North Dakota Department of Transportation

Grant Levi, P.E.
Director

Jack Dalrymple
Governor

November 5, 2015

ADDENDUM 2 – JOB 31

TO: All prospective bidders on project SOIB-5-200(024)075, Job No. 31, scheduled for the November 13, 2015 bid opening.

The following plan and request for proposal revisions shall be made:

Plan Revisions:
See attached summary from Craig Mizera; HDR, dated November 3, 2015 for an explanation.

Request for Proposal Revisions:
Remove and replace pages 5-8 and 12-14 of 16 of the Proposal pages located at the beginning of the Request for Proposal, with the enclosed pages revised 11/5/2015.

Page 5 of 16:

Item 202 0121 REMOVE & SALVAGE BITUMINOUS SURFACING; quantity decreased from 146,593 to 126,637 TON.
Item 203 0101 COMMON EXCAVATION-TYPE A; quantity increased from 1,113,404 to 1,115,851 CY.
Item 203 0108 TOPSOIL-BORROW AREA; quantity decreased from 16,671 to 12,369 CY.
Item 203 0121 TOPSOIL-WETLAND; quantity decreased from 2845 to 2320 CY.

Page 6 of 16:

Item 203 0140 BORROW-EXCAVATION; quantity decreased from 450,576 to 448,433 CY.
Item 216 0100 WATER; quantity increased from 33,460 to 35,630 M GAL.

Page 7 of 16:

Item 302 0100 SALVAGED BASE COURSE; quantity increased from 468,257 to 576,823 TON.

Page 8 of 16:

Item 704 1052 TYPE III BARRICADE; quantity decreased from 130 to 74 EA.
Item 704 1067 TUBULAR MARKERS; quantity increased from 18 to 30 EA.
Item 704 1080 STACKABLE VERTICAL PANELS; quantity decreased from 7828 to 2745 EA.

Page 12 of 16:

Item 752 2100 VEHICLE GATE; quantity decreased from 23 to 21 EA.
Item 754 0110 FLAT SHEET FOR SIGNS-TYPE XI REFL SHEETING; quantity increased from 392 to 399 SF.
Item 754 0112 FLAT SHEET FOR SIGNS-TYPE IV REFL SHEETING; quantity decreased from 346 to 319 SF.

Page 13 of 16:

Item 754 0206 STEEL GALV POSTS-TELESCOPING PERFORATED TUBE; quantity decreased from 1588 to 1540 LF.

Page 14 of 16:

Item 772 3070 RELOCATE FLASHING-BEACON POST MOUNTED; 1 EA was deleted.
Item 772 3149 REMOVE FLASHING BEACON; 1 EA was added.

Add Special Provision 5078(014) PERMITS AND ENVIRONMENTAL CONSIDERATIONS

This addendum is to be incorporated into the bidder's proposal for this project.

Expedite bid files should be updated by downloading the addendum file from the Bid Express on-line bidding exchange at http://www.bidx.com/ or the Department's web page (http://www.dot.nd.gov) and load it into the Expedite program.

For CAL J. GENDREAU – CONSTRUCTION SERVICES ENGINEER
80:plm
Enclosure

November 3, 2015

ADDENDUM 2
Job No. 31

TO: All prospective bidders and suppliers on Project SOIB-5-200(024)075, Job No. 31, scheduled for the November 13, 2015, bid opening.

Revisions for SOIB-5-200(024)075:

Remove Plan Sheets:

- Section 75, Sheets 35-38

Remove & Replace Plan Sheets:

- Section 2, Sheet 1
- Section 6, Sheets 2-10
- Section 8, Sheets 1-3
- Section 10, Sheets 2-3
- Section 11, Sheets 1-13
- Section 51, Sheets 10
- Section 60, Sheets 20, 29
- Section 75, Sheets 10, 15, 30-34
- Section 76, Sheets 10, 15
- Section 77, Sheets 10, 15
- Section 80, Sheets 10, 15
- Section 100, Sheets 1, 4, 6, 10, 14-16
- Section 110, Sheets 1-3, 5, 14, 19

Add Plan Sheets:

- Section 6, Sheet 11
- Section 11, Sheets 17-20

Add Special Provision:

- SP 5078(14)

With the enclosed sheets revised 11/04/2015

Supplemental Data Files

All Dunn County and McKenzie County supplemental data files have been replaced to reflect corrections in the roadway model files.

4503 Coleman Street, Suite 105, Bismarck, ND 58503-2007
(701) 557-9701

Section 2

Sheet 1:

- Revised number of sheets in sections 6 and 11

Section 6

Sheet 2:

- Revised note 203-P04 to reflect revised borrow quantities
- Revised note 251-P01 to allow for Prairie Sandreed substitute seed mix
- Added note 302-P01

Sheet 3:

- Revised sheet # and note locations due to note addition on sheet 2
- Revised note 704-P04

Sheet 4:

- Revised sheet # and note locations due to note addition on sheet 2

Sheet 5:

- Revised sheet # and note locations due to note addition on sheet 2
- Added note 754-P01

Sheet 6:

- Revised sheet # and note locations due to previous note additions/modifications

Sheet 7:

- Revised sheet # and note locations due to previous note additions/modifications
- Revised note 902-P01

Sheet 8:

- Revised sheet number
- Revised wetland impact table

Sheet 9:

- Revised sheet number
- Revised wetland impact table

Sheet 10:

- Revised sheet number
- Revised wetland impact table

Sheet 11:

- Revised sheet number
- Revised wetland impact table

Section 8

Sheet 1:

- Quantity Revisions

  202-0121 REMOVE & SALVAGE BITUMINOUS SURFACING – modified from 146,593 TON to 126,637 TON

  203-0101 COMMON EXCAVATION-TYPE A – modified from 1,113,404 CY to 1,115,851 CY

  203-0108 TOPSOIL-BORROW AREA – modified from 16,671 CY to 12,369 CY

  203-0121 TOPSOIL-WETLAND – modified from 2,845 CY to 2,320 CY

  203-0140 BORROW EXCAVATION – modified from 450,576 CY to 448,433 CY

  216-0100 WATER – modified from 33,460 M GAL to 35,630 M GAL

  302-0100 SALVAGED BASE COURSE – modified from 468,257 TON to 576,823 TON

Sheet 2:

- Quantity Revisions

  704-1052 TYPE III BARRICADE – modified from 130 EA to 74 EA

  704-1067 TUBULAR MARKERS – modified from 18 EA to 30 EA

  704-1080 STACKABLE VERTICAL PANELS – modified from 7,828 EA to 2,745 EA

Sheet 3:

- Quantity Revisions

  752-2100 VEHICLE GATE – modified from 23 EA to 21 EA

  754-0110 FLAT SHEET FOR SIGNS – TYPE XI REFL SHEETING – modified from 392 SF to 399 SF

  754-0112 FLAT SHEET FOR SIGNS – TYPE IV REFL SHEETING – modified from 346 SF to 319 SF

  754-0206 STEEL GALV POSTS – TELESCOPING PERFORATED TUBE – modified from 1,588 LF to 1,540 LF

- Delete Pay Item and Quantity

  772-3070 RELOCATE FLASHING BEACON-POST MOUNTED

- Add Pay Item and Quantity

  772-3149 REMOVE FLASHING BEACON

<u>Section 10</u>

Sheet 2:

- Deleted note pertaining to Temporary Widening on this sheet because we are now including Temporary Widening Salvaged Base Course quantity for the entire project length instead of just for half of the project length.
- Added notes “by landowner” to private signs table

Sheet 3:

- Revised Temporary Widening & Salvaged Base Course Quantity table to provide quantity of Temporary Widening Salvaged Based Course for the entire project length instead of just for half of the project length.

<u>Section 11</u>

Sheet 1:

- Common Excavation, Borrow and Embankment quantities revised due to earthwork calculation updates.

Sheet 2:

- Earthwork table revised to correct spreadsheet miscalculation.

Sheet 3:

- Earthwork table revised to correct spreadsheet miscalculation.

Sheet 4:

- Earthwork table revised to correct spreadsheet miscalculation.

Sheet 5:

- Earthwork table revised to correct spreadsheet miscalculation.

Sheet 6:

- Earthwork table revised to correct spreadsheet miscalculation.

Sheet 7:

- Earthwork table revised to correct spreadsheet miscalculation.

Sheet 8:

- Earthwork table revised to correct spreadsheet miscalculation.

Sheet 9:

- Earthwork table revised to correct spreadsheet miscalculation.

Sheet 10:
- Earthwork table revised to correct spreadsheet miscalculation.

Sheet 11:
- Mass haul diagram updated due to earthwork table revisions.
- Added temporary widening and contractor option borrow note.

Sheet 12:
- Mass haul diagram updated due to earthwork table revisions.
- Deleted Klatt wetland mitigation site box.
- Added temporary widening and contractor option borrow note.

Sheet 13:
- Mass haul diagram updated due to earthwork table revisions.
- Added temporary widening and contractor option borrow note.
- Revised items in PROJECT TOTAL table.
- Deleted average haul, see plan note 203-385.

Sheet 17:
- Added earthwork table to show embankment required for temporary widening.

Sheet 18:
- Added earthwork table to show embankment required for temporary widening.

Sheet 19:
- Added earthwork table to show embankment required for temporary widening.

Sheet 20:
- Added earthwork table to show embankment required for temporary widening.

Section 51

Sheet 10:
- End Sections removed from temporary culverts, Station 105+93 – Rt to 106+15 – Lt and Station 105+99 – Rt to 106+20 – Lt.

Section 60

Sheet 20:
- Field drive approach at Station 4328+31 Rt removed.

Sheet 29:
- Field drive approach at Station 4502+26 Lt removed.
- Field drive approach at Station 4502+26 Rt removed.

Section 75

Sheet 10:
- Field drive approach at Station 4328+31 Rt removed.

Sheet 15:
- Field drive approach at Station 4502+26 Lt removed.
- Field drive approach at Station 4502+26 Rt removed.

Sheet 30:
- Revised to address NDDOT wetland mitigation comments.

Sheet 31:
- Revised to address NDDOT wetland mitigation comments.

Sheet 32:
- Revised to address NDDOT wetland mitigation comments.

Sheet 33:
- Revised to address NDDOT wetland mitigation comments.

Sheet 34:
- Revised to address NDDOT wetland mitigation comments.

Sheet 35:
- Removed duplicate sheet

Sheet 36:
- Removed duplicate sheet

Sheet 37:
- Removed duplicate sheet

Sheet 38:
- Removed duplicate sheet

Section 76

Sheet 10:
- Field drive approach at Station 4328+31 Rt removed.

Sheet 15:
- Field drive approach at Station 4502+26 Lt removed.
- Field drive approach at Station 4502+26 Rt removed.

Section 77

Sheet 10:
- Field drive approach at Station 4328+31 Rt removed.

Sheet 15:
- Field drive approach at Station 4502+26 Lt removed.
- Field drive approach at Station 4502+26 Rt removed.

Section 80

Sheet 10:
- Field drive approach at Station 4328+31 Rt removed.

Sheet 15:
- Field drive approach at Station 4502+26 Lt removed.
- Field drive approach at Station 4502+26 Rt removed.
- Notes and quantities for vehicle gates at Sta. 4502+25-171' Lt & Sta. 4502+25-150' Rt removed.

Section 100

Sheet 1:
- Revised quantity totals for Type III Barricades, Tubular Markers, and Stackable Vertical Panels.

Sheet 4:
- Field drive approach at Station 4328+31 Rt removed.

Sheet 6:
- Field drive approach at Station 4502+26 Lt removed.
- Field drive approach at Station 4502+26 Rt removed.

Sheet 10:
- End sections removed from temporary culverts.

Sheet 14:
- End sections removed from temporary culverts.

Sheet 15:
- Revised traffic control layout for temporary bypass (adjusted spacing of vertical panels, added labels for tubular markers).

Sheet 16:
- Revised traffic control layout for temporary bypass (adjusted spacing of vertical panels, added labels for tubular markers).

Section 110

Sheet 1:

- Revised quantities to reflect STOP sign change at station 3965+07 Lt.

Sheet 2:

- Revised quantities to reflect STOP sign change at station 3965+07 Lt.

Sheet 3:

- Revised quantities to reflect STOP sign change at station 3965+07 Lt.

Sheet 5:

- Revised flashing beacon callout from relocation to removal.
- Revised size of station 3965+07 Lt STOP sign.

Sheet 14:

- Field drive approach at Station 4328+31 Rt removed.

Sheet 19:

- Field drive approach at Station 4502+26 Lt removed.
- Field drive approach at Station 4502+26 Rt removed.

Special Provision

Added Special Provision 5078(14) which includes the US Army Corps of Engineers Section 404 permit; total 19 pages.

This addendum is to be incorporated into bidder's proposal for this project.

Sincerely,

Craig Mizera
Lead Designer

Enclosure(s): Revised Plan Sheets and files
Project #: SOIB-5-200(024)075

c: Matt Gangness, NDDOT

Project: SOIB-5-200(024)075 (PCN-19733)

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 $$$$$	Unit Price 000	Amount $$$$$	Amount 00
001	103	0100	CONTRACT BOND	L SUM	1.				
002	103	0200	ESCROW OF BID DOCUMENTATION	L SUM	1.				
003	201	0330	CLEARING & GRUBBING	L SUM	1.				
004	202	0105	REMOVAL OF STRUCTURE	L SUM	1.				
005	202	0121	REMOVE & SALVAGE BITUMINOUS SURFACING	TON	126,637.				
006	202	0169	REMOVAL OF END SECTION-ALL TYPES & SIZES	EA	93.				
007	202	0174	REMOVAL OF PIPE ALL TYPES AND SIZES	LF	4,156.				
008	202	0312	REMOVE EXISTING FENCE	LF	69,668.				
009	202	0350	REMOVAL OF TEMPORARY BYPASS	EA	4.				
010	202	2100	PLUG CATTLE PASS	L SUM	1.				
011	203	0101	COMMON EXCAVATION-TYPE A	CY	1,115,851.				
012	203	0107	TOPSOIL-WASTE AREA	CY	23,808.				
013	203	0108	TOPSOIL-BORROW AREA	CY	12,369.				
014	203	0109	TOPSOIL	CY	174,597.				
015	203	0121	TOPSOIL-WETLAND	CY	2,320.				
016	203	0138	COMMON EXCAVATION-SUBCUT	CY	1,473.				

BID ITEMS

Project: SOIB-5-200(024)075 (PCN-19733)

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 $$$$$	Unit Price 000	Amount $$$$$	Amount 00
017	203	0140	BORROW-EXCAVATION	CY	448,433.				
018	210	0109	CLASS 2 EXCAVATION-BOX CULVERT	EA	1.				
019	210	0126	CHANNEL EXCAVATION	CY	2,100.				
020	210	0201	FOUNDATION PREPARATION	EA	1.				
021	210	0210	FOUNDATION FILL	CY	1,220.				
022	216	0100	WATER	M GAL	35,630.				
023	230	0125	SHOULDER PREPARATION	MILE	20.				
024	230	0320	SUBGRADE PREPARATION-TYPE C-12IN	STA	318.				
025	251	0200	SEEDING CLASS II	ACRE	377.				
026	251	0300	SEEDING CLASS III	ACRE	26.				
027	251	1000	WETLAND SEED	ACRE	4.				
028	251	2000	TEMPORARY COVER CROP	ACRE	366.				
029	253	0101	STRAW MULCH	ACRE	778.				
030	253	0301	BONDED FIBER MATRIX	ACRE	109.				
031	255	0103	ECB TYPE 3	SY	4,988.				
032	255	0202	TRM TYPE 2	SY	294.				

BID ITEMS

Project: SOIB-5-200(024)075 (PCN-19733)

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 $$$$$	Unit Price 000	Amount $$$$$	Amount 00
033	256	0100	RIPRAP GRADE I	CY	70.				
034	256	0200	RIPRAP GRADE II	CY	211.				
035	256	0300	RIPRAP GRADE III	CY	342.				
036	260	0200	SILT FENCE SUPPORTED	LF	3,744.				
037	260	0201	REMOVE SILT FENCE SUPPORTED	LF	3,744.				
038	261	0112	FIBER ROLLS 12IN	LF	102,488.				
039	261	0113	REMOVE FIBER ROLLS 12IN	LF	51,244.				
040	261	0120	FIBER ROLLS 20IN	LF	227,340.				
041	261	0121	REMOVE FIBER ROLLS 20IN	LF	113,870.				
042	265	0100	STABILIZED CONSTRUCTION ACCESS	EA	11.				
043	265	0101	REMOVE STABILIZED CONSTRUCTION ACCESS	EA	11.				
044	302	0100	SALVAGED BASE COURSE	TON	576,823.				
045	306	0105	AGGREGATE CL 3M	TON	81,831.				
046	306	0355	REMOVE AND RELAY BLENDED BASE COURSE	TON	3,112.				
047	306	0510	FULL DEPTH RECLAMATION	SY	273,216.				
048	401	0050	TACK COAT	GAL	110,877.				

Project: SOIB-5-200(024)075 (PCN-19733)

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 $$$$$	Unit Price 000	Amount $$$$$	Amount 00
049	401	0060	PRIME COAT	GAL	143,977.				
050	401	0160	BLOTTER MATERIAL CL 44	TON	4,319.				
051	430	0045	SUPERPAVE FAA 45	TON	210,890.				
052	430	1000	CORED SAMPLE	EA	1,068.				
053	430	5828	PG 58-28 ASPHALT CEMENT	TON	9,145.				
054	430	6434	PG 64-34 ASPHALT CEMENT	TON	3,513.				
055	602	1131	CLASS AE-3 CONCRETE-BOX CULVERT	CY	624.				
056	612	0114	REINFORCING STEEL-GRADE 60-BOX CULVERT	LBS	92,040.				
057	702	0100	MOBILIZATION	L SUM	1.				
058	704	0100	FLAGGING	MHR	500.				
059	704	1000	TRAFFIC CONTROL SIGNS	UNIT	9,936.				
060	704	1052	TYPE III BARRICADE	EA	74.				
061	704	1060	DELINEATOR DRUMS	EA	165.				
062	704	1067	TUBULAR MARKERS	EA	30.				
063	704	1080	STACKABLE VERTICAL PANELS	EA	2,745.				
064	704	1081	VERTICAL PANELS-BACK TO BACK	EA	57.				

BID ITEMS

Project: SOIB-5-200(024)075 (PCN-19733)

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 $$$$$	Unit Price 000	Amount $$$$$	Amount 00
113	714	9680	PLUG PIPE-ALL TYPES & SIZES	EA	12.				
114	720	0110	RIGHT OF WAY MARKERS	EA	682.				
115	720	0125	ALIGNMENT MONUMENTS	EA	86.				
116	720	0130	IRON PIN R/W MONUMENTS	EA	183.				
117	720	0135	IRON PIN REFERENCE MONUMENTS	EA	497.				
118	752	0201	FENCE SMOOTH WIRE 4 STRAND	LF	442.				
119	752	0320	FENCE BARBED WIRE 4 STRAND-STEEL POST	LF	75,121.				
120	752	0900	FENCE TEMPORARY INSTALL & REMOVE	LF	15,842.				
121	752	0922	FENCE REMOVE & RESET	LF	1,300.				
122	752	2100	VEHICLE GATE	EA	21.				
123	752	2318	18 FT STOCK GATE	EA	1.				
124	752	3150	CORNER ASSEMBLY BARBED WIRE-WOOD POST	EA	410.				
125	752	4140	DOUBLE BRACE ASSEMBLY BARBED WIRE-WOOD POST	EA	61.				
126	754	0110	FLAT SHEET FOR SIGNS-TYPE XI REFL SHEETING	SF	399.				
127	754	0112	FLAT SHEET FOR SIGNS-TYPE IV REFL SHEETING	SF	319.				
128	754	0150	DELINEATORS-TYPE A	EA	48.				

Project: SOIB-5-200(024)075 (PCN-19733)

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 $$$$$	Unit Price 000	Amount $$$$$	Amount 00
129	754	0206	STEEL GALV POSTS-TELESCOPING PERFORATED TUBE	LF	1,540.				
130	754	0214	GALV STEEL POSTS-W-SHAPE POSTS(TWO OR MORE)	LF	87.				
131	754	0534	PANEL FOR SIGNS-TYPE IV REFLECTIVE SHEETING	SF	55.				
132	754	0562	REFERENCE MARKER-TYPE B	EA	20.				
133	754	0592	RESET SIGN PANEL	EA	19.				
134	754	0593	RESET SIGN SUPPORT	EA	2.				
135	754	0805	OBJECT MARKERS - CULVERTS	EA	232.				
136	760	0005	RUMBLE STRIPS - ASPHALT SHOULDER	MILE	40.				
137	760	0007	RUMBLE STRIPS - ASPHALT CENTERLINE	MILE	20.				
138	760	0009	RUMBLE STRIPS - INTERSECTION	EA	1.				
139	762	0112	EPOXY PVMT MK MESSAGE	SF	1,164.				
140	762	0113	EPOXY PVMT MK 4IN LINE	LF	408,612.				
141	762	0115	EPOXY PVMT MK 8IN LINE	LF	8,804.				
142	762	0117	EPOXY PVMT MK 24IN LINE	LF	31.				
143	762	0430	SHORT TERM 4IN LINE-TYPE NR	LF	155,308.				
144	764	0151	REMOVE W-BEAM GUARDRAIL & POSTS	LF	307.				

BID ITEMS

Project: SOIB-5-200(024)075 (PCN-19733)

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 $$$$$	Unit Price 000	Amount $$$$$	Amount 00
145	764	2020	REMOVE 3-CABLE GUARDRAIL & POSTS	LF	2,583.				
146	764	2080	REMOVE BOX BEAM GUARDRAIL	LF	446.				
147	764	2081	REMOVE END TREATMENT & TRANSITION	EA	8.				
148	766	0100	MAILBOX-ALL TYPES	EA	23.				
149	770	0001	LIGHTING SYSTEM	EA	1.				
150	772	3149	REMOVE FLASHING BEACON	EA	1.				
151	772	9010	AUTOMATIC TRAFFIC RECORDER SYSTEM	EA	1.				
152	772	9300	SURVEILLANCE CAMERA SYSTEM	EA	1.				
153	900	1000	TEMPORARY STREAM DIVERSION	EA	1.				
154	902	0300	REMOVE TEMPORARY WIDENING	L SUM	1.				
155	930	8230	SHORING	EA	1.				
156	980	0170	CATTLE GUARD RESET	EA	2.				
			TOTAL SUM BID						

NORTH DAKOTA DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION

PERMITS AND ENVIRONMENTAL CONSIDERATIONS

PROJECT NUMBER: SOIB-5-200(024)075 – PCN 19733

This Special Provision incorporates the US Army Corps of Engineers (USACE) Section 404 Permit obtained by the North Dakota Department of Transportation (NDDOT) into the bidder's proposal. The project as proposed includes widening, reconstruction, adding passing lanes, and surfacing.

The Contractor shall be responsible for complying with all the terms and conditions as contained in the permit(s) attached hereto. Bidders shall become familiar with all standard conditions and special conditions of the permit(s) and submit their bid for the construction of this project based on the following:

- **Section 404 Permit**
  The Section 404 Permit number NWO-2012-1665-BIS authorizes 2.18 acres of permanent and 0.31 acres of temporary impacts to jurisdictional wetlands from activities associated with widening and culvert extensions. Temporary impacts were assumed by the designer to account for construction activities and will be restored to preconstruction conditions.

  See the Section 6 Environmental Commitments Sheets and Section 75 Sheets of the design plans for the authorized impact footprint areas and mitigation areas. The Section 404 Permit is attached.

The contractor shall be responsible for obtaining permits for impacts not authorized by the attached Permit obtained by the NDDOT.

Corps of Engineers Nationwide Permit (NWP) Verification

NORTH DAKOTA DEPARTMENT OF TRANSPORTATION (ND DOT) PROJECTS REQUEST FOR NWP DETERMINATION(S)

IMPACTED WATER RESOURCE NUMBER	PCN (DOT generated) HWY/Road Number	TYPE AND DIMENSIONS OF EXISTING STRUCTURE	ACTIVITY	STREAM IMPACTS BELOW OHWM (linear feet)			WETLAND IMPACTS (acres)		LOCATION LAT/LONG (NAD 83)		SEC-TWP-RGE, COUNTY	COE ID NUMBER (to be filled by COE)	NWP #
				TEMP (LF)	PERM (LF)	PERM (acre)	TEMP (acre)	PERM (acre)	LAT (Decimal Degrees)	LONG (Decimal Degrees)			
1	19733 / ND 200	none	Road Widening	0.00	0.00	0.00	0	0.01	47.34382	-103.17754	Sec 28, T145N, R 98W	NWO-2012-1665-BIS	23
1a	19733 / ND 200	none	Road Widening	0.00	0.00	0.00	0	0.01	47.2641	-103.17501	Sec 28+33, T145N, R 98W	NWO-2012-1665-BIS	23
7	19733 / ND 200	none	Road Widening	0.00	0.00	0.00	0	0.1	47.3467	-103.11384	Sec 25, T145N, R 98W	NWO-2012-1665-BIS	23
8	19733 / ND 200	none	Road Widening	0.00	0.00	0.00	0	0.01	47.34721	-103.11092	Sec 25, T145N, R 98W	NWO-2012-1665-BIS	23
9	19733 / ND 200	none	Road Widening	0.00	0.00	0.00	0	0.03	47.3476	-103.11094	Sec 30, T145N, R 98W	NWO-2012-1665-BIS	23
10	19733 / ND 200	none	Road Widening	0.00	0.00	0.00	0	0.03	47.35152	-103.09772	Sec 30, T145N, R 97W	NWO-2012-1665-BIS	23
15	19733 / ND 200	none	Road Widening	0.00	0.00	0.00	0	0.05	47.35824	-103.06319	Sec 20, T145N, R 97W	NWO-2012-1665-BIS	23
16	19733 / ND 200	none	Road Widening	0.00	0.00	0.00	0.02	0.35	47.35713	-103.04711	Sec 20+28, T145N, R 97W	NWO-2012-1665-BIS	23
17	19733 / ND 200	none	Road Widening	0.00	0.00	0.00	0	0.13	47.35643	-103.02603	Sec 22+27, T145N, R 97W	NWO-2012-1665-BIS	23
18	19733 / ND 200	none	Road Widening	0.00	0.00	0.00	0	0.17	47.35704	-103.01773	Sec 22+27, T145N, R 97W	NWO-2012-1665-BIS	23
19	19733 / ND 200	none	Road Widening	0.00	0.00	0.00	0	0.1	47.35819	-103.00928	Sec 23+26, T145N, R 97W	NWO-2012-1665-BIS	23
20	19733 / ND 200	10' SPP #200 084 197	extend SPP	0.00	0.00	0.00	0.03	0.3	47.35687	-102.99588	Sec 23+26, T145N, R 97W	NWO-2012-1665-BIS	23
21	19733 / ND 200	11' 6" SPP #200 085 14	extend SPP	0.00	0.00	0.00	0.2	0.74	47.35829	-102.94716	Sec 24+25, T145N, R 97W	NWO-2012-1665-BIS	23
26	19733 / ND 200	10' 6" SPP #200 089 810	extend SPP	0.00	0.00	0.00	0	0.11	47.358275	-102.88100	Sec 23+26, T145N, R 96W	NWO-2012-1665-BIS	23
28	19733 / ND 200	none	Road Widening	0.00	0.00	0.00	0	0.02	47.358281	-102.86688	Sec 23+26, T145N, R 96W	NWO-2012-1665-BIS	23
29	19733 / ND 200	10' 8" x 6' 11" SPPA #200 092 016	extend SPP	0.00	0.00	0.00	0	0.02	47.35716	-102.82654	Sec 19+30, T145N, R 95W	NWO-2012-1665-BIS	23
30	19733 / ND 200	4x12'x10' box culvert #200 093 114	replace bridge with box culvert	0.00	0.00	0.00	0.06	0	47.35814	-102.80384	Sec 20+29, T145N, R 95W	NWO-2012-1665-BIS	23

The U.S. Army Corps of Engineers verifies that the requested activity(s) meet the criteria of the listed NWPs.

Signed: Daniel E. Cimanosky North Dakota Regulatory Office

Verification Date: 26-October-2015 Expiration Date: 18-March-2015

***This NWP verification is subject to the activity meeting all General and Regional Conditions applicable to the 2012 NWPs reissuance. For this authorization to remain valid, you must meet all Regional and General Conditions and Section 401 Water Quality Certification Requirements, identified in the applicable Nationwide Permit Fact Sheet. All Fact Sheets and Section 401 Water Quality Certification Requirements are provided on the North Dakota Regulatory Office's website at https://www.nwo.usace.army.mil/html/od-rnd/factsheet.htm.**

****Project Compliance Certification.** In compliance with General Condition 26, you are required to submit the following project compliance certification within thirty (30) days of project completion. **[Please check all applicable statements]**

[ ] I certify that I have completed the project as permitted.
[ ] I certify that I have completed a modified version of the project.
[ ] I certify that I have completed all required mitigation.

Permittee's Signature:_____ **Date:**_____

***** Special Conditions.**

a. **You must carry out wetland mitigation and monitoring in accordance with the submitted "Compensatory Wetland Mitigation Plan, Highway 200 – US 85 to ND 22, October 14, 2015".**
b. **Mitigation must be constructed prior to, or concurrent with project construction.**
c. **By reference, these requirements become special conditions of this Nationwide Permit verification.**

FACT SHEET
NATIONWIDE PERMIT 23
(2012)

APPROVED CATEGORICAL EXCLUSIONS.

Activities undertaken, assisted, authorized, regulated, funded, or financed, in whole or in part, by another Federal agency or department where:

(a) That agency or department has determined, pursuant to the Council on Environmental Quality's implementing regulations for the National Environmental Policy Act (40 CFR part 1500 et seq.), that the activity is categorically excluded from environmental documentation, because it is included within a category of actions which neither individually nor cumulatively have a significant effect on the human environment; and

(b) The Office of the Chief of Engineers (Attn: CECW-CO) has concurred with that agency's or department's determination that the activity is categorically excluded and approved the activity for authorization under NWP 23.

The Office of the Chief of Engineers may require additional conditions, including pre-construction notification, for authorization of an agency's categorical exclusions under this NWP. (Sections 10 and 404)

Notification: Certain categorical exclusions approved for authorization under this NWP require the permittee to submit a pre-construction notification to the district engineer prior to commencing the activity (see general condition 31). The activities that require pre-construction notification are listed in the appropriate Regulatory Guidance Letters.

Nationwide Permit General Conditions

Note: To qualify for NWP authorization, the prospective permittee must comply with the following general conditions, as applicable, in addition to any regional or case-specific conditions imposed by the division engineer or district engineer.

1. Navigation. (a) No activity may cause more than a minimal adverse effect on navigation.

(b) Any safety lights and signals prescribed by the U.S. Coast Guard, through regulations or otherwise, must be installed and maintained at the permittee's expense on authorized facilities in navigable waters of the United States.

(c) The permittee understands and agrees that, if future operations by the United States require the removal, relocation, or other alteration, of the structure or work herein authorized, or if, in the opinion of the Secretary of the Army or his authorized representative, said structure or work shall cause unreasonable obstruction to the free navigation of the navigable waters, the permittee will be required, upon due notice from the Corps of Engineers, to remove, relocate, or alter the structural work or obstructions caused thereby, without expense to the United States. No claim shall be made against the United States on account of any such removal or alteration.

2. Aquatic Life Movements. No activity may substantially disrupt the necessary life cycle movements of those species of aquatic life indigenous to the waterbody, including those

species that normally migrate through the area, unless the activity's primary purpose is to impound water. All permanent and temporary crossings of waterbodies shall be suitably culverted, bridged, or otherwise designed and constructed to maintain low flows to sustain the movement of those aquatic species.

3. Spawning Areas. Activities in spawning areas during spawning seasons must be avoided to the maximum extent practicable. Activities that result in the physical destruction (e.g., through excavation, fill, or downstream smothering by substantial turbidity) of an important spawning area are not authorized.

4. Migratory Bird Breeding Areas. Activities in waters of the United States that serve as breeding areas for migratory birds must be avoided to the maximum extent practicable.

5. Shellfish Beds. No activity may occur in areas of concentrated shellfish populations, unless the activity is directly related to a shellfish harvesting activity authorized by NWPs 4 and 48, or is a shellfish seeding or habitat restoration activity authorized by NWP 27.

6. Suitable Material. No activity may use unsuitable material (e.g., trash, debris, car bodies, asphalt, etc.). Material used for construction or discharged must be free from toxic pollutants in toxic amounts (see Section 307 of the Clean Water Act).

7. Water Supply Intakes. No activity may occur in the proximity of a public water supply intake, except where the activity is for the repair or improvement of public water supply intake structures or adjacent bank stabilization.

8. Adverse Effects From Impoundments. If the activity creates an impoundment of water, adverse effects to the aquatic system due to accelerating the passage of water, and/or restricting its flow must be minimized to the maximum extent practicable.

9. Management of Water Flows. To the maximum extent practicable, the pre-construction course, condition, capacity, and location of open waters must be maintained for each activity, including stream channelization and storm water management activities, except as provided below. The activity must be constructed to withstand expected high flows. The activity must not restrict or impede the passage of normal or high flows, unless the primary purpose of the activity is to impound water or manage high flows. The activity may alter the pre-construction course, condition, capacity, and location of open waters if it benefits the aquatic environment (e.g., stream restoration or relocation activities).

10. Fills Within 100-Year Floodplains. The activity must comply with applicable FEMA-approved state or local floodplain management requirements.

11. Equipment. Heavy equipment working in wetlands or mudflats must be placed on mats, or other measures must be taken to minimize soil disturbance.

12. Soil Erosion and Sediment Controls. Appropriate soil erosion and sediment controls must be used and maintained in effective operating condition during construction, and all exposed soil and other fills, as well as any work below the ordinary high water mark or high tide line, must be permanently stabilized at the earliest practicable date. Permittees are encouraged to perform work within waters of the United States during periods of low-flow or no-flow.

13. Removal of Temporary Fills. Temporary fills must be removed in their entirety and the affected areas returned to pre-construction elevations. The affected areas must be revegetated, as appropriate.

14. Proper Maintenance. Any authorized structure or fill shall be properly maintained, including maintenance to ensure public safety and compliance with applicable NWP general conditions, as well as any activity-specific conditions added by the district engineer to an NWP authorization.

15. Single and Complete Project. The activity must be a single and complete project. The same NWP cannot be used more than once for the same single and complete project.

16. Wild and Scenic Rivers. No activity may occur in a component of the National Wild and Scenic River System, or in a river officially designated by Congress as a "study river" for possible inclusion in the system while the river is in an official study status, unless the appropriate Federal agency with direct management responsibility for such river, has determined in writing that the proposed activity will not adversely affect the Wild and Scenic River designation or study status. Information on Wild and Scenic Rivers may be obtained from the appropriate Federal land management agency responsible for the designated Wild and Scenic River or study river (e.g., National Park Service, U.S. Forest Service, Bureau of Land Management, U.S. Fish and Wildlife Service).

17. Tribal Rights. No activity or its operation may impair reserved tribal rights, including, but not limited to, reserved water rights and treaty fishing and hunting rights.

18. Endangered Species. (a) No activity is authorized under any NWP which is likely to directly or indirectly jeopardize the continued existence of a threatened or endangered species or a species proposed for such designation, as identified under the Federal Endangered Species Act (ESA), or which will directly or indirectly destroy or adversely modify the critical habitat of such species. No activity is authorized under any NWP which "may affect" a listed species or critical habitat, unless Section 7 consultation addressing the effects of the proposed activity has been completed.

(b) Federal agencies should follow their own procedures for complying with the requirements of the ESA. Federal permittees must provide the district engineer with the appropriate documentation to demonstrate compliance with those requirements. The district engineer will review the documentation and determine whether it is sufficient to address ESA compliance for the NWP activity, or whether additional ESA consultation is necessary.

(c) Non-federal permittees must submit a pre-construction notification to the district engineer if any listed species or designated critical habitat might be affected or is in the vicinity of the project, or if the project is located in designated critical habitat, and shall not begin work on the activity until notified by the district engineer that the requirements of the ESA have been satisfied and that the activity is authorized. For activities that might affect Federally-listed endangered or threatened species or designated critical habitat, the pre-construction notification must include the name(s) of the endangered or threatened species that might be affected by the proposed work or that utilize the designated critical habitat that might be affected by the proposed work. The district engineer will determine whether the proposed activity "may affect" or will have "no effect" to listed species and designated critical habitat and will notify the non-Federal applicant of the Corps' determination within 45 days of receipt of a complete pre-construction notification. In cases where the non-Federal applicant has identified listed species or critical habitat that might be affected or is in the vicinity of the project, and has so notified the Corps, the applicant shall not begin work until the Corps has provided notification the proposed

activities will have "no effect" on listed species or critical habitat, or until Section 7 consultation has been completed. If the non-Federal applicant has not heard back from the Corps within 45 days, the applicant must still wait for notification from the Corps.

(d) As a result of formal or informal consultation with the FWS or NMFS the district engineer may add species-specific regional endangered species conditions to the NWPs.

(e) Authorization of an activity by a NWP does not authorize the "take" of a threatened or endangered species as defined under the ESA. In the absence of separate authorization (e.g., an ESA Section 10 Permit, a Biological Opinion with "incidental take" provisions, etc.) from the U.S. FWS or the NMFS, The Endangered Species Act prohibits any person subject to the jurisdiction of the United States to take a listed species, where "take" means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct. The word "harm" in the definition of "take" means an act which actually kills or injures wildlife. Such an act may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding or sheltering.

(f) Information on the location of threatened and endangered species and their critical habitat can be obtained directly from the offices of the U.S. FWS and NMFS or their world wide web pages at http://www.fws.gov/ or http://www.fws.gov/ipac and http://www.noaa.gov/fisheries.html respectively.

19. Migratory Birds and Bald and Golden Eagles. The permittee is responsible for obtaining any "take" permits required under the U.S. Fish and Wildlife Service's regulations governing compliance with the Migratory Bird Treaty Act or the Bald and Golden Eagle Protection Act. The permittee should contact the appropriate local office of the U.S. Fish and Wildlife Service to determine if such "take" permits are required for a particular activity.

20. Historic Properties. (a) In cases where the district engineer determines that the activity may affect properties listed, or eligible for listing, in the National Register of Historic Places, the activity is not authorized, until the requirements of Section 106 of the National Historic Preservation Act (NHPA) have been satisfied.

(b) Federal permittees should follow their own procedures for complying with the requirements of Section 106 of the National Historic Preservation Act. Federal permittees must provide the district engineer with the appropriate documentation to demonstrate compliance with those requirements. The district engineer will review the documentation and determine whether it is sufficient to address section 106 compliance for the NWP activity, or whether additional section 106 consultation is necessary.

(c) Non-federal permittees must submit a pre-construction notification to the district engineer if the authorized activity may have the potential to cause effects to any historic properties listed on, determined to be eligible for listing on, or potentially eligible for listing on the National Register of Historic Places, including previously unidentified properties. For such activities, the pre-construction notification must state which historic properties may be affected by the proposed work or include a vicinity map indicating the location of the historic properties or the potential for the presence of historic properties. Assistance regarding information on the location of or potential for the presence of historic resources can be sought from the State Historic Preservation Officer or Tribal Historic Preservation Officer, as appropriate, and the National Register of Historic Places (see 33 CFR 330.4(g)). When reviewing pre-construction notifications, district engineers will comply with the current procedures for addressing the requirements of Section 106 of the National Historic Preservation Act. The district engineer shall make a reasonable and good faith effort to carry out appropriate identification efforts, which may include background research, consultation, oral history interviews, sample field investigation, and field survey. Based on the information submitted and these efforts, the district engineer

shall determine whether the proposed activity has the potential to cause an effect on the historic properties. Where the non-Federal applicant has identified historic properties on which the activity may have the potential to cause effects and so notified the Corps, the non-Federal applicant shall not begin the activity until notified by the district engineer either that the activity has no potential to cause effects or that consultation under Section 106 of the NHPA has been completed.

(d) The district engineer will notify the prospective permittee within 45 days of receipt of a complete pre-construction notification whether NHPA Section 106 consultation is required. Section 106 consultation is not required when the Corps determines that the activity does not have the potential to cause effects on historic properties (see 36 CFR §800.3(a)). If NHPA section 106 consultation is required and will occur, the district engineer will notify the non-Federal applicant that he or she cannot begin work until Section 106 consultation is completed. If the non-Federal applicant has not heard back from the Corps within 45 days, the applicant must still wait for notification from the Corps.

(e) Prospective permittees should be aware that section 110k of the NHPA (16 U.S.C. 470h-2(k)) prevents the Corps from granting a permit or other assistance to an applicant who, with intent to avoid the requirements of Section 106 of the NHPA, has intentionally significantly adversely affected a historic property to which the permit would relate, or having legal power to prevent it, allowed such significant adverse effect to occur, unless the Corps, after consultation with the Advisory Council on Historic Preservation (ACHP), determines that circumstances justify granting such assistance despite the adverse effect created or permitted by the applicant. If circumstances justify granting the assistance, the Corps is required to notify the ACHP and provide documentation specifying the circumstances, the degree of damage to the integrity of any historic properties affected, and proposed mitigation. This documentation must include any views obtained from the applicant, SHPO/THPO, appropriate Indian tribes if the undertaking occurs on or affects historic properties on tribal lands or affects properties of interest to those tribes, and other parties known to have a legitimate interest in the impacts to the permitted activity on historic properties.

21. <u>Discovery of Previously Unknown Remains and Artifacts</u>. If you discover any previously unknown historic, cultural or archeological remains and artifacts while accomplishing the activity authorized by this permit, you must immediately notify the district engineer of what you have found, and to the maximum extent practicable, avoid construction activities that may affect the remains and artifacts until the required coordination has been completed. The district engineer will initiate the Federal, Tribal and state coordination required to determine if the items or remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.

