07 Radial T North	50' LT	2+51 Radial T North	50' LT	30	Pipe Conduit - Approach	44	Reinforced Concrete Pipe - Class III (barrel length = 40 LF)	24					FES	FES	Specification 714.04 A
							Corrugated Steel Pipe	30	Z, A, P	2	0.064				
							Spiral Rib Steel Pipe	30	P	3/4, 1	0.079				
6+50 Radial T North	52' Rt	6+50 Radial T North	55' Lt	36	Pipe Conduit - Approach	99	Reinforced Concrete Pipe - Class III (barrel length = 102 LF)	24					FES	FES	Specification 714.04 A
							Corrugated Steel Pipe	36	Z, A, P	2	0.064				
							Spiral Rib Steel Pipe	36	P	3/4, 1	0.079				
8+50 Radial T North	22' Lt	8+50 Radial T North	22' Rt	18	Pipe Conduit - Approach	44	Reinforced Concrete Pipe - Class III (barrel length = 36 LF)	18					FES	FES	Specification 714.04 A
							Corrugated Steel Pipe	18	Z, A, P	2	0.064				
							Spiral Rib Steel Pipe	18	P	3/4, 1	0.079				
5+00 Radial T South	52' Lt	5+00 Radial T South	44' Rt	42	Pipe Conduit - Approach	96	Reinforced Concrete Pipe - Class III (barrel length = 94 LF)	36					FES	FES	Specification 714.04 A
							Corrugated Steel Pipe	42	Z, A, P	2	0.064				
							Spiral Rib Steel Pipe	42	P	3/4, 1	0.079				
8+60 Radial T South	18' Lt	8+60 Radial T South	28' Rt	18	Pipe Conduit - Approach	46	Reinforced Concrete Pipe - Class III (barrel length = 38 LF)	18					FES	FES	Specification 714.04 A
							Corrugated Steel Pipe	18	Z, A, P	2	0.064				
							Spiral Rib Steel Pipe	18	P	3/4, 1	0.079				

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"

(*) The price bid for "Pipe Conduit" bid items includes end sections. Pipe Extensions shall pay for end sections separately.
FES = Flared End Section
TES = Traversable End Section

This document was originally issued and sealed by
Brian J. Rosin,
Registration Number
PE- 2928,
on 11/9/17 and the original document is stored at the
North Dakota Department
of Transportation

Allowable Pipe List

Sliver Grading, Milling and RAP Overlay

ND 200, Jct 14 E to W Jct 3

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	R1 Fabric (Pay Item)	(*) End Sections		Applicable Backfill Detail
													Begin	End	
				In	Bid Item	LF		In	Type		In	SY	EA	EA	
12577+68	80' Rt	12578+41	80' Rt	30	Pipe Conduit - Approach	73	Reinforced Concrete Pipe - Class III (barrel length = 70 LF)	30					FES	FES	Specification 714.04 A
							Corrugated Steel Pipe	30	Z, A, P	2	0.064				
							Spiral Rib Steel Pipe	30	P	3/4, 1	0.079				
12823+67	59' Lt	12824+31	60' LT	18	Pipe Conduit - Approach	64	Reinforced Concrete Pipe - Class III (barrel length = 60 LF)	18					FES	FES	Specification 714.04 A
							Corrugated Steel Pipe	18	Z, A, P	2	0.064				
							Spiral Rib Steel Pipe	18	P	3/4, 1	0.079				
12939+90	48' Rt	12939+90	56' Rt	24	Reinforced Concrete Pipe - 30 Deg Bend	4	Reinforced Concrete Pipe - Class III (barrel length = 8 LF)	24							Section 20 Sheet 4
12939+91	56' Rt	12940+03	70' Rt	24	Reinforced Concrete Pipe	18	Reinforced Concrete Pipe - Class III (barrel length = 18 LF)	24						Remove & Relay	Section 20 Sheet 4
12979+60	50' Lt	12979+60	45' Rt	24	Pipe Conduit	95	Reinforced Concrete Pipe - Class III (barrel length = 90 LF)	24				300	FES	FES	Section 20 Sheet 3
12997+34	58' Lt	12998+18	58' Lt	24	Pipe Conduit - Approach	84	Reinforced Concrete Pipe - Class III (barrel length = 80 LF)	24					FES	FES	Specification 714.04 A
							Corrugated Steel Pipe	24	Z, A, P	2	0.064				
							Spiral Rib Steel Pipe	24	P	3/4, 1	0.079				
13149+69	81' Lt	13150+41	82' LT	30	Pipe Conduit - Approach	72	Reinforced Concrete Pipe - Class III (barrel length = 70 LF)	30					FES	FES	Specification 714.04 A
							Corrugated Steel Pipe	30	Z, A, P	2	0.064				
							Spiral Rib Steel Pipe	30	P	3/4, 1	0.079				
13202+00	51.5' Rt	13202+78	58.7' Rt	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	P	3/4, 1	0.079				

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"

(*) The price bid for "Pipe Conduit" bid items includes end sections. Pipe Extensions shall pay for end sections separately.
FES = Flared End Section
TES = Traversable End Section

This document was originally issued and sealed by
Brian J. Rosin,
Registration Number
PE- 2928,
on 11/9/17 and the original document is stored at the
North Dakota Department
of Transportation

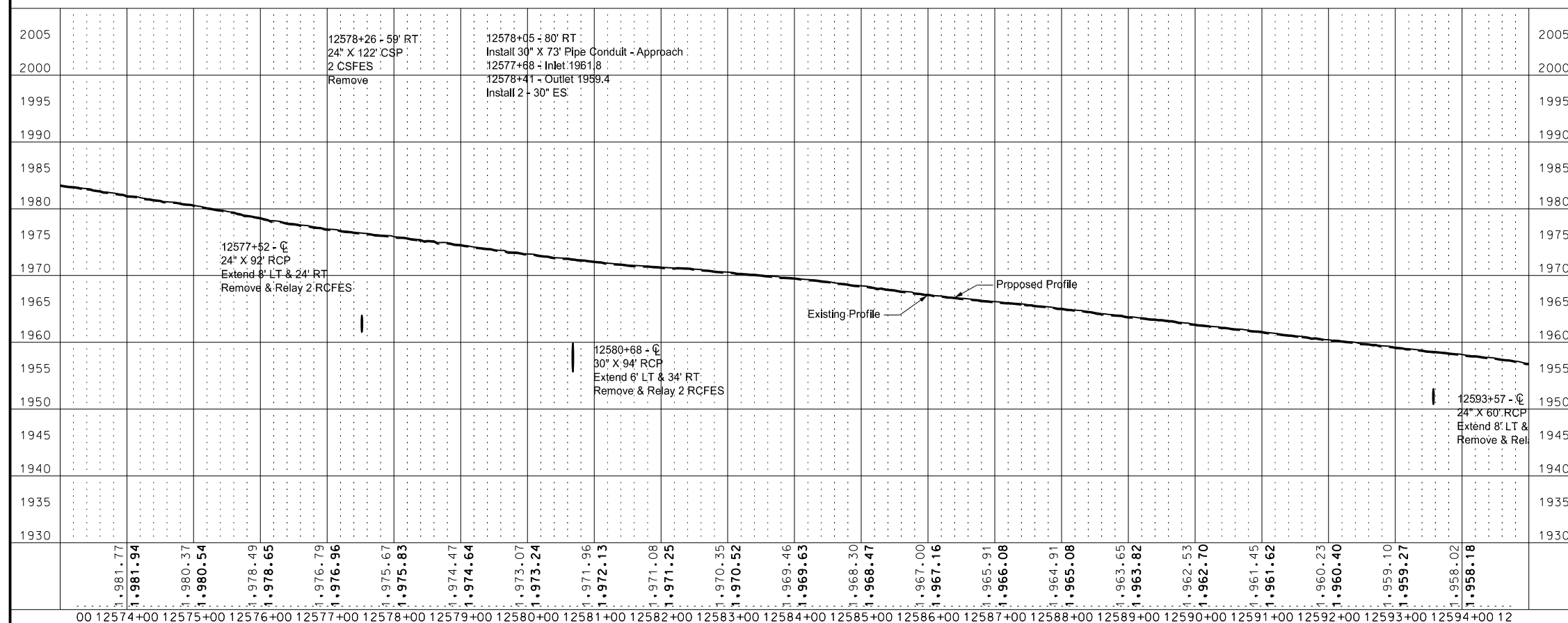
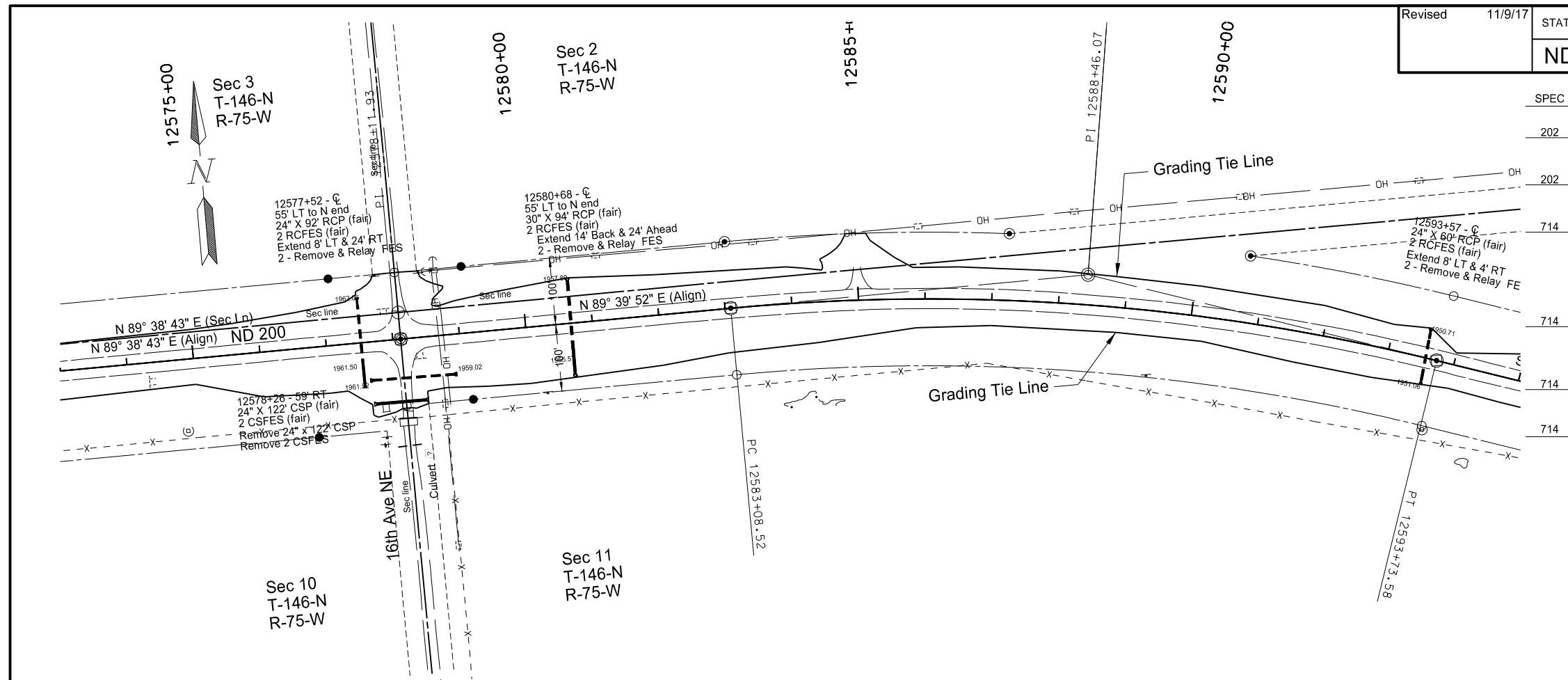
Allowable Pipe List

Sliver Grading, Milling and RAP Overlay

ND 200, Jct 14 E to W Jct 3

Revised	11/9/17	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
		ND	NH-1-200(073)236	60	6

SPEC	CODE	BID ITEM	UNIT	QUANTITY
202	0169	REMOVAL OF END SECTION-ALL TYPES & SIZES 12578+26 59' RT (APPROACH PIPE)	EA	2
202	0174	REMOVAL OF PIPE ALL TYPES & SIZES 12578+26 59' RT (APPROACH PIPE)	LF	122
714	0615	PIPE CONC REINF 24IN CL III 12577+52 LT	LF	8
		12577+52 RT	LF	24
		12593+57 LT	LF	8
		12593+57 RT	LF	4
714	0820	PIPE CONC REINF 30IN CL III 12580+68 LT	LF	6
		12580+68 RT	LF	34
714	4113	PIPE CONDUIT 30IN-APPROACH 12578+05 RT	LF	73
714	9660	REMOVE & RELAY END SECTIONS-ALL TYPES & SIZES 12577+52 LT & RT	EA	2
		12580+68 LT & RT	EA	2
		12593+57 LT & RT	EA	2