22. <u>Designated Critical Resource Waters</u>. Critical resource waters include, NOAA-managed marine sanctuaries and marine monuments, and National Estuarine Research Reserves. The district engineer may designate, after notice and opportunity for public comment, additional waters officially designated by a state as having particular environmental or ecological significance, such as outstanding national resource waters or state natural heritage sites. The district engineer may also designate additional critical resource waters after notice and opportunity for public comment.

(a) Discharges of dredged or fill material into waters of the United States are not authorized by NWPs 7, 12, 14, 16, 17, 21, 29, 31, 35, 39, 40, 42, 43, 44, 49, 50, 51, and 52 for any activity within, or directly affecting, critical resource waters, including wetlands adjacent to such waters.

(b) For NWPs 3, 8, 10, 13, 15, 18, 19, 22, 23, 25, 27, 28, 30, 33, 34, 36, 37, and 38, notification is required in accordance with general condition 31, for any activity proposed in the

designated critical resource waters including wetlands adjacent to those waters. The district engineer may authorize activities under these NWPs only after it is determined that the impacts to the critical resource waters will be no more than minimal.

23. Mitigation. The district engineer will consider the following factors when determining appropriate and practicable mitigation necessary to ensure that adverse effects on the aquatic environment are minimal:

(a) The activity must be designed and constructed to avoid and minimize adverse effects, both temporary and permanent, to waters of the United States to the maximum extent practicable at the project site (i.e., on site).

(b) Mitigation in all its forms (avoiding, minimizing, rectifying, reducing, or compensating for resource losses) will be required to the extent necessary to ensure that the adverse effects to the aquatic environment are minimal.

(c) Compensatory mitigation at a minimum one-for-one ratio will be required for all wetland losses that exceed 1/10-acre and require pre-construction notification, unless the district engineer determines in writing that either some other form of mitigation would be more environmentally appropriate or the adverse effects of the proposed activity are minimal, and provides a project-specific waiver of this requirement. For wetland losses of 1/10-acre or less that require pre-construction notification, the district engineer may determine on a case-by-case basis that compensatory mitigation is required to ensure that the activity results in minimal adverse effects on the aquatic environment. Compensatory mitigation projects provided to offset losses of aquatic resources must comply with the applicable provisions of 33 CFR part 332.

(1) The prospective permittee is responsible for proposing an appropriate compensatory mitigation option if compensatory mitigation is necessary to ensure that the activity results in minimal adverse effects on the aquatic environment.

(2) Since the likelihood of success is greater and the impacts to potentially valuable uplands are reduced, wetland restoration should be the first compensatory mitigation option considered.

(3) If permittee-responsible mitigation is the proposed option, the prospective permittee is responsible for submitting a mitigation plan. A conceptual or detailed mitigation plan may be used by the district engineer to make the decision on the NWP verification request, but a final mitigation plan that addresses the applicable requirements of 33 CFR 332.4(c)(2) – (14) must be approved by the district engineer before the permittee begins work in waters of the United States, unless the district engineer determines that prior approval of the final mitigation plan is not practicable or not necessary to ensure timely completion of the required compensatory mitigation (see 33 CFR 332.3(k)(3)).

(4) If mitigation bank or in-lieu fee program credits are the proposed option, the mitigation plan only needs to address the baseline conditions at the impact site and the number of credits to be provided.

(5) Compensatory mitigation requirements (e.g., resource type and amount to be provided as compensatory mitigation, site protection, ecological performance standards, monitoring requirements) may be addressed through conditions added to the NWP authorization, instead of components of a compensatory mitigation plan.

(d) For losses of streams or other open waters that require pre-construction notification, the district engineer may require compensatory mitigation, such as stream rehabilitation, enhancement, or preservation, to ensure that the activity results in minimal adverse effects on the aquatic environment.

(e) Compensatory mitigation will not be used to increase the acreage losses allowed by the acreage limits of the NWPs. For example, if an NWP has an acreage limit of 1/2-acre, it cannot be used to authorize any project resulting in the loss of greater than 1/2-acre of waters of the United States, even if compensatory mitigation is provided that replaces or restores some of

the lost waters. However, compensatory mitigation can and should be used, as necessary, to ensure that a project already meeting the established acreage limits also satisfies the minimal impact requirement associated with the NWPs.

(f) Compensatory mitigation plans for projects in or near streams or other open waters will normally include a requirement for the restoration or establishment, maintenance, and legal protection (e.g., conservation easements) of riparian areas next to open waters. In some cases, riparian areas may be the only compensatory mitigation required. Riparian areas should consist of native species. The width of the required riparian area will address documented water quality or aquatic habitat loss concerns. Normally, the riparian area will be 25 to 50 feet wide on each side of the stream, but the district engineer may require slightly wider riparian areas to address documented water quality or habitat loss concerns. If it is not possible to establish a riparian area on both sides of a stream, or if the waterbody is a lake or coastal waters, then restoring or establishing a riparian area along a single bank or shoreline may be sufficient. Where both wetlands and open waters exist on the project site, the district engineer will determine the appropriate compensatory mitigation (e.g., riparian areas and/or wetlands compensation) based on what is best for the aquatic environment on a watershed basis. In cases where riparian areas are determined to be the most appropriate form of compensatory mitigation, the district engineer may waive or reduce the requirement to provide wetland compensatory mitigation for wetland losses.

(g) Permittees may propose the use of mitigation banks, in-lieu fee programs, or separate permittee-responsible mitigation. For activities resulting in the loss of marine or estuarine resources, permittee-responsible compensatory mitigation may be environmentally preferable if there are no mitigation banks or in-lieu fee programs in the area that have marine or estuarine credits available for sale or transfer to the permittee. For permittee-responsible mitigation, the special conditions of the NWP verification must clearly indicate the party or parties responsible for the implementation and performance of the compensatory mitigation project, and, if required, its long-term management.

(h) Where certain functions and services of waters of the United States are permanently adversely affected, such as the conversion of a forested or scrub-shrub wetland to a herbaceous wetland in a permanently maintained utility line right-of-way, mitigation may be required to reduce the adverse effects of the project to the minimal level.

24. Safety of Impoundment Structures. To ensure that all impoundment structures are safely designed, the district engineer may require non-Federal applicants to demonstrate that the structures comply with established state dam safety criteria or have been designed by qualified persons. The district engineer may also require documentation that the design has been independently reviewed by similarly qualified persons, and appropriate modifications made to ensure safety.

25. Water Quality. Where States and authorized Tribes, or EPA where applicable, have not previously certified compliance of an NWP with CWA Section 401, individual 401 Water Quality Certification must be obtained or waived (see 33 CFR 330.4(c)). The district engineer or State or Tribe may require additional water quality management measures to ensure that the authorized activity does not result in more than minimal degradation of water quality.

26. Coastal Zone Management. In coastal states where an NWP has not previously received a state coastal zone management consistency concurrence, an individual state coastal zone management consistency concurrence must be obtained, or a presumption of concurrence must occur (see 33 CFR 330.4(d)). The district engineer or a State may require additional measures to ensure that the authorized activity is consistent with state coastal zone management requirements.

27. Regional and Case-By-Case Conditions. The activity must comply with any regional conditions that may have been added by the Division Engineer (see 33 CFR 330.4(e)) and with any case specific conditions added by the Corps or by the state, Indian Tribe, or U.S. EPA in its section 401 Water Quality Certification, or by the state in its Coastal Zone Management Act consistency determination.

28. Use of Multiple Nationwide Permits. The use of more than one NWP for a single and complete project is prohibited, except when the acreage loss of waters of the United States authorized by the NWPs does not exceed the acreage limit of the NWP with the highest specified acreage limit. For example, if a road crossing over tidal waters is constructed under NWP 14, with associated bank stabilization authorized by NWP 13, the maximum acreage loss of waters of the United States for the total project cannot exceed 1/3-acre.

29. Transfer of Nationwide Permit Verifications. If the permittee sells the property associated with a nationwide permit verification, the permittee may transfer the nationwide permit verification to the new owner by submitting a letter to the appropriate Corps district office to validate the transfer. A copy of the nationwide permit verification must be attached to the letter, and the letter must contain the following statement and signature:

"When the structures or work authorized by this nationwide permit are still in existence at the time the property is transferred, the terms and conditions of this nationwide permit, including any special conditions, will continue to be binding on the new owner(s) of the property. To validate the transfer of this nationwide permit and the associated liabilities associated with compliance with its terms and conditions, have the transferee sign and date below."

_____

(Transferee)

_____

(Date)

30. Compliance Certification. Each permittee who receives an NWP verification letter from the Corps must provide a signed certification documenting completion of the authorized activity and any required compensatory mitigation. The success of any required permittee-responsible mitigation, including the achievement of ecological performance standards, will be addressed separately by the district engineer. The Corps will provide the permittee the certification document with the NWP verification letter. The certification document will include:

(a) A statement that the authorized work was done in accordance with the NWP authorization, including any general, regional, or activity-specific conditions;

(b) A statement that the implementation of any required compensatory mitigation was completed in accordance with the permit conditions. If credits from a mitigation bank or in-lieu fee program are used to satisfy the compensatory mitigation requirements, the certification must include the documentation required by 33 CFR 332.3(l)(3) to confirm that the permittee secured the appropriate number and resource type of credits; and

(c) The signature of the permittee certifying the completion of the work and mitigation.

31. Pre-Construction Notification—(a) *Timing.* Where required by the terms of the NWP, the prospective permittee must notify the district engineer by submitting a pre-construction notification (PCN) as early as possible. The district engineer must determine if the

PCN is complete within 30 calendar days of the date of receipt and, if the PCN is determined to be incomplete, notify the prospective permittee within that 30 day period to request the additional information necessary to make the PCN complete. The request must specify the information needed to make the PCN complete. As a general rule, district engineers will request additional information necessary to make the PCN complete only once. However, if the prospective permittee does not provide all of the requested information, then the district engineer will notify the prospective permittee that the PCN is still incomplete and the PCN review process will not commence until all of the requested information has been received by the district engineer. The prospective permittee shall not begin the activity until either: (1) He or she is notified in writing by the district engineer that the activity may proceed under the NWP with any special conditions imposed by the district or division engineer; or (2) 45 calendar days have passed from the district engineer's receipt of the complete PCN and the prospective permittee has not received written notice from the district or division engineer. However, if the permittee was required to notify the Corps pursuant to general condition 18 that listed species or critical habitat might be affected or in the vicinity of the project, or to notify the Corps pursuant to general condition
20 that the activity may have the potential to cause effects to historic properties, the permittee cannot begin the activity until receiving written notification from the Corps that there is "no effect" on listed species or "no potential to cause effects" on historic properties, or that any consultation required under Section 7 of the Endangered Species Act (see 33 CFR 330.4(f)) and/or Section 106 of the National Historic Preservation (see 33 CFR 330.4(g)) has been completed. Also, work cannot begin under NWPs 21, 49, or 50 until the permittee has received written approval from the Corps. If the proposed activity requires a written waiver to exceed specified limits of an NWP, the permittee may not begin the activity until the district engineer issues the waiver. If the district or division engineer notifies the permittee in writing that an individual permit is required within 45 calendar days of receipt of a complete PCN, the permittee cannot begin the activity until an individual permit has been obtained. Subsequently, the permittee's right to proceed under the NWP may be modified, suspended, or revoked only in accordance with the procedure set forth in 33 CFR 330.5(d)(2).

(b) *Contents of Pre-Construction Notification:* The PCN must be in writing and include the following information: (1) Name, address and telephone numbers of the prospective permittee; (2) Location of the proposed project; (3) A description of the proposed project; the project's purpose; direct and indirect adverse environmental effects the project would cause, including the anticipated amount of loss of water of the United States expected to result from the NWP activity, in acres, linear feet, or other appropriate unit of measure; any other NWP(s), regional general permit(s), or individual permit(s) used or intended to be used to authorize any part of the proposed project or any related activity. The description should be sufficiently detailed to allow the district engineer to determine that the adverse effects of the project will be minimal and to determine the need for compensatory mitigation. Sketches should be provided when necessary to show that the activity complies with the terms of the NWP. (Sketches usually clarify the project and when provided results in a quicker decision. Sketches should contain sufficient detail to provide an illustrative description of the proposed activity (e.g., a conceptual plan), but do not need to be detailed engineering plans); (4) The PCN must include a delineation of wetlands, other special aquatic sites, and other waters, such as lakes and ponds, and perennial, intermittent, and ephemeral streams, on the project site. Wetland delineations must be prepared in accordance with the current method required by the Corps. The permittee may ask the Corps to delineate to delineate the special aquatic sites and other waters on the project site, but there may be a delay if the Corps does the delineation, especially if the project site is large or contains many waters of the United States. Furthermore, the 45 day period will not start until the

delineation has been submitted to or completed by the Corps, as appropriate; (5) If the proposed activity will result in the loss of greater than 1/10-acre of wetlands and a PCN is required, the prospective permittee must submit a statement describing how the mitigation requirement will be satisfied, or explaining why the adverse effects are minimal and why compensatory mitigation should not be required. As an alternative, the prospective permittee may submit a conceptual or detailed mitigation plan. (6) If any listed species or designated critical habitat might be affected or is in the vicinity of the project, or if the project is located in designated critical habitat, for non-Federal applicants the PCN must include the name(s) of those endangered or threatened species that might be affected by the proposed work or utilize the designated critical habitat that may be affected by the proposed work. Federal applicants must provide documentation demonstrating compliance with the Endangered Species Act; and (7) For an activity that may affect a historic property listed on, determined to be eligible for listing on, or potentially eligible for listing on, the National Register of Historic Places, for non-Federal applicants the PCN must state which historic property may be affected by the proposed work or include a vicinity map indicating the location of the historic property. Federal applicants must provide documentation demonstrating compliance with Section 106 of the National Historic Preservation Act. (c) *Form of Pre-Construction Notification:* The standard individual permit application form (Form ENG 4345) may be used, but the completed application form must clearly indicate that it is a PCN and must include all of the information required in paragraphs (b)(1) through (7) of this general condition. A letter containing the required information may also be used. (d) *Agency Coordination:* (1) The district engineer will consider any comments from Federal and state agencies concerning the proposed activity's compliance with the terms and conditions of the NWPs and the need for mitigation to reduce the project's adverse environmental effects to a minimal level. (2) For all NWP activities that require pre-construction notification and result in the loss of greater than 1/2-acre of waters of the United States, for NWP 21, 29, 39, 40, 42, 43, 44, 50, 51, and 52 activities that require pre-construction notification and will result in the loss of greater than 300 linear feet of intermittent and ephemeral stream bed, and for all NWP 48 activities that require pre-construction notification, the district engineer will immediately provide (e.g., via email, facsimile transmission, overnight mail, or other expeditious manner) a copy of the complete PCN to the appropriate Federal or state offices (U.S. FWS, state natural resource or water quality agency, EPA, State Historic Preservation Officer (SHPO) or Tribal Historic Preservation Office (THPO), and, if appropriate, the NMFS). With the exception of NWP 37, these agencies will have 10 calendar days from the date the material is transmitted to telephone or fax the district engineer notice that they intend to provide substantive, site specific comments. The comments must explain why the agency believes the adverse effects will be more than minimal. If so contacted by an agency, the district engineer will wait an additional 15 calendar days before making a decision on the preconstruction notification. The district engineer will fully consider agency comments received within the specified time frame concerning the proposed activity's compliance with the terms and conditions of the NWPs, including the need for mitigation to ensure the net adverse environmental effects to the aquatic environment of the proposed activity are minimal. The district engineer will provide no response to the resource agency, except as provided below. The district engineer will indicate in the administrative record associated with each pre-construction notification that the resource agencies' concerns were considered. For NWP 37, the emergency watershed protection and rehabilitation activity may proceed immediately in cases where there is an unacceptable hazard to life or a significant loss of property or economic hardship will occur. The district engineer will consider any comments received to decide whether the NWP 37 authorization should be modified, suspended, or revoked in accordance with the procedures at 33 CFR 330.5. (3) In cases of where the prospective permittee is not a Federal agency, the district engineer will provide a response to NMFS within 30 calendar days of receipt of any Essential Fish Habitat conservation recommendations, as required by Section

305(b)(4)(B) of the Magnuson-Stevens Fishery Conservation and Management Act. (4) Applicants are encouraged to provide the Corps with either electronic files or multiple copies of preconstruction notifications to expedite agency coordination.

Further Information

1. District Engineers have authority to determine if an activity complies with the terms and conditions of an NWP.
2. NWPs do not obviate the need to obtain other federal, state, or local permits, approvals, or authorizations required by law.
3. NWPs do not grant any property rights or exclusive privileges.
4. NWPs do not authorize any injury to the property or rights of others.
5. NWPs do not authorize interference with any existing or proposed Federal project.

2012 Nationwide Permits
Regional Conditions
Omaha District
State of North Dakota

The following Nationwide Permit regional conditions will be used in the State of North Dakota. Regional conditions are placed on Nationwide Permits to ensure projects result in less than minimal adverse impacts to the aquatic environment and to address local resources concerns.

Wetlands Classified as Peatlands – Revoked for Use

All Nationwide Permits, with the exception of 3, 5, 20, 32, 38 and 45, are revoked for use in peatlands in North Dakota.

Peatlands are saturated and inundated wetlands where conditions inhibit organic matter decomposition and allow for the accumulation of peat. Under cool, anaerobic, and acidic conditions, the rate of organic matter accumulation exceeds organic decay. Peatlands can be primarily classified into ombrotrophic bogs and minerotrophic fens; the latter subdivided into poor, moderate-rich, and extreme-rich fens, each with distinctive indicator species, community physiognomy, acidity, alkalinity, and base cation content.

Wetlands Classified as Peatlands – Pre-construction Notification Requirement

For Nationwide Permits 3, 5, 20, 32, 38, and 45 permittees must notify the Corps in accordance with General Condition 31 (Notification) prior to initiating any regulated activity impacting peatlands in North Dakota.

Waters Adjacent to Natural Springs – Pre-construction Notification Requirement

For all Nationwide Permits permittees must notify the Corps in accordance with General Condition No. 31 (Notification) for regulated activities located within 100 feet of the water source in natural spring areas in North Dakota. For purposes of this condition, a spring source is defined as any location where there is artesian flow emanating from a distinct point at any time during the growing season. Springs do not include seeps and other groundwater discharge areas where there is no distinct point source.

Missouri River, including Lake Sakakawea and Lake Oahe within the State of North Dakota – Pre-construction Notification Requirement

For all Nationwide Permits permittees must notify the Corps in accordance with General Condition No. 31 (Notification) prior to initiating any regulated activity in the Missouri River, including Lake Sakakawea and Lake Oahe, within the State of North Dakota.

Borrow Site Identification – All Nationwide Permits

The permittee is responsible for ensuring that the Corps is notified of the location of any borrow site that will be used in conjunction with the construction of the authorized activity so that the Corps may evaluate the site for potential impacts to aquatic resources, historic properties, and endangered species. For projects where there is another lead Federal agency, the permittee shall provide the Corps documentation indicating that the lead Federal agency has complied with the National Historic Preservation Act and Endangered Species Act for the borrow site. The permittee shall not initiate work at the borrow site in conjunction with the authorized activity until approval is received from the Corps.

Counter-sinking Culverts and Associated Riprap – All Nationwide Permits

That culverts and riprap proposed to be installed within waters of the United States listed as Class III or higher on the 1978 Stream Evaluation Map for the State of North Dakota shall be installed one foot below the natural streambed. The 1978 Stream Evaluation Map for the State of North Dakota can be accessed on the North Dakota Regulatory Office's website at: http://www.nwo.usace.army.mil/html/od-rnd/ndhome.htm.

REGIONAL CONDITIONS APPLICABLE TO SPECIFIC NATIONWIDE PERMITS

Nationwide Permit 7 – Outfall Structures and Associated Intake Structures and Nationwide Permit 12 – Utility Line Activities

Intake Structures - Intake screens with a maximum mesh opening of 1/4-inch must be provided, inspected annually, and maintained. Wire, Johnson-like, screens must have a maximum distance between wires of 1/8-inch. Water velocity at the intake screen shall not exceed ½-foot per second.

Pumping plant sound levels will not exceed 75 dB at 50 feet.

Intakes located in Lake Sakakawea, above river mile 1519, are subject to the following conditions:

- The intakes shall be floating.
- At the beginning of the pumping season, the intake shall be placed over water with a minimum depth of 20 feet.
- If the 20-foot depth is not attainable, then the intake shall be located over the deepest water available.
- If the water depth falls below six feet, the intake shall be moved to deeper water or the maximum intake velocity shall be limited to ¼ foot per second.

Intakes located in Lake Sakakawea, below river mile 1519, and in the Missouri River below Garrison Dam are subject to the following conditions:

- The intakes shall be submerged.
- At the beginning of the pumping season, the intake will be placed at least 20 vertical feet below the existing water level.
- The intake shall be elevated 2 to 4 feet off the bottom of the river or reservoir bed.
- If the 20-foot depth is not attainable, then the intake velocity shall be limited to ¼-foot per second with the intake placed at the maximum practicable attainable depth.

Nationwide Permit 11 – Temporary Recreational Structures - Boat Docks

a. If future operations by the United States require the removal, relocation, or other alteration, of the structure or work herein authorized, or if, in the opinion of the Secretary of the Army or his authorized representative, said structure or work shall cause unreasonable obstruction to the free navigation of the navigable waters, the permittee will be required, upon due notice from the Corps of Engineers, to remove, relocate, or alter the structural work or obstructions caused thereby, without expense to the United States. No claim shall be made against the United States on account of any such removal or alteration.

b. No boat dock shall be located on a sandbar or barren sand feature located in or along the banks of the Missouri River.

c. The farthest point riverward on the dock located on the Missouri River proper shall not exceed a total length of 30 feet from the ordinary high water line found along the high bank out into the River. Information Note: Issuance of this permit does not supersede authorization required by the North Dakota State Engineer's Office.

d. Any boat dock located on the Missouri River shall be anchored to the top of the high bank.

e. Any boat dock located within an excavated bay or marina off the main river channel may be anchored to the bay or marina bottom with spuds.

Nationwide Permit 13 - Bank Stabilization

Permittees must notify the Corps in accordance with General Condition No. 31 (Notification) prior to initiating any regulated activity within the State of North Dakota.

Nationwide Permit 23 - Approved Categorical Exclusions

Permittees must notify the Corps in accordance with General Condition No. 31 (Notification) prior to initiating any regulated activity within the State of North Dakota. In addition to information required by General Condition 31, permittees must identify the approved categorical exclusion that applies and provide documentation that the project fits the categorical exclusion.

Nationwide Permit 27 - Aquatic Habitat Restoration, Establishment and Enhancement Activities

Permittees must notify the Corps in accordance with General Condition No. 31 (Notification) prior to initiating any regulated activity within the State of North Dakota.

GENERAL CONDITIONS (REGIONAL ADDITIONS)

General Condition 3- Spawning Areas

No regulated activity within waters of the United States listed as Class III or higher on the 1978 Stream Evaluation Map for the State of North Dakota or on the North Dakota Game and Fish Department's website as a North Dakota Public Fishing Water shall occur between 15 April and 1 June. No regulated activity within the Red River of the North shall occur between 15 April and 1 July. North Dakota Public Fishing Waters can be accessed at: http://gf.nd.gov/fishing/nd-fish-wat.html. The 1978 Stream Evaluation Map for the State of North Dakota can be accessed on the North Dakota Regulatory Office's website at: http://www.nwo.usace.army.mil/html/od-rnd/ndhome.htm.

General Condition 6 – Suitable Material

Permittees are reminded that General Condition No. 6 prohibits the use of unsuitable material. In addition, organic debris, some building waste, and materials excessive in fines are not suitable material. Specific verbiage on prohibited materials can be accessed on the North Dakota Regulatory Office's website at: http://www.nwo.usace.army.mil/html/od-rnd/ndhome.htm.

General Condition 9 - Management of Water Flows

Permittees are reminded that water flow management addressed in General Condition 9 is applicable to all aspects of a permitted project, including temporary features.

General Condition 31 – Pre-construction Notification

Prospective permittees should be aware that a **field delineation** may be required for applications where notification is required in accordance with General Condition 31 and/or mitigation may be required. The Corps 1987 Wetland Delineation Manual and applicable Regional Supplements to the Manual can be accessed on the North Dakota Regulatory Office's website at: http://www.nwo.usace.army.mil/html/od-rnd/ndhome.htm.

NORTH DAKOTA
DEPARTMENT of HEALTH

ENVIRONMENTAL HEALTH SECTION
Gold Seal Center, 918 E. Divide Ave.
Bismarck, ND 58501-1947
701.328.5200 (fax)
www.ndhealth.gov

Construction and Environmental Disturbance Requirements

These represent the minimum requirements of the North Dakota Department of Health. They ensure that minimal environmental degradation occurs as a result of construction or related work which has the potential to affect the waters of the State of North Dakota. All projects will be designed and implemented to restrict the losses or disturbances of soil, vegetative cover, and pollutants (chemical or biological) from a site.

Soils

Prevent the erosion of exposed soil surfaces and trapping sediments being transported. Examples include, but are not restricted to, sediment dams or berms, diversion dikes, hay bales as erosion checks, riprap, mesh or burlap blankets to hold soil during construction, and immediately establishing vegetative cover on disturbed areas after construction is completed. Fragile and sensitive areas such as wetlands, riparian zones, delicate flora, or land resources will be protected against compaction, vegetation loss, and unnecessary damage.

Surface Waters

All construction which directly or indirectly impacts aquatic systems will be managed to minimize impacts. All attempts will be made to prevent the contamination of water at construction sites from fuel spillage, lubricants, and chemicals, by following safe storage and handling procedures. Stream bank and stream bed disturbances will be controlled to minimize and/or prevent silt movement, nutrient upsurges, plant dislocation, and any physical, chemical, or biological disruption. The use of pesticides or herbicides in or near these systems is forbidden without approval from this Department.

Fill Material

Any fill material placed below the high water mark must be free of top soils, decomposable materials, and persistent synthetic organic compounds (in toxic concentrations). This includes, but is not limited to, asphalt, tires, treated lumber, and construction debris. The Department may require testing of fill materials. All temporary fills must be removed. Debris and solid wastes will be removed from the site and the impacted areas restored as nearly as possible to the original condition.

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LIST OF SPECIAL PROVISIONS (SP)

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SP 0003(14)	Temporary Erosion and Sediment Best Management Practices
SP 0004(14)	Federal Migratory Bird Treaty Act
SP 0031(14)	Flexible Pavement Surface Tolerance Mine and Blend
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SP 0033(14)	Surveillance Camera – Truss Tower Mounted
SP 0207(14)	Temporary Stream Diversions
SP 0215(14)	Winter Suspension
SP 5078(14)	Permits Environmental Considerations

NOTES

203-P03 COMMON EXCAVATION-TYPE A: Include all costs associated with the construction of ditch blocks, intercepting ditches, and the removal of approaches in the unit price bid for “Common Excavation-Type A”.

Payment for wetland mitigation is included in the price bid “Common Excavation-Type A”.

203-P04 BORROW SITES: It is estimated that the Contractor may need approximately 448,433 CY of additional embankment from borrow sources. The NDDOT has optioned 160,000 CY at a predetermined Department Optioned Borrow site and approximately 288,433 CY will be Contractor Furnished Borrow.

251-P01 SEEDING CLASS III: All disturbed areas along United States Forest Service property is to be stabilized with seed and mulch. All costs for seeding the areas are to be included in the unit price bid for “SEEDING CLASS III”. Plan quantity will be paid for Seeding Class III.

The following seed mix will be used:

Species	Release	Common Name	% of Mix	Drilled Actual PLS lbs/ac	Broadcast Actual PLS lbs/ac (doubled)
Grasses Cool Season: Pascopyrum smithii Nassella Viridula	Rodan Lodorm	Western wheatgrass Green needlegrass	40% 30%	4.0 3.0	8.0 6.0
Grasses Warm Season: Calamovilfa longifoia	Goshen	Prairie sandreed*	30%	3.0	6.0
Total of All Species			100%	10.0	20.0
Cover Crop: 1	Oats, Barley, or Canada Wild Rye (Mandan Release)			4.0	8.0
Total Pounds per Type				14.0	28.0

*If Prairie Sandreed is unavailable 1.5lbs/ac of Little Bluestem and 1.5 lbs/ac of Blue Grama may be substituted. (doubled for broadcast)

253-P01 BONDED FIBER MATRIX: Install temporary erosion control consisting of Bonded Fiber Matrix. Costs associated with the application and maintenance of the temporary erosion control along the temporary widening areas is to be included in the price bid for “Bonded Fiber Matrix”.

260-P01 EROSION CONTROL: Unsupported silt fence placed in standing water will not be embedded, install in such a way that the fence meets the ground.

In areas with no standing water, an earthen berm may be used in place of silt fence. Topsoil and excavated soil may be used to create an earthen berm with a minimum height of 12 inches to prevent sediment transfer off the construction area. Shape the berm in such a way that it will not fail when pressure from stormwater is applied. Temporarily seed the berm with Class II seed mix and mulch to stabilize. When the foreslope has reached final grade, remove the earthen berm and spread the material on the inslope before permanent seeding and mulching work is commenced. Include all costs associated with creating, maintaining, seeding, mulching, and removing the berm in the unit price bid for “Topsoil”.

To allow storm water to drain through the berm, weirs may be placed intermittently as needed throughout the length of the berm. No more than 5 foot wide weirs and have fiber rolls installed across the weir on the downslope side of the berm.

302-P01 SALVAGED BASE COURSE: The Salvage Base Course placed for temporary widening shall become property of the contractor when removed. The removed Salvaged Base Course may then be used as Salvaged Base Course for other areas of the project if it meets gradation specification 817.01 B., and will be paid at bid price for Salvage Base Course. The removal of Salvaged Base Course from the temporary widening areas is included in the price bid for “Remove Temporary Widening” as outlined in Note 902-P01.

430-P01 PAVING SEAMS: Paving seams are not allowed in the wheel path of the driving lane.

704-200 PRECAST CONCRETE MEDIAN BARRIERS – STATE FURNISHED: Obtain 64 barriers from Belfield Maintenance Yard. Return barriers to Belfield Maintenance Yard, located at 898 8th St. NW, Belfield, ND 58622-7418.

Some 4 inch x 4 inch boards are available at the return location. Provide any additional 4 inch x 4 inch boards necessary to stack barriers. The boards will become property of the Department. Include the cost for boards in the contract unit price for “Precast Concrete Median Barrier – State Furnished”.

This document was originally issued and sealed by Craig Mizera, Registration Number PE-7475, on 11/03/15 and the original document is stored at the North Dakota Department of Transportation.

NOTES

704-P01 TRAFFIC CONTROL DEVICES: The traffic control devices list has been developed using the layouts shown in the plans and the following layouts shown on the Standard Drawings.

1. D-704-05 Contractor Sign Detail
2. D-704-07 Breakaway Systems for Construction Zone Signs – Perforated Tube
3. D-704-09 Construction Sign Details – Terminal and Guide Signs
4. D-704-10 Construction Sign Details – Regulatory Signs
5. D-704-11 Construction Sign Details – Warning Signs
6. D-704-13 Barricade and Channelizing Device Details
7. D-704-14 Construction Sign Punching and Mounting Details
8. D-704-15 Layout Type A to be used any time conditions exist. (Quantities are based on two one lane closures happening simultaneously.)
9. D-704-15 Layout Type B Temporary Bypass locations. Devices have been supplied for the box culvert temporary bypass.
10. D-704-20 Layout Type G Intersecting Routes.
11. D-704-22 and D-704-26, Layouts Type K, Type L, and Type Y for Construction Truck Hauling Material.
12. D-704-26 Layouts Type BB, CC, EE, FF, and GG as needed.
13. D-704-27 Layout for Pavement Marking.
14. D-704-30 Layout Windrow Marking.
15. D-704-37 Construction Sign Layout
16. D-704-51 Portable Precast Concrete Median Barrier (Temporary Usage)
17. D-704-56 Layout for grinding shoulder rumble strips.
18. Traffic Control Drawings in Section 100 of the plans.

704-P02 TRAFFIC MAINTENANCE PLAN: Per the Work Zone Traffic Control Plans, the Contractor must maintain 2-way traffic at all times. Prior to beginning any work on the project, the Contractor must provide the Engineer a construction sequencing plan that follow the provisions of the Work Zone Traffic Control Plans. The plan needs to address, but is not limited to how the Contractor will maintain 2 lanes of traffic at all times, how the public will be alerted to changing road conditions, name and phone numbers of people involved in the 24 hour a day roadway maintenance, and step by step process on how to handle deteriorating roadway conditions. Plan is to be accepted by the Engineer prior to starting work on the project.

Items that are available to the Contractor to maintain traffic at all times and to alert the public to deteriorating roadway conditions include two Portable Changeable Message Signs. Include all costs for preparing the traffic maintenance plan in the price bid for “Common Excavation-Type A”.

704-P03 PORTABLE CHANGEABLE MESSAGE SIGN: Portable Changeable Message Signs (PCMS) shall be staged prior to removing any pavement on the project. PCMS will be used to display information throughout the project duration, and the engineer will determine the location and message to be displayed. Within 20 minutes of the Engineer’s request, the message will be displayed on both signs by a person trained in the operation of the portable changeable message sign. The signs will be equipped with remote access and include a booster if a cell phone signal is not available where the signs are located. The PCMS will conform to the requirements of the MUTCD, Part 6, and specifications. Upon completion of the project, the Contractor retains ownership of the PCMS.

704-P04 PASSING AREAS PHASING: The newly constructed passing areas are not to be opened until the top lift of pavement is complete and all passing area signing and marking is in place. Place one Type III barricade at the beginning and end of the passing area and one every half mile in between. Also, place stackable vertical panels spaced at 80 FT to delineate the edge of the existing driving lane during construction and to keep the newly constructed lanes closed.

704-P05 MAINTAINING TRAFFIC: If public traffic is operating in an area with a drop-off greater than 2 inches, construct a temporary wedge composed of aggregate, embankment or salvaged material with a foreslope of 4:1 or flatter and install delineator drums along the edge of the driving lane.

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

If a traversable taper wedge cannot be provided, the Contractor provides 24-hour flagging and pilot car at their own expense.

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NOTES

706-P01 FIELD OFFICE: Provide a field office which meets the following requirements:

1. Field office with a minimum of 450 square feet.
2. Indoor bathroom facilities
3. Air Conditioner capable of maintaining a 75 degree room temperature.
4. Full size refrigerator
5. Lighting (lumens required 110 foot- candles)
6. Minimum of 3 phone jacks
7. Heat, electric, sewer, and water hookups to be furnished by Contractor, Contractor to pay utility bills.
8. Cabinet space of a minimum of 32 cubic feet.
9. Counter space of a minimum of 60 square feet.
10. The floor is to be free of protrusions so that it will accommodate office equipment.
11. Photocopy machine capable of 11x17 photocopies and toner to last the duration of the project.
12. Broadband internet service
13. Locate the field office on, or as close to the project as possible and approved by the Engineer. Contractor pays any rental fees.
14. Make the field office available for occupancy one week prior to the start of the project and remain available for two weeks after project completion.

All requirements of the Field Office are subject to approval by the Engineer.

714-P01 SILTED PIPES: If the Contractor encounters silted-in pipes at locations where pipe are to be extended, the silted-in material will be removed from the pipes before extending them. Remove silt 50 feet beyond the end of the pipe, unless otherwise directed by the Engineer. The cost of removing the silt is included in the price bid for “Common Excavation-Type A” and the Contractor is to assume that all extended pipes will require silt cleanout.

714-P02 DEFLECTED PIPE JOINTS: The proposed number of joints to deflect is based on a combination of 6’ and 8’ pipe segment lengths. Gradually install the overall deflection angle over the number of proposed sections of pipe to deflect. Follow manufacturer’s recommendations for proposed maximum deflection per joint. Wrap joint openings of these deflected pipe sections with Geotextile Fabric – Type S2 (2 foot minimum width) and use mortar to fill the joints. Tie deflected joints and longer tie bars may be necessary at deflected joints.

All costs of materials, equipment and labor to install the pipe with deflected joints are incidental to reinforced concrete pipe bid items.

714-P03 PLUG PIPE – ALL TYPES & SIZES: Fill the existing pipe with controlled density backfill to refusal at locations designated on the plans to plug and abandon pipe. The properties of the controlled density backfill are a blend of cement, water, pozzolanic materials, and fillers. Fluid material is required to flow through and fill the voids. The material is to be able to support normal loads after six hours and have a compressive strength in the range of 75 psi to 125 psi at 28 days. If the mix design shown is used no further testing will be required. The mix designs yield approximately one cubic yard of flowable mortar.

MIX DESIGN
Fly Ash 300 lbs
Water 70 gals
Cement 100 lbs
Fine Aggregate 2600 lbs

Place controlled density backfill at one end of the pipe cavity and the cavity is filled progressively from one end to the other. Placement of controlled density backfill is to continue until refusal (when no more grout can be pumped).

Include all labor, materials, and equipment necessary to perform this described work in the price bid for “Plug Pipe – All Types & Sizes” and “Plug Cattle Pass”.

714-P04 CATTLE PASS: CL 3 or CL 5 backfill material required for the installation of the cattle pass sections and cattle pass end sections are included in the price bid for “Cattle Pass Conc Intermed Section” and “End Section Conc Cattle Pass”.

Reattach the existing fence attached to the cattle pass once the cattle pass has been extended. All costs to remove and reattach the fence are included in the price bid for “End Section Conc Cattle Pass” and “End Section Conc Stock Pass”.

752-P01 FENCING: Place temporary/permanent fencing prior to removing existing fencing. Place temporary fencing around temporary construction easements where existing fence is removed until permanent fencing is in place. Field fit temporary fencing in areas of deep draws or wooded areas, with the approval of the Engineer. Verify the need for temporary fence with the landowner. The cost to install and remove temporary fencing is included in the price bid for “Fence Temporary Install & Remove.”

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NOTES

754-P01 STOP SIGN REFLECTIVE STRIPE ON POSTS: The stop signs at the intersection of ND 200 and US 85 shall have retro-reflective stripes installed on the sign post, one stripe on the front of the post, and one stripe on each side of the post. The stripes shall be 2” in width and shall be the full length of the support post to within two feet above the edge of the roadway. The material shall be high intensity Type XI sheeting, and shall red in color for the front stripe, and white in color for the stripes on the other 3 sides of the post. The stop sign located on the left side in the ditch will only require the red stripe on the front side of the post. The cost of furnishing and installing the retro-reflective stripes on the posts shall not be paid for separately, but shall be included in the price bid for “STEEL GALV POSTS – TELESCOPING PERFORATED TUBE.”

762-050 PAVEMENT MARKING: If the Engineer and Contractor agree, plan quantity will be used as the measurement for payment for pavement marking items.

764-P01 REMOVE END TREATMENT & TRANSITION: Deliver the W-beam rail sections from the removed end treatment and transitions to the NDDOT Maintenance Storage Yard in Killdeer, and neatly stacked at a location designated by the Engineer. The remaining posts, blocks, bolts and hardware will become the property of the contractor. The Killdeer Maintenance Yard is located at 398 Highway 22, Killdeer, ND 58640. Contact 1 day in advance of delivering the materials.

The item "Remove End Treatment & Transition" will be measured by the number removed. The cost for delivery of the removed W-beam rail sections and for disposal of the remaining guardrail materials is included in the price bid for “Remove End Treatment & Transition.”

764-P02 REMOVE W-BEAM GUARDRAIL & POSTS: Deliver the W-beam rail sections to the NDDOT Maintenance Storage Yard in Killdeer, and neatly stacked at a location designated by the engineer. The remaining posts, blocks, bolts and hardware will become the property of the contractor. The Killdeer Maintenance Yard is located at 398 Highway 22, Killdeer, ND 58640. Contact 1 day in advance of delivering the materials.

The item "Remove W-Beam Guardrail & Posts" will be measured by the linear foot of guardrail removed.

The cost for delivery of the removed W-beam rail sections and for disposal of the remaining guardrail materials is included in the price bid for "Remove W-Beam Guardrail & Posts”

764-P03 REMOVE 3-CABLE GUARDRAIL & POSTS: Deliver the removed 3-cable guardrail posts to the NDDOT Maintenance Storage Yard in Killdeer, and neatly wound at a location designated by the engineer. The remaining cable, hardware and concrete anchors will become the property of the contractor. The Killdeer Maintenance Yard is located at 398 Highway 22, Killdeer, ND 58640. Contact 1 day in advance of delivering the materials.

The cost for delivery of the posts and for disposal of the remaining 3-cable guardrail materials is included in the price bid for "Remove 3-Cable Guardrail & Posts."

764-P04 REMOVE BOX BEAM GUARDRAIL: Deliver the removed box beam rail sections to the NDDOT Maintenance Yard in Killdeer, and neatly stacked at a location designated by the engineer. The remaining posts and hardware will become the property of the contractor and be disposed of according to Specification 107.17. The Killdeer Maintenance Yard is located at 398 Highway 22, Killdeer, ND 58640. Contact 1 day in advance of delivering the materials.

The cost for delivery of the removed box beam rail sections and for disposal of the remaining box beam guardrail materials is included in the price bid for "Remove Box Beam Guardrail".

770-P01 LUMINAIRES: The high-pressure sodium vapor luminaires will be internal ballast-constant wattage, 120x240 voltage, operated on 240 volts.

770-P02 LIGHTING SYSTEM: All materials and work necessary to construct intersection lighting at the junction of US 85 and ND 200 is included in unit bid price “Lighting System”. See Section 140 for Lighting Layout.

770-P03 BREAKAWAY LIGHT STANDARD: Install davit type breakaway light standards with 12’ galvanized mast arms. Breakaway type bases are to be installed. The shaft length will be 42’ from the top of the foundation to the bottom of the luminaire as shown in the plans.

770-P04 FEED POINT: Meter trim for lighting furnished by the contractor will meet the requirements of the local utility companies. The cost of the meter trim is included in the price bid for other items.

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NOTES

772-P01 AUTOMATIC TRAFFIC RECORDER SYSTEM: The Contractor shall work on the Automatic Traffic Recorder (ATR) site after the roadway work is completed.

Representative
The Contractor shall ensure that a qualified PEEK Traffic Corp. representative will be on site to assist and supervise the system installation and all work. The Contractor shall ensure that the PEEK Traffic Corp. representative is certified for ATR equipment installation, operation, calibration, and vehicle verification processes.

Loops
Loop conductor shall meet the requirements of Spec. 896.02 B.1. Loop lead-in conductor shall meet the requirements of Spec. 896.03 B.3 and shall not be spliced except at the pull box, where the loop conductor and loop lead-in conductor are joined. All loop splices shall be soldered along with a 3M splice kit, CK 137 Shake-N-Seal from Uraseal, or approved equal.

Sawing & Sealing Joints
The Contractor shall follow the provisions of Spec. 772.04 E.4 and E.7 when sawing and sealing any joints. Loop saw slots shall be 2 inches deep or as recommended by the manufacturer. Hot Poured Joint Seal shall not be used for sealing any saw slots. The Contractor shall use 3M Bondo P-606V Loop Sealant, VersaFLEX SL/75 Joint Filler, BASF MasterSeal SL 180 or approved equal Loop Sealant for sealing all saw cuts. The Contractor shall follow minimum curing specifications for all loops according to the detector loop manufacturer. The sealant shall cure until it does not track or has set sufficiently where it is not damaged by traffic. Any damage will be repaired at the Contractor's expense.

Cabinet
The Contractor is responsible for all conductor termination. All lug terminals for conductor termination shall be crimped and soldered. The conductors shall meet the requirements of Spec. 896.02 A.

The 2" rigid conduit shall be at a minimum depth of 24 inches below finished grade. This conduit shall meet the requirements of Spec. 896.01 B.2. The conduit shall not be spliced from the pull box to the recorder cabinet, and shall be a continuous run.

All holes made or existing in the pull box for conduit access shall be plugged/sealed and made watertight.

All conduit ends (both in the pull box and the cabinet) shall be sealed with preformed plugs which provide an air tight and water tight seal in the conduit. The conduit plugs shall be removable and reusable. The plugs shall be the split type that permits installation or removal without removing cables. The plugs shall seal the conduit with an adjustable filler of neoprene or silicone rubber compressed with stainless steel hardware.

The pull box shall be round PVC pull box as shown on Standard Drawing D-772-3. The pull box cover shall be made watertight using a gasket around the opening and around each of the screw holes.

Supply an Ethernet switch with the necessary hardware required for operation. The Ethernet Switch, enclosure, mount and cables shall be standard production of the latest model with standard accessories. Provide and Ethernet Switch that meets the following: ruggedized construction, powered by 24V DC, 4-10/100TX ports, and an operating temperature of -40 deg. F to 120 deg. F.

An Ethernet lightning suppressor shall be provided. This unit shall be in a cast metal box with shielded connections. It shall clamp to 65V and be suitable for cat 5 outdoor direct burial cabling at 10/100/1000 speed. It shall be compatible with Power over Ethernet cable, and shall be suitable for the -40 deg. F to +120 deg. F temperature range.

The ADR-6000 traffic recorder shall be manufactured by PEEK Traffic Corp. All AC power feeds, data lines, and loops shall be protected with approved surge/line protectors. A 6 outlet AC line protector unit must be provided for the 120 volt 60 Hz power source. The protector unit will include a thermal circuit breaker. Electrical Magnetic Interference (EMI) noise suppression will be provided for diverting and clamping high voltage surges. The noise suppression shall limit the maximum voltage reaching the sensitive electronic equipment during a transient pulse. The unit will be approved by Underwriter Laboratories (UL).

The Contractor shall install a 4G Cellular Modem in the ATR cabinet. The Contractor shall contact the Information Technology Division within the NDDOT:

Robert Steckler
216 Airport Road
Bismarck, ND 58504
Telephone: (701) 328-6935.

The Contractor must contact Robert Steckler a minimum of 3 weeks in advance of the installation.

Foundations
The ATR cabinet foundation and working slab shall be constructed using the ATR Detail Sheet and standard drawing D-770-1.

The cabinet foundation shall be of sufficient size so there is a minimum of 3" of clearance from the outside edge of cabinet to the outside edge of the foundation on any side. The Contractor shall ensure a water-tight seal between the cabinet and the foundation by caulking, except for the V groove. Rodent protection shall be placed in the V groove between the concrete foundation and the cabinet, which will allow water to drain properly from the cabinet. The materials and preparation of the working slab shall be as approved by the Engineer.

Bolt studs in the cabinet foundation shall be securely fastened to the cabinet flange at all four corners. Washers of

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NOTES

sufficient size shall be used to secure the cabinet to the foundation.

Each ground rod must be ½ inch diameter. The 4 ground rods in a ring shall be 10 feet long, the ground rod next to the cabinet shall be 13 feet long. The ground rod closest to the cabinet shall be installed at the same elevation where the ground rod exits the cabinet.

The ground wire extending from the ground bus bar to the outside of the cabinet shall be covered with ¾ inch flex conduit. The conduit shall extend from the ground rod end to the inside of the cabinet. Conduit ends must be silicone sealed.

Connection of ground rods must be with a No. 2/0 AWG copper conductor bonded to the cabinet. The copper conductor shall be buried a minimum of 6 inches below the ground surface. All buried connections will be made with an exothermic weld connection. The earth ground resistance will test to 25 ohm or less, and be tested with an earth/ground resistance tester capable of measuring earth ground resistance less than 25 ohm. The Contractor will install any additional ground rods to achieve the 25 ohm or less earth ground resistance. All test results will be documented by the Contractor and furnished to NDDOT in a clean, organized format.

Testing
All new loops shall be tested prior to and after installation and must test to manufacturers specifications or be replaced. If the loops meet manufacturer's specifications after installation, but do not perform traffic count or classification correctly, the Contractor will be responsible for any corrections up to and including replacing the defective part or parts. This may include loops and electronic equipment.

The Contractor shall verify vehicle classification by comparing ATR results with base line traffic counts and classification obtained by videotaping and manually counting and classifying vehicles for a period of 2 hours.

Acceptance
Acceptance of the ATR site will be determined after the site is in operation for 30 days. The 30 days begins after successful testing and it is determined that the ATR site is working correctly. Any damage caused as a result of construction practices or techniques shall be paid at the Contractor's expense. This includes new items installed by this contract including detector loops.

The Contractor shall provide the operation and maintenance manuals and detailed wiring schematics for this ATR site.

Completion of work requires the following items to be completed: the Automatic Traffic Recorder site in working order as approved by the PEEK Traffic Corp. representative, site passed inspection by the Engineer, and successful completion of testing.

All costs for labor, equipment, materials, PEEK representative, and all testing necessary to install the ATR equipment, shall be included in the price bid for "Automatic Traffic Recorder System".

902-P01 TEMPORARY WIDENING: Widen roadway to accommodate two-way traffic during construction, see Section100 for phasing.

1. Estimated quantities for the construction of the temporary widening.
   Embankment: 266,212 CY – included in Borrow-Excavation quantity.

2. Estimated quantities for the temporary widening surfacing.
   Salvaged Base: 217,132 TON

Temporary widening will not be removed until the final lift of HBP has been placed. Temporary widening shall be constructed to maintain two lanes of traffic. Placement of the temporary widening embankment is included in the price bid for "Borrow - Excavation". Temporary surfacing is included in the Salvaged Base Course quantities.

Removal of the temporary widening surfacing and embankment is included in the price bid for "Remove Temporary Widening".

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ENVIRONMENTAL COMMITMENTS

ENVIRONMENTAL COMMITMENTS: The North Dakota Department of Transportation and the Federal Highway Administration have made several environmental commitments to various agencies and the public to secure approval of this project. The environmental commitments are as follows:

EC-1: Unavoidable impacts to wetlands will be mitigated onsite, adjacent to the project, or at a NDDOT approved mitigation site or bank.

ACTION REQUIRED /TAKEN: 1.80 acres of permanent impacts to USACE jurisdictional waters and 0.31 acres of permanent impacts to EO 11990 wetlands will require mitigation. The NDDOT proposes to mitigate by compensation (acreages shown with applicable mitigation ratios): 0.00 acres on-site for only USACE jurisdictional impacts, 0.20 acres on-site for only EO 11990, 0.30 acres on-site for both EO 11990 and USACE jurisdictional impacts, 0.04 acres off-site for only EO 11990, 3.00 acres off-site for both EO 11990 and USACE jurisdictional impacts, and 0.17 at the New Town Mitigation Bank in the Missouri River Basin Northern Zone Regional Service Area. 0.44 acres of temporary wetland impacts and 0.00 acres of other water impacts will result from construction activities. Temporary impact areas will be graded to preconstruction contours.

Wetland Impact Table

Wetland Number	Location	Cowardin Class.	Wetland Type	Wetland Size Ac.	Wetland Feature	USACE Jurisdictional Wetlands*	Wetland Impacts (acres)		Wetland Mitigation**				
									Mitigation Required			Location Acreage Wetland # Ratio	Onsite Mitigation Location Acres
							Temp.	Perm.	EO 11990	USACE	USFWS		
1	Sec 28, T145N, R 98W	PUBFh	Basin	0.21	Artificial	Yes	0.00	0.01	N	N	N	none	
1a	Sec 28+33, T145N, R 98W	PEMA	Dry Channel	0.59	Natural	Yes	0.00	0.01	Y	N	N	NDDOT Mitigation New Town Mitgation Bank 0.01 (1:1)	
3	Sec 27, T145N, R 98W	PEMA	Ditch	0.03	Artificial	No	0.00	0.03	N	N	N	none	
4	Sec 27, T145N, R 98W	PEMC	Basin	0.03	Natural	Yes	0.00	0.00	N	N	N	none	
4a	Sec 27, T145N, R 98W	R4	Dry Channel	0.02	Natural	Yes	0.00	0.00	N	N	N	none	
5	Sec 27, T145N, R 98W	PEMC	Ditch	0.07	Artificial	No	0.07	0.00	N	N	N	none	
6	Sec 27, T145N, R 98W	PEMA	Ditch	0.09	Artificial	No	0.09	0.00	N	N	N	none	
7	Sec 25, T145N, R 98W	PUBFh	Basin	0.85	Natural	Yes	0.00	0.10	Y	N	N	On-site 0.1 (2:1) at WL20 Site 1 (0.2)	
8	Sec 25, T145N, R 98W	PEMA	Basin	0.13	Natural	Yes	0.00	0.01	Y	N	N	NDDOT Mitigation New Town Mitgation Bank 0.01 (1:1)	

ENVIRONMENTAL COMMITMENTS

Wetland Impact Table

Wetland Number	Location	Cowardin Class.	Wetland Type	Wetland Size Ac.	Wetland Feature	USACE Jurisdictional Wetlands*	Wetland Impacts (acres)		Wetland Mitigation**				
									Mitigation Required			Location Acreage Wetland # Ratio	Onsite Mitigation Location Acres
							Temp.	Perm.	EO 11990	USACE	USFWS		
9	Sec 30, T145N, R 98W	PUBFh	Basin	0.53	Artificial	Yes	0.00	0.03	N	N	N	none	
10	Sec 30, T145N, R 97W	PEMC	Basin	0.57	Artificial	Yes	0.00	0.03	N	N	N	none	
10a	Sec 30, T145N, R 97W	PUBFh	Basin	0.51	Natural	Yes	0.00	0.00	N	N	N	none	
12	Sec 30, T145N, R 97W	PEMC	Basin	0.03	Artificial	No	0.00	0.00	N	N	N	none	
13	Sec 30, T145N, R 97W	PEMC	Basin	0.27	Artificial	No	0.00	0.03	N	N	N	none	
14	Sec 30, T145N, R 97W	PUBGh	Basin	0.10	Natural	No	0.00	0.00	N	N	N	none	
15	Sec 20, T145N, R 97W	PEMC	Dry Channel	0.31	Natural	Yes	0.00	0.05	Y	N	N	NDDOT Mitigation New Town Mitgation Bank 0.05 (1:1)	
16	Sec 20+28, T145N, R 97W	PEMA	Dry Channel	1.05	Natural	Yes	0.02	0.35	Y	Y	N	Off-site 0.35 (2:1) at Site 2 (0.70)	
17	Sec 22+27, T145N, R 97W	PEMC	Basin	7.22	Natural	Yes	0.00	0.13	Y	Y	N	Off-site 0.13 (2:1) at Site 2 (0.26)	
18	Sec 22+27, T145N, R 97W	PEMC	Dry Channel	1.07	Natural	Yes	0.00	0.17	Y	Y	N	Off-site 0.17 (2:1) at Site 2 (0.34)	
19	Sec 23+26, T145N, R 97W	PEMC	Dry Channel	0.70	Natural	Yes	0.00	0.10	Y	N	N	NDDOT Mitigation New Town Mitgation Bank 0.10 (1:1)	
20	Sec 23+26, T145N, R 97W	PEMC	Dry Channel	1.64	Natural	Yes	0.05	0.30	Y	Y	N	On-site 0.30 (1:1) at WL20 Site 1 (0.30)	Site 1 0.50 (WL20)

ENVIRONMENTAL COMMITMENTS

Wetland Impact Table

Wetland Number	Location	Cowardin Class.	Wetland Type	Wetland Size Ac.	Wetland Feature	USACE Jurisdictional Wetlands*	Wetland Impacts (acres)		Wetland Mitigation**				
									Mitigation Required			Location Acreage Wetland # Ratio	Onsite Mitigation Location Acres
							Temp.	Perm.	EO 11990	USACE	USFWS		
21	Sec 24+25, T145N, R 97W	PEMC	Dry Channel	2.50	Natural	Yes	0.00	0.74	Y	Y	N	Off-site 0.74 (2:1) at Site 2 (1.48)	
22	Sec 20, T145N, R 96W	PEMC	Basin	0.23	Artificial	No	0.00	0.00	N	N	N	none	
23	Sec 20, T145N, R 96W	PUBC	Basin	0.08	Artificial	No	0.00	0.00	N	N	N	none	
24	Sec 21, T145N, R 96W	PUBFh	Basin	0.62	Artificial	No	0.00	0.00	N	N	N	none	
25	Sec 21, T145N, R 96W	PUBFh	Basin	0.90	Artificial	No	0.00	0.00	N	N	N	none	
26	Sec 23+26, T145N, R 96W	PEMC	Stream Channel	2.88	Natural	Yes	0.00	0.11	Y	Y	N	Off-site 0.11 (2:1) at Site 2 (0.22)	
27	Sec 23, T145N, R 96W	PEMA	Basin	0.02	Natural	Yes	0.00	0.00	N	N	N	none	
28	Sec 23+26, T145N, R 96W	PEMA	Dry Stream Channel	0.29	Natural	Yes	0.00	0.02	Y	N	N	Off-site 0.02 (2:1) at Site 2 (0.04)	
29	Sec 19+30, T145N, R 95W	PEMC	Dry Stream Channel	0.77	Natural	Yes	0.00	0.02	Y	N	N	Off-site 0.02 (2:1) at Site 2 (0.04)	
30	Sec 20+29, T145N, R 95W	PEMC	Dry Stream Channel	0.14	Natural	Yes	0.06	0.00	N	N	N	none	
31	Sec 21, T145N, R 95W	PEMA	Basin	0.43	Natural	No	0.00	0.00	N	N	N	none	
32	Sec 23, T145N, R 96W	PEMC	Stream Channel	8.18	Natural	Yes	0.15	0.00	Y	Y	N	none	Site 2 3.09
			Totals	**33.06**			**0.44**	**2.24**					**3.59**

* A wetland Jurisdictional Determination was issued by the USACE on 07/26/2012; NWO-2012-

**All impacts to natural wetlands (natural/jurisdictional and natural/non-jurisdictional), regardless of size, as well as impacts greater than 0.10 acre to artificial/jurisdictional wetlands require

ENVIRONMENTAL COMMITMENTS

Summary Impact Table			
Total Permanent Impact Summary		Temporary Impacts and additional informaton	
Wetland Type	Total (Acres)	Wetland Type	Total (Acres/Lf)
Natural/JD	2.11	Temporary JD	0.13
Natural/Non-JD	0.00	Non-JD Temporary	0.16
Artificial/JD	0.07	Permanent JD > 0.10	1.80
Artificial /Non-JD	0.06	Permanent OW	0
Total	**2.24**	Temporary OW	0

Summary Mitigation Table					
Mitigation Bank New Town Site		Site 1 - Kukla (WL20)		Site 2 - Harsche (Wetland 32)	
Wetland	Mitigation acres	Wetland	Mitigation acres	Wetland	Mitigation acres
1a*	0.01	7*	0.20	16	0.70
8*	0.01	20	0.30	17	0.26
15*	0.05			18	0.34
19*	0.10			21	1.48
				26	0.22
				28*	0.04
				29*	0.04
Total	0.17		0.50		3.08
Available	Not Applicable		0.51		3.09

**EO 11990 Mitigation*

EC-2: Construction activity will avoid known cultural resource sites identified during the Class III Survey.

ACTION TAKEN/REQUIRED: During design, known cultural sites were avoided, ensuring that no impacts to known historic properties are affected by the project. If any buried cultural sites are found during construction, project construction activities would be immediately halted and the ND SHPO would be notified so that an appropriate course of action can be determined.

EC-3: Construction activity will avoid known locations of US Forest Service (USFS) Sensitive Species as identified during species surveys.

ACTION TAKEN/REQUIRED: The location of *Townsendia exscapa*, Sta. 4091+34, 320' RT, will be flagged prior to construction by a qualified biologist provided by NDDOT or agent of NDDOT. The flagged area will be avoided by equipment, staging activities, placement of fill material, or any other activities that may disturb the area. Any other sensitive or watch species that are identified within the working limits should be reported to the USFS McKenzie Ranger District Office.

Vehicles and equipment used for construction will be cleaned prior to entering the National Grassland to remove all seeds and plant material in order to prevent the potential spread of invasive species.

Any discovery of USFS sensitive or watch plant species within the Project area will be reported to the McKenzie Ranger District office at:

1901 S. Main Street
Watford City, ND 58854
Phone: 701-842-2393

Disturbance shall be kept to the minimum required in order to reduce impacts to suitable sensitive species habitat and native vegetation communities in general, and also to reduce the spread of invasive species.

EC-4: No tree removal will take place within the roosting season of the northern long-eared bat from April 1 to October 1. NDDOT will remove potential bat roosting trees prior to project construction within the allowable timeframe.

EC-5: Construction activities will not take place between February and August within ½ mile of known raptor nests within USFS property.

ACTION TAKEN/REQUIRED: If construction is planned between February and August along USFS property, a raptor survey will be completed by a qualified biologist provided by NDDOT or agent of NDDOT. If nests are found, construction within the existing USFS easement will cease in the nesting area until after the nesting timeframe of the raptor species, which varies between February and August.

Revised 11/03/2015	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	SOIB-5-200(024)075	8	1

SPEC - CODE	ITEM DESCRIPTION	UNITS	QTY
103 - 0100	CONTRACT BOND	L SUM	1
103 - 0200	ESCROW OF BID DOCUMENTATION	L SUM	1
201 - 0330	CLEARING & GRUBBING	L SUM	1
202 - 0105	REMOVAL OF STRUCTURE	L SUM	1
202 - 0121	REMOVE & SALVAGE BITUMINOUS SURFACING	TON	126,637
202 - 0169	REMOVAL OF END SECTION - ALL TYPES & SIZES	EA	93
202 - 0174	REMOVAL OF PIPE ALL TYPES AND SIZES	LF	4,156
202 - 0312	REMOVE EXISTING FENCE	LF	69,668
202 - 0350	REMOVAL OF TEMPORARY BYPASS	EA	4
202 - 2100	PLUG CATTLE PASS	L SUM	1
203 - 0101	COMMON EXCAVATION-TYPE A	CY	1,115,851
203 - 0107	TOPSOIL - WASTE AREA	CY	23,808
203 - 0108	TOPSOIL - BORROW AREA	CY	12,369
203 - 0109	TOPSOIL	CY	174,597
203 - 0121	TOPSOIL - WETLAND	CY	2,320
203 - 0138	COMMON EXCAVATION - SUBCUT	CY	1,473
203 - 0140	BORROW - EXCAVATION	CY	448,433
210 - 0109	EXCAVATION-BOX CULVERT	EA	1
210 - 0126	CHANNEL EXCAVATION	CY	2,100
210 - 0201	FOUNDATION PREPARATION	EA	1
210 - 0210	FOUNDATION FILL	CY	1,220
216 - 0100	WATER	M GAL	35,630
230 - 0125	SHOULDER PREPARATION	MILE	20
230 - 0320	SUBGRADE PREPARATION - TYPE C - 12IN	STA	318
251 - 0200	SEEDING CLASS II	ACRE	377
251 - 0300	SEEDING CLASS III	ACRE	26
251 - 1000	WETLAND SEED	ACRE	4
251 - 2000	TEMPORARY COVER CROP	ACRE	366
253 - 0101	STRAW MULCH	ACRE	778
253 - 0301	BONDED FIBER MATRIX	ACRE	109
255 - 0103	ECB TYPE 3	SY	4,988
255 - 0202	TRM TYPE 2	SY	294
256 - 0100	RIPRAP GRADE I	CY	70
256 - 0200	RIPRAP GRADE II	CY	211
256 - 0300	RIPRAP GRADE III	CY	342
260 - 0200	SILT FENCE SUPPORTED	LF	3,744
260 - 0201	REMOVE SILT FENCE SUPPORTED	LF	3,744
261 - 0112	FIBER ROLLS 12IN	LF	102,488
261 - 0113	REMOVAL FIBER ROLLS 12IN	LF	51,244
261 - 0120	FIBER ROLLS 20IN	LF	227,340
261 - 0121	REMOVAL FIBER ROLLS 20IN	LF	113,870
265 - 0100	STABILIZED CONSTRUCTION ACCESS	EA	11
265 - 0101	REMOVE STABILIZED CONSTRUCTION ACCESS	EA	11
302 - 0100	SALVAGED BASE COURSE	TON	576,823
306 - 0105	AGGREGATE CL 3M	TON	81,831
306 - 0355	REMOVE AND RELAY BLENDED BASE COURSE	TON	3,112
306 - 0510	FULL DEPTH RECLAMATION	SY	273,216
401 - 0050	TACK COAT	GAL	110,877
401 - 0060	PRIME COAT	GAL	143,977
401 - 0160	BLOTTER MATERIAL CL 44	TON	4,319
430 - 0045	SUPERPAVE FAA 45	TON	210,890

ND Hwy 200

Quantities

Revised 11/03/2015	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	SOIB-5-200(024)075	8	2

SPEC - CODE	ITEM DESCRIPTION	UNITS	QTY
430 - 1000	CORED SAMPLE	EA	1,068
430 - 5828	PG 58 - 28 ASPHALT CEMENT	TON	9,145
430 - 6434	PG 64 - 34 ASPHALT CEMENT	TON	3,513
602 - 1131	CLASS AE-3 CONCRETE - BOX CULVERT	CY	624
612 - 0114	REINFORCING STEEL - GRADE 60 - BOX CULVERT	LBS	92,040
702 - 0100	MOBILIZATION	L SUM	1
704 - 0100	FLAGGING	MHR	500
704 - 1000	TRAFFIC CONTROL SIGNS	UNIT	9,936
704 - 1052	TYPE III BARRICADE	EA	74
704 - 1060	DELINEATOR DRUMS	EA	165
704 - 1067	TUBULAR MARKERS	EA	30
704 - 1080	STACKABLE VERTICAL PANELS	EA	2,745
704 - 1081	VERTICAL PANELS - BACK TO BACK	EA	57
704 - 1500	OBLITERATION OF PAVEMENT MARKING	SF	540
704 - 3510	PRECAST CONCRETE MED BARRIER - STATE FURNISH	EA	64
704 - 4011	PORTABLE CHANGEABLE MESSAGE SIGN	EA	2
706 - 0400	FIELD OFFICE	EA	1
706 - 0500	AGGREGATE LABORATORY	EA	1
706 - 0550	BITUMINOUS LABORATORY	EA	1
706 - 0600	CONTRACTOR'S LABORATORY	EA	1
709 - 0151	GEOSYNTHETIC MATERIAL TYPE R1	SY	6,872
709 - 0155	GEOSYNTHETIC MATERIAL TYPE RR	SY	970
714 - 0615	PIPE CONC REINF 24IN CL III	LF	98
714 - 0820	PIPE CONC REINF 30IN CL III	LF	48
714 - 0830	PIPE CONC REINF 30IN CL IV	LF	110
714 - 0840	PIPE CONC REINF 30IN CL V	LF	276
714 - 0905	PIPE CONC REINF 36IN CL III	LF	80
714 - 0922	PIPE CONC REINF 36IN CL V	LF	112
714 - 1005	PIPE CONC REINF 42IN CL III	LF	70
714 - 1015	PIPE CONC REINF 42IN CL IV	LF	48
714 - 1020	PIPE CONC REINF 42IN CL V	LF	90
714 - 1105	PIPE CONC REINF 48IN CL III	LF	138
714 - 1125	PIPE CONC REINF 48IN CL V	LF	132
714 - 1510	PIPE CONC REINF 72IN CL III	LF	110
714 - 1530	PIPE CONC REINF 72IN CL V	LF	110
714 - 1720	PIPE CONC REINF 84IN CL IV	LF	82
714 - 1730	PIPE CONC REINF 84IN CL V	LF	112
714 - 3023	END SECT-TRAVERSABLE REINF. CONC. 24IN	EA	4
714 - 3030	END SECT-CONC REINF 30IN	EA	11
714 - 3035	END SECT-CONC REINF 36IN	EA	3
714 - 3036	END SECT-TRAVERSABLE REINF. CONC. 36IN	EA	2
714 - 3040	END SECT-CONC REINF 42IN	EA	7
714 - 3045	END SECT-CONC REINF 48IN	EA	8
714 - 3065	END SECT-CONC REINF 72IN	EA	6
714 - 3075	END SECT-CONC REINF 84IN	EA	4
714 - 3420	9FT STR PLATE PIPE .138IN	LF	124
714 - 3437	10FT 6IN STR PLATE PIPE .168IN	LF	218
714 - 3447	11FT 6IN STR PLATE PIPE .218IN	LF	154
714 - 3617	11FT X 7FT STR PLATE PIPE ARCH .188IN	LF	98
714 - 4106	PIPE CONDUIT 24IN - APPROACH	LF	2,596
714 - 4110	PIPE CONDUIT 30IN	LF	184
714 - 4113	PIPE CONDUIT 30IN - APPROACH	LF	1,244

ND Hwy 200

Quantities

Revised 11/03/2015	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	SOIB-5-200(024)075	8	3

SPEC - CODE	ITEM DESCRIPTION	UNITS	QTY
714 - 4115	PIPE CONDUIT 36IN	LF	546
714 - 4120	PIPE CONDUIT 42IN	LF	124
714 - 4124	PIPE CONDUIT 36IN - JACKED OR BORED	LF	524
714 - 4128	PIPE CONDUIT 48IN - APPROACH	LF	74
714 - 4166	PIPE CONDUIT 30IN - JACKED OR BORED	LF	390
714 - 4167	PIPE CONDUIT 42IN - JACKED OR BORED	LF	150
714 - 4227	PIPE CONDUIT ARCH 51IN X 31IN	LF	240
714 - 9200	CATTLE PASS CONC INTERMED SECTION	LF	590
714 - 9350	END SECTION CONC CATTLE PASS	EA	14
714 - 9680	PLUG PIPE-ALL TYPES & SIZES	EA	12
720 - 0110	RIGHT OF WAY MARKERS	EA	682
720 - 0125	ALIGNMENT MONUMENTS	EA	86
720 - 0130	IRON PIN R/W MONUMENTS	EA	183
720 - 0135	IRON PIN REFERENCE MONUMENTS	EA	497
752 - 0201	FENCE SMOOTH WIRE 4 STRAND	LF	442
752 - 0320	FENCE BARBED WIRE 4 STRAND-STEEL POST	LF	75,121
752 - 0900	FENCE TEMPORARY INSTALL & REMOVE	LF	15,842
752 - 0922	FENCE REMOVE & RESET	LF	1,300
752 - 2100	VEHICLE GATE	EA	21
752 - 2318	18 FT STOCK GATE	EA	1
752 - 3150	CORNER ASSEMBLY BARBED WIRE-WOOD POST	EA	410
752 - 4140	DOUBLE BRACE ASSEMBLY BARBED WIRE- WOOD POST	EA	61
754 - 0110	FLAT SHEET FOR SIGNS - TYPE XI REFL SHEETING	SF	399
754 - 0112	FLAT SHEET FOR SIGNS - TYPE IV REFL SHEETING	SF	319
754 - 0150	DELINEATORS - TYPE A	EA	48
754 - 0206	STEEL GALV POSTS - TELESCOPING PERFORATED TUBE	LF	1,540
754 - 0214	GALV STEEL POSTS-W-SHAPE POSTS (TWO OR MORE)	LF	87
754 - 0534	PANEL FOR SIGNS-TYPE IV REFLECTIVE SHEETING	SF	55
754 - 0562	REFERENCE MARKER - TYPE B	EA	20
754 - 0592	RESET SIGN PANEL	EA	19
754 - 0593	RESET SIGN SUPPORT	EA	2
754 - 0805	OBJECT MARKERS - CULVERTS	EA	232
760 - 0005	RUMBLE STRIPS - ASPHALT SHOULDER	MILE	40
760 - 0007	RUMBLE STRIPS - ASPHALT CENTERLINE	MILE	20
760 - 0009	RUMBLE STRIPS - INTERSECTION	EA	1
762 - 0112	EPOXY PVMT MK MESSAGE	SF	1,164
762 - 0113	EPOXY PVMT MK 4IN LINE	LF	408,612
762 - 0115	EPOXY PVMT MK 8IN LINE	LF	8,804
762 - 0117	EPOXY PVMT MK 24IN LINE	LF	31
762 - 0430	SHORT TERM 4IN LINE - TYPE NR	LF	155,308
764 - 0151	REMOVE W-BEAM GUARDRAIL & POSTS	LF	307
764 - 2020	REMOVE 3-CABLE GUARDRAIL & POSTS	LF	2,583
764 - 2080	REMOVE BOX BEAM GUARDRAIL	LF	446
764 - 2081	REMOVE END TREATMENT & TRANSITION	EA	8
766 - 0100	MAILBOX-ALL TYPES	EA	23
770 - 0001	LIGHTING SYSTEM	EA	1
772 - 3149	REMOVE FLASHING BEACON	EA	1
772 - 9010	AUTOMATIC TRAFFIC RECORDER SYSTEM	EA	1
772 - 9300	SURVEILLANCE CAMERA SYSTEM	EA	1
900 - 1000	TEMPORARY STREAM DIVERSION	EA	1
902 - 0300	REMOVE TEMPORARY WIDENING	L SUM	1
930 - 8230	SHORING	EA	1
980 - 0170	CATTLE GUARD RESET	EA	2

ND Hwy 200

Quantities

Revised 11/03/2015	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	SOIB-5-200(024)075	10	2

BASIS OF ESTIMATE - 7.5" HBP

	2-Lane Sections						3-Lane Sections						2 to 3 Lane Transitions In Widening Areas						3 to 2 Lane Transitions			Left Turn Lane with 2-Lane Section		
	4567+11 to 4611+00			4611+00 to 4626+00			4733+23 to 4748+00 (EB)			4748+00 to 4755+00 (EB)			4725+43 to 4733+23			4647+79 to 4651+69			4903+95 to 4911+75			4562+57 to 4563+21		
	4626+00 to 4647+79			4936+59 to 4962+00			4755+00 to 4818+57 (EB)			4826+37 to 4849+00 (WB)						4700+59 to 4704+48						4651+69 to 4668+73		
	4672+63 to 4700+59			5022+50 to 5024+52			4849+00 to 4875+00 (WB)			4875+00 to 4901+00 (WB)						4911+75 to 4915+65						4704+48 to 4713+41		
	4962+00 to 5022+50						4901+00 to 4903+95 (WB)															4720+88 to 4721+53		
																						4915+65 to 4916+29		
																						4932+05 to 4932+69		
	Length (Sta.) 154.14			Length (Sta.) 42.43			Length (Sta.) 107.29			Length (Sta.) 55.63			Length (Sta.) 7.80			Length (Sta.) 11.69			Length (Sta.) 7.80			Length (Sta.) 28.54		
	Widening Area			Regrade Area			Widening Area			Regrade Area			Passing Areas			Left Turn Lanes			Widening Area			Widening Area		
Material / Unit	Width (ft)	Area (sf)	Quantity per Station	Width (ft)	Area (sf)	Quantity per Station	Width (ft)	Area (sf)	Quantity per Station	Width (ft)	Area (sf)	Quantity per Station	Width (Avg-ft)	Area (sf)	Quantity per Station	Width (Avg-ft)	Area (sf)	Quantity per Station	Width (Avg-ft)	Area (sf)	Quantity per Station	Width (ft)	Area (sf)	Quantity per Station
Aggregate Cl 3M for Blending @ 1.875 Ton/CY** / Ton	40.0		138.89				40						40		138.89	40		138.89	40		138.89	40		138.89
Salvaged Base Course @ 1.875 Ton/CY / Ton		11.9	82.92		72.0	500.00		27.0	187.50		87.0	604.17		19.5	135.42		21.0	145.83		19.5	135.42		90.0	625.00
Prime Coat @ 0.25 Gal/SY / Gal	41.5		115.28	41.5		115.17	51.5		143.06	51.5		143.06	46.5		129.17	47.5		131.94	46.5		129.17	53.5		148.61
Blotter Material Cl 44 @ 15 lbs/SY / Ton	41.5		3.46	41.5		3.46	51.5		4.29	51.5		4.29	46.5		3.88	47.5		3.96	46.5		3.88	53.5		4.46
Tack Coat @ 0.05 Gal/SY (1st Lift) / Gal	41.5		23.06	41.5		23.03	51.5		28.61	51.5		28.61	46.5		25.83	47.5		26.39	46.5		25.83	53.5		29.72
Tack Coat @ 0.05 Gal/SY (2nd Lift) / Gal	40.1		22.28	40.1		22.28	50.1		27.83	50.1		27.83	45.1		25.06	46.1		25.61	45.1		25.06	52.1		28.94
Tack Coat @ 0.05 Gal/SY (3rd Lift) / Gal	38.7		21.50	38.7		21.50	48.8		27.11	48.8		27.11	43.8		24.33	44.8		24.86	43.8		24.33	50.8		28.22
Tack Coat @ 0.05 Gal/SY (4th Lift) / Gal	37.4		20.78	37.4		20.78	47.5		26.39	47.5		26.39	42.5		23.61	43.5		24.14	42.5		23.61	49.5		27.50
HBP Superpave FAA 45 @ 2 Ton/CY (1st, 2nd, and 3rd Lift) / Ton		18.1	134.07		18.1	133.70		22.7	168.15		22.7	168.15		20.4	151.11		20.9	154.81		20.4	151.11		23.6	174.81
HBP Superpave FAA 45 @ 2 Ton/CY (Wearing Course) / Ton		6.1	45.33		6.1	45.33		7.8	57.78		7.8	57.78		7.0	51.85		7.1	52.59		7.0	51.85		8.1	60.00
PG 58-28 Asphalt Cement @ 6.0% / Ton			8.04			8.02			10.09			10.09			9.07			9.29			9.07			10.49
PG 64-34 Asphalt Cement @ 6.0% / Ton			2.72			2.72			3.47			3.47			3.11			3.16			3.11			3.60

	Left Turn Lane to 2-Lane Section			3 Lane with Passing Lane Transition						Rt & Lt Turn Lanes and 2-Lane Section			Rt & Lt Turn Lanes to Lt Turn Lane with 2-Lane			Rt & Lt Turn Lanes to Lt Turn Lane with 2-Lane			Lt Turn Lane to Rt & Lt Turn Lane with 2-Lane			Deep Fill Additional Quantity	
	4563+21 to 4567+11			4818+57 to 4822+00			4822+00 to 4826+37			4554+68 to 4560+41			4918+44 to 4929+89			4560+41 to 4562+57			4916+29 to 4918+44			Stations	# of Sta.
	4668+73 to 4672+63									4713+41 to 4718+73						4718+73 to 4720+88						LT-See Sect 30	11.75
	4721+53 to 4725+43															4929+89 to 4932+05						RT-See Sect 30	8.00
	4932+69 to 4936+59																						
	Length (Sta.) 15.60			Length (Sta.) 3.43			Length (Sta.) 4.37			Length (Sta.) 11.05			Length (Sta.) 11.45			Length (Sta.) 6.47			Length (Sta.) 2.15				
	Widening Area			Widening Area			Regrade Area			Widening Area			Widening Area			Widening Area			Widening Area			Total = Area (SF)	19.75
Material / Unit	Width (Avg-ft)	Area (sf)	Quantity per Station	Width (Avg-ft)	Area (sf)	Quantity per Station	Width (Avg-ft)	Area (sf)	Quantity per Station	Width (ft)	Area (sf)	Quantity per Station	Width (ft)	Area (sf)	Quantity per Station	Width (Avg-ft)	Area (sf)	Quantity per Station	Width (Avg-ft)	Area (sf)	Quantity per Station	of Length (LF)	Quantity per Station
Aggregate Cl 3M for Blending @ 1.875 Ton/CY** / Ton	40		138.89	40		138.89				40		138.89				40		138.89	40		138.89		
Salvaged Base Course @ 1.875 Ton/CY / Ton		21.0	145.83		36.0	250.00		96	666.67		45.0	312.50		105.1	729.86		37.5	260.42		37.5	260.42	4.94	34.31
Prime Coat @ 0.25 Gal/SY / Gal	47.5		131.94	57.5		159.72	57.5		159.72	63.5		176.39	63.5		176.39	58.5		162.50	58.5		162.50	1.56	4.33
Blotter Material Cl 44 @ 15 lbs/SY / Ton	47.5		3.96	57.5		4.79	57.5		4.79	63.5		5.29	63.5		5.29	58.5		4.88	58.5		4.88	1.56	0.13
Tack Coat @ 0.05 Gal/SY (1st Lift) / Gal	47.5		26.39	57.5		31.94	57.5		31.94	63.5		35.28	63.5		35.28	58.5		32.50	58.5		32.50	1.56	0.87
Tack Coat @ 0.05 Gal/SY (2nd Lift) / Gal	46.1		25.61	56.1		31.17	56.1		31.17	62.1		34.50	62.0		34.44	57.1		31.72	57.1		31.72	1.15	0.64
Tack Coat @ 0.05 Gal/SY (3rd Lift) / Gal	44.8		24.86	54.8		30.44	54.8		30.44	60.8		33.78	61.0		33.89	55.8		31.00	55.8		31.00	0.73	0.41
Tack Coat @ 0.05 Gal/SY (4th Lift) / Gal	43.5		24.14	53.5		29.72	53.5		29.72	59.5		33.06	60.0		33.33	54.5		30.28	54.5		30.28	0.42	3.11
HBP Superpave FAA 45 @ 2 Ton/CY (1st, 2nd, and 3rd Lift) / Ton		20.9	154.81		25.5	188.89		25.5	188.89		28.2	208.89		28.17	208.67		25.9	191.85		25.9	191.85	0.46	3.41
HBP Superpave FAA 45 @ 2 Ton/CY (Wearing Course) / Ton		7.1	52.59		10.6	78.52		10.6	78.52		9.8	72.59		9.8	72.52		9.0	66.67		9.0	66.67	0.03	0.22
PG 58-28 Asphalt Cement @ 6.0% / Ton			9.29			11.33			11.33			12.53			12.52			11.51			11.51		0.204
PG 64-34 Asphalt Cement @ 6.0% / Ton			3.16			4.71			4.71			4.36			4.35			4.00			4.00		0.013

**The CL 3M Aggregate is approximately 4 inch depth. The actual depth will vary to meet the proposed profile. Quantities were determined from the cross sections.