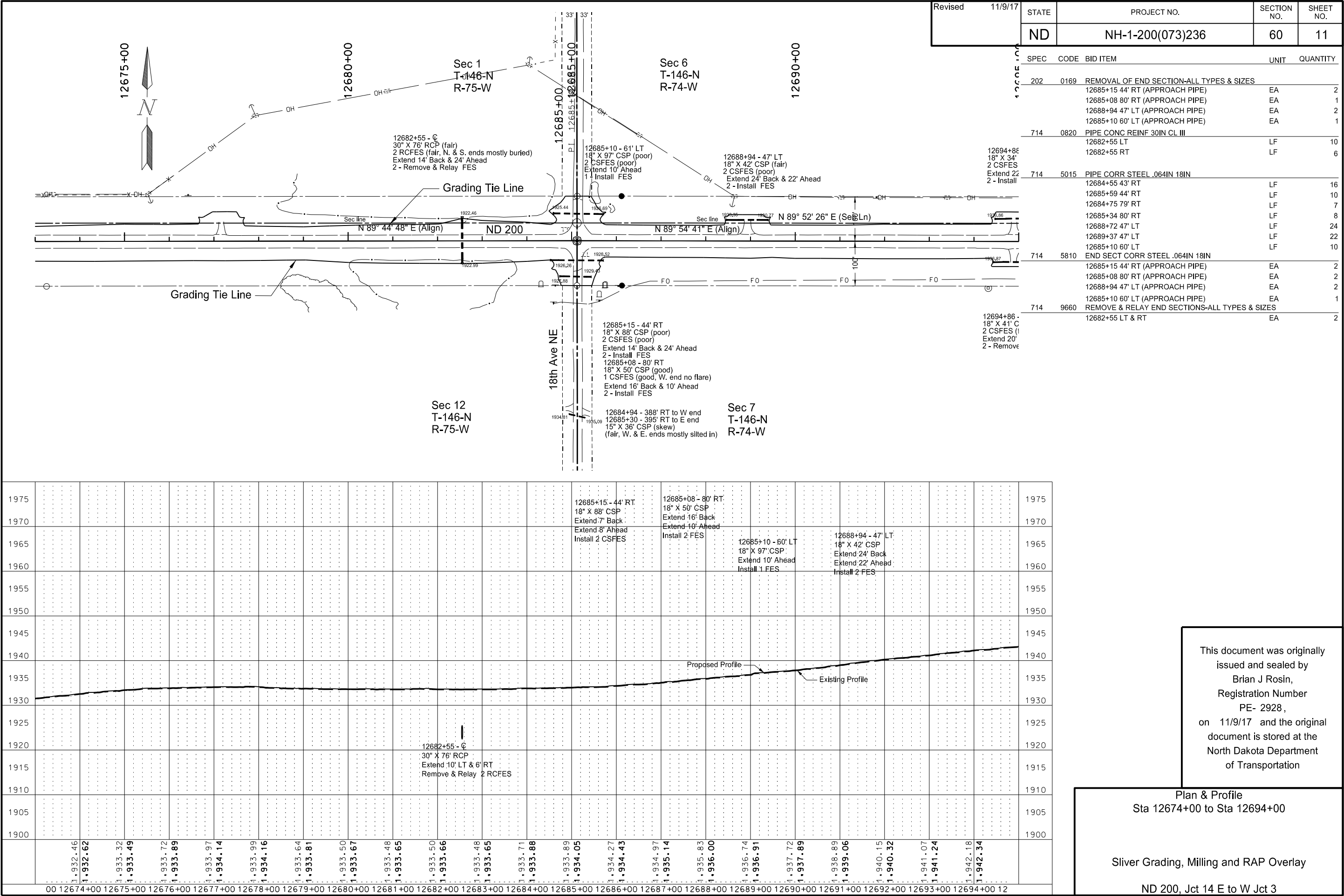


This document was originally issued and sealed by
Brian J Rosin,
Registration Number
PE- 2928 ,
on 11/9/17 and the original document is stored at the
North Dakota Department
of Transportation

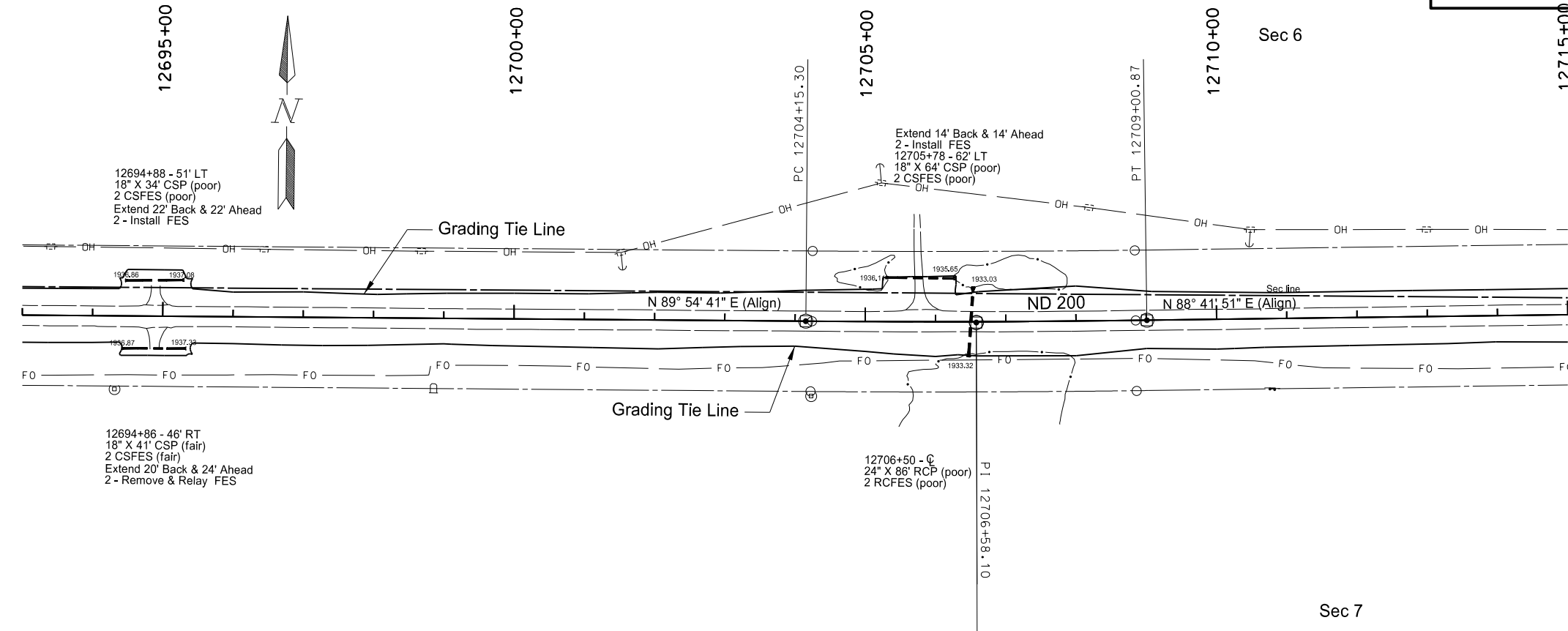
Plan & Profile
Sta 12574+00 to Sta 12594+00

Sliver Grading, Milling and RAP Overlay

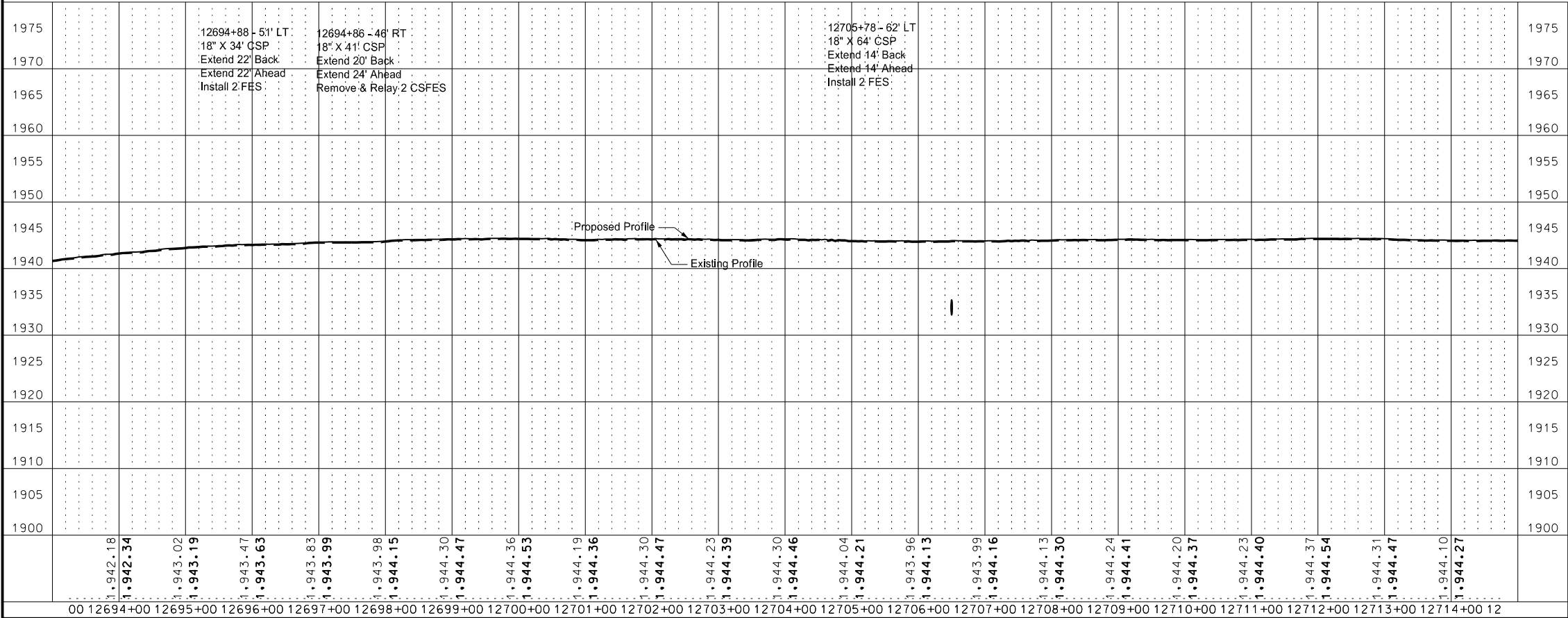
ND 200, Jct 14 E to W Jct 3



Revised	11/9/17	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
		ND	NH-1-200(073)236	60	12



SPEC	CODE	BID ITEM	UNIT	QUANTITY
202	0169	REMOVAL OF END SECTION-ALL TYPES & SIZES		
		12694+88 51' LT (APPROACH PIPE)	EA	2
		12705+78 62' LT (APPROACH PIPE)	EA	2
714	5015	PIPE CORR STEEL .064IN 18IN		
		12694+49 51' LT	LF	22
		12695+05 51' LT	LF	22
		12694+45 46' RT	LF	20
		12695+06 46' RT	LF	24
		12705+32 63' LT	LF	14
		12706+11 62' LT	LF	14
714	5810	END SECT CORR STEEL .064IN 18IN		
		12694+88 51' LT (APPROACH PIPE)	EA	2
		12705+78 62' LT (APPROACH PIPE)	EA	2
714	9660	REMOVE & RELAY END SECTIONS-ALL TYPES & SIZES		
		12694+86 46' RT (APPROACH PIPE)	EA	2



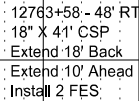
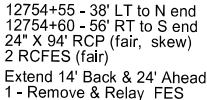
This document was originally issued and sealed by
Brian J Rosin,
Registration Number
PE- 2928,
on 11/9/17 and the original document is stored at the
North Dakota Department
of Transportation

Plan & Profile
Sta 12694+00 to Sta 12714+00

Sliver Grading, Milling and RAP Overlay

ND 200, Jct 14 E to W Jct 3

1977-1978

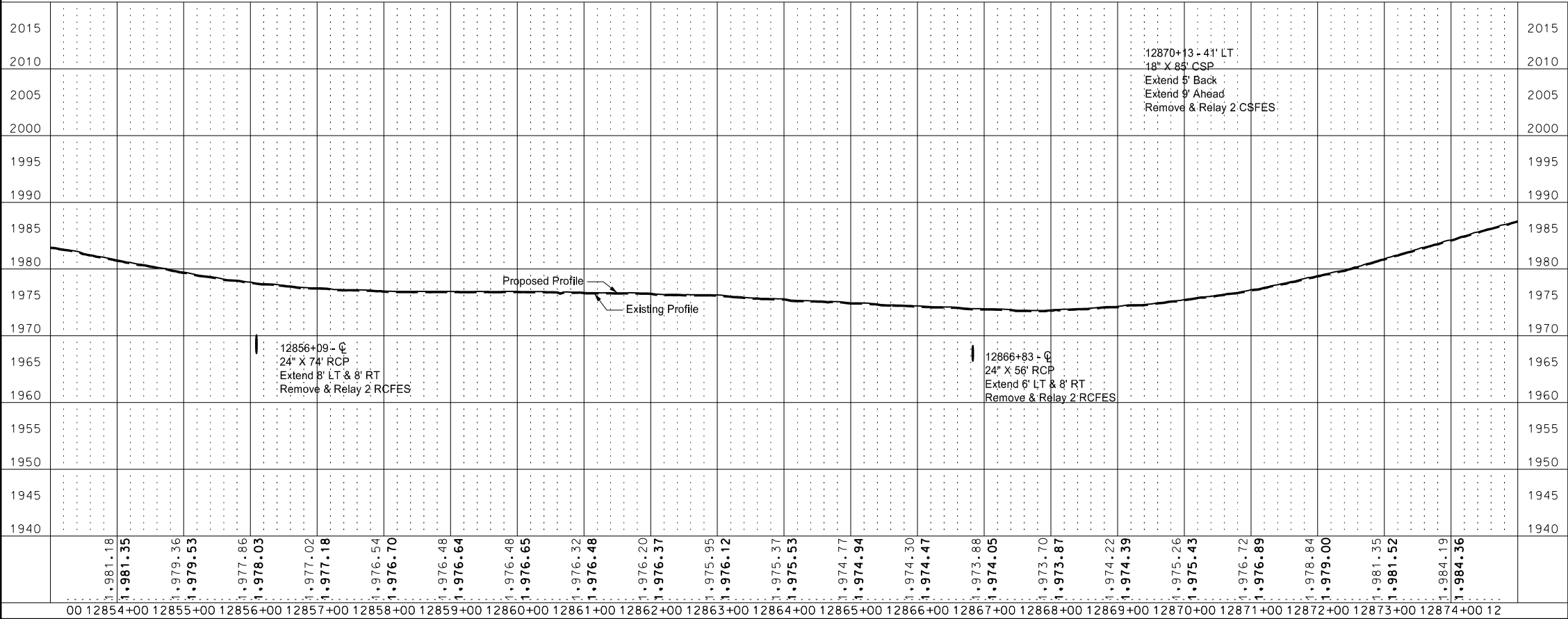
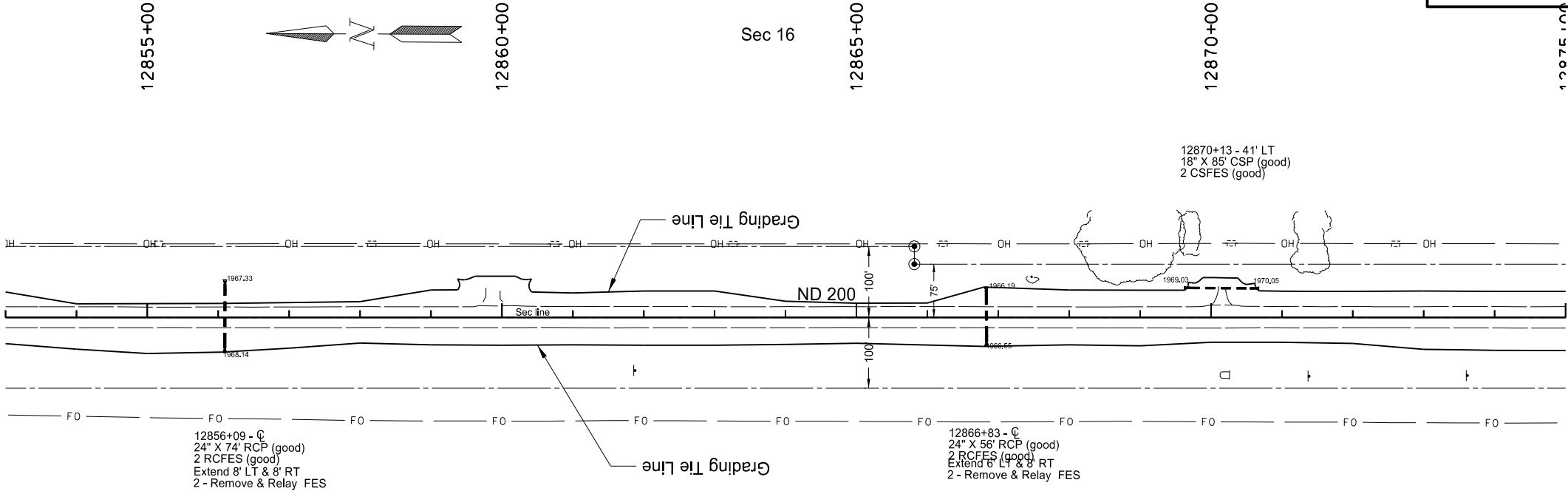