Water

25 Mgal/Mile for Dust Palliative
15 Gal/SY for Blended Base
20 Gal/Ton for Aggregates
10 Gal/CY for Embankment
200 Mgal/Mile for Erionite Containment

Mailboxes - All Types and Sizes

Station	Offset	Station	Offset
4017+50	31' L	4765+99	25' L
4033+94	27' L	4792+28	47' L
4059+14	20' L	4792+29	50' L
4228+75	21' L	4871+78	33' R
4228+78	19' L	4871+80	32' R
4369+95	18' L	4924+28	63' L
4370+08	21' R	4924+29	61' L
4490+73	35' R	4924+30	60' L
4600+49	17' L	4924+31	59' L
4642+60	25' L	4974+27	72' L
4664+69	20' L	5023+19	21' L
4753+59	25' L		

Private Signs

Station	Offset	Action
4173+06	143' L	DO NOT DISTURB
4179+85	103' L	Remove and Reset by landowner
4201+91	99' L	Remove and Reset by landowner
4239+03	107' L	Remove and Reset by landowner
4360+12	106' R	Remove and Reset by landowner
4424+09	103' L	Remove and Reset by landowner
4424+22	127' R	Remove and Reset by landowner
4555+58	103' L	Remove and Reset by landowner

This document was originally issued and sealed by Craig Mizera Registration Number PE- 7475, on 11/03/15 and the original document is stored at the North Dakota Department of Transportation

ND Hwy 200

Basis of Estimate

Revised 11/03/2015	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	SOIB-5-200(024)075	10	3

SALVAGED MATERIAL REMOVAL SUMMARY

	Regrade Area #1		Regrade Area #2		Regrade Area #3		Regrade Area #4		Regrade Area #5		Regrade Area #6		Regrade Area #7		Regrade Area #8		Regrade Area #9		Regrade Area #10	
	Sta. 3964+77 to 3970+38		Sta. 1000+00 to 1081+71 Sta. 4126+38 to 4200+00		Sta. 4393+00 to 4435+00		Sta. 4450+00 to 4495+00		Sta. 4611+00 to 4626+00		Sta. 4822+00 to 4837+00		Sta. 4875+00 to 4891+00		Sta. 4914+00 to 4919+00		Sta. 4945+00 to 4962+00		Sta. 5022+50 to 5024+52	
	Length (Ft.) 561'		Length (Ft.) 15533'		Length (Ft.) 4200'		Length (Ft.) 4500'		Length (Ft.) 1500'		Length (Ft.) 1500'		Length (Ft.) 1600'		Length (Ft.) 500'		Length (Ft.) 1700'		Length (Ft.) 202'	
	Aggr. Avg. Depth = 7.5"		Aggr. Avg. Depth = 5.0"		Aggr. Avg. Depth = 4.0"		Aggr. Avg. Depth = 4.4"		Aggr. Avg. Depth = 4.9"		Aggr. Avg. Depth = 4.9"		Aggr. Avg. Depth = 5.0"		Aggr. Avg. Depth = 4.8"		Aggr. Avg. Depth = 5.2"		Aggr. Avg. Depth = 5.0"	
	HBP Avg. Depth = 13.0"		HBP Avg. Depth = 13.0"		HBP Avg. Depth = 10.3"		HBP Avg. Depth = 9.5"		HBP Avg. Depth = 11.4"		HBP Avg. Depth = 9.0"		HBP Avg. Depth = 10.6"		HBP Avg. Depth = 9.9"		HBP Avg. Depth = 11.2"		HBP Avg. Depth = 11.2"	
Material	CY	TON	CY	TON	CY	TON	CY	TON	CY	TON	CY	TON	CY	TON	CY	TON	CY	TON	CY	TON
Aggregate Base @ 1.875 Ton/CY	519.4	974.0	9588.3	17978.0	2074.1	3888.9	2444.4	4583.3	907.4	1701.4	907.4	1701.4	987.7	1851.9	296.3	555.6	1091.4	2046.3	124.7	233.8
Bituminous Surfacing @ 2 Ton/CY	900.4	1800.7	24929.5	49859.0	5340.7	10681.5	5277.8	10555.6	2111.1	4222.2	1666.7	3333.3	2093.8	4187.7	611.1	1222.2	2350.6	4701.2	279.3	558.6
Sub Total		2774.7		67837.0		14570.4		15138.9		5923.6		5034.7		6039.5		1777.8		6747.5		792.4

Material	Quantity (TONS)
Existing Aggregate Base	35,515
Existing Bituminous Surfacing	91,122
Total Existing Material Removed	126,637
Temporary Widening Salvaged Base Course	217,132
Roadway Salvaged Base Course	351,832
Subcut	4,703
Subtotal	573,667
Temporary Bypass Site 1 4917+00	1,656
Culvert Installation 4147+00	500
Culvert Installation 4660+00	500
Culvert Installation 4762+00	500
Total Project Salvaged Base Course	576,823

SUBGRADE PREP SUMMARY

Station	Quantity (STA.)
Sta. 3964+77 to 3970+38	5.6
Sta. 1000+00 to 1081+71	81.7
Sta. 4126+38 to 4200+00	73.6
Sta. 4393+00 to 4435+00	42.0
Sta. 4450+00 to 4495+00	45.0
Sta. 4611+00 to 4626+00	15.0
Sta. 4822+00 to 4837+00	15.0
Sta. 4875+00 to 4891+00	16.0
Sta. 4914+00 to 4919+00	5.0
Sta. 4945+00 to 4962+00	17.0
Sta. 5022+50 to 5024+52	2.0
	318.0

HBP Cored Samples							
	A	B	C	D			
Specification Section	Distance (Ft) [] 2000	Lanes	Lifts	Sublots (A x B x C)	Quantity (D x 2)	Quantity (1 per mile)	Unit
430.04 I.2.b(1), "General" Mainline	53	2	4	424	848	N/A	EA
430.04 I.2.b(1), "General" Passing Lane	25	1	4	100	200	N/A	EA
430.04 I.2.b(2), "Pavement Thickness Determination Cores"					N/A	20	EA

This document was originally issued and sealed by Craig Mizera, Registration Number PE- 7475, on 11/03/15 and the original document is stored at the North Dakota Department of Transportation

ND Hwy 200

Basis of Estimate

ND200 Project Earthwork Summary

Earthwork Location	Common Excavation- Type A (3) (CY)	Embankment (CY)	Borrow-Excavation (6) (CY)	Waste (2) (CY)	Topsoil (CY)	Topsoil - Wetland (CY)	Remove Temp. Widening (1) (LS)
ND Hwy 200	1,100,468	1,153,980	160,000	106,488	174,597	0	0
Kukla Wetland Mitigation Site	3,383	0	0	3,383	0	436*	0
Harsche Wetland Mitigation Site	12,000	0	0	12,000	0	1884*	0
Temporary Widening - McKenzie County	0	0	266212*	0	0	0	266212*
Temporary Widening - Dunn County	0	0		0	0	0	
Topsoil Borrow Sites (4)	0	0		0	12369*	0	0
Temporary Bypass Site 1 - 4917+00	0	0	1564* (5)	0	0	0	0
Temporary Bypass 4147+00	0	0	9687* (5)	0	0	0	0
Temporary Bypass 4660+00	0	0	2037* (5)	0	0	0	0
Temporary Bypass 4762+00	0	0	8933* (5)	0	0	0	0
Topsoil Waste Sites (4)	0	0		0	23808*	0	0
TOTALS =	1,115,851	1,153,980	448,433	121,871	210,774	2,320	266,212

Notes: (1) Pay item is lump sum, approximate waste quantity is shown in CY.
(2) Waste quantities are informational only. Payment for hauling and placing waste material is included in the "Common Excavation - Type A" and "Remove Temporary Widening" bid items.
(3) "Common Excavation - Type A" includes the construction of ditch blocks, intercepting ditches, and the removal of approaches.
(4) This item is for removal and replacement of topsoil.
(5) Removal of this material will be paid under the bid item "Common Excavation - Type A".
(6) Borrow Excavation
160,000 CY Department Option
288,433 CY Contractor Option
*Not included in earthwork tables or mass haul diagram

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ND Hwy 200

Earthwork Summary

Revised 11/03/2015	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	SOIB-5-200(024)075	11	2

Station	Area (SF)		Volume (CY)						
	End Area Excavation	End Area Embankment	Excavation	Excavation (Other)	Embankment	Embankment (Other)	Topsoil Strip	Topsoil Fill	Mass Ordinate
3965+00.00	185	24	0	0	0	0	0	0	0
3966+00.00	64	43	461	0	161	0	95	47	300
3967+00.00	189	57	469	0	241	0	112	112	528
3968+00.00	364	113	1024	0	409	0	167	166	1142
3969+00.00	216	134	1074	0	595	0	172	170	1622
3970+00.00	55	128	502	0	631	0	139	137	1493
3971+00.00	15	129	130	0	619	0	120	117	1004
3972+00.00	6	113	39	0	583	0	113	109	460
3973+00.00	24	83	56	0	472	0	108	104	44
3974+00.00	93	77	217	0	385	0	129	126	-125
3975+00.00	70	95	302	0	414	0	147	145	-237
3976+00.00	37	98	198	0	465	0	141	138	-503
3977+00.00	21	86	107	0	443	0	123	119	-839
3978+00.00	0	78	39	0	395	0	92	87	-1195
3979+00.00	0	83	0	0	388	0	73	68	-1582
3980+00.00	0	80	0	0	392	0	73	68	-1975
3981+00.00	0	72	0	0	366	0	72	67	-2341
3982+00.00	0	72	0	0	347	0	71	67	-2687
3983+00.00	0	72	0	0	347	0	73	69	-3034
3984+00.00	0	73	0	0	349	0	75	70	-3383
3985+00.00	0	98	0	0	412	0	79	75	-3795
3986+00.00	0	153	0	0	604	0	91	87	-4399
3987+00.00	0	105	0	0	621	0	93	90	-5020
3988+00.00	0	77	0	0	438	0	83	79	-5458
3989+00.00	4	86	7	0	392	0	90	86	-5843
3990+00.00	26	99	56	0	445	0	118	114	-6233
3991+00.00	159	1	343	59	241	443	66	121	-6515
3992+00.00	11	71	315	0	173	0	52	106	-6374
3993+00.00	5	84	30	0	373	0	104	100	-6717
3994+00.00	10	102	28	0	448	0	117	113	-7137
3995+00.00	39	72	91	0	419	0	137	132	-7465
3996+00.00	43	78	152	0	361	0	143	138	-7675
3997+00.00	51	93	174	0	412	0	143	138	-7912
3998+00.00	7	87	107	0	433	0	126	120	-8238
3999+00.00	7	69	26	0	376	0	104	99	-8588
4000+00.00	6	83	24	0	366	0	102	98	-8930
4001+00.00	24	65	56	0	356	0	104	101	-9230
4002+00.00	15	99	72	0	395	0	199	88	-9553
4003+00.00	12	91	50	0	457	0	209	98	-9960
4004+00.00	21	79	61	0	409	0	130	125	-10309
4005+00.00	10	72	57	0	364	0	119	113	-10615
4006+00.00	15	75	46	0	354	0	106	99	-10922
4007+00.00	21	68	67	0	344	0	106	100	-11200
4008+00.00	37	66	107	0	323	0	120	115	-11415
4009+00.00	25	74	115	0	337	0	132	127	-11637
4010+00.00	18	83	80	0	378	0	118	113	-11936
4011+00.00	23	83	76	0	400	0	119	122	-12259
4012+00.00	22	89	83	0	414	0	132	142	-12590
4013+00.00	27	96	91	0	445	0	133	140	-12945
4014+00.00	23	110	93	0	496	0	133	138	-13348
4015+00.00	31	95	100	0	494	0	126	129	-13741
4016+00.00	20	104	94	0	479	0	119	120	-14126
4017+00.00	67	13	161	131	282	698	114	89	-14814
4018+00.00	78	100	269	0	272	0	135	109	-14817
4019+00.00	103	112	335	0	510	0	163	163	-14992
4020+00.00	157	119	481	0	556	0	173	174	-15067
4021+00.00	254	42	761	29	388	490	137	178	-15155
4022+00.00	225	100	887	0	342	0	145	185	-14609
4023+00.00	217	86	819	0	448	0	201	200	-14239

Station	Area (SF)		Volume (CY)						
	End Area Excavation	End Area Embankment	Excavation	Excavation (Other)	Embankment	Embankment (Other)	Topsoil Strip	Topsoil Fill	Mass Ordinate
4024+00.00	145	69	670	0	373	0	199	197	-13941
4025+00.00	105	78	463	0	354	0	189	187	-13832
4026+00.00	64	81	313	0	383	0	160	157	-13902
4027+00.00	62	239	233	0	770	0	154	150	-14439
4028+00.00	194	218	474	70	1100	469	178	170	-15465
4029+00.00	1	165	361	33	922	1329	155	150	-17322
4030+00.00	0	275	2	0	1059	0	134	133	-18379
4031+00.00	0	116	0	0	941	0	123	121	-19320
4032+00.00	0	77	0	27	465	320	103	104	-20077
4033+00.00	0	132	0	0	503	0	101	102	-20580
4034+00.00	24	77	44	36	503	424	115	118	-21427
4035+00.00	19	105	80	0	438	0	123	125	-21785
4036+00.00	0	113	35	0	525	0	103	99	-22275
4037+00.00	0	116	0	0	551	0	84	79	-22826
4038+00.00	22	111	41	28	546	291	111	106	-23595
4039+00.00	157	103	331	0	515	0	159	155	-23779
4040+00.00	109	120	493	0	537	0	183	179	-23823
4041+00.00	250	134	665	0	611	0	215	213	-23770
4042+00.00	226	151	881	0	686	0	249	247	-23575
4043+00.00	285	136	946	0	691	0	248	247	-23319
4044+00.00	241	142	974	0	669	0	235	234	-23014
4044+50.07	242	168	448	0	374	0	111	110	-22940
1001+00.00	108	125	648	26	704	342	185	182	-23312
1002+00.00	86	115	359	0	578	0	145	142	-23530
1003+00.00	83	126	313	0	580	0	141	140	-23798
1004+00.00	20	155	191	0	676	0	127	128	-24283
1005+00.00	24	300	81	0	1095	0	111	109	-25297
1006+00.00	25	433	91	0	1765	0	142	143	-26971
1007+00.00	31	323	104	0	1820	0	154	160	-28688
1008+00.00	41	333	133	0	1579	0	126	134	-30133
1009+00.00	34	858	139	0	2867	0	139	149	-32862
1010+00.00	50	230	156	0	2619	0	166	174	-35325
1011+00.00	108	3276	293	0	8440	0	234	240	-43473
1012+00.00	78	1832	344	0	12297	0	244	251	-55426
1013+00.00	349	169	791	0	4817	0	178	185	-59452
1014+00.00	788	0	2106	341	407	471	200	219	-57883
1015+00.00	552	119	2481	0	286	0	203	211	-55688
1016+00.00	54	1076	1122	0	2877	0	149	145	-57443
1017+00.00	114	94	311	0	2817	0	201	209	-59948
1018+00.00	296	99	759	0	465	0	210	200	-59654
1019+00.00	333	84	1165	0	441	0	161	134	-58929
1020+00.00	294	100	1161	0	443	0	175	148	-58211
1021+00.00	278	116	1059	0	520	0	190	171	-57672
1022+00.00	465	9	1376	100	301	1803	206	190	-58301
1023+00.00	361	132	1530	0	339	0	198	185	-57110
1024+00.00	31	187	726	0	768	0	157	152	-57153
1025+00.00	2	314	61	0	1206	0	130	128	-58298
1026+00.00	0	1424	4	0	4184	0	185	188	-62478
1027+00.00	0	455	0	0	4524	0	188	190	-67001
1028+00.00	47	276	87	0	1760	0	150	147	-68674
1029+00.00	186	194	431	0	1131	0	181	175	-69374
1030+00.00	175	164	669	0	862	0	205	201	-69568
1031+00.00	20	199	361	36	874	1130	169	164	-71174
1032+00.00	21	384	76	0	1404	0	129	126	-72502
1033+00.00	42	618	117	0	2412	0	128	125	-74797
1034+00.00	44	790	159	0	3390	0	151	150	-78028
1035+00.00	38	915	152	0	4105	0	183	187	-81981
1036+00.00	48	830	159	0	4201	0	180	179	-86022
1037+00.00	64	439	207	0	3055	0	142	141	-88870

* EXCAVATION (OTHER) AND FILL (OTHER) REPRESENT VOLUME ADJUSTMENTS FOR THE FOLLOWING ITEMS:

APPROACH CONSTRUCTION
BORROW MATERIAL
WETLAND EXCAVATION
MATERIAL WASTE

This document was originally issued and sealed by Craig Mizera Registration Number PE- 7475, on 11/03/15 and the original document is stored at the North Dakota Department of Transportation

ND Hwy 200

Earthwork Values

Revised 11/03/2015	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	SOIB-5-200(024)075	11	3

Station	Area (SF)		Volume (CY)						
	End Area Excavation	End Area Embankment	Excavation	Excavation (Other)	Embankment	Embankment (Other)	Topsoil Strip	Topsoil Fill	Mass Ordinate
1038+00.00	60	1261	230	0	4093	0	162	163	-92733
1039+00.00	78	1090	256	0	5660	0	217	220	-98137
1040+00.00	87	2096	306	0	7670	0	234	240	-105502
1041+00.00	82	1861	313	0	9526	0	238	243	-114715
1042+00.00	72	1307	285	0	7627	0	218	222	-122056
1043+00.00	87	751	294	0	4954	0	183	189	-126716
1044+00.00	111	177	367	0	2234	0	133	141	-128584
1045+00.00	2097	55	4089	0	559	0	178	171	-125053
1046+00.00	2620	38	8735	0	224	0	260	240	-116542
1047+00.00	2367	51	9235	0	214	0	262	244	-107521
1048+00.00	2021	56	8126	0	258	0	259	240	-99653
1049+00.00	1875	96	7215	0	366	0	270	249	-92804
1050+00.00	1331	97	5937	160000	465	0	284	257	72669
1051+00.00	665	107	3696	465	491	487	248	217	75852
1052+00.00	191	164	1585	0	652	0	189	154	76785
1053+00.00	18	595	387	0	1827	0	172	153	75345
1054+00.00	4	1934	41	0	6088	0	235	241	69297
1055+00.00	0	3457	7	0	12978	0	330	343	56326
1056+00.00	1	1867	2	0	12817	0	310	323	43511
1057+00.00	1	461	4	0	5604	0	198	207	37911
1058+00.00	124	213	231	28	1623	435	140	140	36112
1059+00.00	71	257	361	0	1131	0	142	139	35342
1060+00.00	73	235	267	0	1184	0	148	149	34424
1061+00.00	89	179	300	30	997	284	138	140	33473
1062+00.00	11	303	185	0	1160	0	122	123	32498
1063+00.00	0	308	20	0	1471	0	105	103	31047
1064+00.00	0	308	0	0	1483	0	93	89	29564
1065+00.00	0	297	0	0	1456	0	109	105	28108
1066+00.00	14	295	26	0	1425	0	125	121	26709
1067+00.00	39	294	98	0	1418	0	131	126	25389
1068+00.00	130	289	313	0	1404	0	159	152	24298
1069+00.00	177	289	569	0	1391	0	185	178	23475
1070+00.00	220	274	735	0	1355	0	193	184	22855
1071+00.00	224	273	822	0	1317	0	196	186	22361
1072+00.00	142	273	678	33	1314	219	191	180	21538
1073+00.00	99	333	446	0	1459	0	174	182	20525
1074+00.00	97	306	363	0	1538	0	172	205	19350
1075+00.00	126	283	413	0	1418	0	187	228	18345
1076+00.00	145	249	502	0	1281	0	190	238	17566
1077+00.00	154	226	554	0	1144	0	191	236	16976
1078+00.00	117	158	502	219	924	615	175	222	16158
1079+00.00	52	270	313	0	1030	0	161	209	15440
1080+00.00	29	238	150	0	1223	0	144	190	14367
1081+00.00	3	223	59	0	1110	0	124	171	13317
4127+00.00	95	195	1473	0	1473	0	191	210	13317
4128+00.00	109	192	378	0	932	0	144	121	12763
4129+00.00	15	198	230	0	939	0	137	114	12054
4130+00.00	0	212	28	0	987	0	117	94	11094
4131+00.00	0	212	0	0	1021	0	110	86	10074
4132+00.00	0	300	0	0	1233	0	120	96	8841
4133+00.00	6	239	11	0	1298	0	135	111	7555
4134+00.00	4	182	19	0	1014	0	123	99	6560
4135+00.00	1	217	9	0	961	0	112	89	5608
4136+00.00	28	177	54	0	949	0	126	105	4714
4137+00.00	101	143	239	0	770	0	139	117	4182
4138+00.00	115	141	400	0	684	0	143	122	3898
4139+00.00	58	174	320	0	758	0	138	117	3460
4140+00.00	64	185	226	0	864	0	148	126	2822
4141+00.00	3	187	124	0	896	0	140	118	2051

Station	Area (SF)		Volume (CY)						
	End Area Excavation	End Area Embankment	Excavation	Excavation (Other)	Embankment	Embankment (Other)	Topsoil Strip	Topsoil Fill	Mass Ordinate
4142+00.00	0	234	6	0	1014	0	117	94	1043
4143+00.00	0	910	0	0	2754	0	148	124	-1711
4144+00.00	9	619	17	0	3681	0	166	142	-5376
4145+00.00	18	635	50	0	3019	0	153	130	-8345
4146+00.00	28	240	85	0	2106	0	137	115	-10366
4147+00.00	33	242	113	0	1160	0	118	96	-11413
4148+00.00	38	472	131	0	1719	0	132	109	-13001
4149+00.00	59	470	180	0	2268	0	153	129	-15089
4150+00.00	82	310	261	0	1878	0	147	123	-16706
4151+00.00	89	219	317	0	1274	0	129	102	-17662
4152+00.00	106	57	361	78	664	551	125	89	-18439
4153+00.00	142	177	459	0	563	0	145	112	-18543
4154+00.00	77	200	406	0	908	0	147	124	-19045
4155+00.00	77	126	285	0	785	0	119	95	-19545
4156+00.00	71	81	274	0	498	0	98	75	-19769
4157+00.00	157	73	422	0	371	0	126	104	-19718
4158+00.00	251	74	756	0	354	0	171	150	-19316
4159+00.00	243	97	915	0	412	0	184	162	-18813
4160+00.00	275	114	959	0	508	0	195	173	-18362
4161+00.00	116	144	724	0	621	0	182	160	-18259
4162+00.00	92	234	385	0	910	0	171	148	-18783
4163+00.00	74	244	307	0	1151	0	183	159	-19627
4164+00.00	35	241	202	0	1168	0	170	146	-20593
4165+00.00	66	220	187	0	1110	0	165	141	-21515
4166+00.00	31	204	180	0	1021	0	159	135	-22356
4167+00.00	34	185	120	0	936	0	131	107	-23173
4168+00.00	123	198	291	0	922	0	148	125	-23804
4169+00.00	54	162	328	0	867	0	161	138	-24343
4170+00.00	71	132	231	0	708	0	151	129	-24819
4171+00.00	188	164	480	0	713	0	175	154	-25052
4172+00.00	238	169	789	0	802	0	204	182	-25065
4173+00.00	220	172	848	0	821	0	221	200	-25038
4174+00.00	144	167	674	0	816	0	223	203	-25180
4175+00.00	54	196	367	0	874	0	194	174	-25687
4176+00.00	168	216	411	0	992	0	176	155	-26268
4177+00.00	148	225	585	0	1062	0	182	159	-26744
4178+00.00	109	263	476	0	1175	0	173	149	-27443
4179+00.00	62	261	317	0	1261	0	163	138	-28388
4180+00.00	123	186	343	0	1076	0	131	129	-29121
4181+00.00	1	280	230	133	1122	1352	110	108	-31232
4182+00.00	0	261	2	0	1302	0	105	82	-32533
4183+00.00	31	150	57	0	989	0	0	0	-33465
4184+00.00	10	148	76	0	717	0	110	102	-34107
4185+00.00	13	218	43	0	881	0	112	116	-34945
4186+00.00	8	301	39	0	1249	0	131	139	-36156
4187+00.00	8	191	30	0	1184	0	125	127	-37310
4188+00.00	23	152	57	0	826	0	121	109	-38079
4189+00.00	108	121	243	0	657	0	142	124	-38493
4190+00.00	177	88	528	0	503	0	164	147	-38469
4191+00.00	202	91	702	0	431	0	175	158	-38198
4192+00.00	206	90	756	0	436	0	179	162	-37878
4193+00.00	184	94	722	0	443	0	182	165	-37599
4194+00.00	166	111	648	0	494	0	183	165	-37444
4195+00.00	140	106	567	0	522	0	174	157	-37400
4196+00.00	125	99	491	0	494	0	150	133	-37403
4197+00.00	99	104	415	0	489	0	131	113	-37477
4198+00.00	94	104	357	0	501	0	127	110	-37620
4199+00.00	142	108	437	0	510	0	148	130	-37693
4200+00.00	191	102	617	0	506	0	174	156	-37582

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ND Hwy 200

Earthwork Values

Revised 11/03/2015	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	SOIB-5-200(024)075	11	4

Station	Area (SF)		Volume (CY)						
	End Area Excavation	End Area Embankment	Excavation	Excavation (Other)	Embankment	Embankment (Other)	Topsoil Strip	Topsoil Fill	Mass Ordinate
4201+00.00	202	96	728	0	477	0	182	165	-37331
4202+00.00	184	83	715	0	431	0	182	154	-37047
4203+00.00	224	85	756	0	404	0	185	144	-36696
4204+00.00	190	109	767	0	467	0	188	159	-36396
4205+00.00	178	120	681	0	551	0	185	168	-36266
4206+00.00	188	116	678	0	568	0	183	165	-36157
4207+00.00	186	116	693	0	559	0	182	165	-36022
4208+00.00	216	121	744	0	571	0	185	168	-35849
4209+00.00	321	59	994	53	433	1036	193	169	-36271
4210+00.00	264	81	1083	0	337	0	199	175	-35525
4211+00.00	248	90	948	0	412	0	204	186	-34988
4212+00.00	297	84	1009	0	419	0	211	193	-34398
4213+00.00	326	96	1154	0	433	0	213	195	-33677
4214+00.00	236	89	1041	0	445	0	204	187	-33082
4215+00.00	216	96	837	0	445	0	190	173	-32690
4216+00.00	104	111	593	0	498	0	176	158	-32596
4217+00.00	0	124	193	0	566	0	128	111	-32969
4218+00.00	0	136	0	0	626	0	96	81	-33595
4219+00.00	0	154	0	0	698	0	108	94	-34293
4220+00.00	0	139	0	42	705	939	116	104	-35896
4221+00.00	0	282	0	0	1014	0	134	121	-36909
4222+00.00	0	166	0	0	1079	0	146	135	-37988
4223+00.00	0	324	0	0	1180	0	160	151	-39168
4224+00.00	0	179	0	0	1211	0	164	156	-40378
4225+00.00	0	96	0	0	662	0	129	123	-41041
4226+00.00	0	615	0	0	1712	0	158	152	-42752
4227+00.00	0	464	0	0	2598	0	189	178	-45350
4228+00.00	0	88	0	33	1329	373	131	116	-47018
4229+00.00	0	165	0	0	609	0	101	83	-47628
4230+00.00	0	173	0	0	814	0	110	90	-48441
4231+00.00	0	144	0	0	763	0	106	87	-49204
4232+00.00	0	128	0	0	655	0	96	77	-49859
4233+00.00	16	126	30	0	611	0	106	86	-50441
4234+00.00	78	116	174	0	583	0	143	124	-50850
4235+00.00	144	123	411	0	575	0	174	154	-51014
4236+00.00	312	105	844	0	549	0	193	172	-50718
4237+00.00	150	113	856	0	525	0	153	161	-50388
4238+00.00	204	17	656	3034	313	1070	109	134	-48081
4239+00.00	338	143	1004	0	385	0	166	157	-47463
4240+00.00	320	181	1219	0	780	0	211	180	-47024
4241+00.00	404	194	1341	0	903	0	213	181	-46586
4242+00.00	471	194	1620	0	934	0	222	190	-45900
4243+00.00	430	182	1669	0	905	0	216	184	-45137
4244+00.00	392	178	1522	0	867	0	205	175	-44481
4245+00.00	309	165	1298	0	826	0	196	170	-44009
4246+00.00	412	69	1335	39	563	654	143	160	-43852
4247+00.00	391	142	1487	0	508	0	146	165	-42872
4248+00.00	254	130	1194	0	655	0	186	169	-42333
4249+00.00	175	115	794	0	590	0	175	163	-42128
4250+00.00	118	94	543	0	503	0	172	165	-42089
4251+00.00	106	98	415	0	462	0	175	170	-42136
4252+00.00	39	88	269	0	448	0	148	143	-42315
4253+00.00	0	80	72	0	404	0	98	94	-42648
4254+00.00	0	84	0	0	395	0	83	77	-43042
4255+00.00	0	97	0	0	436	0	90	84	-43478
4256+00.00	2	76	4	0	416	0	101	95	-43891
4257+00.00	0	84	4	0	385	0	94	89	-44272
4258+00.00	0	119	0	25	489	211	93	88	-44948
4259+00.00	0	79	0	46	477	165	93	88	-45544

Station	Area (SF)		Volume (CY)						
	End Area Excavation	End Area Embankment	Excavation	Excavation (Other)	Embankment	Embankment (Other)	Topsoil Strip	Topsoil Fill	Mass Ordinate
4260+00.00	0	61	0	0	337	0	79	74	-45881
4261+00.00	41	116	76	0	426	0	124	119	-46231
4262+00.00	85	100	233	0	520	0	189	185	-46518
4263+00.00	146	93	428	0	465	0	206	201	-46554
4264+00.00	170	79	585	0	414	0	198	192	-46383
4265+00.00	209	94	702	0	416	0	194	190	-46098
4266+00.00	317	82	974	0	424	0	207	203	-45548
4267+00.00	302	87	1146	0	407	0	214	210	-44808
4268+00.00	195	84	920	0	412	0	197	192	-44299
4269+00.00	163	85	663	0	407	0	176	171	-44043
4270+00.00	182	86	639	0	412	0	169	164	-43816
4271+00.00	158	40	630	39	303	249	157	151	-43700
4272+00.00	14	90	319	0	313	0	128	122	-43694
4273+00.00	0	112	26	0	486	0	105	100	-44155
4274+00.00	0	265	0	0	908	0	117	112	-45062
4275+00.00	0	1310	0	0	3792	0	197	181	-48854
4276+00.00	0	470	0	0	4285	0	208	193	-53139
4277+00.00	0	342	0	0	1955	0	152	148	-55094
4278+00.00	0	218	0	0	1348	0	136	132	-56442
4279+00.00	0	113	0	0	797	0	114	110	-57239
4280+00.00	0	77	0	0	457	0	94	90	-57696
4281+00.00	0	75	0	0	366	0	88	83	-58062
4282+00.00	0	94	0	0	407	0	93	89	-58469
4283+00.00	4	96	7	0	457	0	114	110	-58919
4284+00.00	116	84	222	0	433	0	141	138	-59130
4285+00.00	120	95	437	0	431	0	151	148	-59124
4286+00.00	118	93	441	0	453	0	145	142	-59136
4287+00.00	122	65	444	0	380	0	137	134	-59072
4288+00.00	222	52	637	0	282	0	138	134	-58716
4289+00.00	337	59	1035	0	267	0	170	167	-57948
4290+00.00	536	58	1617	0	282	0	214	210	-56613
4291+00.00	879	35	2620	1440	224	960	247	238	-53737
4292+00.00	1384	51	4191	0	207	0	284	275	-49753
4293+00.00	1140	50	4674	0	243	0	296	293	-45322
4294+00.00	548	64	3126	0	274	0	258	255	-42471
4295+00.00	161	63	1313	0	306	0	185	182	-41463
4296+00.00	114	54	509	0	282	0	139	136	-41236
4297+00.00	80	72	359	0	303	0	139	135	-41180
4298+00.00	1	67	150	0	335	0	125	122	-41364
4299+00.00	0	50	2	0	282	0	97	95	-41644
4300+00.00	0	68	0	0	284	0	91	87	-41928
4301+00.00	0	85	0	0	368	0	97	93	-42297
4302+00.00	0	90	0	0	421	0	96	91	-42718
4303+00.00	12	92	22	0	438	0	109	105	-43134
4304+00.00	31	68	80	0	385	0	129	126	-43439
4305+00.00	3	87	63	0	373	0	124	121	-43750
4306+00.00	0	76	6	0	392	0	99	96	-44136
4307+00.00	0	116	0	0	462	0	89	86	-44599
4308+00.00	0	104	0	0	530	0	90	87	-45128
4309+00.00	94	66	174	0	409	0	128	124	-45363
4310+00.00	137	60	428	0	303	0	184	179	-45239
4311+00.00	28	98	306	0	380	0	176	171	-45314
4312+00.00	88	46	215	52	347	562	97	121	-45955
4313+00.00	0	1486	163	0	3688	0	142	166	-49480
4314+00.00	2	2290	4	0	9090	0	280	277	-58567
4315+00.00	194	1395	363	0	8871	0	304	304	-67075
4316+00.00	0	376	359	0	4264	0	219	225	-70980
4317+00.00	0	107	0	0	1163	0	122	125	-72142
4318+00.00	60	47	111	230	371	635	108	104	-72807

* EXCAVATION (OTHER) AND FILL (OTHER) REPRESENT VOLUME ADJUSTMENTS FOR THE FOLLOWING ITEMS:

APPROACH CONSTRUCTION
BORROW MATERIAL
WETLAND EXCAVATION
MATERIAL WASTE

This document was originally issued and sealed by Craig Mizera Registration Number PE- 7475, on 11/03/15 and the original document is stored at the North Dakota Department of Transportation

ND Hwy 200

Earthwork Values

Revised 11/03/2015	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	SOIB-5-200(024)075	11	5

Station	Area (SF)		Volume (CY)						
	End Area Excavation	End Area Embankment	Excavation	Excavation (Other)	Embankment	Embankment (Other)	Topsoil Strip	Topsoil Fill	Mass Ordinate
4319+00.00	100	76	296	0	296	0	129	147	-72807
4320+00.00	136	72	437	0	356	0	146	163	-72726
4321+00.00	110	80	456	0	366	0	164	159	-72637
4322+00.00	104	83	396	0	392	0	177	171	-72633
4323+00.00	132	85	437	0	404	0	179	173	-72600
4324+00.00	134	87	493	0	414	0	182	176	-72522
4325+00.00	195	94	609	0	436	0	199	193	-72348
4326+00.00	141	106	622	0	481	0	204	197	-72208
4327+00.00	40	113	335	0	527	0	177	171	-72400
4328+00.00	4	51	81	41	395	229	132	127	-72901
4329+00.00	10	69	26	0	289	0	104	100	-73164
4330+00.00	0	76	19	0	349	0	92	88	-73495
4331+00.00	0	88	0	0	395	0	80	76	-73890
4332+00.00	0	96	0	0	443	0	86	81	-74332
4333+00.00	0	129	0	0	542	0	94	86	-74874
4334+00.00	0	176	0	0	734	0	104	91	-75608
4335+00.00	0	165	0	0	821	0	108	91	-76429
4336+00.00	0	157	0	0	775	0	100	81	-77205
4337+00.00	57	151	106	0	741	0	126	106	-77840
4338+00.00	164	148	409	0	720	0	169	149	-78151
4339+00.00	130	186	544	0	804	0	176	156	-78411
4340+00.00	207	187	624	0	898	0	172	152	-78685
4341+00.00	165	199	689	0	929	0	171	134	-78925
4342+00.00	276	152	817	0	845	0	189	152	-78953
4343+00.00	219	148	917	0	722	0	205	185	-78759
4344+00.00	372	3	1094	988	364	1024	101	166	-78064
4345+00.00	115	148	902	0	364	0	91	155	-77526
4346+00.00	100	154	398	0	727	0	178	157	-77855
4347+00.00	154	150	470	0	732	0	175	155	-78116
4348+00.00	175	147	609	122	715	549	178	158	-78649
4349+00.00	193	132	681	0	672	0	181	160	-78639
4350+00.00	162	122	657	0	611	0	172	152	-78593
4351+00.00	157	115	591	0	571	0	157	138	-78573
4352+00.00	128	116	528	0	556	0	150	131	-78602
4353+00.00	117	93	454	0	503	0	144	126	-78651
4354+00.00	90	99	383	0	462	0	139	122	-78730
4355+00.00	114	124	378	0	537	0	149	137	-78889
4356+00.00	141	94	472	0	525	0	157	148	-78942
4357+00.00	129	75	500	0	407	0	144	138	-78848
4358+00.00	142	87	502	0	390	0	141	134	-78737
4359+00.00	164	89	567	0	424	0	147	137	-78594
4360+00.00	192	92	659	0	436	0	150	140	-78370
4361+00.00	303	18	917	17	265	900	128	132	-78601
4362+00.00	226	87	980	0	253	0	131	133	-77874
4363+00.00	194	91	778	0	429	0	154	140	-77525
4364+00.00	291	148	898	0	575	0	159	142	-77202
4365+00.00	278	212	1054	0	867	0	182	165	-77015
4366+00.00	0	302	515	0	1237	0	165	148	-77737
4367+00.00	1	287	2	0	1418	0	140	123	-79154
4368+00.00	0	243	2	0	1276	0	143	125	-80428
4369+00.00	0	219	0	0	1112	0	132	113	-81540
4370+00.00	0	119	0	26	814	407	106	78	-82735
4371+00.00	0	152	0	0	652	0	94	65	-83388
4372+00.00	41	160	76	0	751	0	122	102	-84063
4373+00.00	33	152	137	0	751	0	143	122	-84677
4374+00.00	41	172	137	0	780	0	148	128	-85320
4375+00.00	57	157	181	0	792	0	153	133	-85931
4376+00.00	20	159	143	0	761	0	145	125	-86549
4377+00.00	3	151	43	0	746	0	134	115	-87252

Station	Area (SF)		Volume (CY)						
	End Area Excavation	End Area Embankment	Excavation	Excavation (Other)	Embankment	Embankment (Other)	Topsoil Strip	Topsoil Fill	Mass Ordinate
4378+00.00	60	170	117	0	773	0	149	131	-87909
4379+00.00	127	167	346	0	811	0	170	151	-88374
4380+00.00	190	147	587	0	756	0	173	155	-88542
4381+00.00	275	114	861	0	628	0	180	162	-88310
4382+00.00	779	110	1952	0	539	0	215	195	-86897
4383+00.00	1021	106	3333	0	520	0	256	237	-84084
4384+00.00	953	99	3656	0	494	0	261	242	-80922
4385+00.00	982	101	3583	0	481	0	255	237	-77820
4386+00.00	516	109	2774	0	506	0	234	215	-75551
4387+00.00	94	111	1130	0	530	0	170	151	-74951
4388+00.00	0	512	174	0	1500	0	147	130	-76277
4389+00.00	218	892	404	0	3380	0	208	191	-79253
4390+00.00	0	770	404	0	4001	0	218	202	-82851
4391+00.00	0	777	0	0	3724	0	181	165	-86575
4392+00.00	0	722	0	0	3609	0	176	159	-90184
4393+00.00	18	267	33	0	2381	0	149	132	-92531
4394+00.00	31	226	91	0	1187	0	123	107	-93627
4395+00.00	49	199	148	0	1023	0	122	106	-94502
4396+00.00	71	86	222	0	686	0	109	93	-94966
4397+00.00	436	0	939	272	207	907	128	113	-94869
4398+00.00	754	18	2204	0	43	0	185	158	-92709
4399+00.00	1227	19	3669	0	89	0	231	191	-89129
4400+00.00	1553	14	5148	0	79	0	265	224	-84061
4401+00.00	1313	14	5307	0	67	0	272	225	-78821
4402+00.00	1174	13	4606	0	65	0	263	217	-74280
4403+00.00	1372	12	4715	0	60	0	265	229	-69625
4404+00.00	1160	12	4689	0	58	0	256	219	-64994
4405+00.00	1075	13	4139	0	60	0	240	194	-60916
4406+00.00	571	16	3048	0	70	0	213	157	-57937
4407+00.00	97	48	1237	0	154	0	144	101	-56854
4408+00.00	69	129	307	0	426	0	101	78	-56973
4409+00.00	43	563	207	0	1666	0	170	155	-58431
4410+00.00	19	686	115	0	3007	0	225	212	-61324
4411+00.00	21	854	74	0	3707	0	205	191	-64957
4412+00.00	36	146	106	0	2407	0	151	136	-67259
4413+00.00	38	85	137	0	556	0	94	79	-67678
4414+00.00	38	190	141	0	662	0	100	84	-68199
4415+00.00	49	281	161	0	1134	0	125	110	-69172
4416+00.00	54	428	191	0	1707	0	146	131	-70688
4417+00.00	55	343	202	0	1856	0	152	137	-72342
4418+00.00	56	229	206	0	1377	0	137	121	-73514
4419+00.00	58	100	211	0	792	0	110	94	-74095
4420+00.00	222	37	519	0	330	0	112	84	-73906
4421+00.00	468	23	1278	0	144	0	166	118	-72773
4422+00.00	632	11	2037	0	82	0	219	171	-70817
4423+00.00	883	4	2806	0	36	0	244	210	-68048
4424+00.00	1319	4	4078	34	19	425	252	229	-64381
4425+00.00	853	5	4022	0	22	0	248	226	-60380
4426+00.00	585	8	2663	0	31	0	223	190	-57748
4427+00.00	671	11	2326	0	46	0	198	157	-55468
4428+00.00	419	21	2019	0	77	0	170	117	-53527
4429+00.00	244	37	1228	0	140	0	140	102	-52438
4430+00.00	68	94	578	0	315	0	135	117	-52176
4431+00.00	39	162	198	0	616	0	128	125	-52594
4432+00.00	36	220	139	0	920	0	133	143	-53375
4433+00.00	38	167	137	0	932	0	135	132	-54170
4434+00.00	160	43	367	42	506	286	96	116	-54552
4435+00.00	443	82	1117	0	301	0	145	164	-53737
4436+00.00	702	86	2120	0	404	0	233	216	-52021

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ND Hwy 200

Earthwork Values

Revised 11/03/2015	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	SOIB-5-200(024)075	11	6