Plan & Profile

Sta 12754+00 to Sta 12774+00

ND 200, Jct 14 E to W Jct 3

SPEC	CODE	BID ITEM	UNIT	QUANTITY
714	5015	PIPE CORR STEEL .064in 18IN		
		12869+70 41' LT APPROACH PIPE)	LF	5
		12870+56 41' LT APPROACH PIPE)	LF	9
714	0615	PIPE CONC REINF 24IN CL III		
		12856+09 LT	LF	8
		12856+09 RT	LF	8
		12866+83 LT	LF	6
		12866+83 RT	LF	8
714	9660	REMOVE & RELAY END SECTIONS-ALL TYPES & SIZES		
		12856+09 LT & RT	EA	2
		12866+83 LT & RT	EA	2
		12870+13 LT	EA	2



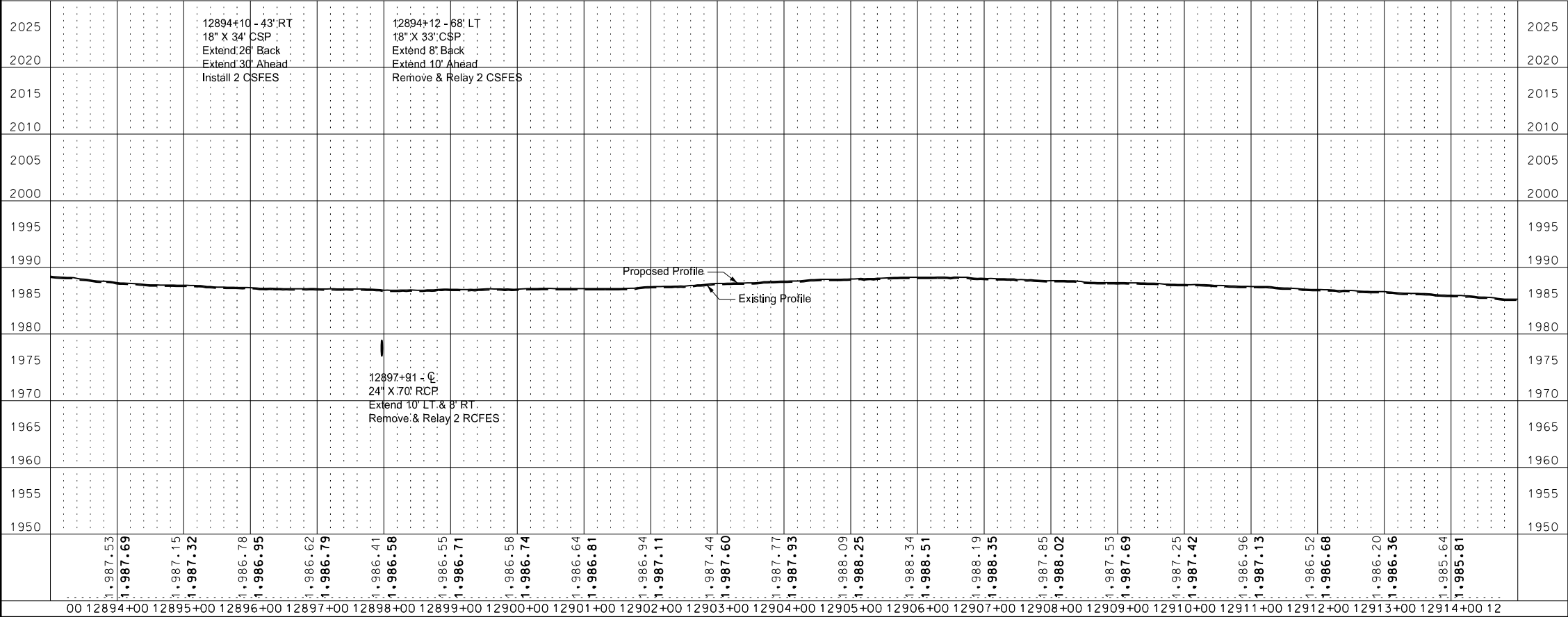
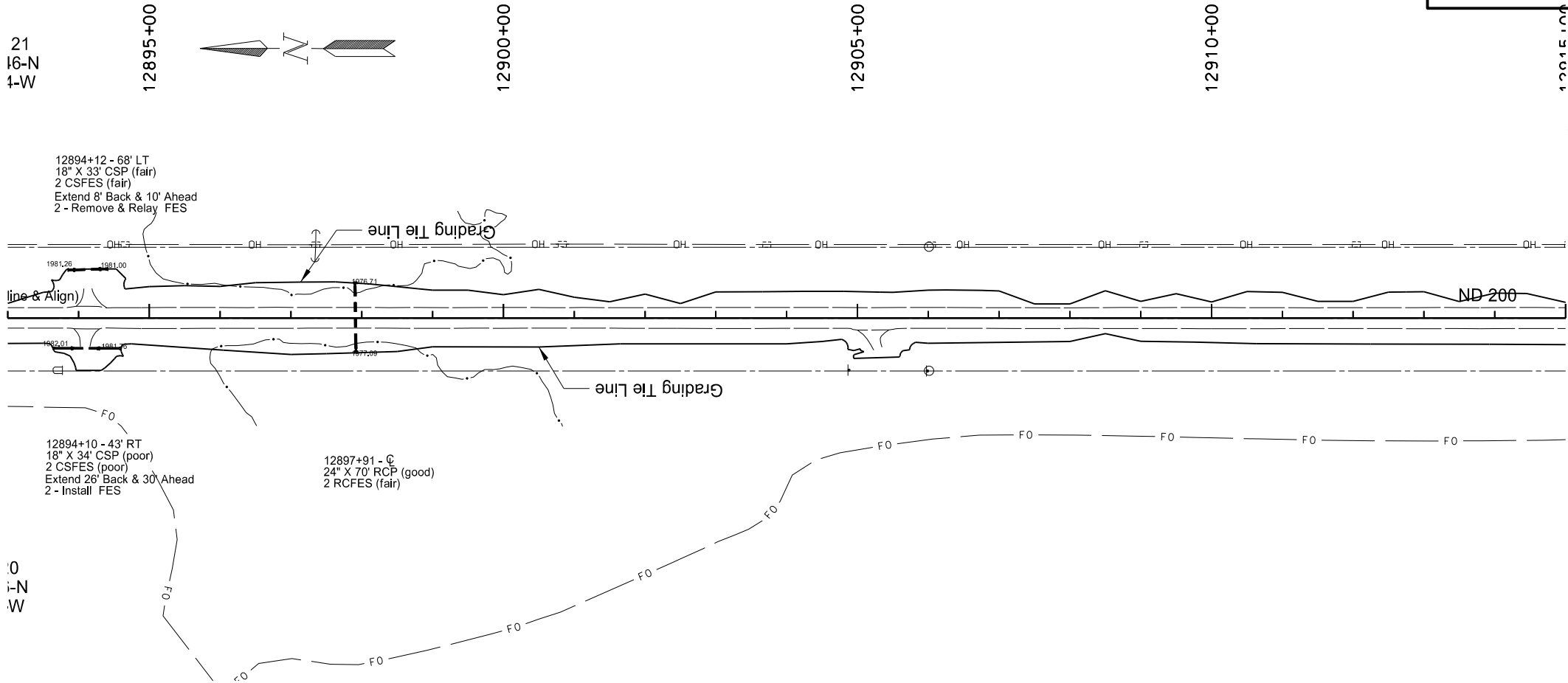
This document was originally issued and sealed by
Brian J Rosin,
Registration Number
PE- 2928,
on 11/9/17 and the original document is stored at the
North Dakota Department
of Transportation

Plan & Profile
Sta 12854+00 to Sta 12874+00

Sliver Grading, Milling and RAP Overlay

ND 200, Jct 14 E to W Jct 3

Revised	11/9/17	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
		ND	NH-1-200(073)236	60	22
SPEC	CODE	BID ITEM		UNIT	QUANTITY
714	0615	PIPE CONC REINF 24IN CL III			
		12897+91 LT		LF	10
		12897+91 RT		LF	8
714	9660	REMOVE & RELAY END SECTIONS-ALL TYPES & SIZES			
		12897+91 LT & RT		EA	2