Station	Area (SF)		Volume (CY)						
	End Area Excavation	End Area Embankment	Excavation	Excavation (Other)	Embankment	Embankment (Other)	Topsoil Strip	Topsoil Fill	Mass Ordinate
4437+00.00	902	82	2970	0	404	0	214	197	-49455
4438+00.00	1026	79	3570	0	388	0	198	167	-46272
4439+00.00	845	82	3465	0	388	0	203	161	-43195
4440+00.00	396	228	2298	0	746	0	205	164	-41643
4441+00.00	77	284	876	0	1233	0	201	173	-42000
4442+00.00	18	396	176	0	1637	0	187	170	-43461
4443+00.00	0	701	33	0	2641	0	188	170	-46068
4444+00.00	305	613	565	0	3163	0	227	207	-48667
4445+00.00	24	893	609	0	3626	0	260	239	-51683
4446+00.00	0	1118	44	0	4841	0	246	223	-56480
4447+00.00	0	699	0	0	4374	0	213	189	-60854
4448+00.00	0	417	0	0	2687	0	181	156	-63541
4449+00.00	0	328	0	3383	1794	0	162	135	-61951
4450+00.00	18	356	33	89	1647	7365	163	136	-70841
4451+00.00	34	345	96	0	1688	0	165	138	-72432
4452+00.00	44	250	144	0	1432	0	153	126	-73720
4453+00.00	68	136	207	0	929	0	130	105	-74442
4454+00.00	215	34	524	0	409	0	128	103	-74327
4455+00.00	1037	1	2319	0	84	0	197	160	-72093
4456+00.00	2066	0	5746	0	2	0	297	257	-66349
4457+00.00	2976	0	9337	0	0	0	351	320	-57012
4458+00.00	2801	1	10698	0	2	0	372	341	-46316
4459+00.00	3369	0	11426	0	2	0	407	378	-34892
4460+00.00	2925	0	11656	0	0	0	426	397	-23237
4461+00.00	1597	0	8374	0	0	0	361	331	-14863
4462+00.00	929	2	4678	0	5	0	271	239	-10190
4463+00.00	657	25	2937	0	65	0	220	195	-7318
4464+00.00	826	46	2746	0	171	0	219	202	-4742
4465+00.00	884	51	3167	0	234	0	240	214	-1809
4466+00.00	641	64	2824	0	277	0	226	200	738
4467+00.00	259	76	1667	76	337	3266	187	162	-1122
4468+00.00	104	134	672	0	506	0	162	137	-955
4469+00.00	62	170	307	0	732	0	146	128	-1379
4470+00.00	50	376	207	0	1314	0	144	128	-2486
4471+00.00	52	1338	189	0	4126	0	206	190	-6424
4472+00.00	68	908	222	0	5407	0	229	205	-11609
4473+00.00	71	302	257	0	2913	0	173	144	-14264
4474+00.00	81	125	281	44	1028	87	132	111	-15053
4475+00.00	81	257	300	0	920	0	132	116	-15673
4476+00.00	75	778	289	0	2492	0	170	155	-17876
4477+00.00	589	1286	1230	0	4969	0	295	273	-21615
4478+00.00	432	973	1891	0	5438	0	382	349	-25163
4479+00.00	141	852	1061	0	4394	0	350	318	-28495
4480+00.00	43	371	341	0	2944	0	254	230	-31099
4481+00.00	67	94	204	0	1119	0	139	122	-32014
4482+00.00	146	16	394	0	265	0	107	72	-31885
4483+00.00	872	0	1885	660	39	1311	134	116	-30689
4484+00.00	1606	0	4589	0	0	0	213	208	-26100
4485+00.00	3461	0	9383	0	0	0	324	296	-16717
4486+00.00	5409	0	16426	0	0	0	428	402	-291
4487+00.00	5592	0	20372	0	0	0	496	471	20082
4488+00.00	3875	0	17531	0	0	0	474	447	37613
4489+00.00	2063	0	10996	0	0	0	364	335	48609
4490+00.00	575	4	4885	0	10	0	240	208	53485
4491+00.00	331	17	1678	84	51	435	177	155	54761
4492+00.00	71	1126	744	0	2752	0	211	201	52754
4493+00.00	27	2420	181	0	8537	0	277	264	44399
4494+00.00	3	2533	56	0	11924	0	312	301	32530
4495+00.00	14	2707	31	0	12615	0	325	314	19947

Station	Area (SF)		Volume (CY)						
	End Area Excavation	End Area Embankment	Excavation	Excavation (Other)	Embankment	Embankment (Other)	Topsoil Strip	Topsoil Fill	Mass Ordinate
4496+00.00	0	2818	26	0	13301	0	329	319	6672
4497+00.00	0	2073	0	0	11775	0	321	311	-5103
4498+00.00	3	1687	6	0	9052	0	303	293	-14149
4499+00.00	0	742	6	0	5848	0	242	230	-19991
4500+00.00	602	559	1115	0	3132	0	313	298	-22008
4501+00.00	773	448	2546	0	2424	0	412	396	-21886
4502+00.00	2043	435	5215	0	2126	0	423	406	-18797
4503+00.00	2179	555	7819	0	2383	0	477	458	-13362
4504+00.00	795	455	5507	0	2431	0	388	370	-10286
4505+00.00	825	365	3000	0	1974	0	279	263	-9260
4506+00.00	799	117	3007	0	1160	0	245	229	-7413
4507+00.00	336	92	2102	0	503	0	187	169	-5814
4508+00.00	700	76	1919	0	404	0	178	160	-4300
4509+00.00	753	83	2691	0	383	0	197	179	-1992
4510+00.00	799	89	2874	0	414	0	211	193	468
4511+00.00	976	88	3287	0	426	0	244	227	3329
4512+00.00	790	79	3270	0	402	0	252	236	6197
4513+00.00	558	97	2496	0	424	0	228	198	8270
4514+00.00	129	116	1272	0	513	0	193	163	9029
4515+00.00	56	7	343	47	296	188	96	104	8934
4516+00.00	0	484	104	0	1182	0	103	122	7856
4517+00.00	0	243	0	0	1750	0	190	193	6106
4518+00.00	0	127	0	0	891	0	146	138	5215
4519+00.00	245	100	454	0	546	0	142	125	5122
4520+00.00	400	93	1194	0	465	0	201	184	5852
4521+00.00	390	106	1463	0	479	0	213	196	6836
4522+00.00	499	111	1646	0	522	0	215	198	7960
4523+00.00	426	105	1713	0	520	0	211	194	9153
4524+00.00	240	115	1233	0	530	0	187	171	9857
4525+00.00	234	132	878	0	595	0	167	151	10140
4526+00.00	88	120	596	0	607	0	151	135	10129
4527+00.00	65	145	283	0	638	0	140	124	9775
4528+00.00	49	87	211	1	559	472	137	121	8956
4529+00.00	8	116	106	0	489	0	126	110	8573
4530+00.00	0	106	15	0	534	0	105	88	8054
4531+00.00	0	107	0	0	513	0	86	70	7541
4532+00.00	98	80	181	53	450	265	81	79	7059
4533+00.00	0	122	181	0	486	0	85	82	6755
4534+00.00	0	119	0	0	580	0	90	73	6174
4535+00.00	3	146	6	0	638	0	102	85	5542
4536+00.00	17	133	37	0	672	0	117	101	4907
4537+00.00	33	117	93	0	602	0	122	107	4398
4538+00.00	67	123	185	0	578	0	143	131	4005
4539+00.00	133	112	370	0	566	0	174	163	3810
4540+00.00	145	101	515	0	513	0	185	176	3812
4541+00.00	126	93	502	0	467	0	182	175	3847
4542+00.00	135	91	483	0	443	0	180	174	3887
4543+00.00	142	76	513	0	402	0	179	173	3998
4544+00.00	128	85	500	0	388	0	175	166	4111
4545+00.00	157	95	528	0	433	0	177	165	4205
4546+00.00	181	118	626	0	513	0	186	169	4318
4547+00.00	162	126	635	0	587	0	186	168	4366
4548+00.00	221	113	709	0	575	0	189	169	4500
4549+00.00	246	125	865	0	573	0	194	176	4792
4550+00.00	109	152	657	0	667	0	184	165	4782
4551+00.00	109	127	404	0	672	0	159	140	4514
4552+00.00	93	120	374	0	595	0	143	123	4294
4553+00.00	48	117	261	0	571	0	133	114	3984
4554+00.00	0	128	89	0	590	0	115	99	3483

* EXCAVATION (OTHER) AND FILL (OTHER) REPRESENT VOLUME ADJUSTMENTS FOR THE FOLLOWING ITEMS:

APPROACH CONSTRUCTION
BORROW MATERIAL
WETLAND EXCAVATION
MATERIAL WASTE

This document was originally issued and sealed by Craig Mizera Registration Number PE- 7475, on 11/03/15 and the original document is stored at the North Dakota Department of Transportation

ND Hwy 200

Earthwork Values

Revised 11/03/2015	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	SOIB-5-200(024)075	11	7

Station	Area (SF)		Volume (CY)						
	End Area Excavation	End Area Embankment	Excavation	Excavation (Other)	Embankment	Embankment (Other)	Topsoil Strip	Topsoil Fill	Mass Ordinate
4555+00.00	78	4	144	239	318	1360	96	74	2189
4556+00.00	110	146	348	0	361	0	113	71	2176
4557+00.00	156	167	493	0	754	0	148	87	1915
4558+00.00	211	117	680	0	684	0	169	108	1911
4559+00.00	252	139	857	0	616	0	185	131	2152
4560+00.00	256	136	941	0	662	0	191	136	2431
4561+00.00	306	131	1041	0	643	0	197	156	2829
4562+00.00	167	125	876	39	616	500	191	168	2628
4563+00.00	165	120	615	0	590	0	181	162	2653
4564+00.00	207	104	689	0	539	0	186	169	2802
4565+00.00	182	99	720	0	489	0	189	176	3034
4566+00.00	134	96	585	0	469	0	179	169	3150
4567+00.00	127	87	483	0	441	0	169	164	3193
4568+00.00	146	73	506	0	385	0	172	169	3313
4569+00.00	92	76	441	0	359	0	168	165	3395
4570+00.00	75	85	309	0	388	0	156	151	3317
4571+00.00	30	92	194	0	426	0	145	141	3085
4572+00.00	8	94	70	0	448	0	132	129	2708
4573+00.00	0	93	15	0	450	0	112	109	2272
4574+00.00	0	83	0	0	424	0	88	85	1849
4575+00.00	0	83	0	0	400	0	79	77	1449
4576+00.00	0	94	0	0	426	0	84	82	1023
4577+00.00	0	103	0	0	474	0	91	89	549
4578+00.00	0	148	0	0	604	0	106	103	-56
4579+00.00	0	176	0	0	780	0	123	120	-836
4580+00.00	0	187	0	0	874	0	130	127	-1710
4581+00.00	0	127	0	0	756	0	118	115	-2466
4582+00.00	0	98	0	0	542	0	97	95	-3007
4583+00.00	0	93	0	0	460	0	88	85	-3467
4584+00.00	0	81	0	0	419	0	82	79	-3886
4585+00.00	19	87	35	0	404	0	100	96	-4255
4586+00.00	192	78	391	0	397	0	136	132	-4262
4587+00.00	1169	74	2520	0	366	0	216	213	-2107
4588+00.00	2443	73	6689	0	354	0	320	316	4228
4589+00.00	2716	70	9554	0	344	0	369	365	13437
4590+00.00	2236	74	9170	0	347	0	365	361	22261
4591+00.00	700	78	5437	0	366	0	296	292	27332
4592+00.00	150	70	1574	0	356	0	189	186	28550
4593+00.00	4	107	285	0	426	0	125	122	28409
4594+00.00	0	107	7	0	515	0	102	99	27901
4595+00.00	0	140	0	40	595	13130	96	93	14217
4596+00.00	0	113	0	0	609	0	116	114	13608
4597+00.00	0	173	0	0	689	0	131	130	12919
4598+00.00	0	187	0	0	867	0	139	138	12053
4599+00.00	0	143	0	0	794	0	130	127	11258
4600+00.00	2	131	4	0	660	0	119	115	10602
4601+00.00	110	3	207	88	323	618	71	94	9958
4602+00.00	33	114	265	0	282	0	79	102	9941
4603+00.00	0	205	61	0	768	0	126	122	9234
4604+00.00	0	188	0	0	946	0	110	107	8288
4605+00.00	0	216	0	0	973	0	115	112	7316
4606+00.00	0	226	0	0	1064	0	119	116	6252
4607+00.00	0	240	0	352	1122	1219	125	122	4263
4608+00.00	0	171	0	0	989	0	129	127	3274
4609+00.00	5	124	9	0	710	0	135	134	2573
4610+00.00	231	81	437	0	494	0	164	162	2517
4611+00.00	485	67	1326	0	356	0	202	199	3486
4612+00.00	559	66	1933	0	320	0	214	211	5099
4613+00.00	179	80	1367	0	351	0	185	182	6114

Station	Area (SF)		Volume (CY)						
	End Area Excavation	End Area Embankment	Excavation	Excavation (Other)	Embankment	Embankment (Other)	Topsoil Strip	Topsoil Fill	Mass Ordinate
4614+00.00	245	38	785	0	284	0	158	155	6616
4615+00.00	445	18	1278	0	135	0	160	144	7759
4616+00.00	707	7	2133	0	60	0	189	151	9832
4617+00.00	1482	1	4054	0	19	0	255	221	13866
4618+00.00	2006	0	6459	0	2	0	310	289	20323
4619+00.00	2175	0	7743	0	0	0	328	316	28066
4620+00.00	1900	0	7546	0	0	0	313	310	35612
4621+00.00	1681	0	6631	0	0	0	286	283	42243
4622+00.00	1362	0	5635	0	0	0	263	258	47879
4623+00.00	927	1	4239	27	2	627	205	215	51515
4624+00.00	426	16	2506	0	41	0	162	137	53980
4625+00.00	55	119	891	0	325	0	132	91	54546
4626+00.00	46	389	187	0	1223	0	138	136	53510
4627+00.00	49	746	176	0	2732	0	196	194	50953
4628+00.00	1	1085	93	0	4408	0	230	229	46638
4629+00.00	1	1219	4	0	5547	0	251	250	41095
4630+00.00	0	1157	2	0	5720	0	254	253	35377
4631+00.00	3	928	6	0	5019	0	241	240	30363
4632+00.00	2	699	9	0	3917	0	215	214	26455
4633+00.00	1	611	6	0	3154	0	193	191	23307
4634+00.00	0	562	2	0	2824	0	180	178	20485
4635+00.00	0	513	0	0	2588	0	169	168	17897
4636+00.00	0	431	0	0	2273	0	157	156	15625
4637+00.00	0	334	0	0	1842	0	144	143	13783
4638+00.00	0	203	0	0	1293	0	125	123	12490
4639+00.00	25	91	46	0	708	0	125	123	11829
4640+00.00	84	105	202	0	472	0	135	132	11559
4641+00.00	21	110	194	0	518	0	121	118	11235
4642+00.00	36	120	106	0	554	0	126	122	10787
4643+00.00	98	19	248	95	335	462	140	119	10333
4644+00.00	50	124	274	0	344	0	144	123	10263
4645+00.00	42	108	170	0	559	0	148	142	9875
4646+00.00	30	96	133	0	491	0	142	137	9517
4647+00.00	24	100	100	0	472	0	137	132	9145
4648+00.00	11	110	65	0	506	0	132	126	8705
4649+00.00	20	120	57	0	554	0	121	114	8208
4650+00.00	22	137	78	0	619	0	117	106	7667
4651+00.00	24	148	85	0	686	0	122	108	7067
4652+00.00	30	158	100	0	737	0	126	109	6430
4653+00.00	31	149	113	0	739	0	127	108	5804
4654+00.00	39	138	130	0	691	0	126	107	5242
4655+00.00	26	128	120	0	640	0	123	105	4722
4656+00.00	16	134	78	0	631	0	122	103	4169
4657+00.00	18	142	63	0	664	0	124	103	3568
4658+00.00	7	142	46	0	684	0	123	102	2931
4659+00.00	16	140	43	0	679	0	124	105	2294
4660+00.00	143	6	294	137	351	1220	84	115	1155
4661+00.00	17	143	296	0	359	0	82	112	1092
4662+00.00	46	142	117	0	686	0	123	102	523
4663+00.00	50	129	178	0	652	0	115	104	48
4664+00.00	72	134	226	0	633	0	131	125	-359
4665+00.00	123	90	361	74	539	285	120	138	-748
4666+00.00	52	148	324	0	573	0	123	134	-997
4667+00.00	282	5	619	44	368	712	118	136	-1415
4668+00.00	61	166	635	0	412	1500	134	152	-2691
4669+00.00	85	138	270	0	732	0	196	177	-3153
4670+00.00	19	113	193	0	604	0	176	159	-3564
4671+00.00	9	98	52	0	508	0	131	119	-4021
4672+00.00	0	86	17	0	443	0	94	86	-4447

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ND Hwy 200

Earthwork Values

Revised 11/03/2015	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	SOIB-5-200(024)075	11	8

Station	Area (SF)		Volume (CY)						
	End Area Excavation	End Area Embankment	Excavation	Excavation (Other)	Embankment	Embankment (Other)	Topsoil Strip	Topsoil Fill	Mass Ordinate
4673+00.00	0	74	0	0	385	0	78	74	-4832
4674+00.00	0	75	0	0	359	0	80	76	-5191
4675+00.00	0	105	0	0	433	0	87	83	-5624
4676+00.00	0	147	0	0	607	0	102	99	-6231
4677+00.00	0	268	0	0	999	0	127	124	-7230
4678+00.00	0	431	0	0	1683	0	154	152	-8913
4679+00.00	0	280	0	0	1712	0	157	155	-10624
4680+00.00	0	225	0	0	1216	0	141	138	-11840
4681+00.00	0	184	0	0	985	0	132	129	-12825
4682+00.00	0	155	0	0	816	0	123	120	-13641
4683+00.00	0	138	0	0	705	0	111	108	-14346
4684+00.00	0	120	0	0	621	0	101	97	-14967
4685+00.00	0	93	0	0	513	0	91	88	-15480
4686+00.00	0	85	0	0	429	0	84	80	-15908
4687+00.00	0	90	0	0	421	0	80	77	-16330
4688+00.00	0	79	0	0	407	0	81	78	-16737
4689+00.00	0	84	0	0	392	0	82	80	-17129
4690+00.00	34	97	63	0	436	0	102	100	-17502
4691+00.00	141	22	324	91	286	771	125	119	-18145
4692+00.00	317	81	848	0	248	0	155	149	-17545
4693+00.00	576	76	1654	0	378	0	201	198	-16269
4694+00.00	938	44	2804	0	289	0	242	239	-13754
4695+00.00	1097	38	3769	0	197	0	271	268	-10183
4696+00.00	1345	32	4522	0	169	0	290	287	-5829
4697+00.00	1609	35	5470	0	161	0	303	323	-520
4698+00.00	669	37	4219	0	173	0	270	289	3525
4699+00.00	452	51	2076	0	212	0	218	214	5389
4700+00.00	79	57	983	0	260	0	163	158	6112
4701+00.00	49	63	237	0	289	0	121	118	6061
4702+00.00	18	72	124	0	325	0	117	110	5860
4703+00.00	13	90	57	0	390	0	116	104	5527
4704+00.00	0	117	24	0	498	0	102	88	5053
4705+00.00	0	123	0	0	578	0	92	75	4475
4706+00.00	4	109	7	0	559	0	104	87	3924
4707+00.00	5	106	17	0	518	0	114	96	3423
4708+00.00	0	122	9	0	549	0	101	82	2883
4709+00.00	4	133	7	0	614	0	101	84	2277
4710+00.00	19	78	43	60	508	182	112	94	1689
4711+00.00	68	125	161	0	489	0	132	113	1362
4712+00.00	83	134	280	0	624	0	137	122	1018
4713+00.00	273	0	659	178	323	795	60	119	737
4714+00.00	120	168	728	0	404	0	75	110	1060
4715+00.00	111	165	428	12000	802	0	150	106	12686
4716+00.00	126	161	439	0	785	0	148	117	12341
4717+00.00	80	175	381	0	809	0	144	113	11913
4718+00.00	0	185	148	0	867	0	122	91	11195
4719+00.00	0	209	0	0	949	0	107	78	10246
4720+00.00	0	198	0	0	980	0	112	87	9266
4721+00.00	0	182	0	0	915	0	106	87	8351
4722+00.00	0	120	0	0	727	0	93	77	7624
4723+00.00	0	128	0	0	597	0	94	71	7027
4724+00.00	0	112	0	0	578	0	93	72	6450
4725+00.00	3	144	6	0	616	0	103	77	5839
4726+00.00	24	96	50	0	578	0	128	105	5311
4727+00.00	26	107	93	0	489	0	133	128	4915
4728+00.00	16	101	78	0	501	0	121	114	4492
4729+00.00	7	122	43	0	537	0	109	102	3998
4730+00.00	0	113	13	0	566	0	100	91	3445
4731+00.00	0	149	0	0	631	0	95	84	2814

Station	Area (SF)		Volume (CY)						
	End Area Excavation	End Area Embankment	Excavation	Excavation (Other)	Embankment	Embankment (Other)	Topsoil Strip	Topsoil Fill	Mass Ordinate
4732+00.00	0	163	0	0	751	0	103	87	2063
4733+00.00	0	161	0	0	780	0	104	86	1283
4734+00.00	0	155	0	0	761	0	99	83	522
4735+00.00	0	153	0	0	741	0	95	80	-219
4736+00.00	0	137	0	0	698	0	93	77	-917
4737+00.00	0	141	0	0	669	0	93	77	-1586
4738+00.00	0	70	0	89	508	533	89	73	-2538
4739+00.00	0	151	0	0	532	0	100	84	-3070
4740+00.00	0	266	0	0	1004	0	129	114	-4074
4741+00.00	0	404	0	0	1613	0	149	134	-5687
4742+00.00	0	818	0	0	2942	0	185	171	-8629
4743+00.00	0	436	0	0	3019	0	188	174	-11648
4744+00.00	52	220	96	0	1579	0	172	156	-13131
4745+00.00	475	108	976	0	790	0	173	154	-12945
4746+00.00	519	99	1841	0	498	0	153	134	-11602
4747+00.00	559	103	1996	0	486	0	186	170	-10092
4748+00.00	548	106	2050	0	503	0	231	215	-8545
4749+00.00	387	106	1731	0	510	0	214	198	-7324
4750+00.00	455	90	1559	0	472	0	205	189	-6237
4751+00.00	436	94	1650	0	443	0	212	196	-5030
4752+00.00	380	91	1511	0	445	0	205	189	-3964
4753+00.00	412	10	1467	83	243	1246	191	161	-3903
4754+00.00	254	103	1233	0	272	0	186	155	-2942
4755+00.00	108	135	670	0	573	0	175	158	-2844
4756+00.00	1	184	202	0	768	0	140	125	-3410
4757+00.00	0	273	2	0	1100	0	128	113	-4509
4758+00.00	0	383	0	0	1579	0	150	135	-6088
4759+00.00	0	384	0	0	1846	0	163	143	-7934
4760+00.00	0	418	0	0	1931	0	164	136	-9865
4761+00.00	0	545	0	0	2318	0	165	134	-12183
4762+00.00	0	1120	0	0	4008	0	199	164	-16192
4763+00.00	1	233	2	0	3257	0	178	147	-19447
4764+00.00	1	139	4	0	896	0	114	93	-20339
4765+00.00	6	96	13	0	566	0	112	95	-20892
4766+00.00	198	3	378	471	238	1299	107	89	-21581
4767+00.00	47	130	454	0	320	0	117	100	-21447
4768+00.00	0	160	87	0	698	0	122	106	-22058
4769+00.00	0	191	0	0	845	0	108	92	-22903
4770+00.00	0	166	0	0	859	0	103	88	-23763
4771+00.00	54	127	100	0	705	0	112	97	-24368
4772+00.00	160	134	396	0	628	0	156	141	-24600
4773+00.00	243	151	746	0	686	0	201	185	-24540
4774+00.00	338	157	1076	0	741	0	230	214	-24205
4775+00.00	264	148	1115	0	734	0	223	207	-23825
4776+00.00	350	144	1137	0	703	0	217	201	-23391
4777+00.00	358	134	1311	0	669	0	225	209	-22749
4778+00.00	403	112	1409	0	592	0	221	206	-21932
4779+00.00	412	105	1509	0	522	0	223	207	-20945
4780+00.00	367	93	1443	0	477	0	217	188	-19979
4781+00.00	279	92	1196	0	445	0	184	156	-19228
4782+00.00	113	126	726	0	525	0	163	148	-19027
4783+00.00	8	108	224	0	563	0	147	132	-19366
4784+00.00	86	95	174	0	489	0	131	116	-19681
4785+00.00	271	97	661	0	462	0	146	131	-19482
4786+00.00	191	98	856	0	469	0	155	140	-19096
4787+00.00	212	112	746	0	506	0	156	141	-18855
4788+00.00	361	85	1061	0	474	0	159	144	-18268
4789+00.00	461	103	1522	0	453	0	167	151	-17199
4790+00.00	121	194	1078	0	715	0	175	160	-16836

* EXCAVATION (OTHER) AND FILL (OTHER) REPRESENT VOLUME ADJUSTMENTS FOR THE FOLLOWING ITEMS:

APPROACH CONSTRUCTION
BORROW MATERIAL
WETLAND EXCAVATION
MATERIAL WASTE

This document was originally issued and sealed by Craig Mizera Registration Number PE- 7475, on 11/03/15 and the original document is stored at the North Dakota Department of Transportation

ND Hwy 200

Earthwork Values

Revised 11/03/2015	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	SOIB-5-200(024)075	11	9

Station	Area (SF)		Volume (CY)						
	End Area Excavation	End Area Embankment	Excavation	Excavation (Other)	Embankment	Embankment (Other)	Topsoil Strip	Topsoil Fill	Mass Ordinate
4791+00.00	13	183	248	0	908	0	170	155	-17495
4792+00.00	181	81	359	108	636	1005	156	146	-18669
4793+00.00	179	67	667	0	356	0	136	123	-18359
4794+00.00	294	117	876	0	443	0	144	126	-17926
4795+00.00	473	100	1420	0	522	0	180	166	-17028
4796+00.00	79	492	1022	0	1425	0	208	195	-17431
4797+00.00	0	1584	146	0	4998	0	244	232	-22282
4798+00.00	0	1398	0	0	7179	0	267	258	-29461
4799+00.00	0	412	0	0	4357	0	213	203	-33819
4800+00.00	0	123	0	0	1288	0	126	113	-35107
4801+00.00	9	102	17	0	542	0	102	84	-35632
4802+00.00	475	84	896	0	448	0	162	131	-35183
4803+00.00	1266	88	3224	0	414	0	256	215	-32373
4804+00.00	2586	79	7133	0	402	0	348	308	-25642
4805+00.00	2721	81	9828	0	385	0	397	357	-16199
4806+00.00	2566	83	9791	0	395	0	383	342	-6803
4807+00.00	2553	85	9480	0	404	0	367	326	2272
4808+00.00	2105	96	8626	0	436	0	347	320	10462
4809+00.00	1071	98	5881	0	467	0	297	282	15877
4810+00.00	307	98	2552	0	472	0	224	196	17957
4811+00.00	0	108	569	0	496	0	138	109	18029
4812+00.00	1	138	2	0	592	0	97	81	17439
4813+00.00	19	141	37	0	672	0	117	101	16804
4814+00.00	60	128	146	0	648	0	141	123	16303
4815+00.00	6	150	122	0	669	0	144	124	15756
4816+00.00	20	780	48	0	2239	0	197	175	13565
4817+00.00	539	1178	1035	0	4714	0	323	300	9887
4818+00.00	1085	1463	3007	0	6358	0	401	376	6536
4819+00.00	585	2558	3093	0	9680	0	404	381	-52
4820+00.00	1	2678	1085	0	12605	0	362	343	-11572
4821+00.00	1	904	4	0	8623	0	255	238	-20191
4822+00.00	54	361	102	0	3045	0	180	162	-23135
4823+00.00	451	72	935	0	1042	0	174	156	-23242
4824+00.00	904	51	2509	0	296	0	191	161	-21029
4825+00.00	538	34	2670	0	205	0	205	167	-18563
4826+00.00	222	31	1407	0	156	0	162	137	-17312
4827+00.00	378	28	1111	0	142	0	154	140	-16343
4828+00.00	1544	9	3559	0	89	0	240	217	-12873
4829+00.00	2847	10	8131	0	46	0	349	318	-4787
4830+00.00	2142	9	9239	0	46	0	370	338	4406
4831+00.00	990	3	5800	0	29	0	287	257	10177
4832+00.00	383	8	2543	0	26	0	188	157	12693
4833+00.00	382	28	1417	0	87	0	144	121	14023
4834+00.00	411	57	1469	0	205	0	169	155	15287
4835+00.00	603	51	1878	0	260	0	189	164	16905
4836+00.00	1122	76	3194	0	306	0	230	192	19794
4837+00.00	626	20	3237	27	231	249	230	223	22577
4838+00.00	320	78	1752	0	236	0	193	199	24093
4839+00.00	303	68	1154	0	351	0	195	182	24895
4840+00.00	361	64	1230	0	318	0	181	167	25807
4841+00.00	308	81	1239	0	349	0	167	154	26697
4842+00.00	445	83	1394	0	395	0	171	158	27696
4843+00.00	323	67	1422	0	361	0	166	140	28758
4844+00.00	113	70	807	0	330	0	138	110	29235
4845+00.00	71	88	341	0	380	0	120	105	29196
4846+00.00	113	81	341	0	407	0	127	112	29129
4847+00.00	134	104	457	0	445	0	143	127	29141
4848+00.00	177	113	576	0	522	0	157	142	29195
4849+00.00	277	94	841	0	498	0	162	148	29537

Station	Area (SF)		Volume (CY)						
	End Area Excavation	End Area Embankment	Excavation	Excavation (Other)	Embankment	Embankment (Other)	Topsoil Strip	Topsoil Fill	Mass Ordinate
4851+00.00	378	201	2426	0	1420	0	391	420	30543
4852+00.00	70	107	830	0	741	0	179	193	30631
4853+00.00	226	4	548	69	267	660	141	115	30321
4854+00.00	164	101	722	0	253	0	164	137	30790
4855+00.00	202	103	678	0	491	0	182	166	30977
4856+00.00	241	104	820	0	498	0	193	176	31299
4857+00.00	178	113	776	0	522	0	185	168	31552
4858+00.00	99	136	513	0	599	0	162	145	31466
4859+00.00	3	112	189	0	597	0	133	116	31058
4860+00.00	92	56	176	28	404	196	132	108	30661
4861+00.00	22	69	211	0	301	0	133	110	30571
4862+00.00	22	84	81	0	368	0	134	105	30284
4863+00.00	0	127	41	0	508	0	122	94	29817
4864+00.00	0	252	0	0	912	0	115	100	28905
4865+00.00	0	311	0	0	1355	0	142	126	27549
4866+00.00	0	388	0	0	1683	0	163	148	25866
4867+00.00	0	434	0	0	1979	0	185	172	23888
4868+00.00	0	334	0	0	1849	0	188	175	22039
4869+00.00	0	482	0	0	1964	0	200	187	20074
4870+00.00	0	520	0	0	2412	0	223	210	17662
4871+00.00	0	415	0	81	2251	1476	209	196	14016
4872+00.00	0	321	0	0	1772	25000	178	165	-12756
4873+00.00	67	28	124	126	840	16370	127	118	-29715
4874+00.00	86	313	283	0	821	0	145	136	-30253
4875+00.00	327	326	765	0	1538	0	245	230	-31026
4876+00.00	71	365	737	0	1664	0	258	244	-31953
4877+00.00	237	225	570	0	1420	0	238	223	-32803
4878+00.00	63	90	556	0	758	0	173	159	-33005
4879+00.00	634	41	1291	0	315	0	161	122	-32030
4880+00.00	2868	33	6485	0	178	0	298	236	-25723
4881+00.00	3319	25	11457	0	140	0	382	324	-14405
4882+00.00	3223	29	12115	0	130	0	391	332	-2420
4883+00.00	3098	26	11706	0	132	0	379	321	9153
4884+00.00	3078	26	11437	0	125	0	368	308	20465
4885+00.00	2337	28	10028	0	130	0	352	294	30362
4886+00.00	796	76	5802	0	250	0	291	243	35914
4887+00.00	723	502	2813	0	1391	0	292	266	37335
4888+00.00	60	909	1450	2627	3397	880	255	233	37136
4889+00.00	55	1650	213	0	6161	0	213	194	31188
4890+00.00	38	2025	172	0	8847	0	273	265	22513
4891+00.00	39	1551	143	0	8609	0	273	267	14047
4892+00.00	61	864	185	0	5814	0	228	220	8418
4893+00.00	564	328	1157	0	2870	0	232	207	6706
4894+00.00	137	154	1298	0	1160	0	197	316	6844
4895+00.00	1195	104	2467	0	621	0	208	327	8689
4896+00.00	641	87	3400	0	460	0	245	205	11630
4897+00.00	563	80	2230	0	402	0	192	152	13457
4898+00.00	802	80	2528	85	385	229	208	169	15456
4899+00.00	917	92	3183	0	414	0	242	202	18225
4900+00.00	1002	76	3554	0	404	0	257	216	21374
4901+00.00	1060	67	3819	0	344	0	262	222	24849
4902+00.00	1038	95	3885	0	390	0	262	223	28344
4903+00.00	817	94	3435	0	455	0	252	211	31324
4904+00.00	528	111	2491	0	494	0	224	196	33321
4905+00.00	321	122	1572	0	561	0	195	180	34332
4906+00.00	158	127	887	0	599	0	172	158	34620
4907+00.00	45	111	376	0	573	0	139	127	34423
4908+00.00	0	120	83	0	556	0	104	94	33950
4909+00.00	0	123	0	0	585	0	95	87	33365

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ND Hwy 200

Earthwork Values

Revised 11/03/2015	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	SOIB-5-200(024)075	11	10

Station	Area (SF)		Volume (CY)						
	End Area Excavation	End Area Embankment	Excavation	Excavation (Other)	Embankment	Embankment (Other)	Topsoil Strip	Topsoil Fill	Mass Ordinate
4909+00.00	0	123	0	0	585	0	95	87	33365
4910+00.00	0	145	0	0	645	0	100	94	32720
4911+00.00	0	124	0	0	648	0	97	92	32072
4912+00.00	0	100	0	0	539	0	92	89	31533
4913+00.00	0	134	0	0	563	0	93	89	30970
4914+00.00	40	37	74	41	412	99	66	73	30574
4915+00.00	58	47	181	0	202	0	65	73	30554
4916+00.00	49	168	198	0	518	0	113	109	30234
4917+00.00	0	721	91	0	2140	0	150	127	28185
4918+00.00	57	33	106	0	1815	0	121	99	26475
4918+33.00	49	22	65	0	44	0	22	18	26496
4930+09.75	107	0	3400	0	623	60000	1	1	-30727
4931+00.00	53	48	267	0	104	0	68	49	-30564
4932+00.00	48	50	187	0	236	0	80	77	-30613
4933+00.00	42	44	167	0	226	0	89	86	-30673
4934+00.00	100	33	263	0	185	0	106	102	-30595
4935+00.00	96	39	363	0	173	0	114	111	-30406
4936+00.00	99	41	361	0	193	0	117	113	-30237
4937+00.00	93	10	356	37	123	27	107	86	-29995
4938+00.00	46	48	257	0	140	0	101	80	-29877
4939+00.00	41	36	161	0	202	0	87	84	-29918
4940+00.00	39	53	148	0	214	0	73	70	-29985
4941+00.00	33	63	133	0	279	0	81	79	-30130
4942+00.00	41	65	137	0	308	0	86	83	-30302
4943+00.00	37	56	144	0	291	0	84	81	-30448
4944+00.00	38	53	139	0	262	0	78	75	-30572
4945+00.00	37	44	139	0	234	0	71	68	-30667
4946+00.00	39	44	141	0	212	0	70	67	-30738
4947+00.00	74	44	209	0	212	0	91	88	-30740
4948+00.00	214	29	533	0	176	0	118	114	-30383
4949+00.00	420	11	1174	0	96	0	150	125	-29305
4950+00.00	903	5	2450	0	39	0	199	153	-26893
4951+00.00	1640	0	4709	0	12	0	253	215	-22196
4952+00.00	2407	0	7494	0	0	0	305	288	-14702
4953+00.00	1569	0	7363	0	0	0	311	308	-7339
4954+00.00	2267	0	7104	0	0	0	306	303	-235
4955+00.00	1809	1	7548	0	2	0	301	291	7311
4956+00.00	1594	2	6302	0	7	0	279	252	13605
4957+00.00	1200	4	5174	0	14	0	262	227	18765
4958+00.00	745	4	3602	0	19	0	231	197	22347
4959+00.00	531	10	2363	0	34	0	191	158	24677
4960+00.00	423	31	1767	0	99	0	176	158	26345
4961+00.00	294	60	1328	0	219	0	183	180	27453
4962+00.00	153	111	828	0	412	0	188	185	27870
4963+00.00	5	143	293	0	611	0	175	173	27551
4964+00.00	0	116	9	0	624	0	136	134	26936
4965+00.00	0	94	0	0	506	0	104	101	26431
4966+00.00	0	87	0	0	436	0	93	90	25995
4967+00.00	0	69	0	0	376	0	89	85	25620
4968+00.00	2	91	4	0	385	0	96	92	25238
4969+00.00	37	94	72	0	445	0	125	122	24865
4970+00.00	59	84	178	0	429	0	148	145	24614
4971+00.00	107	82	307	0	400	0	166	161	24522
4972+00.00	103	90	389	0	414	0	178	173	24497

Station	Area (SF)		Volume (CY)						
	End Area Excavation	End Area Embankment	Excavation	Excavation (Other)	Embankment	Embankment (Other)	Topsoil Strip	Topsoil Fill	Mass Ordinate
4973+00.00	201	49	563	164	335	8	125	158	24881
4974+00.00	139	25	630	0	178	0	112	142	25332
4975+00.00	95	37	433	132	149	7	147	134	25742
4976+00.00	58	54	283	0	219	0	147	136	25806
4977+00.00	220	2	515	85	135	1340	75	131	24931
4978+00.00	0	71	407	0	176	0	46	102	25162
4979+00.00	0	119	0	0	457	0	101	97	24705
4980+00.00	0	146	0	0	638	0	116	112	24067
4981+00.00	1	139	2	0	686	0	120	118	23383
4982+00.00	1	125	4	0	636	0	117	115	22751
4983+00.00	0	113	2	0	573	0	112	109	22180
4984+00.00	0	113	0	0	544	0	109	106	21636
4985+00.00	0	172	0	0	686	0	117	115	20950
4986+00.00	0	262	0	0	1045	0	132	131	19905
4987+00.00	0	318	0	0	1396	0	145	143	18509
4988+00.00	0	274	0	0	1425	0	151	149	17083
4989+00.00	0	217	0	0	1182	0	143	141	15901
4990+00.00	2	162	4	0	912	0	134	131	14993
4991+00.00	98	109	185	0	652	0	137	134	14525
4992+00.00	356	50	841	2450	383	57	90	139	17376
4993+00.00	503	111	1591	31	388	131	121	171	18479
4994+00.00	712	110	2250	0	532	0	221	218	20197
4995+00.00	920	119	3022	0	551	0	251	248	22668
4996+00.00	1052	119	3652	0	573	0	284	281	25747
4997+00.00	784	115	3400	0	563	0	278	275	28584
4998+00.00	692	106	2733	0	532	0	241	237	30785
4999+00.00	529	77	2261	0	441	0	210	206	32606
5000+00.00	272	78	1483	0	373	0	174	170	33716
5001+00.00	103	132	694	0	506	0	164	161	33905
5002+00.00	33	115	252	0	595	0	160	158	33562
5003+00.00	10	87	80	0	486	0	138	136	33155
5004+00.00	0	116	19	0	489	0	109	107	32685
5005+00.00	0	85	0	0	484	0	91	89	32201
5006+00.00	0	88	0	0	416	0	89	85	31785
5007+00.00	0	87	0	0	421	0	84	81	31363
5008+00.00	0	112	0	0	479	0	87	84	30884
5009+00.00	0	119	0	0	556	0	95	92	30328
5010+00.00	0	128	0	0	595	0	102	99	29733
5011+00.00	0	128	0	0	616	0	107	104	29117
5012+00.00	11	123	20	0	604	0	125	121	28533
5013+00.00	64	117	139	0	578	0	148	143	28094
5014+00.00	76	110	259	0	546	0	153	150	27807
5015+00.00	59	116	250	0	544	0	151	148	27513
5016+00.00	91	103	278	0	527	0	150	147	27264
5017+00.00	59	108	278	0	508	0	147	144	27033
5018+00.00	47	136	196	0	587	0	152	149	26642
5019+00.00	23	128	130	0	636	0	156	153	26136
5020+00.00	0	121	43	0	599	0	128	126	25580
5021+00.00	31	93	57	0	515	0	110	109	25122
5022+00.00	79	86	204	0	431	0	126	124	24895
5023+00.00	133	44	393	61	313	16	146	138	25020
5024+00.00	137	76	500	0	289	0	168	161	25231
5024+51.54	174	50	297	0	156	25371	93	93	0

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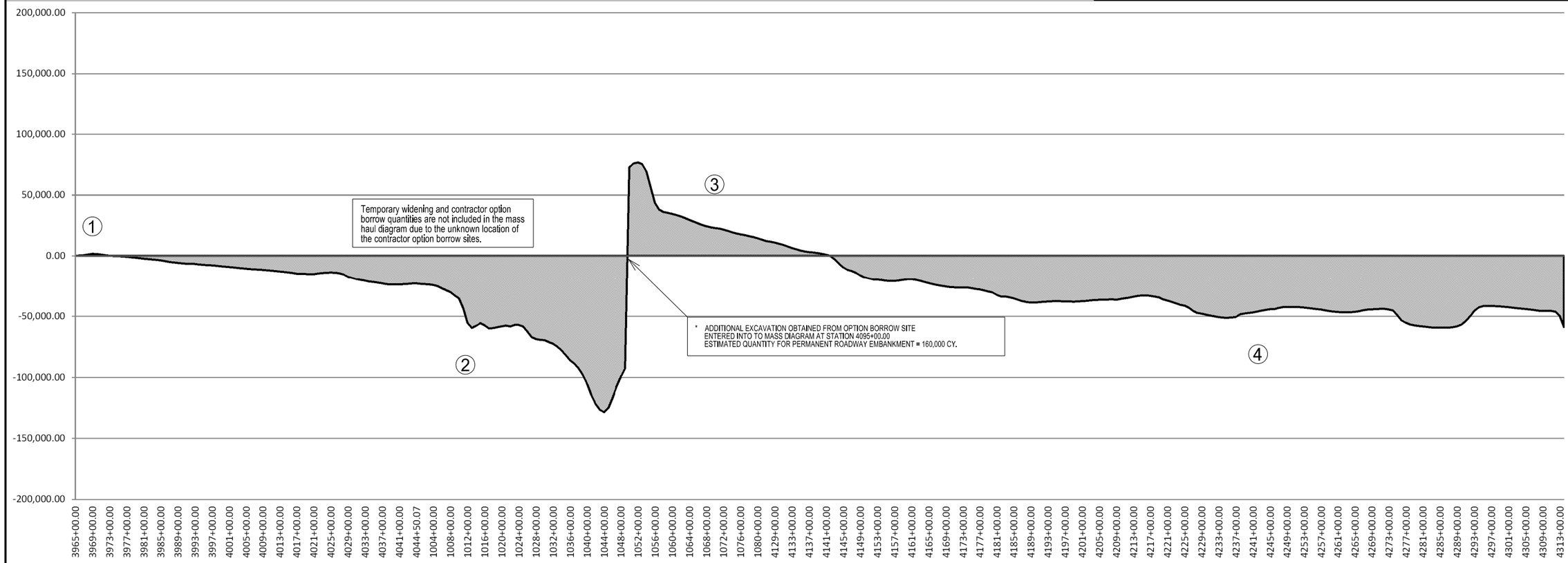
ND Hwy 200

Earthwork Values

Revised 11/03/2015	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	SOIB-5-200(024)075	11	11



1

Excavation	=	3,754 CY
Embankment	=	3,754 CY
Topsoil	=	1,026 CY

2

Excavation	=	167,724 CY
Embankment	=	167,724 CY
Topsoil	=	18,199 CY

3

Excavation	=	91,052 CY
Embankment	=	91,052 CY
Topsoil	=	7,801 CY

4

Excavation	=	299,025 CY
Embankment	=	299,025 CY
Topsoil	=	53,037 CY

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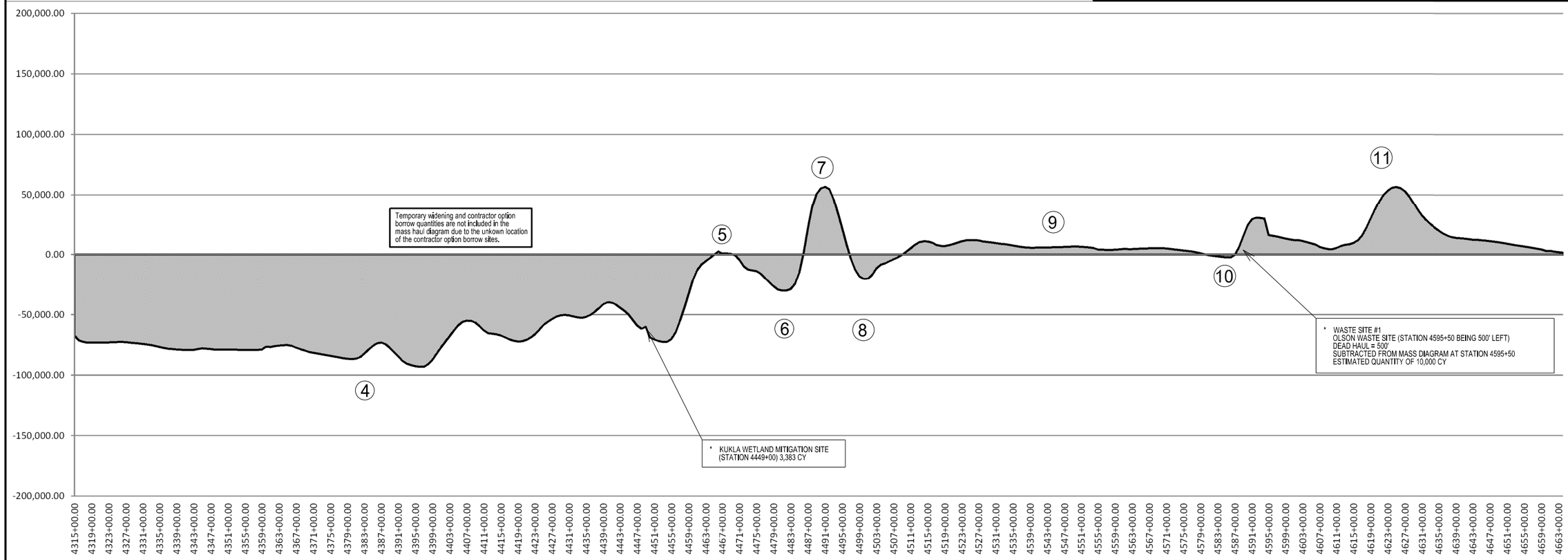
ND Hwy 200

Mass Diagram

Revised 11/03/2015	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	SOIB-5-200(024)075	11	12



4

Excavation	=	299,025 CY
Embankment	=	299,025 CY
Topsoil	=	53,037 CY

5

Excavation	=	1,015 CY
Embankment	=	1,015 CY
Topsoil	=	226 CY

6

Excavation	=	42,868 CY
Embankment	=	42,868 CY
Topsoil	=	4,307 CY

7

Excavation	=	56,295 CY
Embankment	=	56,295 CY
Topsoil	=	3,205 CY

8

Excavation	=	36,924 CY
Embankment	=	36,924 CY
Topsoil	=	3,965 CY

9

Excavation	=	40,548 CY
Embankment	=	40,548 CY
Topsoil	=	10,646 CY

10

Excavation	=	5,054 CY
Embankment	=	5,054 CY
Topsoil	=	1,196 CY

11

Excavation	=	90,680 CY
Embankment	=	90,680 CY
Topsoil	=	12,634 CY

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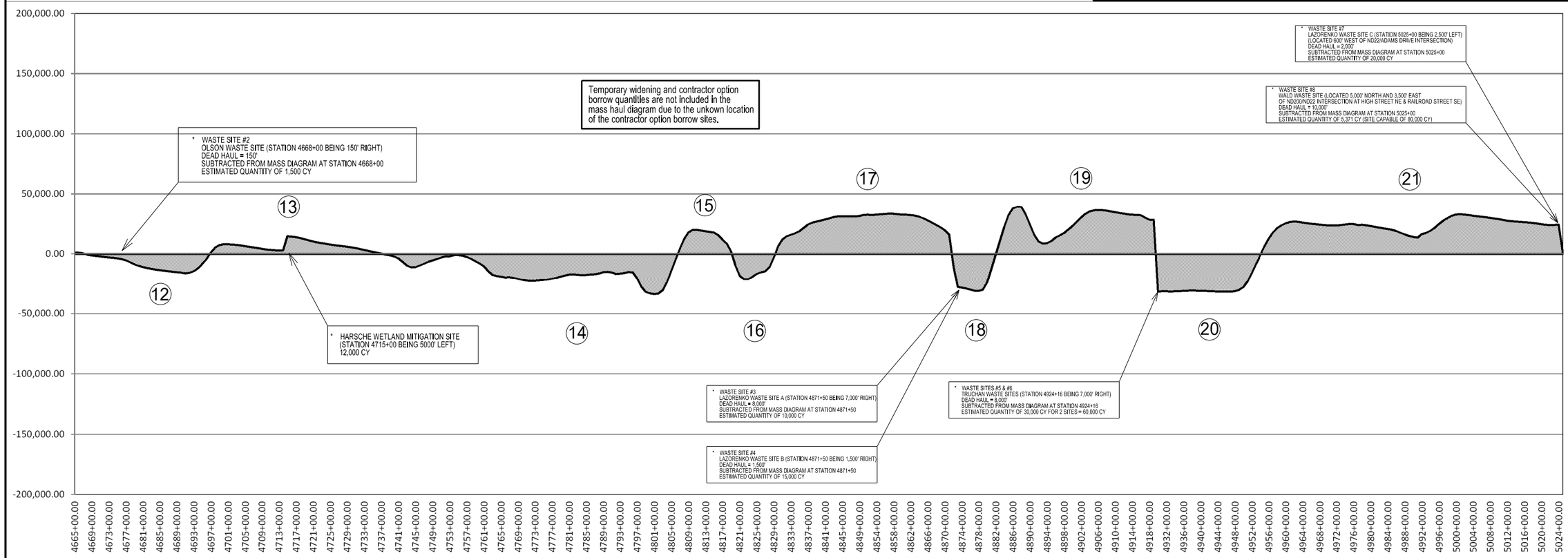
ND Hwy 200

Mass Diagram

Revised 11/03/2015	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	SOIB-5-200(024)075	11	13



TOTAL ESTIMATED VOLUME TO BE PLACED AT OPTION WASTE SITES OR DISPOSED OF BY THE CONTRACTOR = 121,871 CY. IF CONTRACTOR UTILIZES OPTION WASTE SITES LISTED, THE CONTRACTOR SHALL CONTACT THE INDIVIDUAL LANDOWNERS TO DETERMINE THE EXACT AREA AND EXTENT OF WASTE MATERIAL PLACEMENT.

12

Excavation	=	22,879 CY
Embankment	=	22,879 CY
Topsoil	=	4,723 CY

13

Excavation	=	23,027 CY
Embankment	=	23,027 CY
Topsoil	=	4,399 CY

14

Excavation	=	79,591 CY
Embankment	=	79,591 CY
Topsoil	=	12,594 CY

15

Excavation	=	24,702 CY
Embankment	=	24,702 CY
Topsoil	=	2,793 CY

16

Excavation	=	29,395 CY
Embankment	=	29,395 CY
Topsoil	=	2,676 CY

17

Excavation	=	43,758 CY
Embankment	=	43,758 CY
Topsoil	=	7,403 CY

18

Excavation	=	36,930 CY
Embankment	=	36,930 CY
Topsoil	=	2,596 CY

19

Excavation	=	81,361 CY
Embankment	=	81,361 CY
Topsoil	=	7,329 CY

20

Excavation	=	38,072 CY
Embankment	=	38,072 CY
Topsoil	=	3,146 CY

21

Excavation	=	61,200 CY
Embankment	=	61,200 CY
Topsoil	=	10,456 CY

PROJECT TOTAL		
Excavation	=	1,115,851 CY
Borrow	=	160,000 CY
Embankment	=	1,153,980 CY
Waste	=	121,871 CY
Topsoil	=	174,597 CY

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ND Hwy 200

Mass Diagram

Revised 11/03/2015	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	SOIB-5-200(024)075	11	17

ND200 Temporary Widening			
Station	End Area (SF)	Volume (CY)	
	End Area Embankment	Embankment	Embankment Mass Ordinate
3965+00.00	0	0	0
3966+00.00	0	0	0
3967+00.00	36	87	-87
3968+00.00	41	185	-272
3969+00.00	45	206	-477
3970+00.00	45	216	-694
3971+00.00	29	178	-872
3972+00.00	84	272	-1144
3973+00.00	80	395	-1539
3974+00.00	79	383	-1922
3975+00.00	79	380	-2302
3976+00.00	79	379	-2682
3977+00.00	86	397	-3079
3978+00.00	85	413	-3491
3979+00.00	85	410	-3902
3980+00.00	85	411	-4313
3981+00.00	83	406	-4719
3982+00.00	85	406	-5125
3983+00.00	90	421	-5546
3984+00.00	91	434	-5980
3985+00.00	101	461	-6442
3986+00.00	120	532	-6973
3987+00.00	108	550	-7523
3988+00.00	93	484	-8007
3989+00.00	84	425	-8432
3990+00.00	70	371	-8802
3991+00.00	76	352	-9154
3992+00.00	83	384	-9538
3993+00.00	80	391	-9929
3994+00.00	70	361	-10290
3995+00.00	80	363	-10653
3996+00.00	82	391	-11044
3997+00.00	84	399	-11443
3998+00.00	80	395	-11839
3999+00.00	80	385	-12224
4000+00.00	82	390	-12613
4001+00.00	77	384	-12997
4002+00.00	70	354	-13351
4003+00.00	70	337	-13689
4004+00.00	72	343	-14032
4005+00.00	77	359	-14391
4006+00.00	78	372	-14763
4007+00.00	77	373	-15136
4008+00.00	70	354	-15490
4009+00.00	70	337	-15827
4010+00.00	78	356	-16183
4011+00.00	74	366	-16549
4012+00.00	62	329	-16878
4013+00.00	53	278	-17156
4014+00.00	45	235	-17391
4015+00.00	45	215	-17606
4016+00.00	36	194	-17800
4017+00.00	0	86	-17887
4018+00.00	25	61	-17947
4019+00.00	35	145	-18093
4020+00.00	35	169	-18261
4021+00.00	35	169	-18430
4022+00.00	35	169	-18598
4023+00.00	35	169	-18767
4024+00.00	35	169	-18935
4025+00.00	35	168	-19104
4026+00.00	56	218	-19322
4027+00.00	8	154	-19476
4028+00.00	8	40	-19516
4029+00.00	0	20	-19537
4030+00.00	8	20	-19557
4031+00.00	75	201	-19758
4032+00.00	68	345	-20103

ND200 Temporary Widening			
Station	End Area (SF)	Volume (CY)	
	End Area Embankment	Embankment	Embankment Mass Ordinate
4033+00.00	61	311	-20413
4034+00.00	0	146	-20560
4035+00.00	49	117	-20677
4036+00.00	47	231	-20907
4037+00.00	45	223	-21130
4038+00.00	35	194	-21324
4039+00.00	35	169	-21492
4040+00.00	36	170	-21662
4041+00.00	42	186	-21848
4042+00.00	44	205	-22053
4043+00.00	43	209	-22262
4044+00.00	39	196	-22458
4044+50.07	39	93	-22552
1001+00.00	35	177	-22729
1002+00.00	57	221	-22950
1003+00.00	72	309	-23259
1004+00.00	68	336	-23594
1005+00.00	78	350	-23945
1006+00.00	0	187	-24131
1007+00.00	0	0	-24131
1008+00.00	0	0	-24131
1009+00.00	0	0	-24131
1010+00.00	0	0	-24131
1011+00.00	0	0	-24131
1012+00.00	0	0	-24131
1013+00.00	0	0	-24131
1014+00.00	0	0	-24131
1015+00.00	0	0	-24131
1016+00.00	0	0	-24131
1017+00.00	0	0	-24131
1018+00.00	0	0	-24131
1019+00.00	0	0	-24131
1020+00.00	0	0	-24131
1021+00.00	0	0	-24131
1022+00.00	0	0	-24131
1023+00.00	0	0	-24131
1024+00.00	0	0	-24131
1025+00.00	0	0	-24131
1026+00.00	0	0	-24131
1027+00.00	0	0	-24131
1028+00.00	0	0	-24131
1029+00.00	0	0	-24131
1030+00.00	0	0	-24131
1031+00.00	0	0	-24131
1032+00.00	0	0	-24131
1033+00.00	0	0	-24131
1034+00.00	0	0	-24131
1035+00.00	0	0	-24131
1036+00.00	0	0	-24131
1037+00.00	0	0	-24131
1038+00.00	0	0	-24131
1039+00.00	0	0	-24131
1040+00.00	0	0	-24131
1041+00.00	0	0	-24131
1042+00.00	0	0	-24131
1043+00.00	0	0	-24131
1044+00.00	0	0	-24131
1045+00.00	0	0	-24131
1046+00.00	0	0	-24131
1047+00.00	0	0	-24131
1048+00.00	0	0	-24131
1049+00.00	0	0	-24131
1050+00.00	0	0	-24131
1051+00.00	0	0	-24131
1052+00.00	0	0	-24131
1053+00.00	0	0	-24131
1054+00.00	0	0	-24131
1055+00.00	0	0	-24131

ND200 Temporary Widening			
Station	End Area (SF)	Volume (CY)	
	End Area Embankment	Embankment	Embankment Mass Ordinate
1056+00.00	0	0	-24131
1057+00.00	0	0	-24131
1058+00.00	0	0	-24131
1059+00.00	0	0	-24131
1060+00.00	0	0	-24131
1061+00.00	0	0	-24131
1062+00.00	0	0	-24131
1063+00.00	0	0	-24131
1064+00.00	0	0	-24131
1065+00.00	0	0	-24131
1066+00.00	0	0	-24131
1067+00.00	0	0	-24131
1068+00.00	0	0	-24131
1069+00.00	0	0	-24131
1070+00.00	0	0	-24131
1071+00.00	0	0	-24131
1072+00.00	0	0	-24131
1073+00.00	0	0	-24131
1074+00.00	0	0	-24131
1075+00.00	0	0	-24131
1076+00.00	0	0	-24131
1077+00.00	6	13	-24145
1078+00.00	13	44	-24189
1079+00.00	18	75	-24263
1080+00.00	44	150	-24413
1081+00.00	58	246	-24659
1081+84.18	54	228	-24887
4127+00.00	50	157	-25044
4128+00.00	53	249	-25293
4129+00.00	53	254	-25547
4130+00.00	61	272	-25819
4131+00.00	63	296	-26115
4132+00.00	67	313	-26428
4133+00.00	35	247	-26674
4134+00.00	35	168	-26842
4135+00.00	35	168	-27010
4136+00.00	35	169	-27179
4137+00.00	35	169	-27347
4138+00.00	35	168	-27516
4139+00.00	35	168	-27684
4140+00.00	35	169	-27853
4141+00.00	35	169	-28021
4142+00.00	54	214	-28235
4143+00.00	98	365	-28601
4144+00.00	106	491	-29091
4145+00.00	76	439	-29530
4146+00.00	87	394	-29924
4147+00.00	72	384	-30308
4148+00.00	104	424	-30732
4149+00.00	98	487	-31219
4150+00.00	75	417	-31635
4151+00.00	61	328	-31963
4152+00.00	30	221	-32183
4153+00.00	35	157	-32340
4154+00.00	35	169	-32509
4155+00.00	55	217	-32726
4156+00.00	53	260	-32986
4157+00.00	35	212	-33198
4158+00.00	35	169	-33366
4159+00.00	35	169	-33535
4160+00.00	35	169	-33703
4161+00.00	35	169	-33872
4162+00.00	35	168	-34040
4163+00.00	35	168	-34209
4164+00.00	35	169	-34377
4165+00.00	35	169	-34546
4166+00.00	35	169	-34714
4167+00.00	40	181	-34895

ND200 Temporary Widening			
Station	End Area (SF)	Volume (CY)	
	End Area Embankment	Embankment	Embankment Mass Ordinate
4168+00.00	35	181	-35077
4169+00.00	35	169	-35245
4170+00.00	35	169	-35414
4171+00.00	35	168	-35582
4172+00.00	35	168	-35750
4173+00.00	35	169	-35919
4174+00.00	35	168	-36087
4175+00.00	35	168	-36255
4176+00.00	35	169	-36424
4177+00.00	35	168	-36592
4178+00.00	35	168	-36760
4179+00.00	35	168	-36928
4180+00.00	35	168	-37096
4181+00.00	35	168	-37264
4182+00.00	51	208	-37472
4183+00.00	49	240	-37712
4184+00.00	53	245	-37957
4185+00.00	63	280	-38237
4186+00.00	68	315	-38552
4187+00.00	64	319	-38871
4188+00.00	58	296	-39166
4189+00.00	35	225	-39391
4190+00.00	35	169	-39560
4191+00.00	35	169	-39728
4192+00.00	35	169	-39897
4193+00.00	35	169	-40065
4194+00.00	35	169	-40234
4195+00.00	35	169	-40402
4196+00.00	41	183	-40586
4197+00.00	41	198	-40784
4198+00.00	42	200	-40983
4199+00.00	35	184	-41168
4200+00.00	35	169	-41336
4201+00.00	35	169	-41505
4202+00.00	35	169	-41673
4203+00.00	35	168	-41842
4204+00.00	35	168	-42010
4205+00.00	35	169	-42179
4206+00.00	35	169	-42347
4207+00.00	35	169	-42516
4208+00.00	35	169	-42684
4209+00.00	0	84	-42768
4210+00.00	35	84	-42853
4211+00.00	35	168	-43021
4212+00.00	37	172	-43193
4213+00.00	38	179	-43372
4214+00.00	40	187	-43559
4215+00.00	41	194	-43752
4216+00.00	42	201	-43953
4217+00.00	47	215	-44168
4218+00.00	43	217	-44386
4219+00.00	55	238	-44623
4220+00.00	0	133	-44757
4221+00.00	78	189	-44946
4222+00.00	99	427	-45373
4223+00.00	110	502	-45875
4224+00.00	124	561	-46436
4225+00.00	122	591	-47027
4226+00.00	57	431	-47458
4227+00.00	74	315	-47773
4228+00.00	26	241	-48013
4229+00.00	17	104	-48117
4230+00.00	18	85	-48202
4231+00.00	18	87	-48289
4232+00.00	16	82	-48371
4233+00.00	14	73	-48444
4234+00.00	13	66	-48509
4235+00.00	15	68	-48577

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ND Hwy 200

Earthwork Values

Revised 11/03/2015	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	SOIB-5-200(024)075	11	18

ND200 Temporary Widening			
Station	End Area (SF)	Volume (CY)	
	End Area Embankment	Embankment	Embankment Mass Ordinate
4236+00.00	17	77	-48654
4237+00.00	16	79	-48733
4238+00.00	2	44	-48777
4239+00.00	7	22	-48799
4240+00.00	8	36	-48835
4241+00.00	8	39	-48874
4242+00.00	8	39	-48912
4243+00.00	8	39	-48951
4244+00.00	7	37	-48988
4245+00.00	0	18	-49005
4246+00.00	0	0	-49005
4247+00.00	26	64	-49069
4248+00.00	60	209	-49278
4249+00.00	90	361	-49639
4250+00.00	108	476	-50116
4251+00.00	99	499	-50614
4252+00.00	100	480	-51094
4253+00.00	108	503	-51597
4254+00.00	116	540	-52137
4255+00.00	111	546	-52683
4256+00.00	104	517	-53200
4257+00.00	113	521	-53721
4258+00.00	122	564	-54285
4259+00.00	106	548	-54833
4260+00.00	73	431	-55264
4261+00.00	78	364	-55628
4262+00.00	74	366	-55994
4263+00.00	69	345	-56339
4264+00.00	70	335	-56674
4265+00.00	70	337	-57010
4266+00.00	70	337	-57347
4267+00.00	70	337	-57683
4268+00.00	70	337	-58020
4269+00.00	70	337	-58357
4270+00.00	70	337	-58693
4271+00.00	26	230	-58923
4272+00.00	88	273	-59196
4273+00.00	118	496	-59692
4274+00.00	141	624	-60315
4275+00.00	142	680	-60995
4276+00.00	142	683	-61678
4277+00.00	141	681	-62359
4278+00.00	136	666	-63025
4279+00.00	120	615	-63640
4280+00.00	100	529	-64169
4281+00.00	111	508	-64677
4282+00.00	111	533	-65210
4283+00.00	104	517	-65727
4284+00.00	94	476	-66204
4285+00.00	88	437	-66641
4286+00.00	83	411	-67052
4287+00.00	79	389	-67441
4288+00.00	75	371	-67812
4289+00.00	70	350	-68162
4290+00.00	70	337	-68498
4291+00.00	39	261	-68760
4292+00.00	70	261	-69021
4293+00.00	70	337	-69357
4294+00.00	70	337	-69694
4295+00.00	81	363	-70057
4296+00.00	81	390	-70446
4297+00.00	91	415	-70862
4298+00.00	95	448	-71310
4299+00.00	108	488	-71797
4300+00.00	119	546	-72343
4301+00.00	120	574	-72918
4302+00.00	114	563	-73481
4303+00.00	96	507	-73988

ND200 Temporary Widening			
Station	End Area (SF)	Volume (CY)	
	End Area Embankment	Embankment	Embankment Mass Ordinate
4304+00.00	94	457	-74445
4305+00.00	91	446	-74890
4306+00.00	101	462	-75353
4307+00.00	118	525	-75878
4308+00.00	102	528	-76406
4309+00.00	70	413	-76819
4310+00.00	70	337	-77156
4311+00.00	70	337	-77493
4312+00.00	40	264	-77756
4313+00.00	17	136	-77892
4314+00.00	17	82	-77974
4315+00.00	17	84	-78058
4316+00.00	61	189	-78247
4317+00.00	78	336	-78582
4318+00.00	69	355	-78937
4319+00.00	77	350	-79288
4320+00.00	75	364	-79652
4321+00.00	70	348	-80000
4322+00.00	71	339	-80339
4323+00.00	72	345	-80684
4324+00.00	73	350	-81034
4325+00.00	74	355	-81389
4326+00.00	76	361	-81750
4327+00.00	77	366	-82116
4328+00.00	55	317	-82433
4329+00.00	80	325	-82758
4330+00.00	92	413	-83171
4331+00.00	99	458	-83629
4332+00.00	95	466	-84095
4333+00.00	75	409	-84504
4334+00.00	55	313	-84818
4335+00.00	28	199	-85017
4336+00.00	17	108	-85125
4337+00.00	9	64	-85188
4338+00.00	11	49	-85237
4339+00.00	15	62	-85299
4340+00.00	21	87	-85385
4341+00.00	18	94	-85479
4342+00.00	15	79	-85559
4343+00.00	14	70	-85628
4344+00.00	13	65	-85694
4345+00.00	13	63	-85757
4346+00.00	15	66	-85823
4347+00.00	46	147	-85970
4348+00.00	15	149	-86119
4349+00.00	15	74	-86193
4350+00.00	15	72	-86265
4351+00.00	17	78	-86343
4352+00.00	17	84	-86426
4353+00.00	26	105	-86532
4354+00.00	46	173	-86705
4355+00.00	89	325	-87029
4356+00.00	99	453	-87482
4357+00.00	85	443	-87926
4358+00.00	76	389	-88314
4359+00.00	63	335	-88649
4360+00.00	58	291	-88940
4361+00.00	30	210	-89150
4362+00.00	44	177	-89327
4363+00.00	41	204	-89531
4364+00.00	0	98	-89629
4365+00.00	66	159	-89787
4366+00.00	65	314	-90102
4367+00.00	64	311	-90412
4368+00.00	53	282	-90694
4369+00.00	49	245	-90940
4370+00.00	21	169	-91109
4371+00.00	43	154	-91263

ND200 Temporary Widening			
Station	End Area (SF)	Volume (CY)	
	End Area Embankment	Embankment	Embankment Mass Ordinate
4372+00.00	33	181	-91444
4373+00.00	33	157	-91601
4374+00.00	33	157	-91758
4375+00.00	33	157	-91915
4376+00.00	33	157	-92072
4377+00.00	35	163	-92235
4378+00.00	35	168	-92403
4379+00.00	35	169	-92571
4380+00.00	35	169	-92740
4381+00.00	35	169	-92908
4382+00.00	35	169	-93077
4383+00.00	35	168	-93245
4384+00.00	35	168	-93413
4385+00.00	35	169	-93582
4386+00.00	35	169	-93750
4387+00.00	45	193	-93943
4388+00.00	71	279	-94222
4389+00.00	71	341	-94563
4390+00.00	71	341	-94905
4391+00.00	64	325	-95230
4392+00.00	71	326	-95556
4393+00.00	66	330	-95886
4394+00.00	62	307	-96193
4395+00.00	63	301	-96494
4396+00.00	52	278	-96772
4397+00.00	49	244	-97016
4398+00.00	46	230	-97246
4399+00.00	46	223	-97469
4400+00.00	46	223	-97693
4401+00.00	46	223	-97916
4402+00.00	45	220	-98136
4403+00.00	35	193	-98329
4404+00.00	35	169	-98498
4405+00.00	35	169	-98667
4406+00.00	35	169	-98835
4407+00.00	29	155	-98990
4408+00.00	46	182	-99173
4409+00.00	71	282	-99455
4410+00.00	71	341	-99796
4411+00.00	52	296	-100092
4412+00.00	51	247	-100340
4413+00.00	50	242	-100582
4414+00.00	61	266	-100848
4415+00.00	54	276	-101124
4416+00.00	62	280	-101404
4417+00.00	65	306	-101709
4418+00.00	67	316	-102025
4419+00.00	53	287	-102312
4420+00.00	29	196	-102508
4421+00.00	35	153	-102662
4422+00.00	35	168	-102830
4423+00.00	35	169	-102998
4424+00.00	35	169	-103167
4425+00.00	35	169	-103335
4426+00.00	35	169	-103504
4427+00.00	35	168	-103672
4428+00.00	28	152	-103824
4429+00.00	42	168	-103992
4430+00.00	63	251	-104243
4431+00.00	71	320	-104563
4432+00.00	65	325	-104888
4433+00.00	57	293	-105181
4434+00.00	35	222	-105403
4435+00.00	35	169	-105571
4436+00.00	35	169	-105740
4437+00.00	42	185	-105925
4438+00.00	46	210	-106135
4439+00.00	46	221	-106356

ND200 Temporary Widening			
Station	End Area (SF)	Volume (CY)	
	End Area Embankment	Embankment	Embankment Mass Ordinate
4440+00.00	71	282	-106638
4441+00.00	71	341	-106979
4442+00.00	58	311	-107290
4443+00.00	43	244	-107534
4444+00.00	30	177	-107712
4445+00.00	18	117	-107828
4446+00.00	8	63	-107892
4447+00.00	0	19	-107911
4448+00.00	0	0	-107911
4449+00.00	0	0	-107911
4450+00.00	0	0	-107911
4451+00.00	0	0	-107911
4452+00.00	0	0	-107911
4453+00.00	7	17	-107928
4454+00.00	11	42	-107970
4455+00.00	17	66	-108036
4456+00.00	23	97	-108133
4457+00.00	30	128	-108260
4458+00.00	21	123	-108384
4459+00.00	21	103	-108487
4460+00.00	21	103	-108590
4461+00.00	21	103	-108693
4462+00.00	35	136	-108829
4463+00.00	35	169	-108997
4464+00.00	35	169	-109166
4465+00.00	35	169	-109334
4466+00.00	35	168	-109502
4467+00.00	7	100	-109602
4468+00.00	35	100	-109702
4469+00.00	35	169	-109870
4470+00.00	60	228	-110098
4471+00.00	71	314	-110413
4472+00.00	71	341	-110754
4473+00.00	71	341	-111095
4474+00.00	71	341	-111437
4475+00.00	71	341	-111778
4476+00.00	8	191	-111969
4477+00.00	9	41	-112009
4478+00.00	9	42	-112051
4479+00.00	9	42	-112093
4480+00.00	44	127	-112220
4481+00.00	90	322	-112542
4482+00.00	39	310	-112852
4483+00.00	37	182	-113034
4484+00.00	35	173	-113207
4485+00.00	35	169	-113375
4486+00.00	35	169	-113544
4487+00.00	35	169	-113712
4488+00.00	35	169	-113881
4489+00.00	35	169	-114049
4490+00.00	35	169	-114218
4491+00.00	0	84	-114302
4492+00.00	67	161	-114463
4493+00.00	8	182	-114645
4494+00.00	8	40	-114685
4495+00.00	8	40	-114726
4496+00.00	8	40	-114766
4497+00.00	8	40	-114807
4498+00.00	8	40	-114847
4499+00.00	8	40	-114888
4500+00.00	9	41	-114929
4501+00.00	9	42	-114971
4502+00.00	9	42	-115012
4503+00.00	9	42	-115054
4504+00.00	8	41	-115096
4505+00.00	8	40	-115136
4506+00.00	61	168	-115304
4507+00.00	50	267	-115571

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ND Hwy 200

Earthwork Values

Revised 11/03/2015	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	SOIB-5-200(024)075	11	19

ND200 Temporary Widening			
Station	End Area (SF)	Volume (CY)	
	End Area Embankment	Embankment	Embankment Mass Ordinate
4508+00.00	43	222	-115793
4509+00.00	46	212	-116005
4510+00.00	35	194	-116199
4511+00.00	35	169	-116368
4512+00.00	35	169	-116536
4513+00.00	35	169	-116705
4514+00.00	35	169	-116873
4515+00.00	53	212	-117085
4516+00.00	71	298	-117383
4517+00.00	71	341	-117725
4518+00.00	59	313	-118038
4519+00.00	44	248	-118286
4520+00.00	51	228	-118514
4521+00.00	55	255	-118769
4522+00.00	57	270	-119039
4523+00.00	57	273	-119313
4524+00.00	56	271	-119583
4525+00.00	55	267	-119850
4526+00.00	54	262	-120112
4527+00.00	53	258	-120370
4528+00.00	52	254	-120623
4529+00.00	51	249	-120872
4530+00.00	45	232	-121104
4531+00.00	42	211	-121315
4532+00.00	0	102	-121417
4533+00.00	48	115	-121532
4534+00.00	46	226	-121758
4535+00.00	23	167	-121926
4536+00.00	30	128	-122054
4537+00.00	38	164	-122218
4538+00.00	43	194	-122411
4539+00.00	49	220	-122631
4540+00.00	55	251	-122882
4541+00.00	62	282	-123164
4542+00.00	68	313	-123477
4543+00.00	59	305	-123782
4544+00.00	43	244	-124026
4545+00.00	28	170	-124196
4546+00.00	12	96	-124292
4547+00.00	10	53	-124345
4548+00.00	10	47	-124392
4549+00.00	10	47	-124440
4550+00.00	10	47	-124487
4551+00.00	13	55	-124542
4552+00.00	12	60	-124602
4553+00.00	13	59	-124662
4554+00.00	14	64	-124725
4555+00.00	0	33	-124759
4556+00.00	9	20	-124779
4557+00.00	6	35	-124814
4558+00.00	5	26	-124841
4559+00.00	5	24	-124865
4560+00.00	5	24	-124888
4561+00.00	0	12	-124900
4562+00.00	4	10	-124910
4563+00.00	10	33	-124943
4564+00.00	22	76	-125019
4565+00.00	37	142	-125161
4566+00.00	53	216	-125377
4567+00.00	68	291	-125668
4568+00.00	70	332	-126000
4569+00.00	70	337	-126337
4570+00.00	70	337	-126673
4571+00.00	70	337	-127010
4572+00.00	70	337	-127347
4573+00.00	83	367	-127714
4574+00.00	92	421	-128135
4575+00.00	98	458	-128593

ND200 Temporary Widening			
Station	End Area (SF)	Volume (CY)	
	End Area Embankment	Embankment	Embankment Mass Ordinate
4576+00.00	109	498	-129091
4577+00.00	117	543	-129634
4578+00.00	138	612	-130246
4579+00.00	145	679	-130925
4580+00.00	147	701	-131626
4581+00.00	129	663	-132289
4582+00.00	114	583	-132872
4583+00.00	103	521	-133393
4584+00.00	97	480	-133874
4585+00.00	86	440	-134313
4586+00.00	77	393	-134706
4587+00.00	70	353	-135059
4588+00.00	70	336	-135395
4589+00.00	70	336	-135731
4590+00.00	70	336	-136067
4591+00.00	70	336	-136403
4592+00.00	79	358	-136761
4593+00.00	90	407	-137168
4594+00.00	112	487	-137655
4595+00.00	107	528	-138183
4596+00.00	90	475	-138659
4597+00.00	119	503	-139162
4598+00.00	106	540	-139702
4599+00.00	115	532	-140234
4600+00.00	102	524	-140758
4601+00.00	111	514	-141272
4602+00.00	120	556	-141827
4603+00.00	124	587	-142414
4604+00.00	118	582	-142996
4605+00.00	118	568	-143564
4606+00.00	116	563	-144127
4607+00.00	87	489	-144616
4608+00.00	113	482	-145098
4609+00.00	106	527	-145624
4610+00.00	105	508	-146132
4611+00.00	100	494	-146625
4612+00.00	105	494	-147119
4613+00.00	105	505	-147624
4614+00.00	104	502	-148126
4615+00.00	86	456	-148582
4616+00.00	70	375	-148957
4617+00.00	70	337	-149294
4618+00.00	70	337	-149631
4619+00.00	70	337	-149967
4620+00.00	70	337	-150304
4621+00.00	70	337	-150640
4622+00.00	70	337	-150977
4623+00.00	15	205	-151182
4624+00.00	64	190	-151372
4625+00.00	116	432	-151804
4626+00.00	142	620	-152424
4627+00.00	142	683	-153107
4628+00.00	142	683	-153789
4629+00.00	142	683	-154472
4630+00.00	142	683	-155155
4631+00.00	142	683	-155838
4632+00.00	142	683	-156520
4633+00.00	142	683	-157203
4634+00.00	142	683	-157886
4635+00.00	142	683	-158568
4636+00.00	142	683	-159251
4637+00.00	140	679	-159931
4638+00.00	127	645	-160575
4639+00.00	100	548	-161123
4640+00.00	90	458	-161581
4641+00.00	83	416	-161997
4642+00.00	70	367	-162364
4643+00.00	11	196	-162560

ND200 Temporary Widening			
Station	End Area (SF)	Volume (CY)	
	End Area Embankment	Embankment	Embankment Mass Ordinate
4644+00.00	70	196	-162756
4645+00.00	70	337	-163092
4646+00.00	70	337	-163429
4647+00.00	70	337	-163765
4648+00.00	67	329	-164094
4649+00.00	57	297	-164391
4650+00.00	41	235	-164626
4651+00.00	25	158	-164784
4652+00.00	13	91	-164876
4653+00.00	13	62	-164938
4654+00.00	12	60	-164998
4655+00.00	12	58	-165056
4656+00.00	13	59	-165114
4657+00.00	13	61	-165176
4658+00.00	13	62	-165238
4659+00.00	14	65	-165303
4660+00.00	14	66	-165369
4661+00.00	13	65	-165433
4662+00.00	14	64	-165498
4663+00.00	14	65	-165563
4664+00.00	12	63	-165626
4665+00.00	0	30	-165656
4666+00.00	11	27	-165683
4667+00.00	11	52	-165735
4668+00.00	10	49	-165784
4669+00.00	14	57	-165841
4670+00.00	29	104	-165945
4671+00.00	51	193	-166138
4672+00.00	76	306	-166444
4673+00.00	92	405	-166849
4674+00.00	100	462	-167311
4675+00.00	110	506	-167817
4676+00.00	131	580	-168398
4677+00.00	142	655	-169053
4678+00.00	142	683	-169736
4679+00.00	136	670	-170405
4680+00.00	134	650	-171055
4681+00.00	129	632	-171687
4682+00.00	125	611	-172297
4683+00.00	122	594	-172891
4684+00.00	122	586	-173477
4685+00.00	107	549	-174026
4686+00.00	105	510	-174536
4687+00.00	104	505	-175041
4688+00.00	105	504	-175545
4689+00.00	103	501	-176046
4690+00.00	98	485	-176531
4691+00.00	18	280	-176811
4692+00.00	70	212	-177023
4693+00.00	70	336	-177359
4694+00.00	70	336	-177695
4695+00.00	70	336	-178031
4696+00.00	70	336	-178367
4697+00.00	68	332	-178700
4698+00.00	70	332	-179032
4699+00.00	70	336	-179368
4700+00.00	77	354	-179722
4701+00.00	78	372	-180095
4702+00.00	54	317	-180412
4703+00.00	38	221	-180633
4704+00.00	26	153	-180786
4705+00.00	17	104	-180890
4706+00.00	13	73	-180963
4707+00.00	12	61	-181024
4708+00.00	15	65	-181089
4709+00.00	12	66	-181155
4710+00.00	0	29	-181184
4711+00.00	10	24	-181207

ND200 Temporary Widening			
Station	End Area (SF)	Volume (CY)	
	End Area Embankment	Embankment	Embankment Mass Ordinate
4712+00.00	10	47	-181254
4713+00.00	19	69	-181323
4714+00.00	8	65	-181388
4715+00.00	8	39	-181427
4716+00.00	8	38	-181465
4717+00.00	8	39	-181504
4718+00.00	9	40	-181544
4719+00.00	9	42	-181586
4720+00.00	0	22	-181608
4721+00.00	18	44	-181652
4722+00.00	23	99	-181751
4723+00.00	0	56	-181807
4724+00.00	61	146	-181952
4725+00.00	64	301	-182253
4726+00.00	66	314	-182567
4727+00.00	60	303	-182871
4728+00.00	61	290	-183161
4729+00.00	62	295	-183456
4730+00.00	63	299	-183755
4731+00.00	65	307	-184062
4732+00.00	58	296	-184358
4733+00.00	54	269	-184628
4734+00.00	58	268	-184896
4735+00.00	53	266	-185161
4736+00.00	50	247	-185409
4737+00.00	52	247	-185656
4738+00.00	27	192	-185848
4739+00.00	64	219	-186067
4740+00.00	70	322	-186389
4741+00.00	71	340	-186729
4742+00.00	71	341	-187071
4743+00.00	71	341	-187412
4744+00.00	71	341	-187753
4745+00.00	41	269	-188022
4746+00.00	35	182	-188204
4747+00.00	35	169	-188373
4748+00.00	35	169	-188541
4749+00.00	35	168	-188709
4750+00.00	35	168	-188878
4751+00.00	35	169	-189046
4752+00.00	35	169	-189215
4753+00.00	17	125	-189340
4754+00.00	35	125	-189465
4755+00.00	35	169	-189633
4756+00.00	53	213	-189846
4757+00.00	71	299	-190145
4758+00.00	71	341	-190487
4759+00.00	71	341	-190828
4760+00.00	71	341	-191169
4761+00.00	70	340	-191510
4762+00.00	149	527	-192037
4763+00.00	67	518	-192555
4764+00.00	61	308	-192863
4765+00.00	45	257	-193120
4766+00.00	5	121	-193241
4767+00.00	60	156	-193396
4768+00.00	63	296	-193692
4769+00.00	63	303	-193995
4770+00.00	50	272	-194266
4771+00.00	35	205	-194471
4772+00.00	35	168	-194639
4773+00.00	35	168	-194807
4774+00.00	35	168	-194975
4775+00.00	35	168	-195144
4776+00.00	35	168	-195312
4777+00.00	35	168	-195480
4778+00.00	35	168	-195648
4779+00.00	35	168	-195816

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ND Hwy 200

Earthwork Values

Revised 11/03/2015	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	SOIB-5-200(024)075	11	20