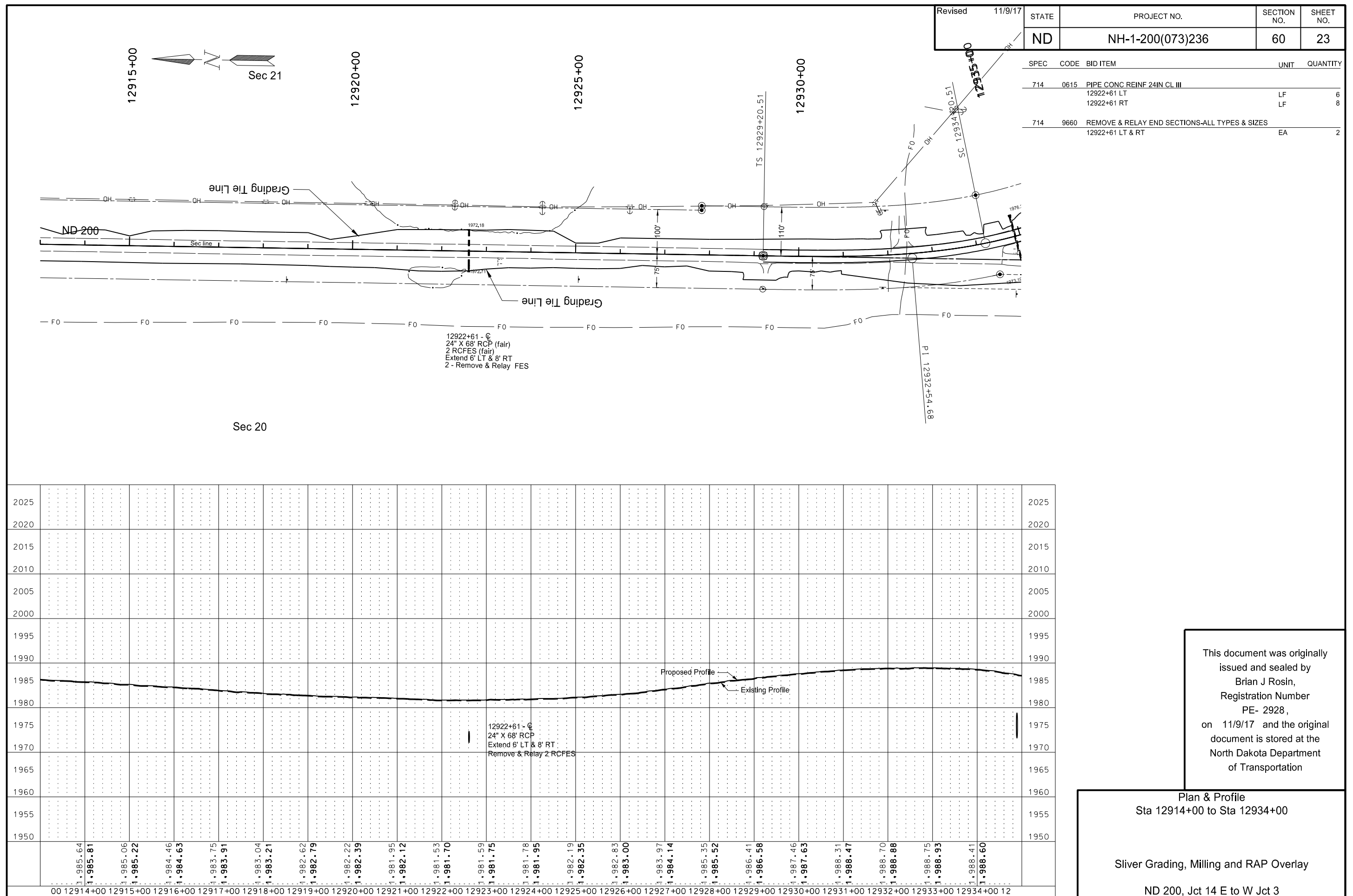


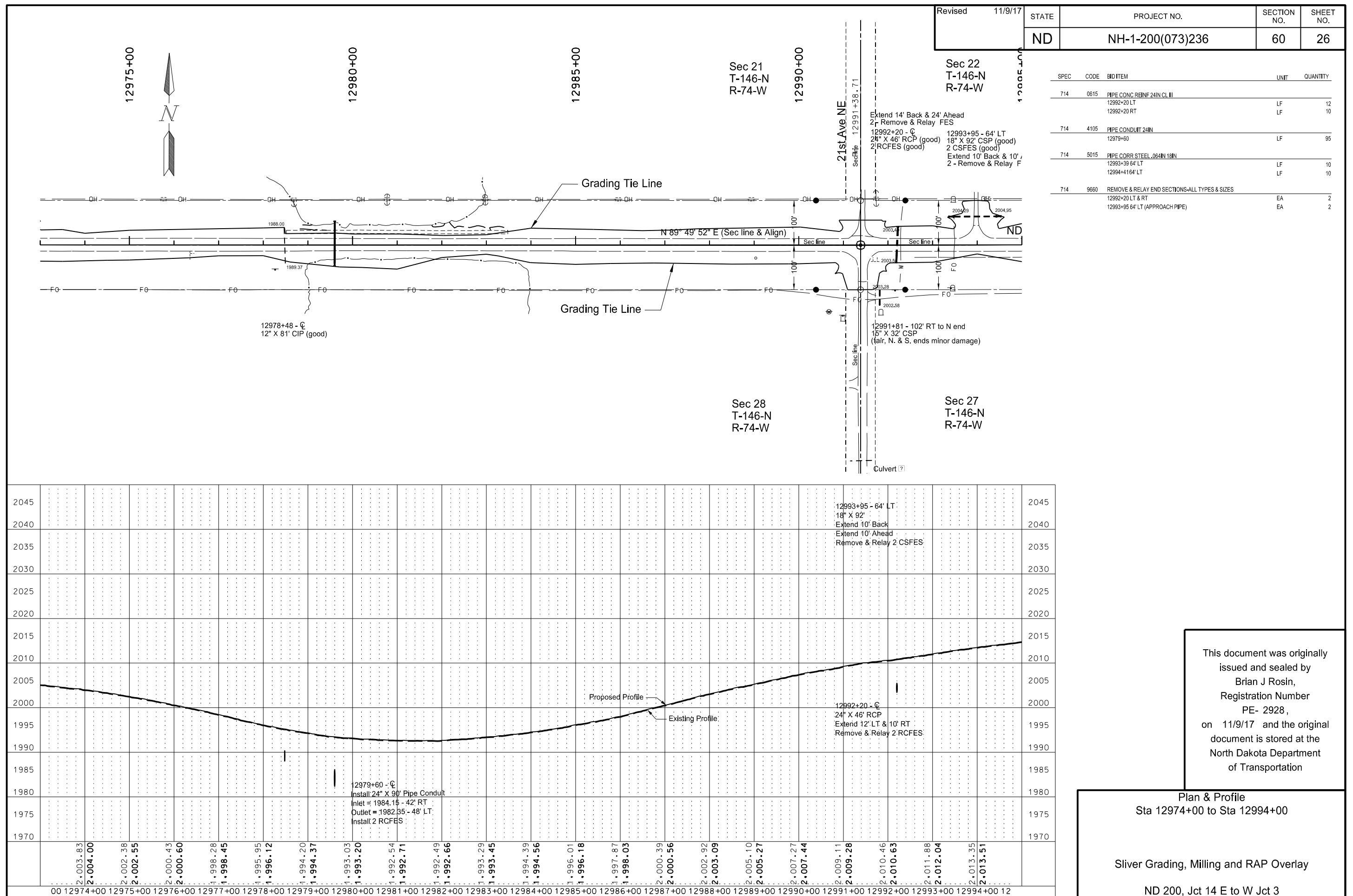
This document was originally issued and sealed by
Brian J Rosin,
Registration Number
PE- 2928,
on 11/9/17 and the original document is stored at the
North Dakota Department
of Transportation

Plan & Profile
Sta 12894+00 to Sta 12914+00

Sliver Grading, Milling and RAP Overlay

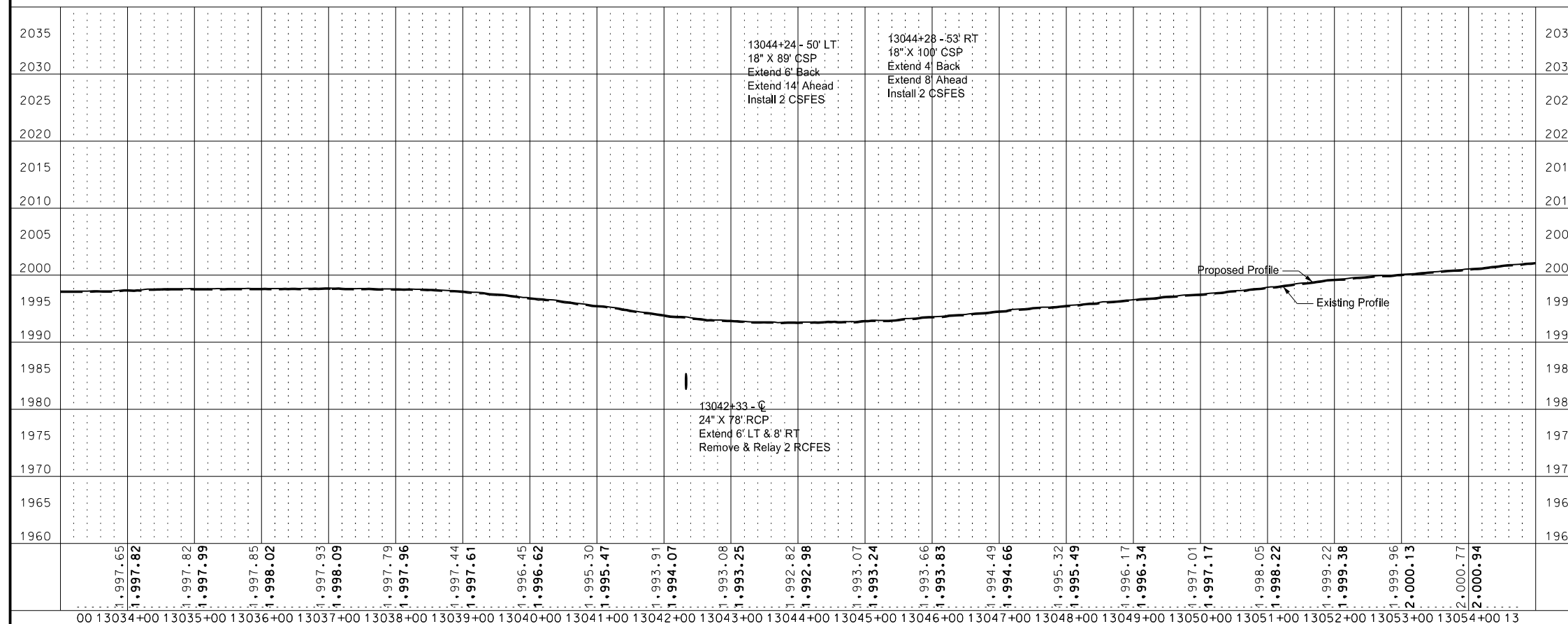
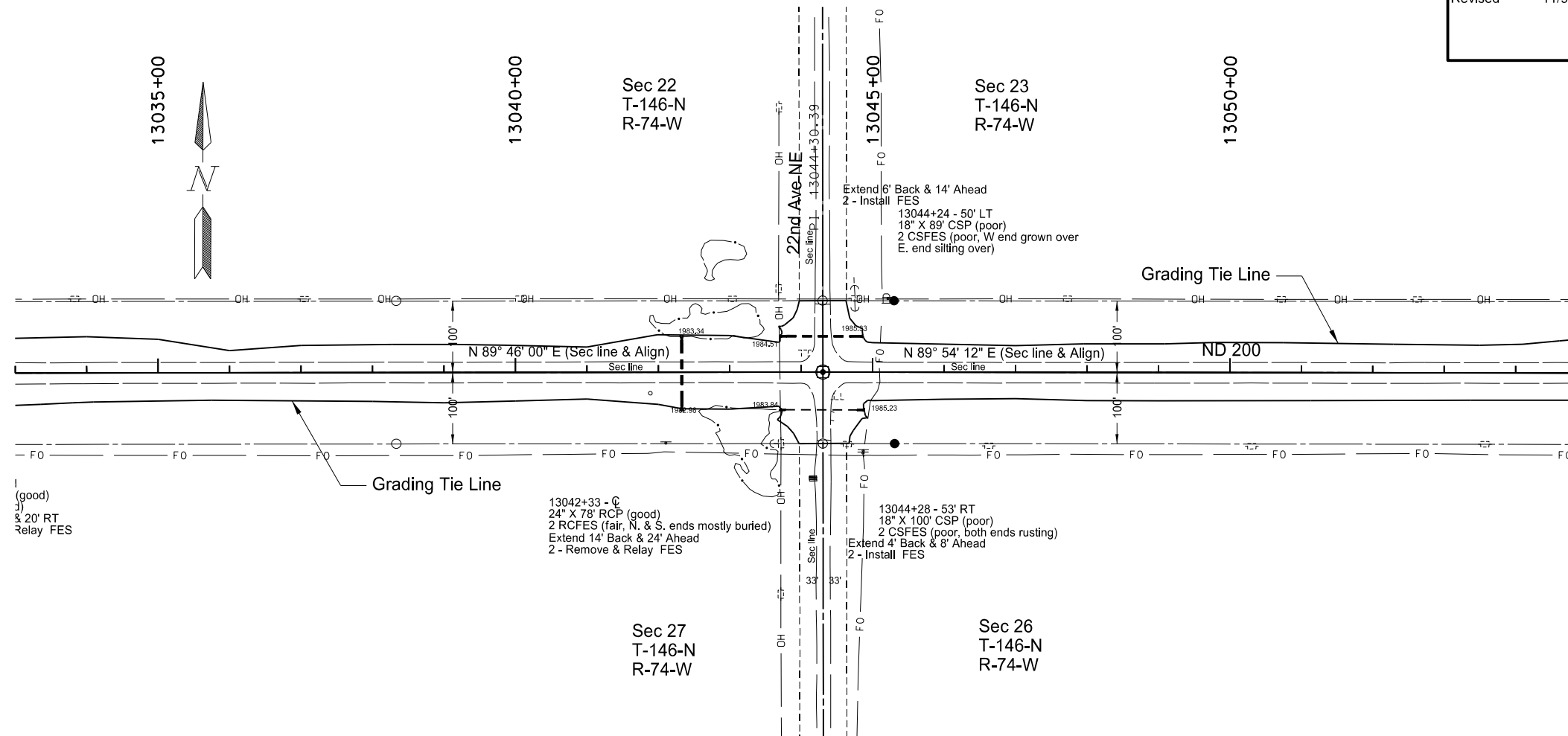
ND 200, Jct 14 E to W Jct 3





Revised 11/9/17	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	NH-1-200(073)236	60	29

SPEC	CODE	BID ITEM	UNIT	QUANTITY
714	0615	PIPE CONC REINF 24IN CL III		
		13042+33 LT	LF	6
		13042+33 RT	LF	8
714	5015	PIPE CORR STEEL .064IN 18IN		
		13043+73 50' LT	LF	6
		13044+69 50' LT	LF	14
		13043+74 53' RT	LF	4
		13044+78 53' RT	LF	8
714	5810	END SECT CORR STEEL .064IN 18IN		
		13044+24 50' LT (APPROACH PIPE)	EA	2
		13044+28 53' RT (APPROACH PIPE)	EA	2
714	9660	REMOVE & RELAY END SECTIONS-ALL TYPES & SIZES		
		13042+33 LT & RT	EA	2
202	0169	REMOVAL OF END SECTION-ALL TYPES & SIZES		
		13044+24 - 50' LT	EA	2



This document was originally
issued and sealed by
Brian J Rosin,
Registration Number
PE- 2928 ,
on 11/9/17 and the original
document is stored at the
North Dakota Department
of Transportation

Plan & Profile

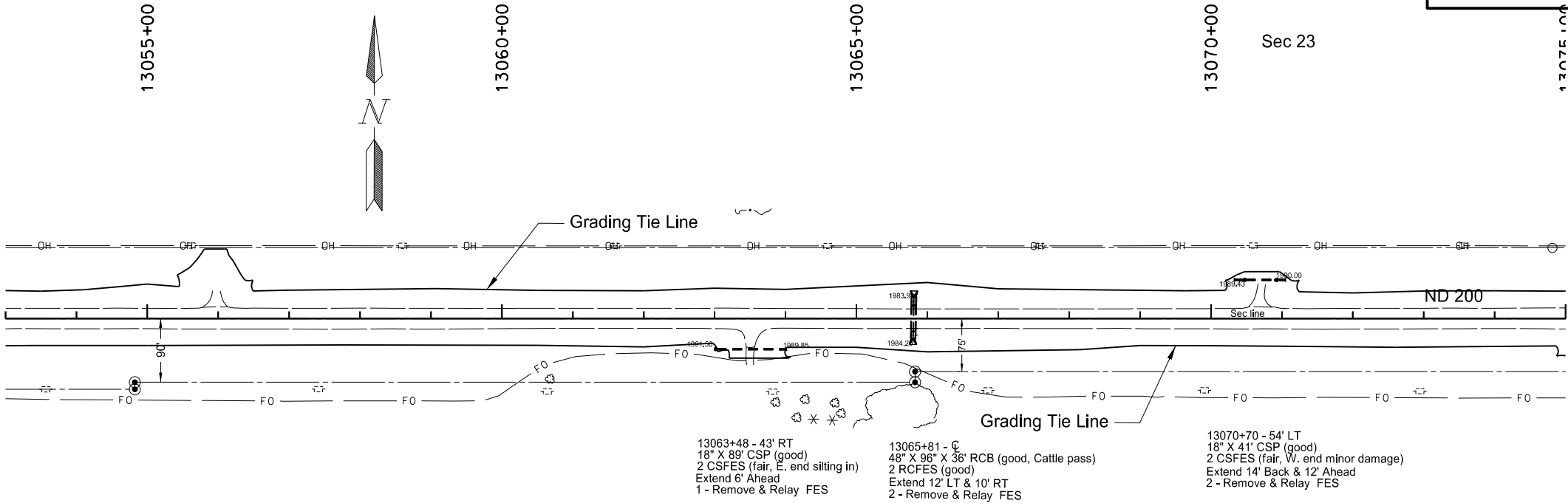
Sta 13034+00 to Sta 13054+00

Sliver Grading, Milling, and RAP Overlay

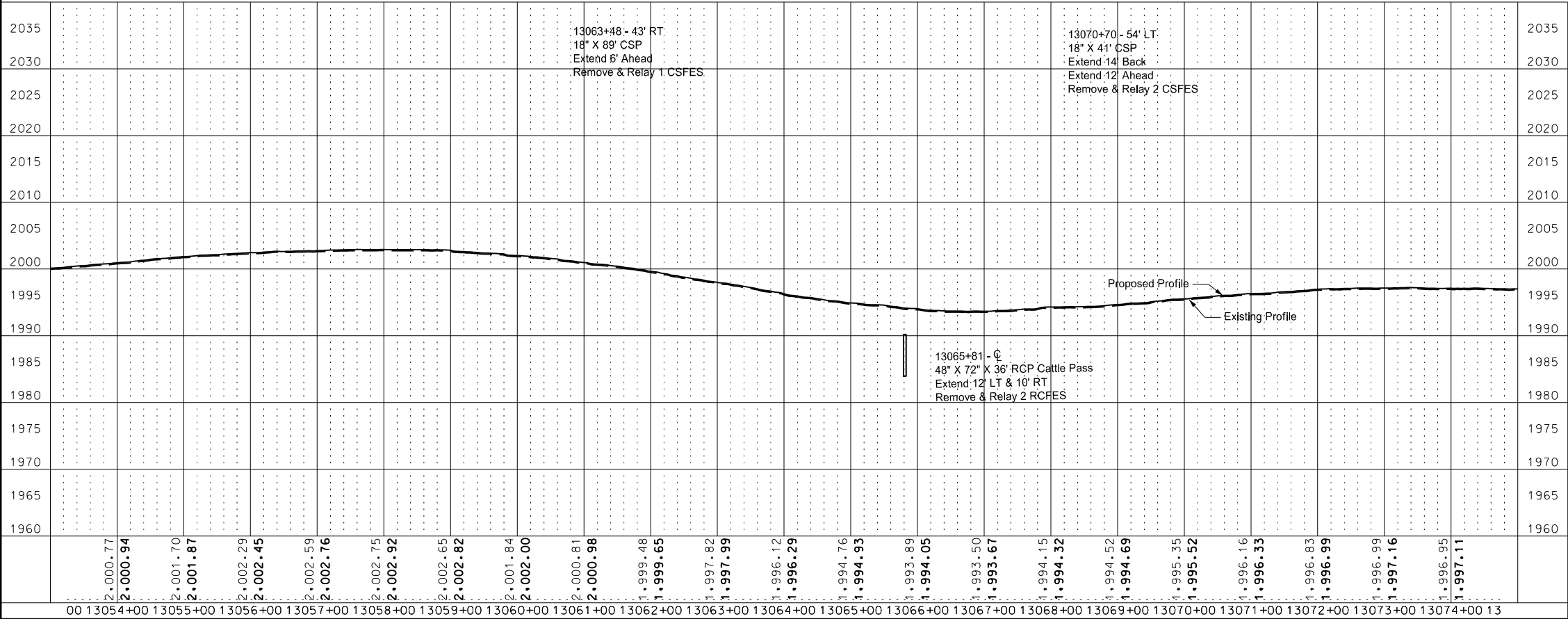
ND 200, Jct 14 E to W Jct 3

Revised	10/27/17	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
Revised	11/9/17	ND	NH-1-200(073)236	60	30

SPEC	CODE	BID ITEM	UNIT	QUANTITY
714	5015	PIPE CORR STEEL .064IN 18IN		
		13063+93 43' RT	LF	6
		13070+35 54' LT	LF	14
		13070+91 54' LT	LF	12
714	9200	Cattle Pass Conc Intermed Section		
		13065+81 LT	LF	12
		13065+81 RT	LF	10
714	9660	REMOVE & RELAY END SECTIONS-ALL TYPES & SIZES		
		13063+93 43' RT (APPROACH PIPE)	EA	1
		13065+81 LT & RT	EA	2
		13070+70 54' LT (APPROACH PIPE)	EA	2



Sec 26



This document was originally issued and sealed by
Brian J Rosin,
Registration Number
PE- 2928,
on 11/9/17 and the original document is stored at the
North Dakota Department
of Transportation

Plan & Profile
Sta 13054+00 to Sta 13074+00

Sliver Grading, Milling, and RAP Overlay

ND 200, Jct 14 E to W Jct 3

Revised

11/9/17

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	NH-1-200(073)236	60	31

Sec 23

T-146-N

R-74-W

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

26

27

28

29

30

31

32

33

34

35

36

37

38

39

40

41

42

43

44

45

46

47

48

49

50

51

52

53

54

55

56

57

58

59

60

61

62

63

64

65

66

67

68

69

70

71

72

73

74

75

76

77

78

79

80

81

82

83

84

85

86

87

88

89

90

91

92

93

94

95

96

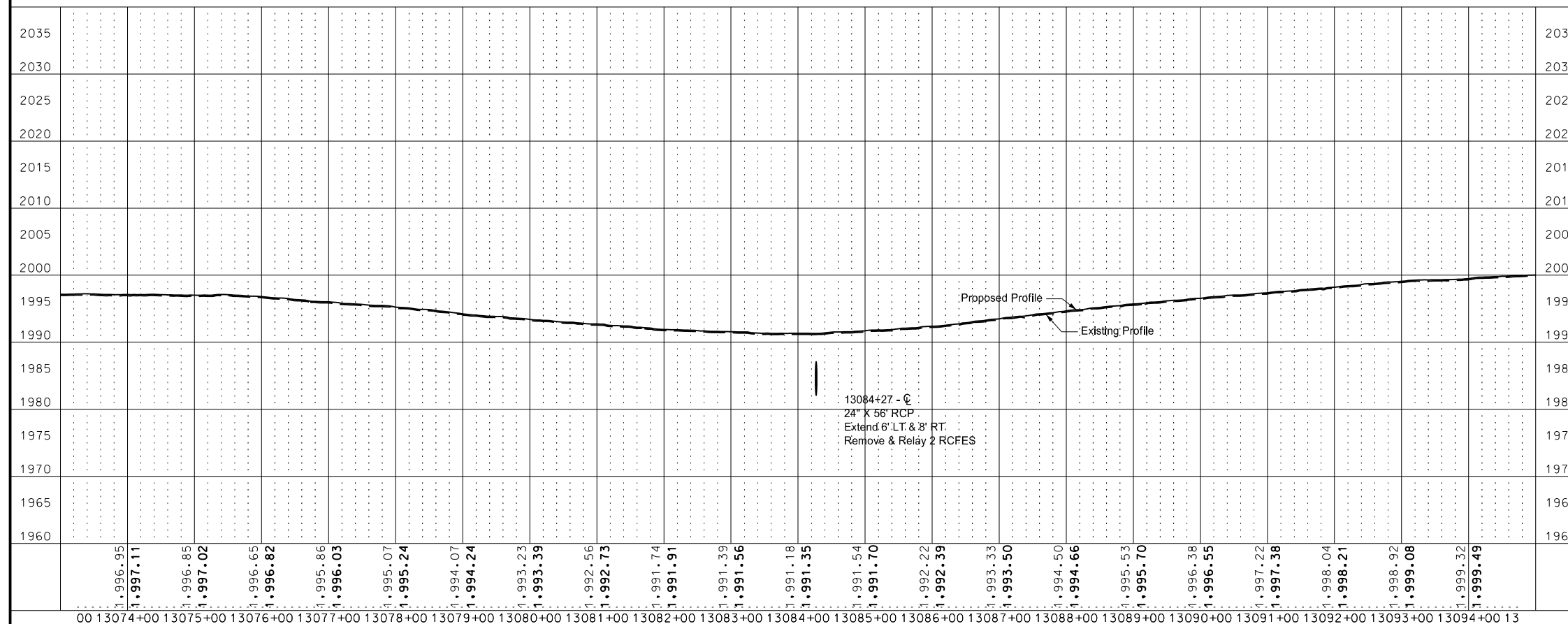
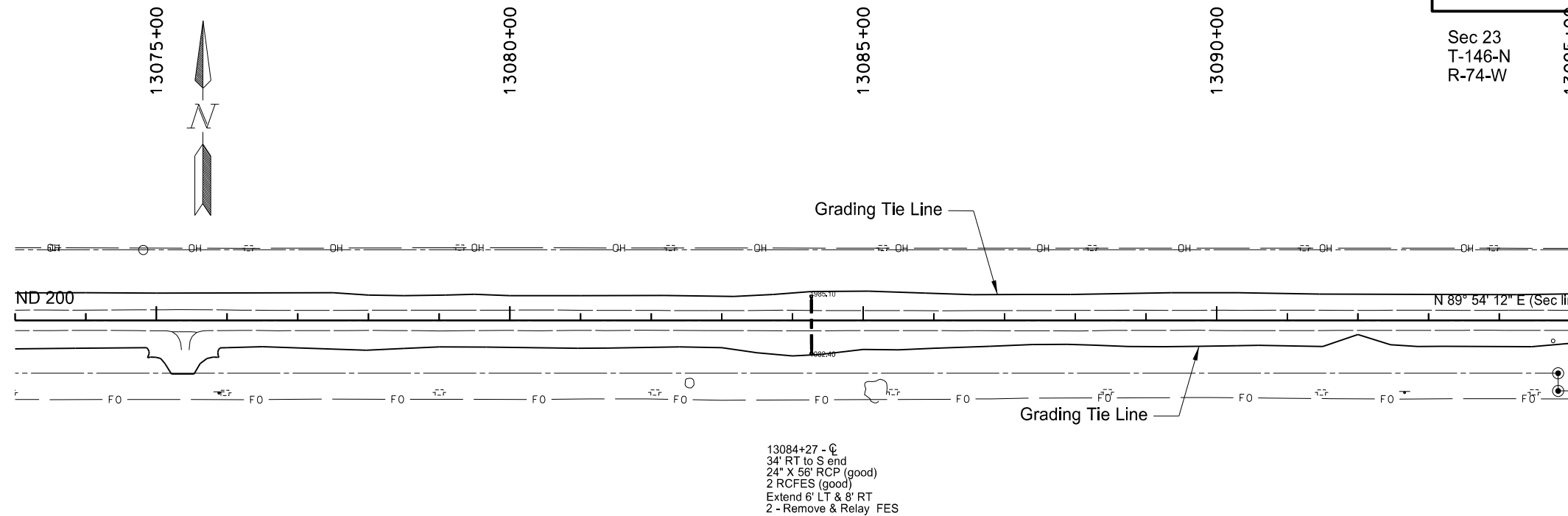
97

98

99

100

SPEC	CODE	BID ITEM	UNIT	QUANTITY
714	0615	PIPE CONC REINF 24IN CL III		
		13084+27 LT	LF	6
		13084+27 RT	LF	8
714	9660	REMOVE & RELAY END SECTIONS-ALL TYPES & SIZES		
		13084+27 LT & RT	EA	2