ND200 Temporary Widening			
Station	End Area (SF)	Volume (CY)	
	End Area Embankment	Embankment	Embankment Mass Ordinate
4780+00.00	35	168	-195984
4781+00.00	47	197	-196180
4782+00.00	82	310	-196490
4783+00.00	64	352	-196843
4784+00.00	47	267	-197109
4785+00.00	60	255	-197365
4786+00.00	59	285	-197650
4787+00.00	63	293	-197943
4788+00.00	49	268	-198211
4789+00.00	57	254	-198465
4790+00.00	92	359	-198824
4791+00.00	125	523	-199347
4792+00.00	46	411	-199758
4793+00.00	30	182	-199941
4794+00.00	49	190	-200130
4795+00.00	35	202	-200332
4796+00.00	8	104	-200437
4797+00.00	8	40	-200477
4798+00.00	8	40	-200518
4799+00.00	8	40	-200558
4800+00.00	52	145	-200703
4801+00.00	35	209	-200912
4802+00.00	31	159	-201072
4803+00.00	38	167	-201239
4804+00.00	43	195	-201434
4805+00.00	44	209	-201643
4806+00.00	45	215	-201858
4807+00.00	44	215	-202072
4808+00.00	41	206	-202278
4809+00.00	35	184	-202462
4810+00.00	35	169	-202632
4811+00.00	43	187	-202818
4812+00.00	46	212	-203031
4813+00.00	21	159	-203190
4814+00.00	14	83	-203273
4815+00.00	8	52	-203325
4816+00.00	2	24	-203349
4817+00.00	0	6	-203355
4818+00.00	0	0	-203355
4819+00.00	0	0	-203355
4820+00.00	0	0	-203355
4821+00.00	2	5	-203360
4822+00.00	7	21	-203381
4823+00.00	13	48	-203430
4824+00.00	20	79	-203509
4825+00.00	26	110	-203619
4826+00.00	33	141	-203760
4827+00.00	35	163	-203923
4828+00.00	35	168	-204091
4829+00.00	35	168	-204259
4830+00.00	35	169	-204428
4831+00.00	35	169	-204596
4832+00.00	35	169	-204765
4833+00.00	35	168	-204933
4834+00.00	35	168	-205101
4835+00.00	35	169	-205270
4836+00.00	35	168	-205438
4837+00.00	35	168	-205606
4838+00.00	35	168	-205775
4839+00.00	35	168	-205943
4840+00.00	47	197	-206140
4841+00.00	54	243	-206383
4842+00.00	50	250	-206634
4843+00.00	48	237	-206870
4844+00.00	43	220	-207091
4845+00.00	47	216	-207306
4846+00.00	46	224	-207530
4847+00.00	61	259	-207790

ND200 Temporary Widening			
Station	End Area (SF)	Volume (CY)	
	End Area Embankment	Embankment	Embankment Mass Ordinate
4848+00.00	59	289	-208079
4849+00.00	49	260	-208338
4850+00.00	45	227	-208565
4851+00.00	46	220	-208785
4852+00.00	44	218	-209002
4853+00.00	23	163	-209165
4854+00.00	35	140	-209305
4855+00.00	35	168	-209473
4856+00.00	35	169	-209642
4857+00.00	35	169	-209810
4858+00.00	48	199	-210009
4859+00.00	35	199	-210208
4860+00.00	36	170	-210378
4861+00.00	37	174	-210553
4862+00.00	42	190	-210743
4863+00.00	49	220	-210963
4864+00.00	63	269	-211231
4865+00.00	69	316	-211547
4866+00.00	71	335	-211882
4867+00.00	70	338	-212221
4868+00.00	71	338	-212559
4869+00.00	71	340	-212899
4870+00.00	71	341	-213240
4871+00.00	24	229	-213469
4872+00.00	56	194	-213663
4873+00.00	35	220	-213883
4874+00.00	35	169	-214052
4875+00.00	35	169	-214220
4876+00.00	35	169	-214389
4877+00.00	70	254	-214642
4878+00.00	55	302	-214945
4879+00.00	35	217	-215162
4880+00.00	35	169	-215330
4881+00.00	35	168	-215499
4882+00.00	35	168	-215667
4883+00.00	35	169	-215835
4884+00.00	35	169	-216004
4885+00.00	35	169	-216172
4886+00.00	35	169	-216341
4887+00.00	35	168	-216509
4888+00.00	29	154	-216663
4889+00.00	8	90	-216754
4890+00.00	8	40	-216794
4891+00.00	8	40	-216834
4892+00.00	11	48	-216882
4893+00.00	71	198	-217080
4894+00.00	71	341	-217421
4895+00.00	71	341	-217762
4896+00.00	63	321	-218084
4897+00.00	53	278	-218362
4898+00.00	8	145	-218507
4899+00.00	35	102	-218609
4900+00.00	35	168	-218778
4901+00.00	35	168	-218946
4902+00.00	35	168	-219114
4903+00.00	35	168	-219282
4904+00.00	16	123	-219404
4905+00.00	16	77	-219481
4906+00.00	28	105	-219586
4907+00.00	47	180	-219766
4908+00.00	67	274	-220040
4909+00.00	86	368	-220408
4910+00.00	102	453	-220861
4911+00.00	110	510	-221371
4912+00.00	112	534	-221905
4913+00.00	46	380	-222286
4914+00.00	0	110	-222396
4915+00.00	35	85	-222481

ND200 Temporary Widening			
Station	End Area (SF)	Volume (CY)	
	End Area Embankment	Embankment	Embankment Mass Ordinate
4916+00.00	21	136	-222617
4917+00.00	19	98	-222715
4918+00.00	32	124	-222839
4919+00.00	0	77	-222916
4920+00.00	0	0	-222916
4921+00.00	0	0	-222916
4922+00.00	0	0	-222916
4923+00.00	0	0	-222916
4924+00.00	0	0	-222916
4925+00.00	0	0	-222916
4926+00.00	0	0	-222916
4927+00.00	0	0	-222916
4928+00.00	0	0	-222916
4929+00.00	0	0	-222916
4930+00.00	0	0	-222916
4931+00.00	105	252	-223168
4932+00.00	97	487	-223655
4933+00.00	79	424	-224078
4934+00.00	75	371	-224449
4935+00.00	77	367	-224816
4936+00.00	76	367	-225183
4937+00.00	41	280	-225462
4938+00.00	83	298	-225761
4939+00.00	81	395	-226156
4940+00.00	93	418	-226574
4941+00.00	106	477	-227052
4942+00.00	108	515	-227566
4943+00.00	105	513	-228079
4944+00.00	92	474	-228553
4945+00.00	81	417	-228970
4946+00.00	90	411	-229382
4947+00.00	89	429	-229811
4948+00.00	74	392	-230203
4949+00.00	70	347	-230550
4950+00.00	70	337	-230887
4951+00.00	70	337	-231223
4952+00.00	70	337	-231560
4953+00.00	70	337	-231896
4954+00.00	70	337	-232233
4955+00.00	70	337	-232570
4956+00.00	70	337	-232906
4957+00.00	70	337	-233243
4958+00.00	70	337	-233579
4959+00.00	79	357	-233936
4960+00.00	101	432	-234368
4961+00.00	129	553	-234922
4962+00.00	152	676	-235598
4963+00.00	159	748	-236346
4964+00.00	150	742	-237088
4965+00.00	121	650	-237738
4966+00.00	111	557	-238295
4967+00.00	102	513	-238808
4968+00.00	86	452	-239260
4969+00.00	70	374	-239634
4970+00.00	70	337	-239971
4971+00.00	70	337	-240307
4972+00.00	70	337	-240644
4973+00.00	15	205	-240849
4974+00.00	70	205	-241055
4975+00.00	68	332	-241387
4976+00.00	70	332	-241719
4977+00.00	89	384	-242103
4978+00.00	109	477	-242580
4979+00.00	136	590	-243169
4980+00.00	144	675	-243844
4981+00.00	143	691	-244536
4982+00.00	139	678	-245213
4983+00.00	132	650	-245863

ND200 Temporary Widening			
Station	End Area (SF)	Volume (CY)	
	End Area Embankment	Embankment	Embankment Mass Ordinate
4984+00.00	129	628	-246491
4985+00.00	137	641	-247132
4986+00.00	141	668	-247800
4987+00.00	142	679	-248479
4988+00.00	141	680	-249159
4989+00.00	133	659	-249818
4990+00.00	106	574	-250393
4991+00.00	94	480	-250873
4992+00.00	27	292	-251164
4993+00.00	70	234	-251398
4994+00.00	70	337	-251734
4995+00.00	70	337	-252071
4996+00.00	70	337	-252408
4997+00.00	70	337	-252744
4998+00.00	70	336	-253080
4999+00.00	82	366	-253447
5000+00.00	93	422	-253869
5001+00.00	106	479	-254347
5002+00.00	106	509	-254857
5003+00.00	101	498	-255355
5004+00.00	112	514	-255868
5005+00.00	111	537	-256406
5006+00.00	104	518	-256924
5007+00.00	99	489	-257413
5008+00.00	112	507	-257920
5009+00.00	121	559	-258479
5010+00.00	131	607	-259086
5011+00.00	135	642	-259728
5012+00.00	127	633	-260361
5013+00.00	130	620	-260981
5014+00.00	125	614	-261595
5015+00.00	106	555	-262150
5016+00.00	103	502	-262652
5017+00.00	102	492	-263144
5018+00.00	106	500	-263644
5019+00.00	106	509	-264153
5020+00.00	122	548	-264701
5021+00.00	88	504	-265205
5022+00.00	80	404	-265609
5023+00.00	50	314	-265922
5024+00.00	70	289	-266212

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ND Hwy 200

Earthwork Values

Revised 11/03/2015	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	SOIB-5-200(024)075	51	10

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
				In	Bid Item	LF		In			In	SY	Begin EA	End EA	
4913+78	60' R	4914+35	60' R	24	Pipe Conduit - Approach	58	Reinforced Concrete Pipe-Class III (barrel length=52 LF)	24					FES	FES	D203-08
							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	24							
4937+78	45' R	4937+78	29' R	30	Pipe Conduit	16	Reinforced Concrete Pipe-Class III (barrel length=15 LF)	30					TES		D714-26
4937+78	29' R	4937+78	31' L	30	Pipe Conduit Jacked or Bored	60	Reinforced Concrete Pipe-Class III (barrel length=60 LF)	30							D714-26
							Smooth Wall Steel Pipe	30			0.406				
4937+78	31' L	4937+78	45' L	30	Pipe Conduit	14	Reinforced Concrete Pipe-Class III (barrel length=13 LF)	30						TES	D714-26
4972+82	58' R	4973+48	58' R	24	Pipe Conduit - Approach	66	Reinforced Concrete Pipe-Class III (barrel length=60 LF)	24					FES	FES	D203-08
							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	24							
4974+32	56' L	4974+80	56' L	24	Pipe Conduit - Approach	48	Reinforced Concrete Pipe-Class III (barrel length=42LF)	24					FES	FES	D203-08
							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	24							
4976+75	55' L	4977+57	55' L	30	Pipe Conduit - Approach	82	Reinforced Concrete Pipe-Class III (barrel length=78 LF)	30					FES	FES	D203-08
							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	30							
4976+81	58' R	4977+55	57' R	24	Pipe Conduit - Approach	74	Reinforced Concrete Pipe-Class III (barrel length=68 LF)	24					FES	FES	D203-08
							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	24							
4986+56	32' L	4986+56	56' L	72	Pipe Conc. Reinf. CL III (Extension)	24	Reinforced Concrete Pipe-Class III (barrel length=24 LF)	72						FES	D714-25
4986+53	32' R	4986+53	54' R	72	Pipe Conc. Reinf. CL III (Extension)	22	Reinforced Concrete Pipe-Class III (barrel length=22 LF)	72						FES	D714-25
5004+14	34' L	5004+14	52' L	48	Pipe Conc. Reinf. CL III (Extension)	18	Reinforced Concrete Pipe-Class III (barrel length=18 LF)	48						FES	D714-26
5004+14	22' R	5004+14	52' R	48	Pipe Conc. Reinf. CL III (Extension)	30	Reinforced Concrete Pipe-Class III (barrel length=30 LF)	48						FES	D714-26
5019+66	44' R	5019+66	34' R	36	Pipe Conduit	10	Reinforced Concrete Pipe-Class III (barrel length=8 LF)	36					TES		D714-25
5019+66	34' R	5019+66	40' L	36	Pipe Conduit Jacked or Bored	74	Reinforced Concrete Pipe-Class III (barrel length=74 LF)	36							D714-25
							Smooth Wall Steel Pipe	36			0.469				
5019+66	40' L	5019+66	62' L	36	Pipe Conduit	22	Reinforced Concrete Pipe-Class III (barrel length=20 LF)	36						FES	D714-25
105+93	27' Rt	106+15	27' Lt	36	Pipe Conduit	58	Reinforced Concrete Pipe-Class III (barrel length=52 LF)	36							D714-25
							Corrugated Steel Pipe	36	Z, A, P	2	0.064				
							Spiral Rib Steel Pipe	36	Z, A, P	3/4, 1	0.064				
							High-Density Polyethylene	36							
105+99	27' Rt	106+20	27' Lt	36	Pipe Conduit	58	Reinforced Concrete Pipe-Class III (barrel length=52 LF)	36							D714-25
							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	24							

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 seperately.
Structural Steel Plate Pipes shall be paid with 2:1 bevel taken into account.
FES = Flared End Section
TES = Traversable End Section

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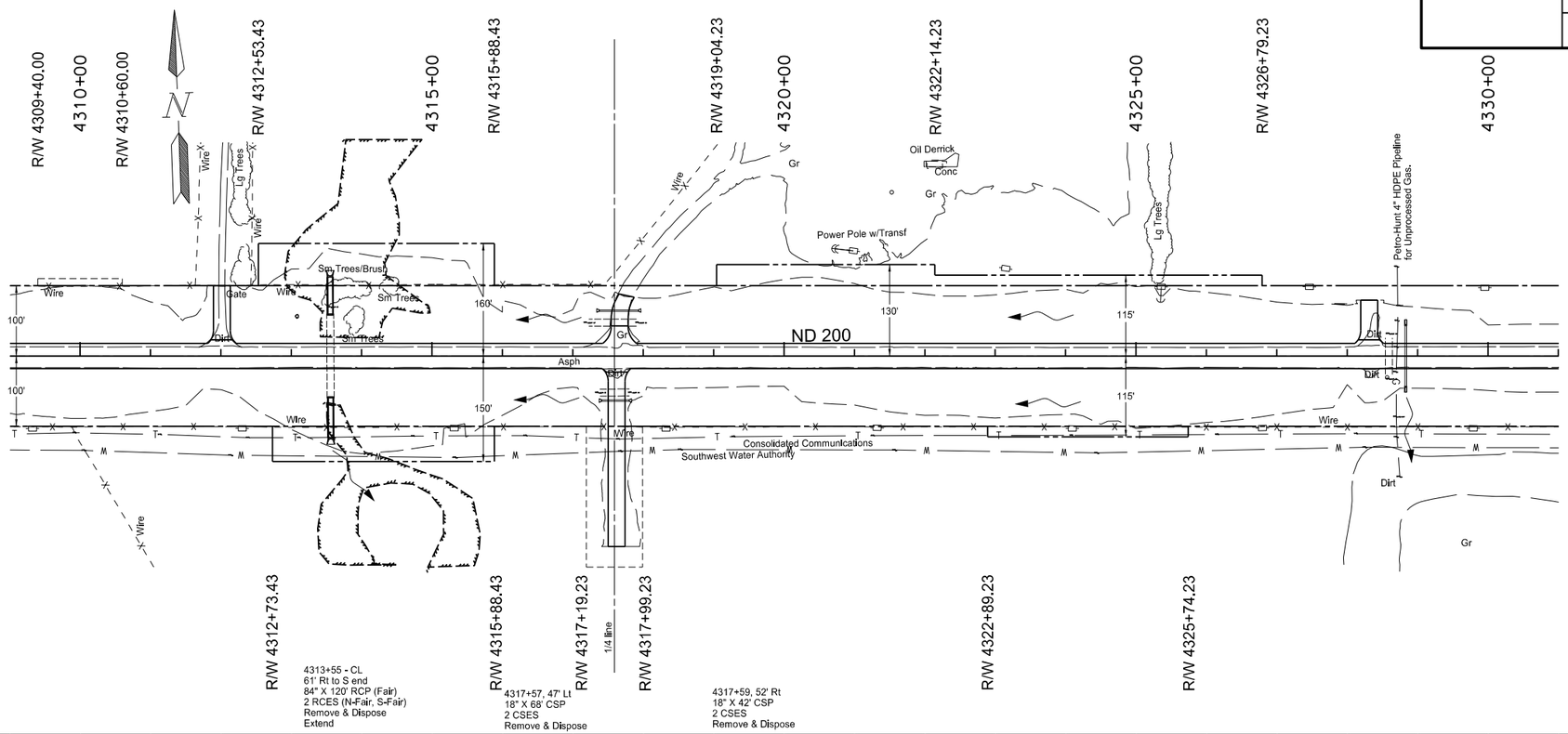
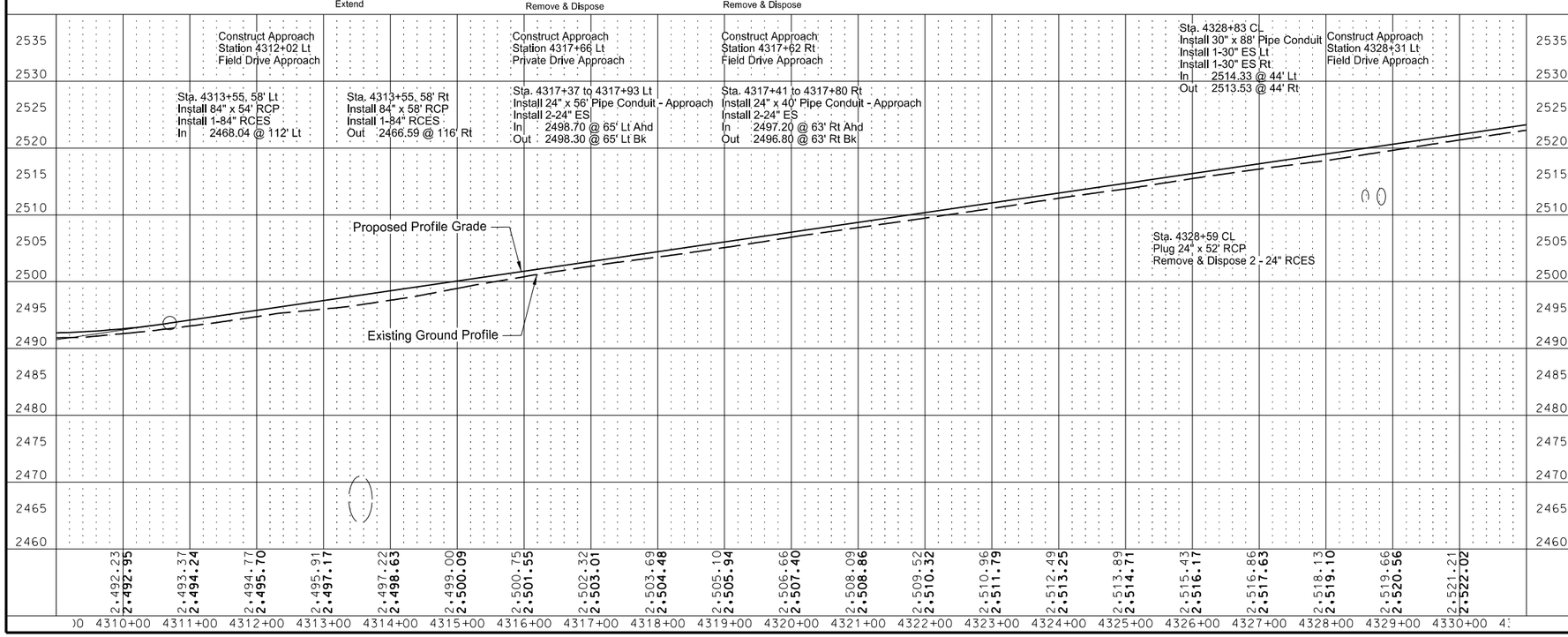
ND Hwy 200

Allowable Pipe List

Revised 11/03/2015	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	SOIB-5-200(024)075	60	20





714-1730	PIPE CONC REINF 84IN CL V		
	Sta. 4313+55 - Lt	54	LF
	Sta. 4313+55 - Rt	58	LF
	Total =	112	LF
714-4166	PIPE CONDUIT 30IN - JACKED OR BORED		
	Sta. 4328+83 - CL	60	LF
	Total =	60	LF
714-4110	PIPE CONDUIT 30IN		
	Sta. 4328+83 - Lt	14	LF
	Sta. 4328+83 - Rt	14	LF
	Total =	28	LF
714-4106	PIPE CONDUIT 24IN-APPROACH		
	Sta. 4317+41 to 4317+80 - 63' Rt	40	LF
	Sta. 4317+37 to 4317+93 - 65' Lt	56	LF
	Total =	96	LF
714-3075	END SECT-CONC REINF 84IN		
	Sta. 4313+55 - Lt, Rt	2	EA
	Total =	2	EA
714-9680	PLUG PIPE-ALL TYPES & SIZES		
	Sta. 4328+59 - CL	1	EA
	Total =	1	EA
202-0174	REMOVAL OF PIPE ALL TYPES & SIZES		
	Sta. 4317+57 - Lt	68	LF
	Sta. 4317+59 - Rt	42	LF
	Total =	110	LF
202-0169	REMOVAL OF END SECTION-ALL TYPES & SIZES		
	Sta. 4313+55 - Lt, Rt	2	EA
	Sta. 4328+59 - Lt, Rt	2	EA
	Total =	4	EA

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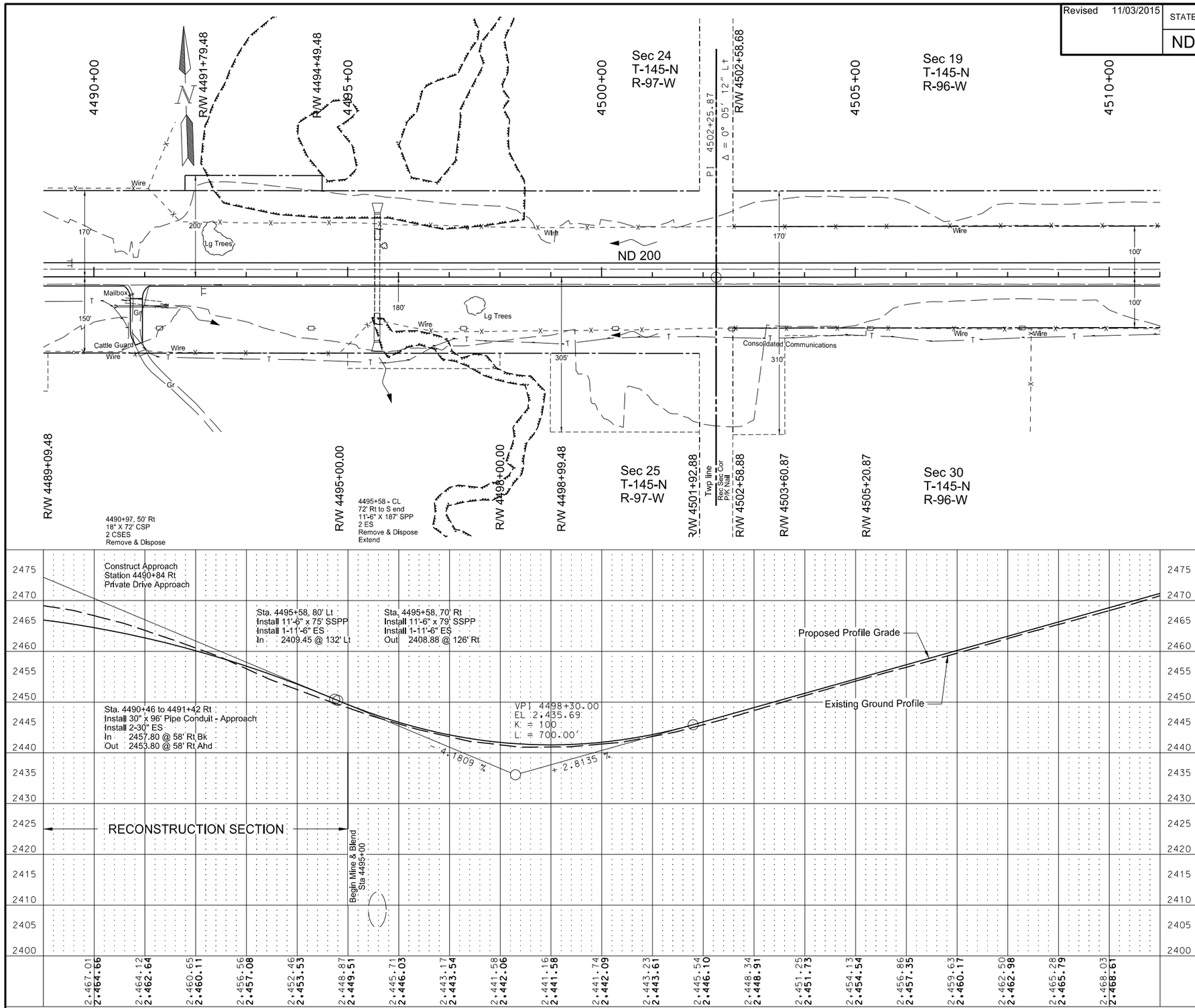
ND Hwy 200
Dunn County

Plan & Profile Sheets

Sta 4310+00 to 4330+00

Revised 11/03/2015	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	SOIB-5-200(024)075	60	29



714-3447	11FT 6IN STR PLATE PIPE .218IN		
	Sta. 4495+58 - Lt	75	LF
	Sta. 4495+58 - Rt	79	LF
	Total =	154	LF
714-4106	PIPE CONDUIT 24IN-APPROACH		
	Sta. 4490+46 to 4491+42 - 58' Rt	96	LF
	Total =	96	LF
202-0174	REMOVAL OF PIPE ALL TYPES & SIZES		
	Sta. 4490+97 - Rt	72	LF
	Total =	72	LF
202-0169	REMOVAL OF END SECTION-ALL TYPES & SIZES		
	Sta. 4495+58 - Lt, Rt	2	EA
	Total =	2	EA

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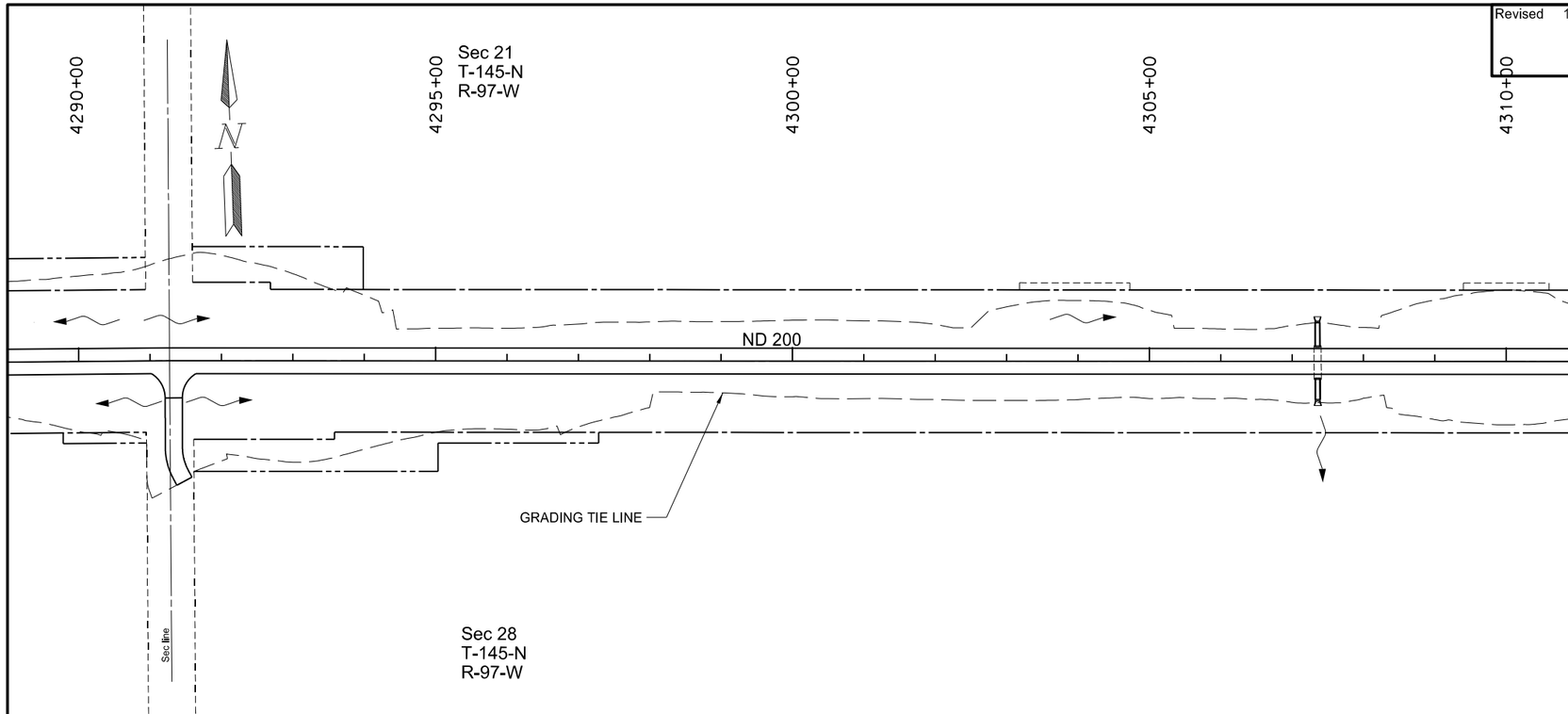
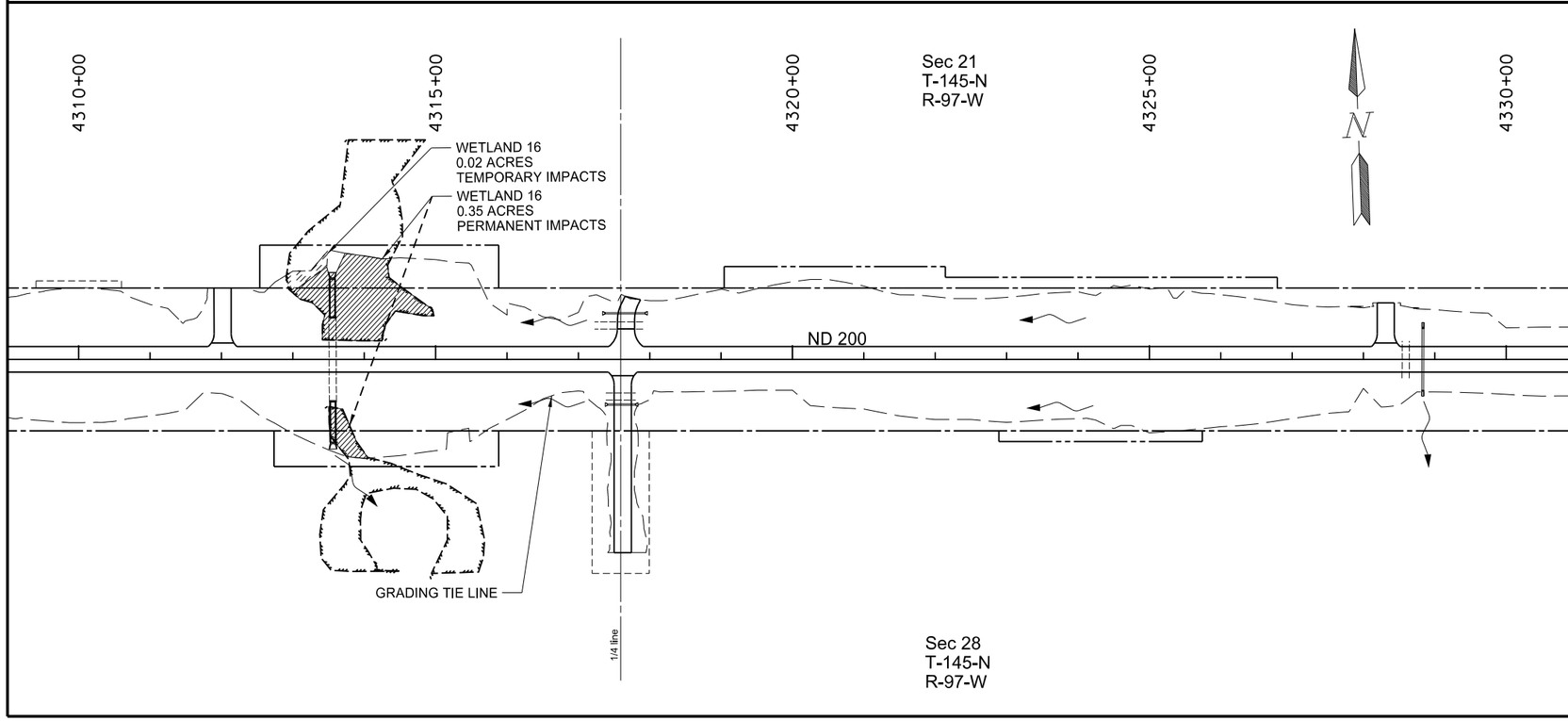
ND Hwy 200
Dunn County

Plan & Profile Sheets

Sta 4490+00 to 4510+00

Revised 11/03/2015	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	SOIB-5-200(024)075	75	10





LEGEND

- Permanent Wetland Impact
- Temporary Wetland Impact
- Wetland Mitigation

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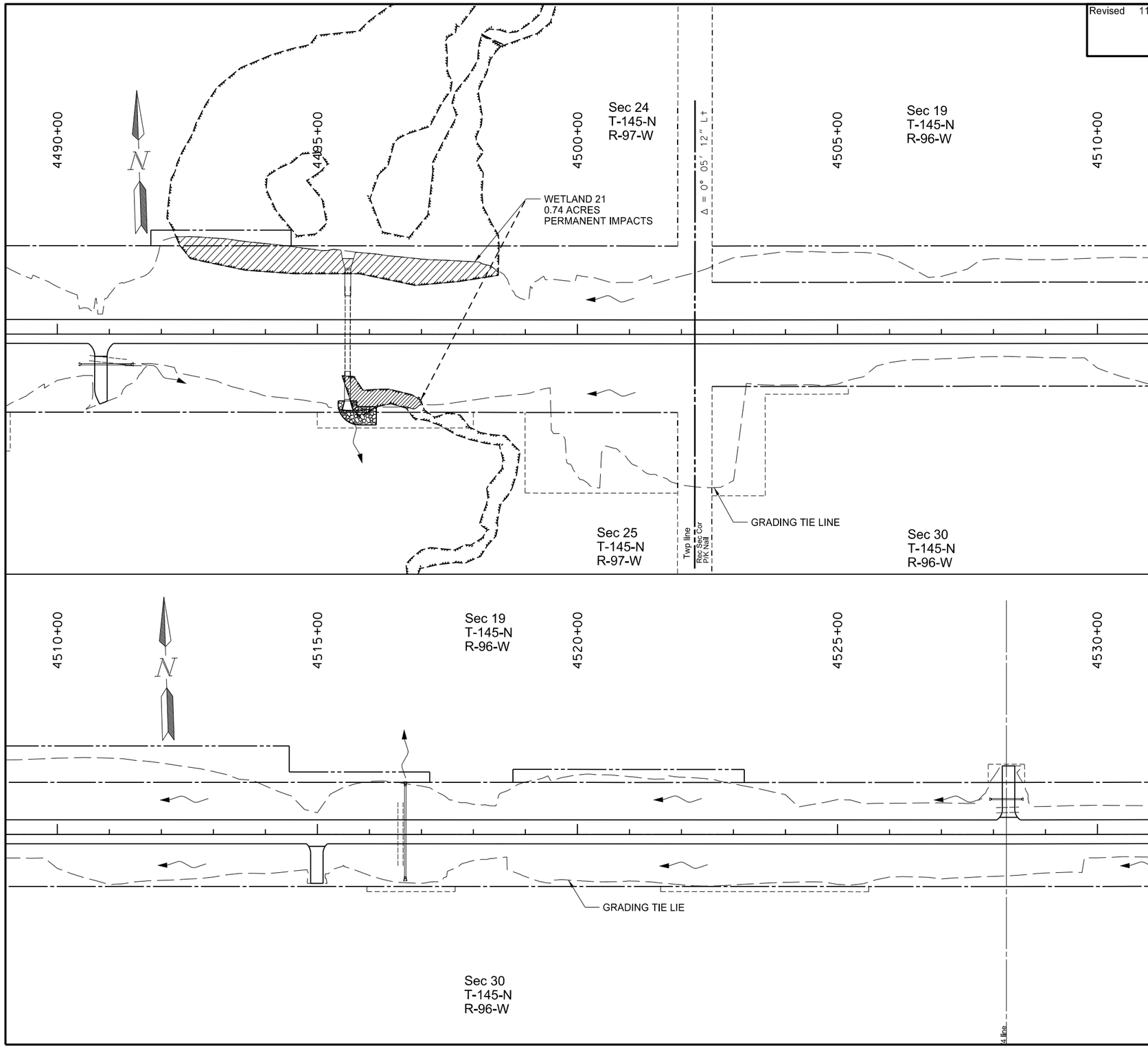
ND Hwy 200
Dunn County

Wetlands

Sta 4290+00 to 4330+00

Revised 11/03/2015	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	SOIB-5-200(024)075	75	15



LEGEND

Permanent Wetland Impact

Temporary Wetland Impact

Wetland Mitigation

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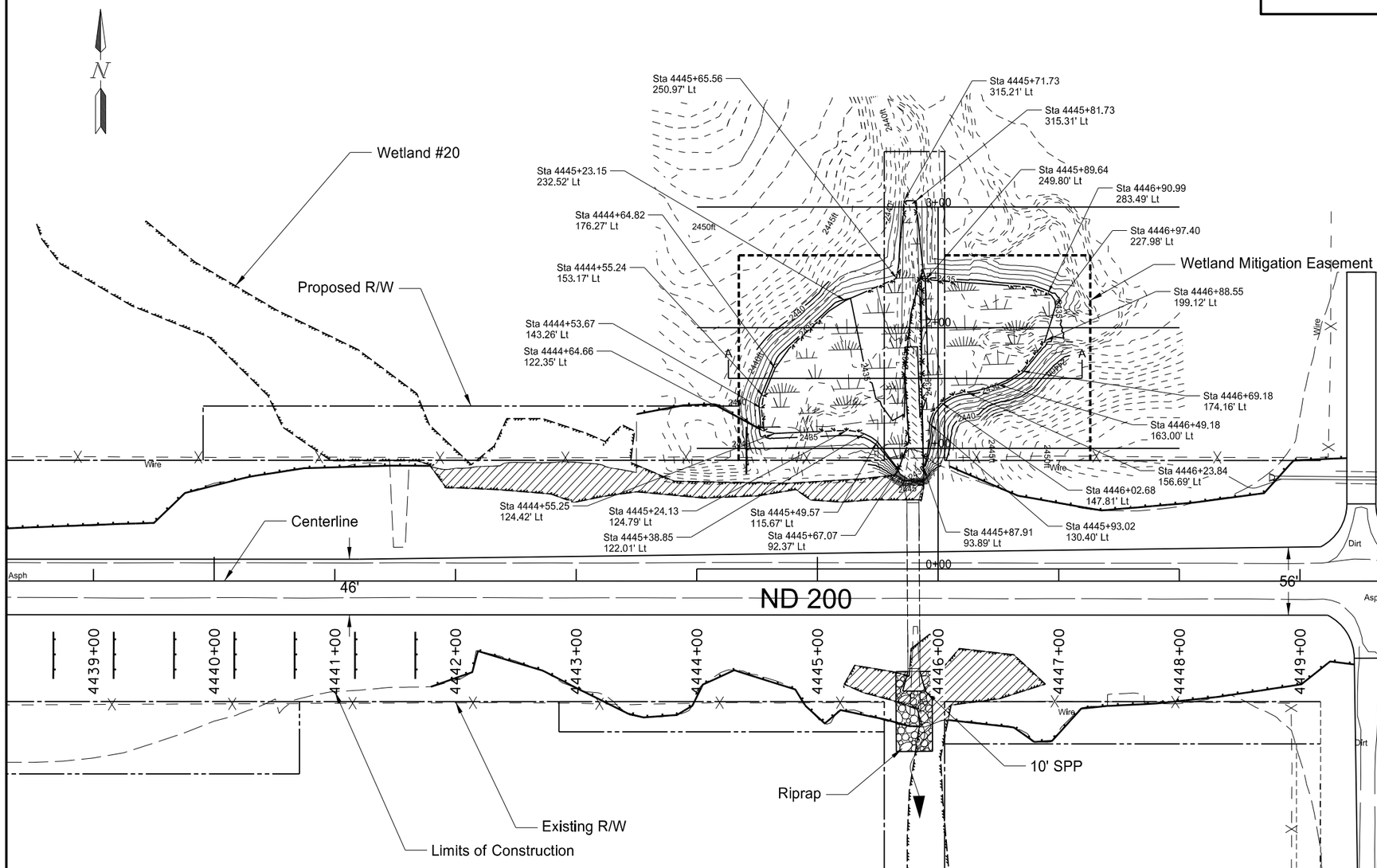
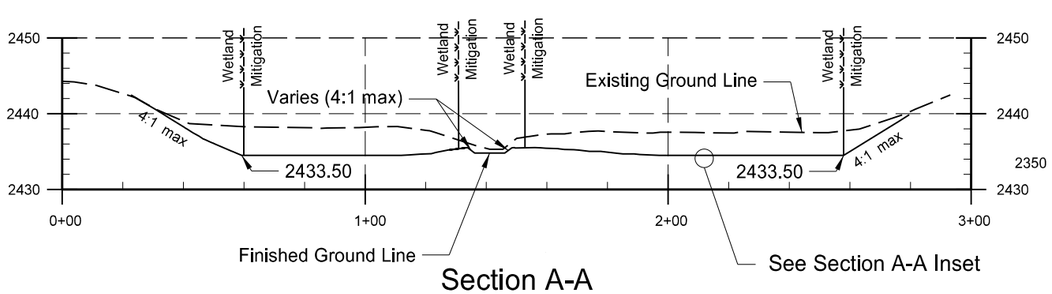
ND Hwy 200
Dunn County

Wetlands

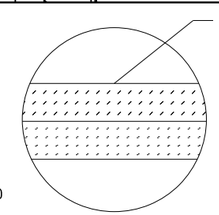
4490+00 to 4530+00

Revised 11/03/2015	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	SOIB-5-200(024)075	75	30





Section A-A



Section A-A Inset

Note: Contractor shall grade site to the bottom of the 6" topsoil layer. The Engineer shall determine locations where the clay layer is necessary. Clay is available from wetland site excavation. Payment will be at the same price as "Topsoil - Wetland." Clay quantity shall be field measured.