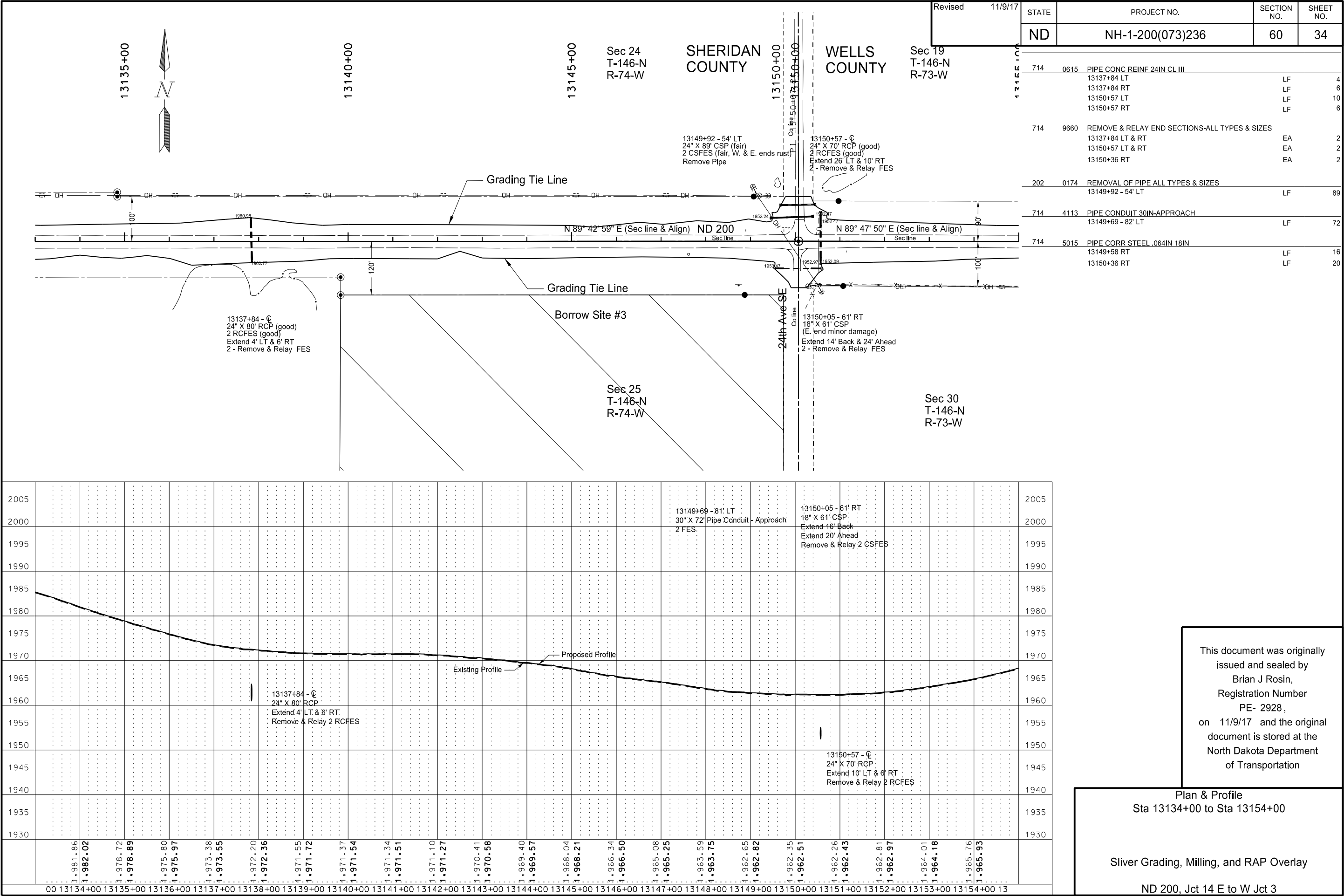


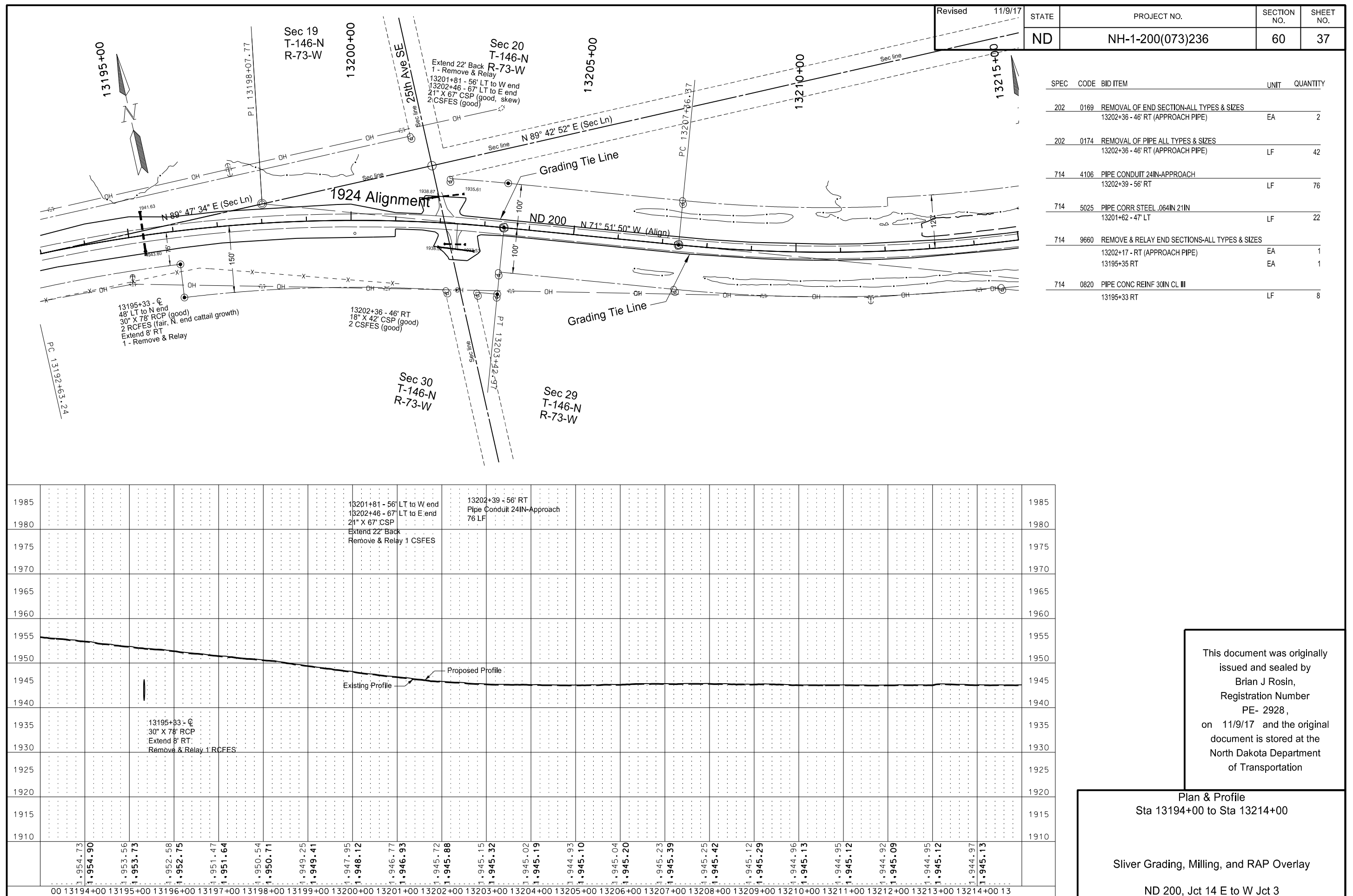
This document was originally issued and sealed by
Brian J Rosin,
Registration Number
PE- 2928 ,
on 11/9/17 and the original document is stored at the
North Dakota Department
of Transportation

Plan & Profile
Sta 13074+00 to Sta 13094+00

Sliver Grading, Milling, and RAP Overlay

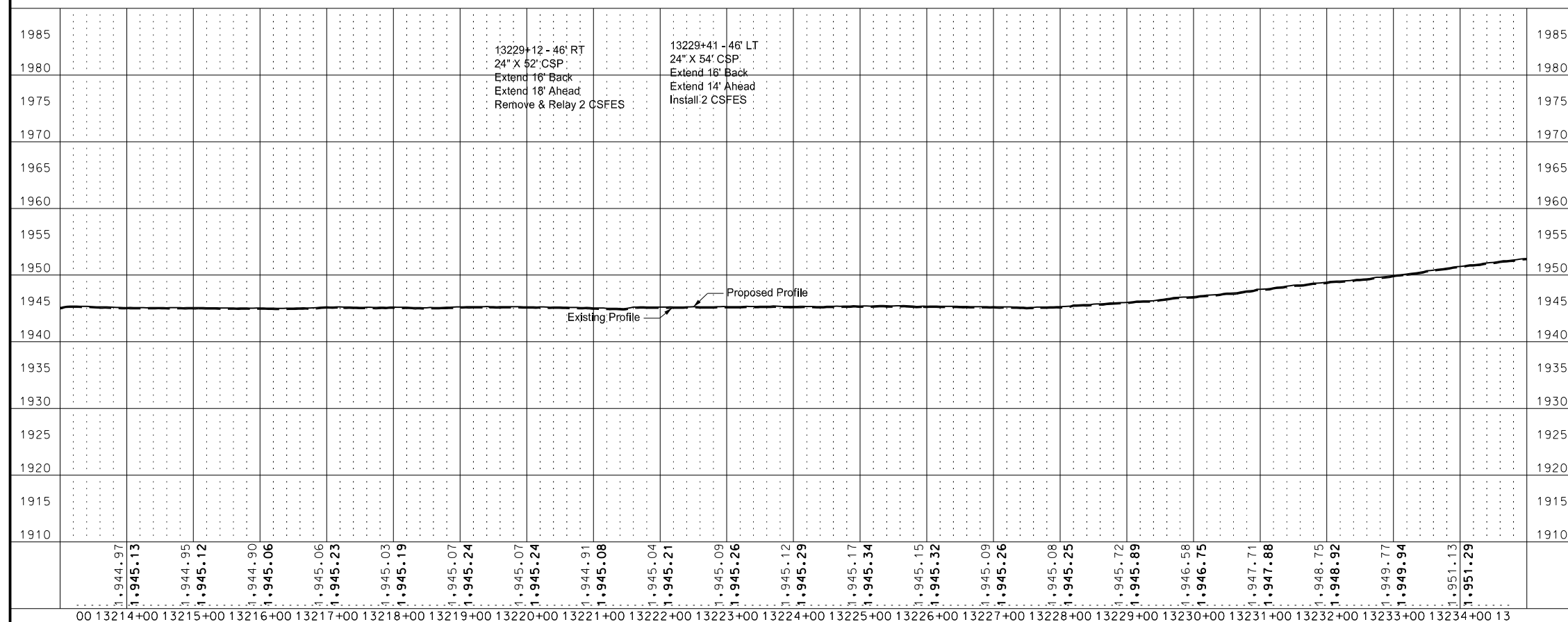
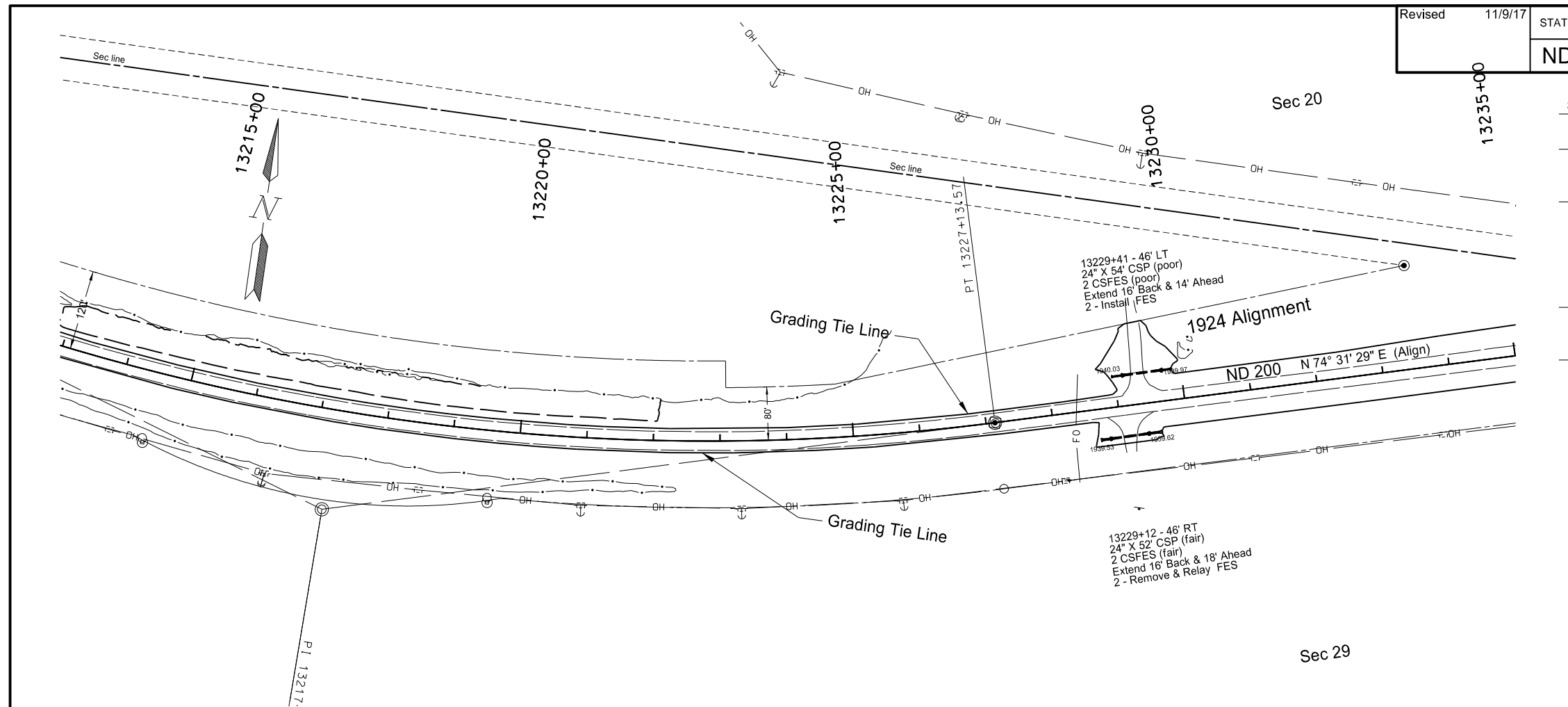
ND 200, Jct 14 E to W Jct 3





Revised 11/9/17	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	NH-1-200(073)236	60	38

SPEC	CODE	BID ITEM	UNIT	QUANTITY
202	0169	REMOVAL OF END SECTION-ALL TYPES & SIZES		
		13229+41 - 46' LT	EA	2
714	5035	PIPE CORR STEEL .064IN 24IN		
		13228+86 46' Rt	LF	16
		13229+20 46' Rt	LF	18
		13229+14 46' Lt	LF	16
		13229+83 46' Lt	LF	14
714	5820	END SECT CORR STEEL .064IN 24IN		
		13229+41 - 46' LT	EA	2
714	9660	REMOVE & RELAY END SECTIONS-ALL TYPES & SIZES		
		13229+12 46' RT (APPROACH PIPE)	EA	2



This document was originally
issued and sealed by
Brian J Rosin,
Registration Number
PE- 2928 ,
on 11/9/17 and the original
document is stored at the
North Dakota Department
of Transportation

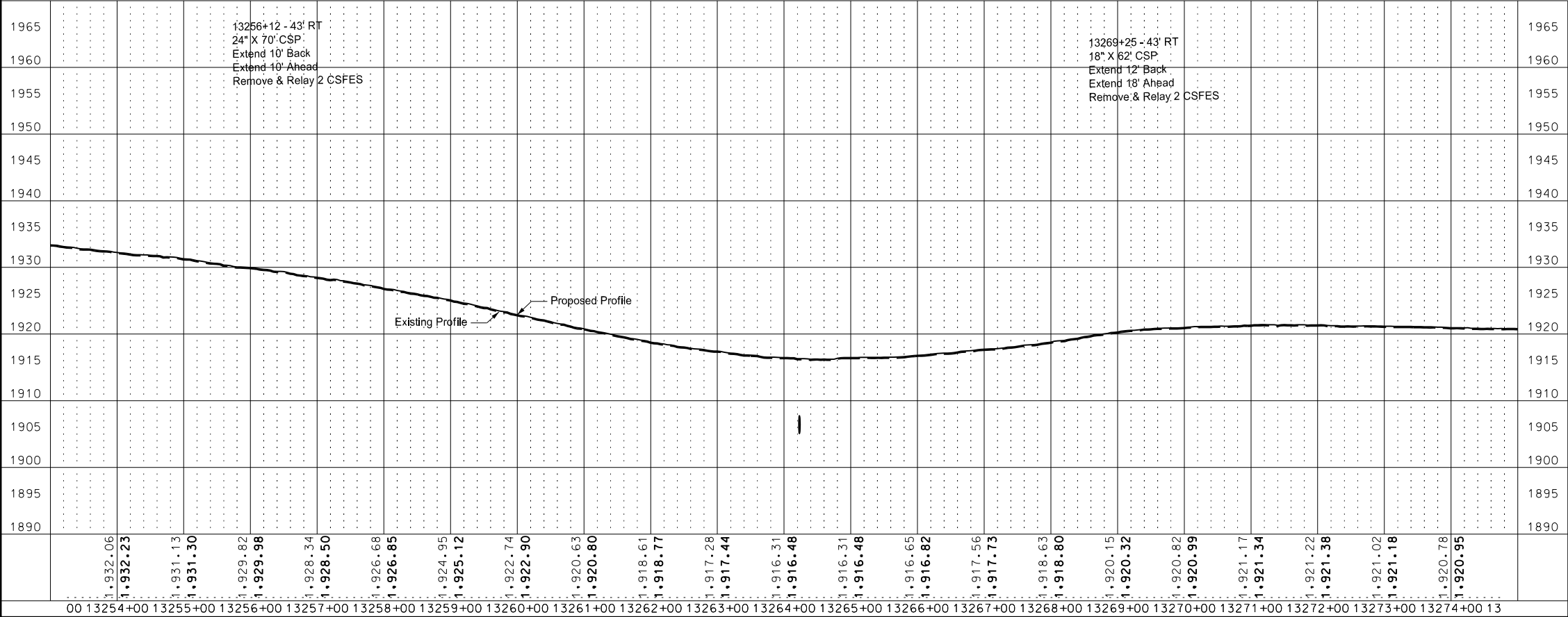
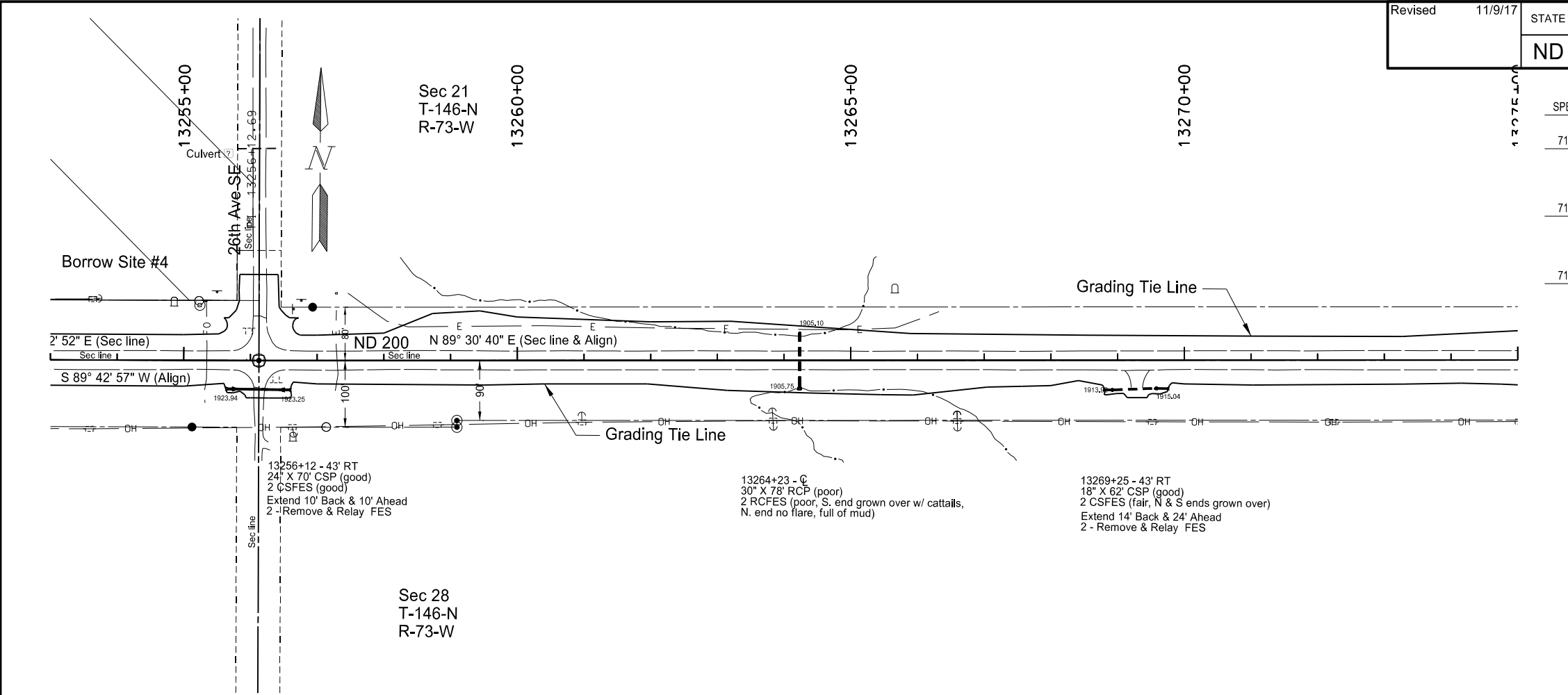
Plan & Profile

Sta 13214+00 to Sta 13234+00

Sliver Grading, Milling, and RAP Overlay

ND 200, Jct 14 E to W Jct 3

SPEC	CODE	BID ITEM	UNIT	QUANTITY
714	5015	PIPE CORR STEEL .064IN 18IN		
		13268+94 44' Rt	LF	12
		13269+56 44' Rt	LF	18
714	5035	PIPE CORR STEEL .064IN 24IN		
		13255+77 43' Rt	LF	10
		13256+47 44' Rt	LF	10
714	9660	REMOVE & RELAY END SECTIONS-ALL TYPES & SIZES		
		13256+12 43' Rt (APPROACH PIPE)	EA	2
		13269+25 43' Rt (APPROACH PIPE)	EA	2



This document was originally issued and sealed by
Brian J Rosin,
Registration Number
PE- 2928,
on 11/9/17 and the original document is stored at the
North Dakota Department
of Transportation

Plan & Profile
Sta 13254+00 to Sta 13274+00

Sliver Grading, Milling, and RAP Overlay

ND 200, Jct 14 E to W Jct 3

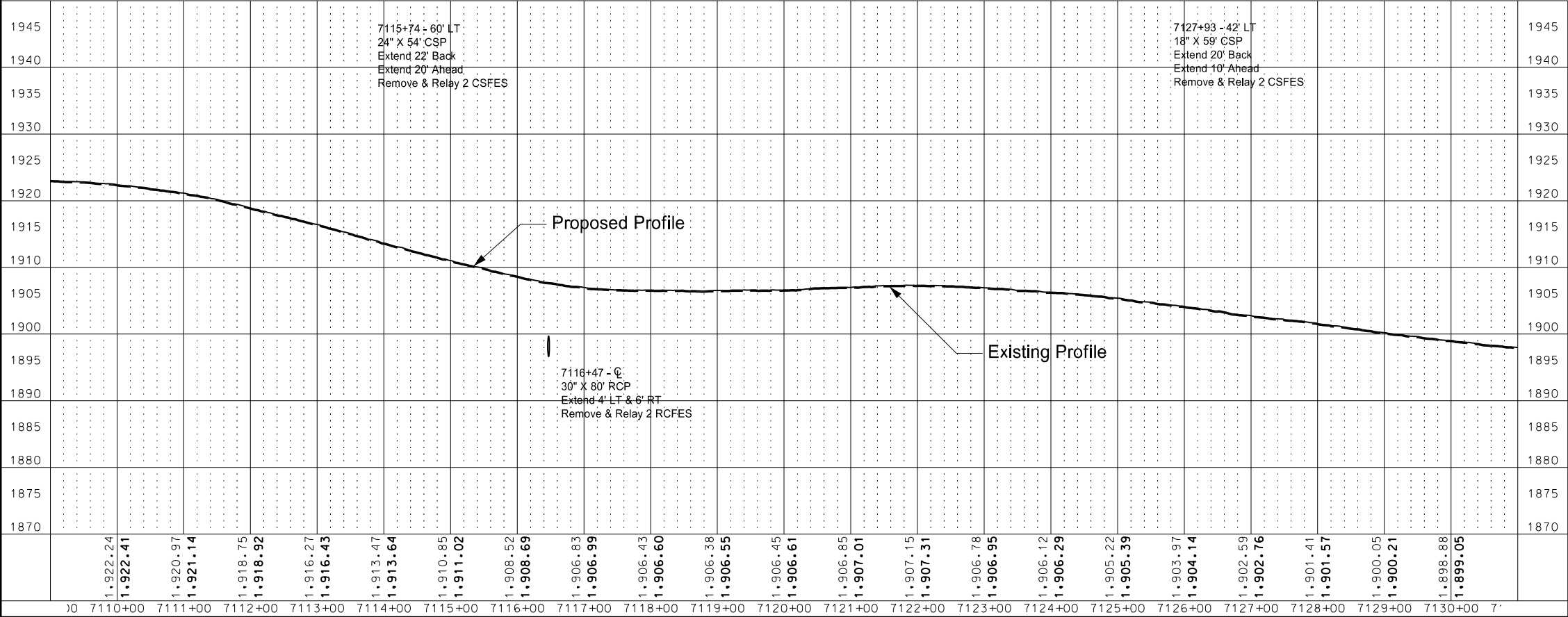
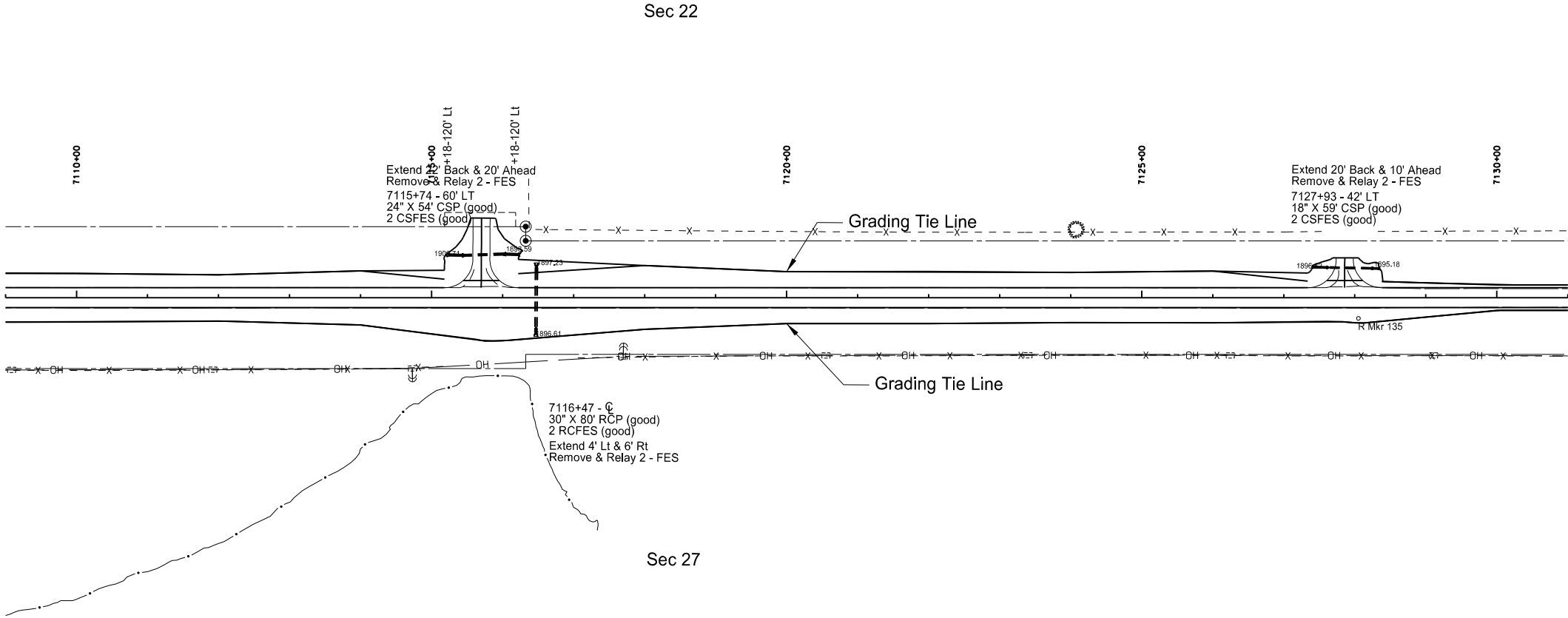
ESTIMATE OF QUANTITIES

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	NH-1-003(048)134	8	1

REVISED 11/13/2017

SPEC	CODE	ITEM DESCRIPTION	UNIT	MAINLINE	TOTAL
----	----	-----	----	-----	-----
103	0100	CONTRACT BOND	L SUM	0.05	0.05
202	0130	REMOVAL OF CURB & GUTTER	LF	54	54
202	0132	REMOVAL OF BITUMINOUS SURFACING	SY	43	43
202	0169	REMOVAL OF END SECTION-ALL TYPES & SIZES	EA	12	12
202	0174	REMOVAL OF PIPE ALL TYPES AND SIZES	LF	299	299
203	0109	TOPSOIL	CY	3,477	3,477
203	0140	BORROW-EXCAVATION	CY	4,329	4,329
216	0100	WATER	M GAL	175	175
251	0200	SEEDING CLASS II	ACRE	6.41	6.41
251	2000	TEMPORARY COVER CROP	ACRE	6.41	6.41
253	0101	STRAW MULCH	ACRE	12.82	12.82
255	0102	ECB TYPE 2	SY	592	592
256	0701	REMOVE AND REPLACE RIPRAP	CY	100	100
261	0112	FIBER ROLLS 12IN	LF	5,888	5,888
261	0113	REMOVE FIBER ROLLS 12IN	LF	3,760	3,760
262	0100	FLOTATION SILT CURTAIN	LF	268	268
262	0101	REMOVE FLOTATION SILT CURTAIN	LF	268	268
302	0120	AGGREGATE BASE COURSE CL 5	TON	4,086	4,086
401	0050	TACK COAT	GAL	2,602	2,602
401	0060	PRIME COAT	GAL	1,215	1,215
411	0105	MILLING PAVEMENT SURFACE	SY	19,746	19,746
430	0143	RAP - SUPERPAVE FAA 43	TON	4,615	4,615
430	1000	CORED SAMPLE	EA	34	34
430	5803	PG 58S-28 ASPHALT CEMENT	TON	198	198
702	0100	MOBILIZATION	L SUM	0.05	0.05
704	0100	FLAGGING	MHR	500	500
704	1000	TRAFFIC CONTROL SIGNS	UNIT	860	860
704	1067	TUBULAR MARKERS	EA	92	92
704	1081	VERTICAL PANELS-BACK TO BACK	EA	20	20
704	1185	PILOT CAR	HR	250	250
706	0500	AGGREGATE LABORATORY	EA	0.05	0.05
706	0550	BITUMINOUS LABORATORY	EA	0.05	0.05
706	0600	CONTRACTOR'S LABORATORY	EA	0.05	0.05

SPEC	CODE	BID ITEM	UNIT	QUANTITY
714	0820	PIPE CONC REINF 30IN CL III		
		7116+47 - LT	LF	4
		7116+47 - RT	LF	6
714	5015	PIPE CORR STEEL .064IN 18IN		
		7127+62 - 42' LT	LF	20
		7128+32 - 42' LT	LF	10
714	5035	PIPE CORR STEEL .064IN 24IN		
		7115+66 - 60' LT	LF	22
		7116+00 - 60' LT	LF	20
714	9660	REMOVE & RELAY END SECTIONS-ALL TYPES & SIZES		
		7116+47 - LT & RT	EA	2
		7115+66 - 60' LT	EA	1
		7116+00 - 60' LT	EA	1
		7127+62 - 42' LT	EA	1
		7128+32 - 42' LT	EA	1

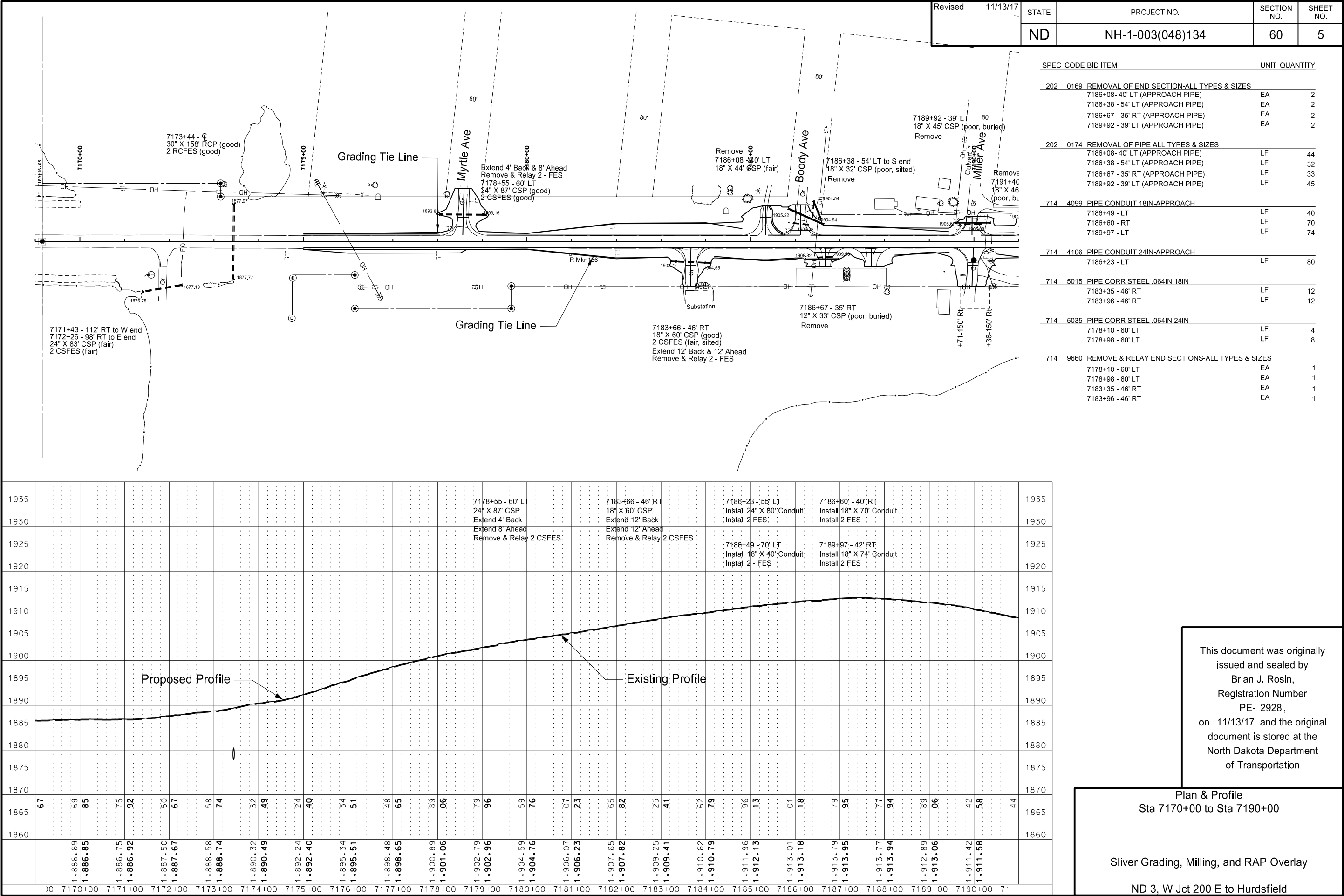


This document was originally issued and sealed by
Brian J. Rosin,
Registration Number
PE- 2928,
on 11/13/17 and the original document is stored at the
North Dakota Department
of Transportation

Plan & Profile
Sta 7110+00 to Sta 7130+00

Sliver Grading, Milling, and RAP Overlay

ND 3, W Jct 200 E to Hurdfield



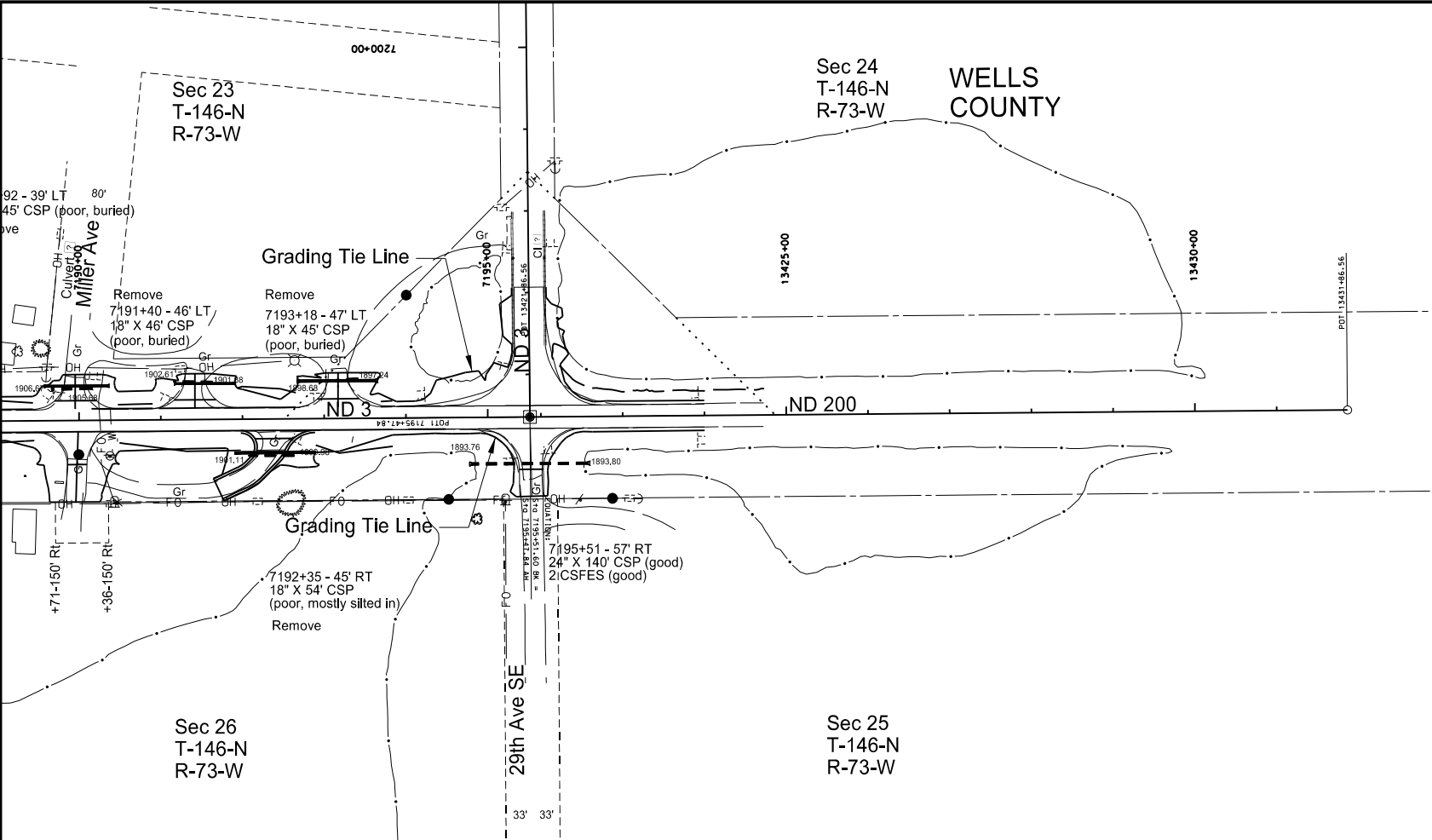
This document was originally issued and sealed by
Brian J. Rosin,
Registration Number
PE- 2928,
on 11/13/17 and the original document is stored at the
North Dakota Department
of Transportation

Plan & Profile
Sta 7170+00 to Sta 7190+00

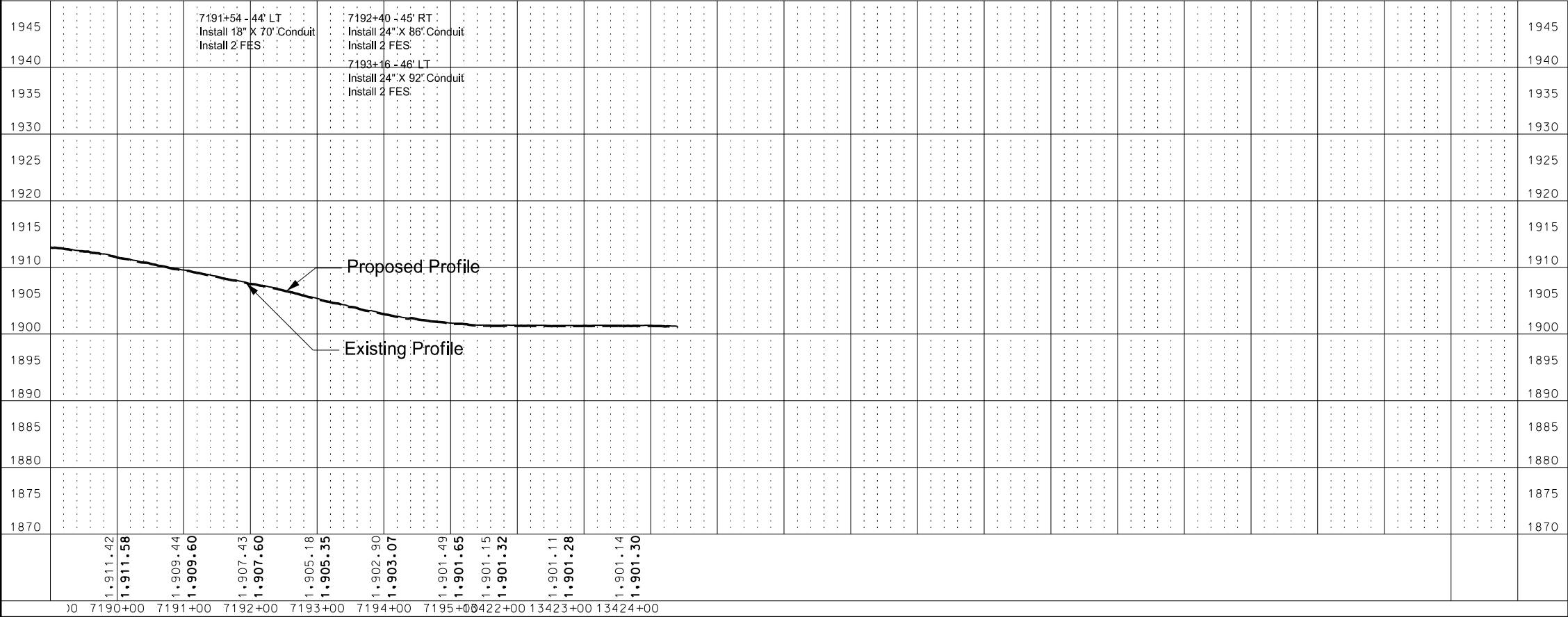
Sliver Grading, Milling, and RAP Overlay

ND 3, W Jct 200 E to Hurdfield

Revised	11/13/2017	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
		ND	NH-1-003(048)134	60	6



SPEC	CODE	BID ITEM	UNIT	QUANTITY
202	0169	REMOVAL OF END SECTION-ALL TYPES & SIZES		
		7191+40 - 46' LT (APPROACH PIPE)	EA	2
		7193+18 - 47' LT (APPROACH PIPE)	EA	2
202	0174	REMOVAL OF PIPE ALL TYPES & SIZES		
		7191+40 - 46' LT (APPROACH PIPE)	LF	46
		7192+35 - 45' RT (APPROACH PIPE)	LF	54
		7193+18 - 47' LT (APPROACH PIPE)	LF	45
714	4099	PIPE CONDUIT 18IN-APPROACH		
		7191+54 - LT	LF	70
714	4106	PIPE CONDUIT 24IN-APPROACH		
		7193+16 - LT	LF	92
		7192+40 ' Rt	LF	86



This document was originally issued and sealed by
Brian J. Rosin,
Registration Number
PE- 2928,
on 11/13/17 and the original document is stored at the
North Dakota Department
of Transportation

Plan & Profile
Sta 7190+00 to Sta 7195+47.84

Sliver Grading, Milling, and RAP Overlay

ND 3, W Jct 200 E to Hurdsville