203-0121 TOPOSIL-WETLAND

Kukla Mitigation Site	436	CY
Total	436	CY

LEGEND

- Permanent Wetland Impact
- Temporary Wetland Impact
- Wetland Mitigation (0.51 Acre)
- 2480 Proposed Contour
- 2480 Existing Contour
- Existing R/W
- Proposed R/W
- Existing Fence
- Fiber Rolls
- Edge of Water
- Existing Wetland
- Wetland Mitigation Easement

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ND Hwy 200
Dunn County

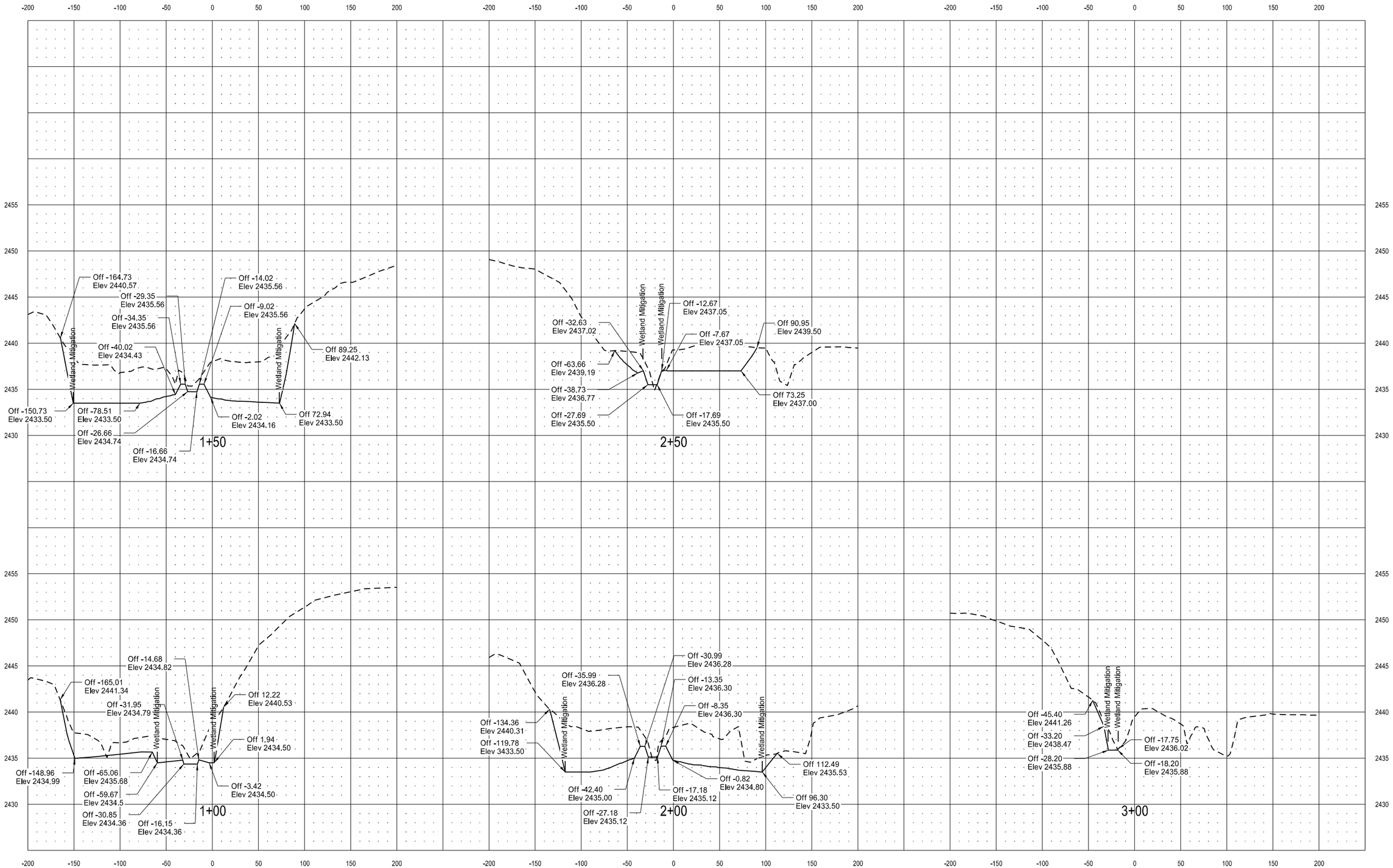
Wetland, Erosion Control, & Seeding

Wetland Mitigation Site 1 - Kukla

Wetland Mitigation Site 1 - Kukla

*Cross Sections were cut on an alignment perpendicular to ND Hwy 200 Alignment (Shown on previous sheet)

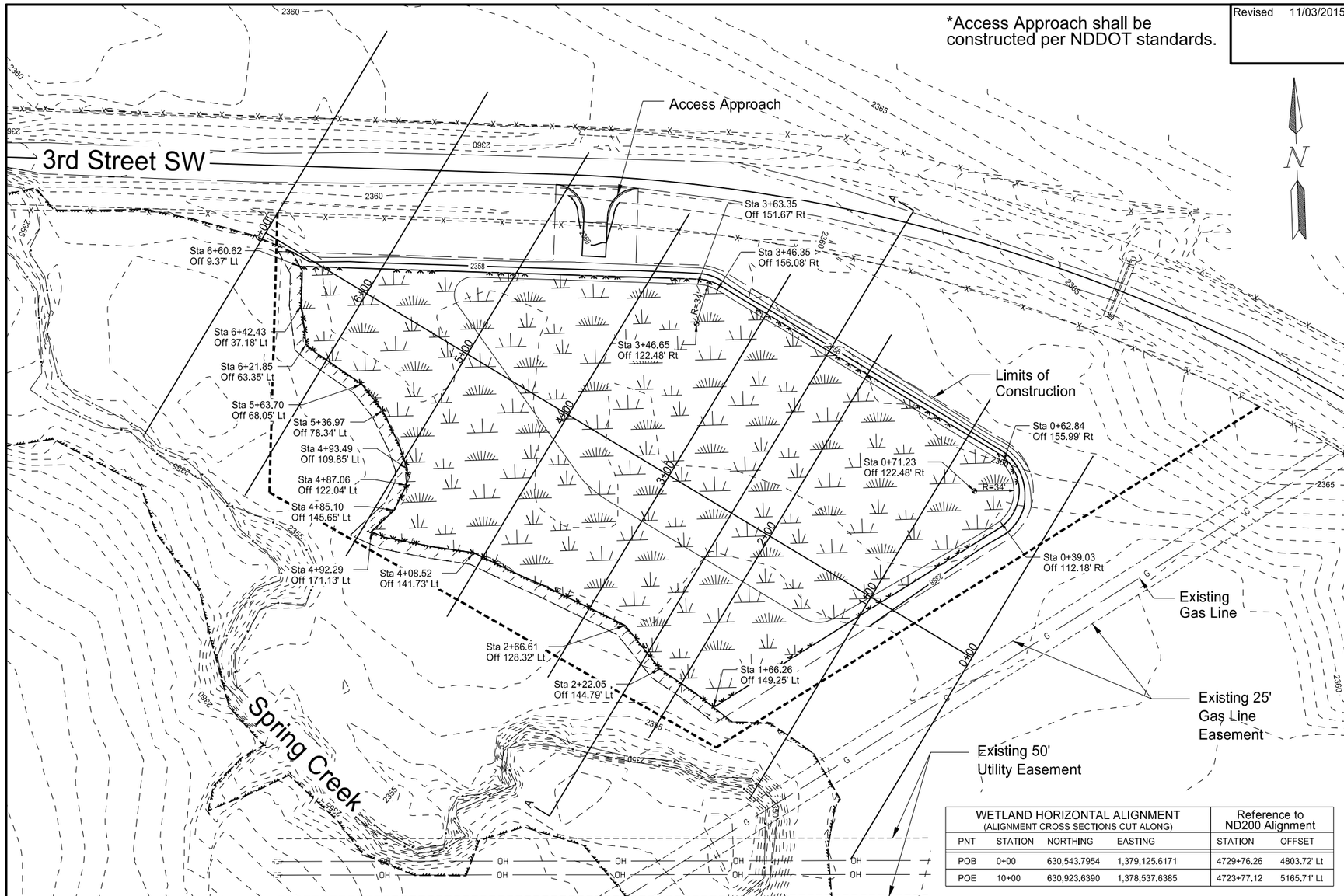
Revised 11/03/2015	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	SOIB-5-200(024)075	75	31



Revised	11/03/2015

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SOIB-5-200(024)075	75	32

*Access Approach shall be constructed per NDDOT standards.



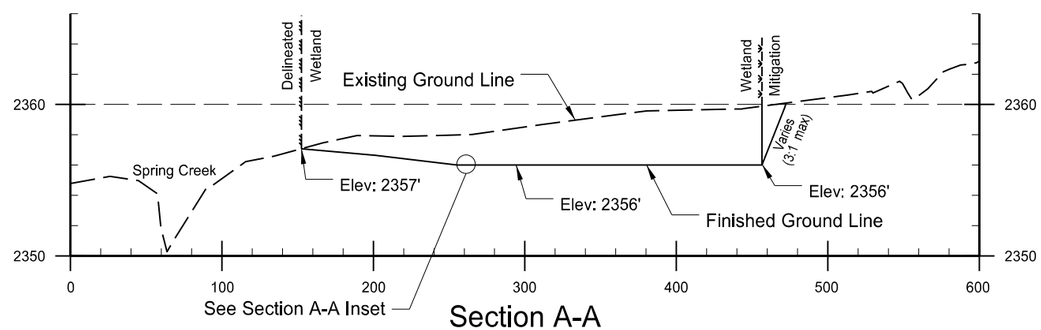
WETLAND HORIZONTAL ALIGNMENT (ALIGNMENT CROSS SECTIONS CUT ALONG)				Reference to ND200 Alignment	
PNT	STATION	NORTHING	EASTING	STATION	OFFSET
POB	0+00	630,543.7954	1,379,125.6171	4729+76.26	4803.72' Lt
POE	10+00	630,923.6390	1,378,537.6385	4723+77.12	5165.71' Lt

203-0121 TOPOSIL-WETLAND

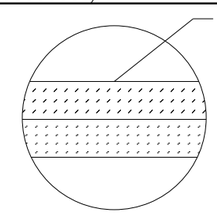
Harsche Mitigation Site	1884	CY
Total	1884	CY

LEGEND

- Permanent Wetland Impact
- Temporary Wetland Impact (0.15 Acre)
- Wetland Mitigation (3.09 Acres)
- 2380 Proposed Contour
- 2380 Existing Contour
- Existing R/W
- Proposed Permanent Drainage Easement
- Existing Fence
- Fiber Rolls
- Edge of Water
- Existing Wetland



Section A-A



Section A-A Inset

Note: Contractor shall grade site to the bottom of the 6" topsoil layer. The Engineer shall determine locations where the clay layer is necessary. Clay is available from wetland site excavation. Payment will be at the same price as "Topsoil - Wetland." Clay quantity shall be field measured.

This document was originally issued and sealed by Craig Mizera, Registration Number PE- 7475, on 11/03/15 and the original document is stored at the North Dakota Department of Transportation

ND Hwy 200
Dunn County

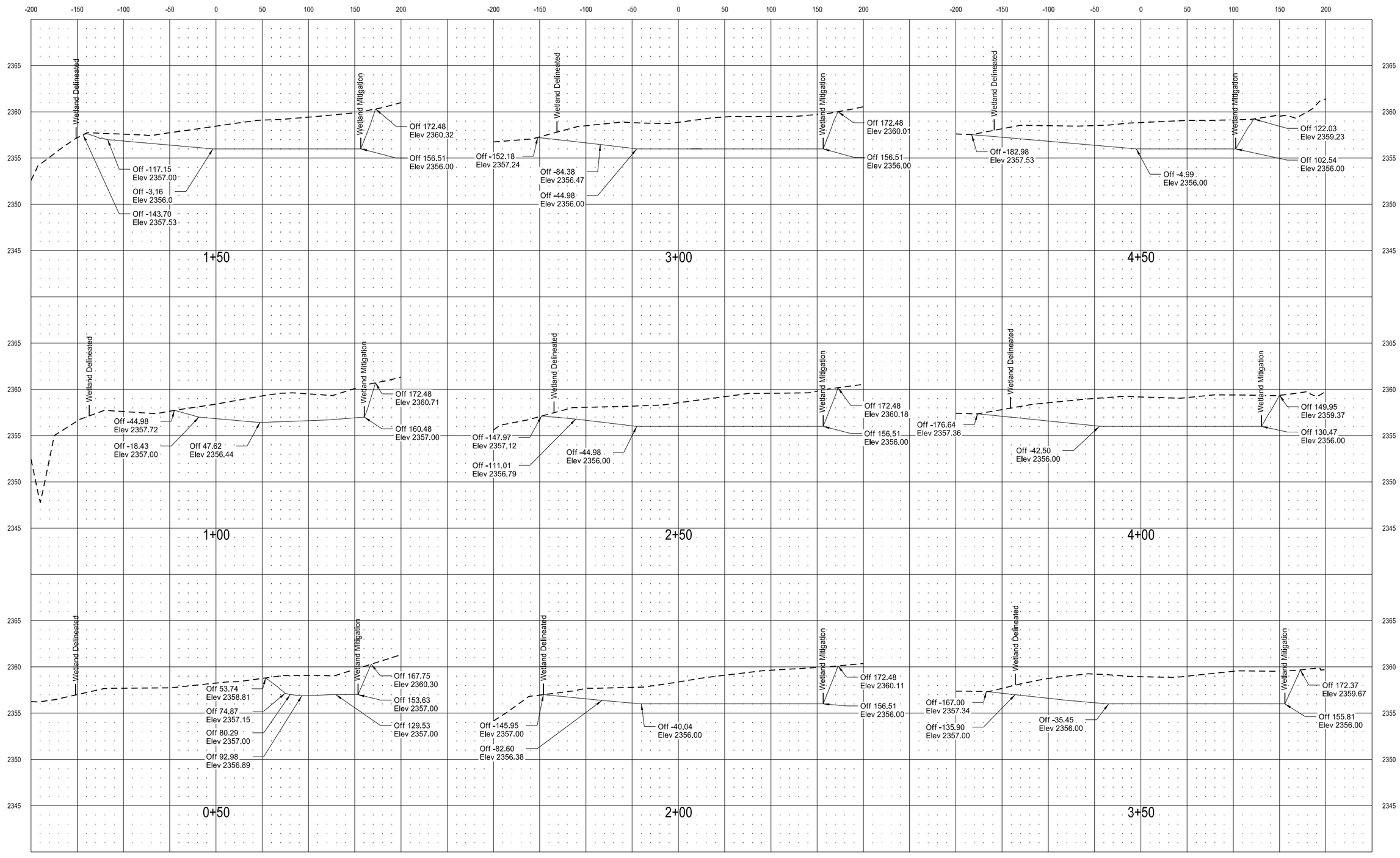
Wetland, Erosion Control, & Seeding

Wetland Mitigation Site 2 - Harsche

Wetland Mitigation Site 2 - Harsche

*Cross Sections were cut on alignment shown on Section 75 Sheet 32

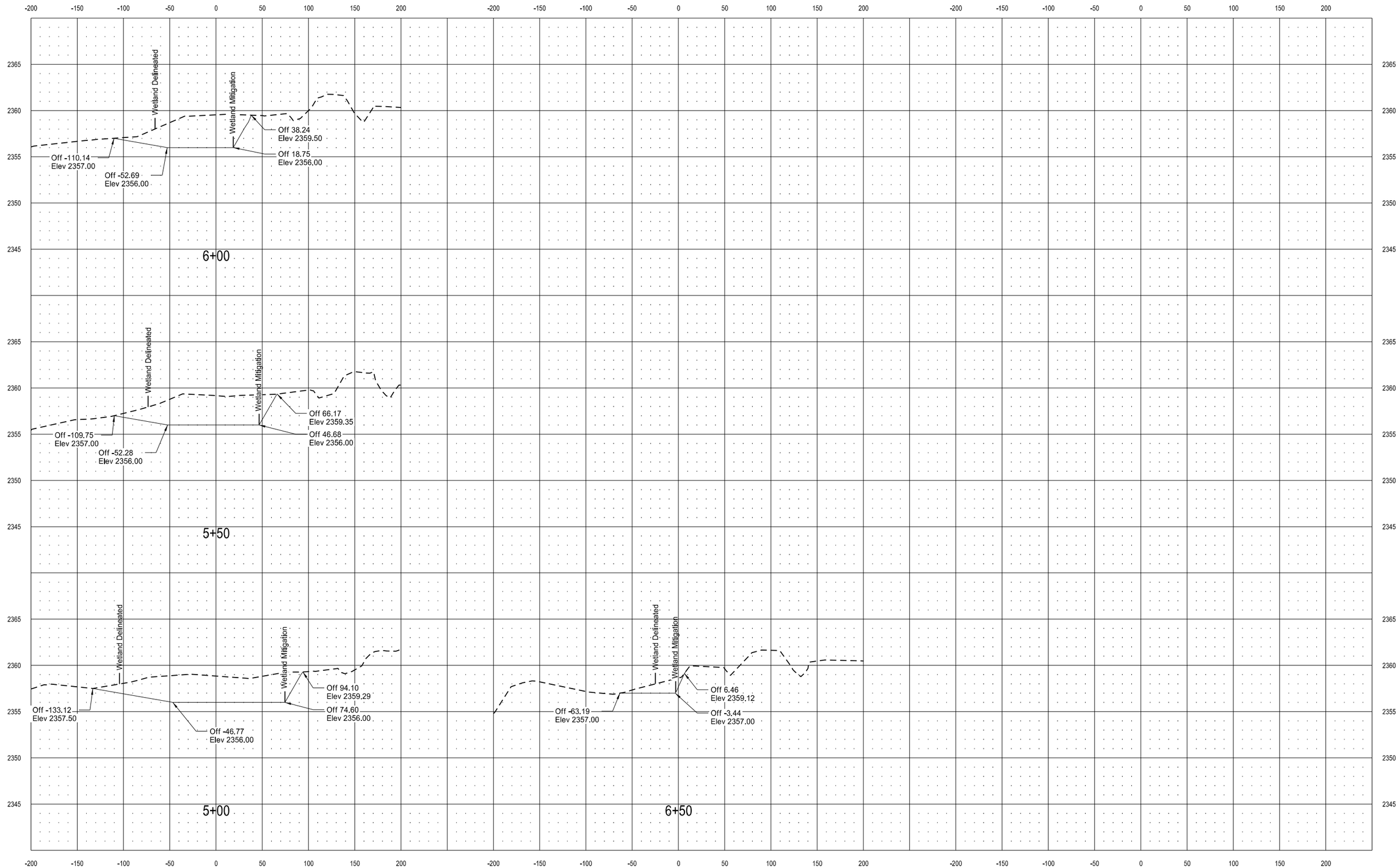
Revised 11/03/2015	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	SOIB-5-200(024)075	75	33



Wetland Mitigation Site 2 - Harsche

*Cross Sections were cut on alignment shown on Section 75 Sheet 32

Revised 11/03/2015	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	SOIB-5-200(024)075	75	34



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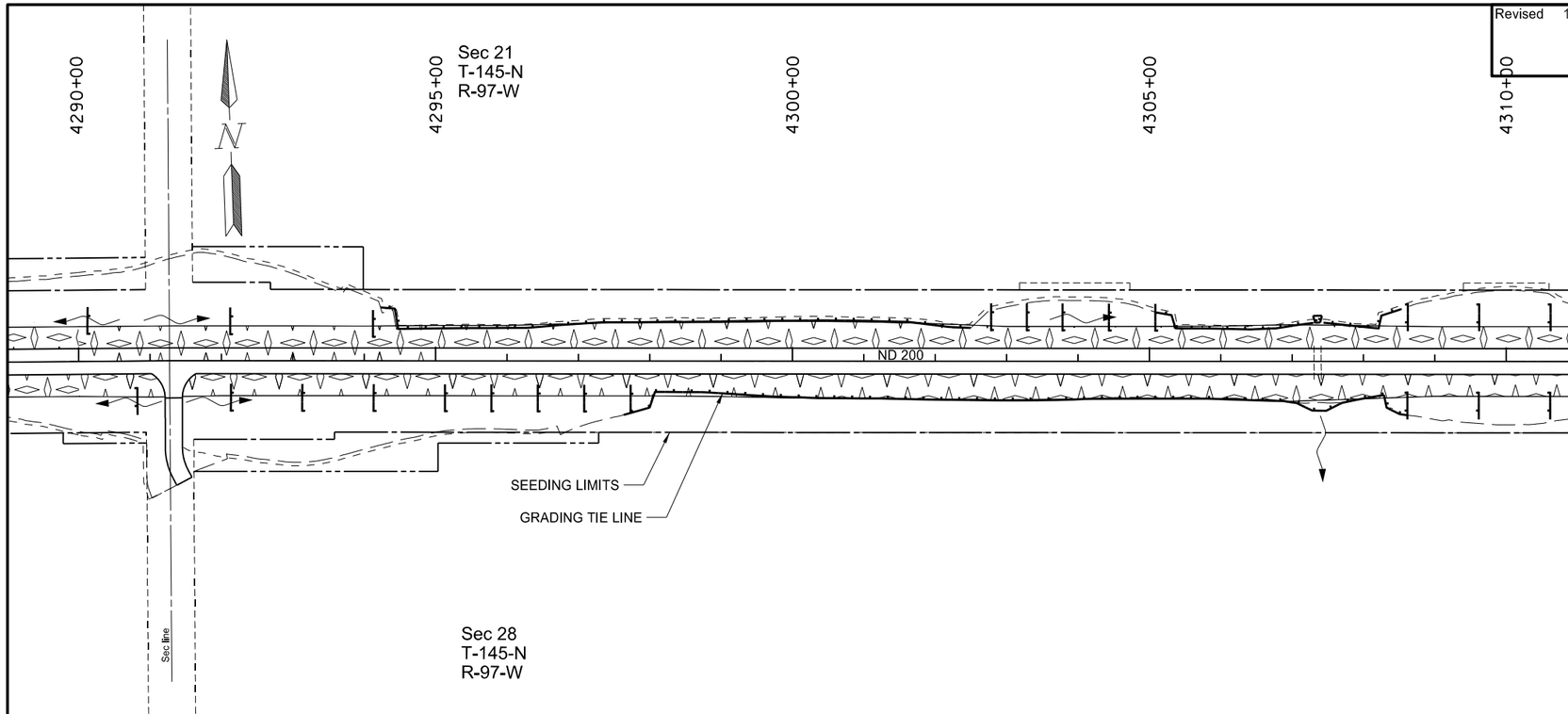
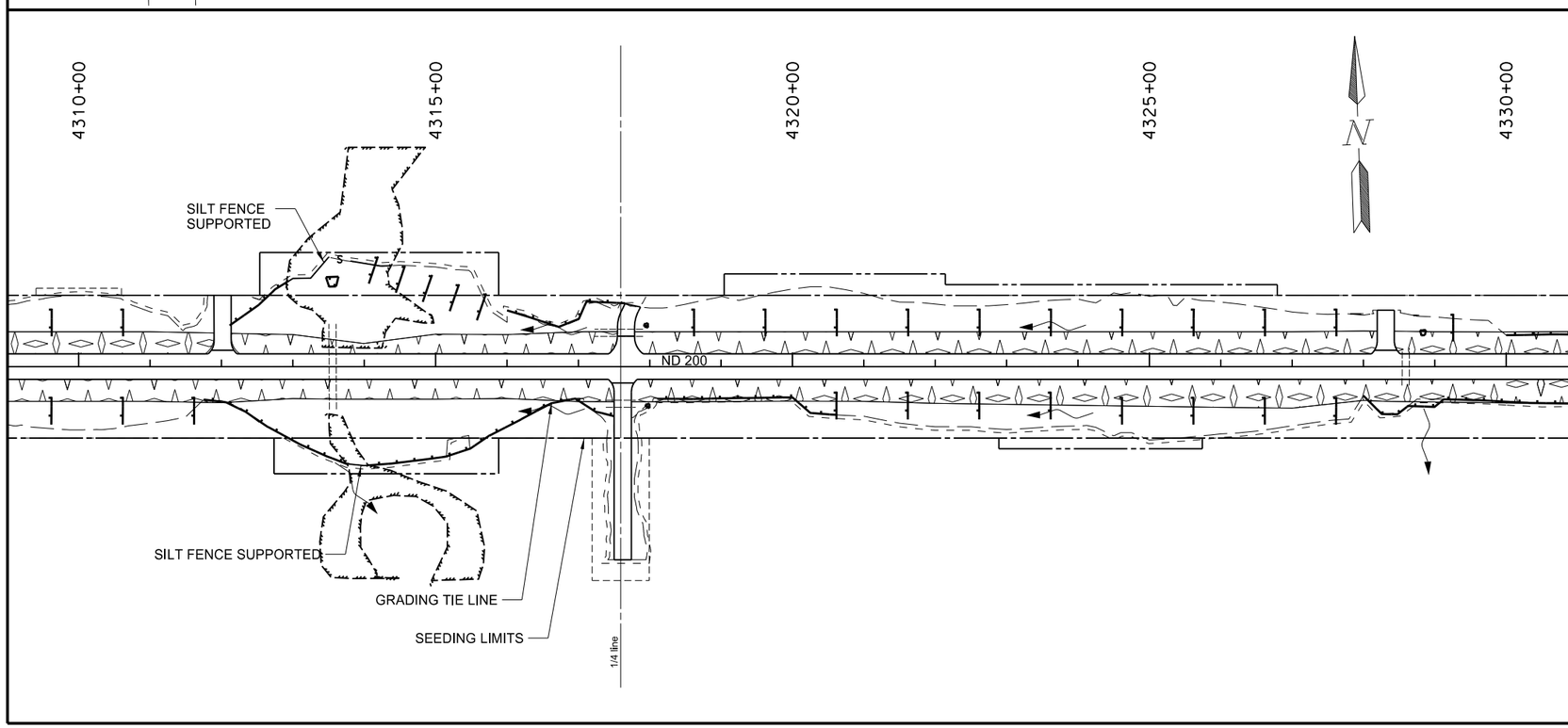
Revised 11/03/2015	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	SOIB-5-200(024)075	76	10





253-0301 BONDED FIBER MATRIX

Sta 4290+00 to 4330+00	5.9	AC
TOTAL =	5.9	AC

251-2000 TEMPORARY COVER CROP

Sta 4290+00 to 4330+00	14.1	AC
TOTAL =	14.1	AC

253-0101 STRAW MULCH

Sta 4290+00 to 4330+00	14.1	AC
TOTAL =	14.1	AC

260-0200 SILT FENCE SUPPORTED

Sta 4312+91 to 4314+38 - LT	163.0	LF
Sta 4313+75 to 4314+08 - RT	34.0	LF
TOTAL =	197.0	LF

260-0201 REMOVE SILT FENCE SUPPORTED

Sta 4312+91 to 4314+38 - LT	163.0	LF
Sta 4313+75 to 4314+08 - RT	34.0	LF
TOTAL =	197.0	LF

LEGEND

- Fiber Rolls
- S Silt Fence Supported
- Bonded Fiber Matrix (Temporary Widening)

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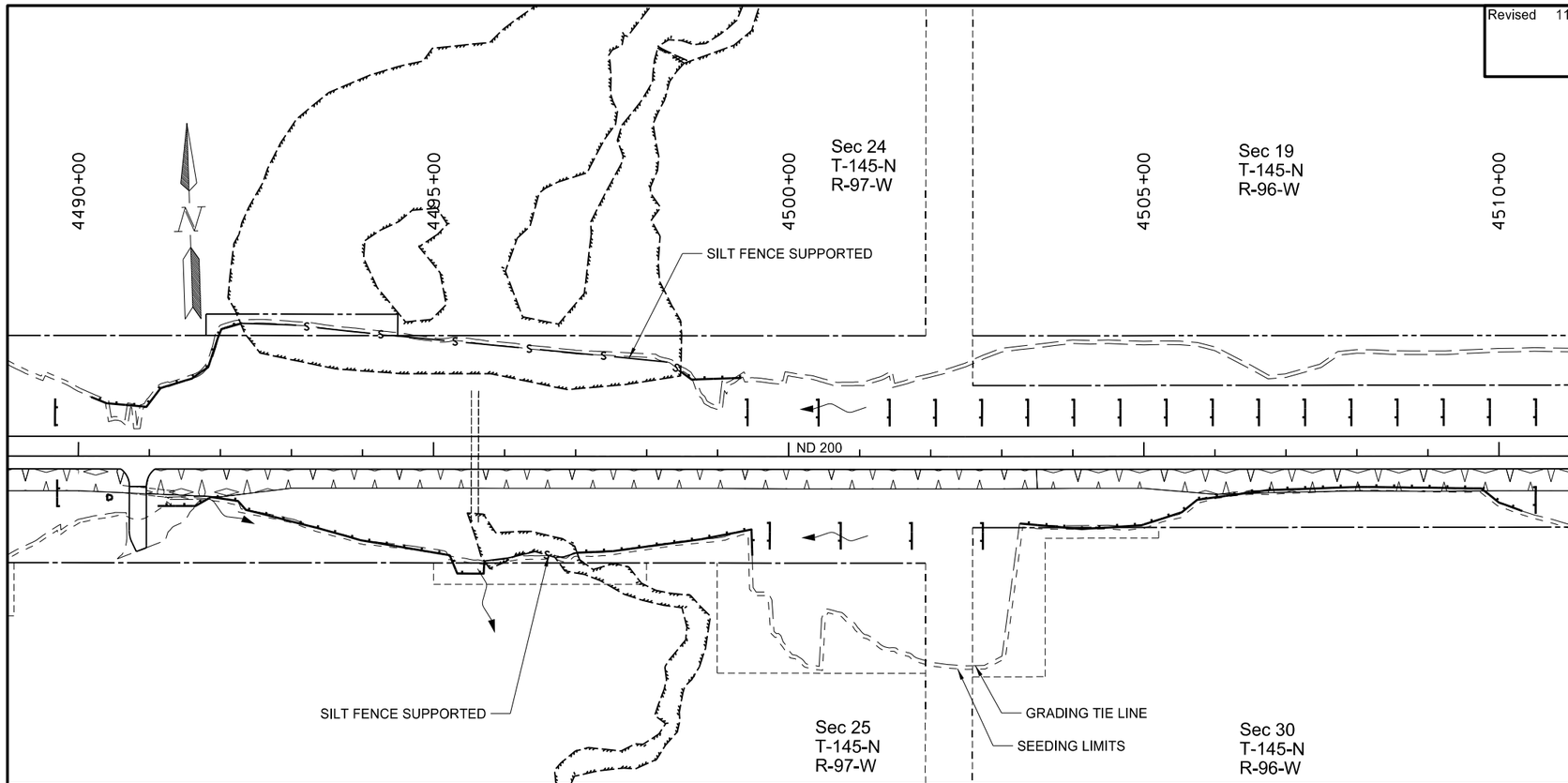
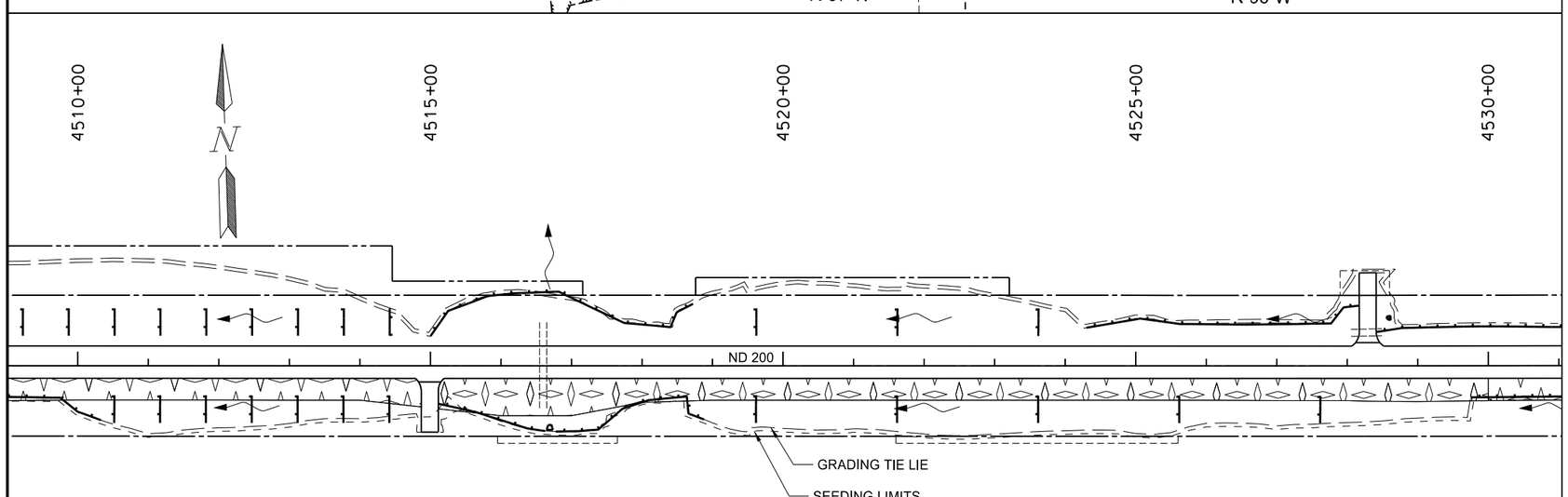
ND Hwy 200
Dunn County

Temporary Erosion Control & Seeding

Sta 4290+00 to 4330+00

Revised 11/03/2015	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	SOIB-5-200(024)075	76	15





253-0301 BONDED FIBER MATRIX

Sta 4490+00 to 4530+00	2.9	AC
TOTAL =	2.9	AC

251-2000 TEMPORARY COVER CROP

Sta 4490+00 to 4530+00	16.5	AC
TOTAL =	16.5	AC

253-0101 STRAW MULCH

Sta 4490+00 to 4530+00	16.5	AC
TOTAL =	16.5	AC

260-0200 SILT FENCE SUPPORTED

Sta 4492+32 to 4498+48 - LT	622.0	LF
Sta 4495+72 to 4497+12 - RT	152.0	LF
TOTAL =	774.0	LF

260-0201 REMOVE SILT FENCE SUPPORTED

Sta 4492+32 to 4498+48 - LT	622.0	LF
Sta 4495+72 to 4497+12 - RT	152.0	LF
TOTAL =	774.0	LF

LEGEND

Fiber Rolls

S Silt Fence Supported

Bonded Fiber Matrix (Temporary Widening)

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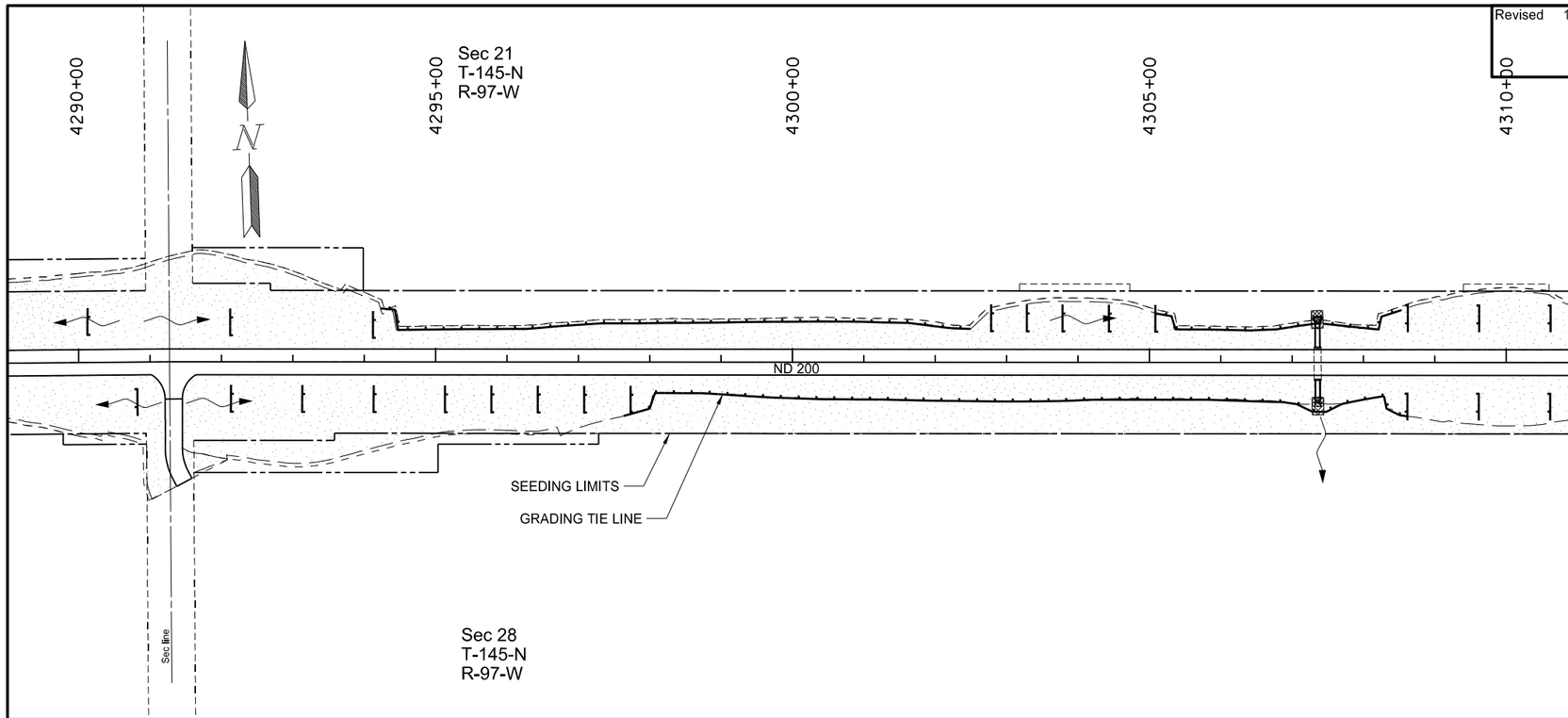
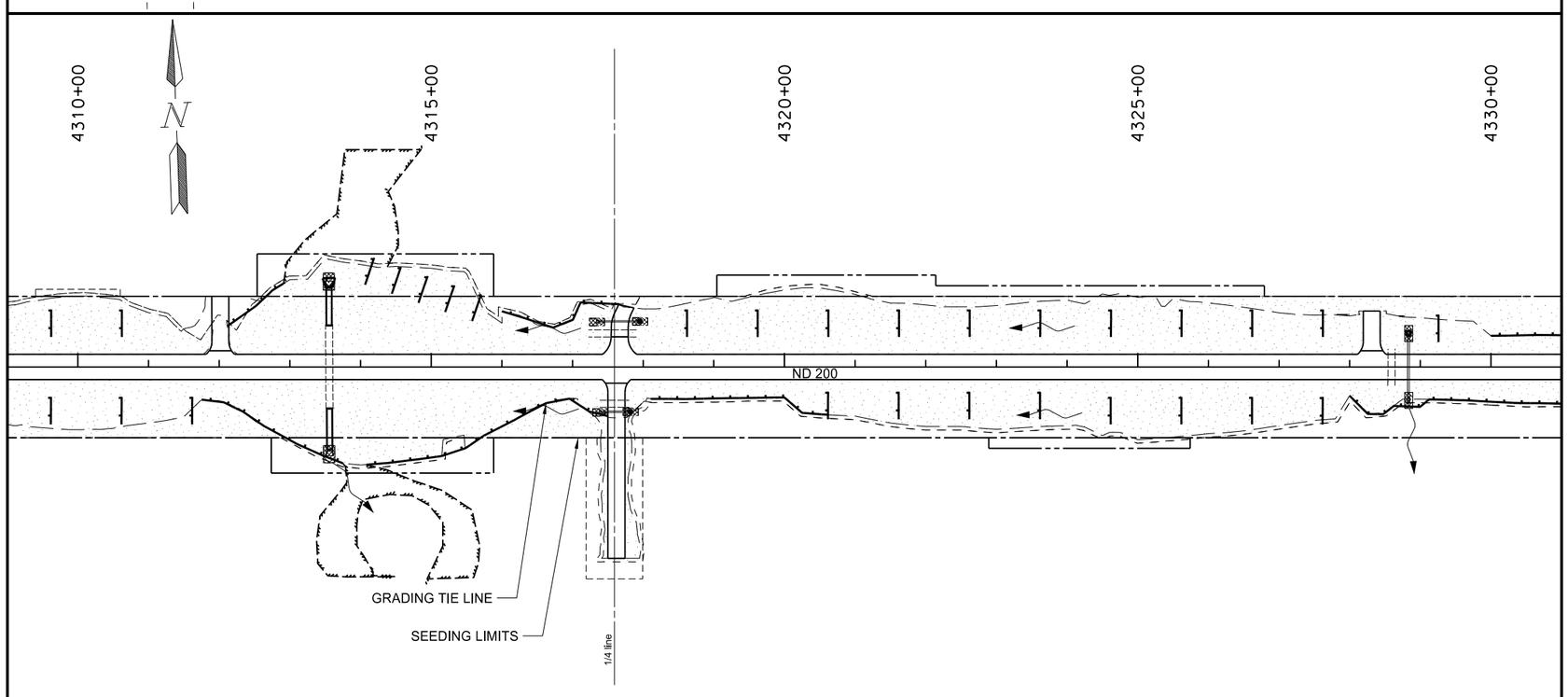
ND Hwy 200
Dunn County

Temporary Erosion Control & Seeding

4490+00 to 4530+00

Revised 11/03/2015	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	SOIB-5-200(024)075	77	10





251-0200 SEEDING CLASS II

Sta 4290+00 to 4330+00	14.1	AC
TOTAL =	14.1	AC

253-0101 STRAW MULCH

Sta 4290+00 to 4330+00	14.1	AC
TOTAL =	14.1	AC

LEGEND

- Fiber Rolls
- S — Silt Fence Supported
- Riprap
- ECB Type 3
- Seeding Class II
- Wetland Seed

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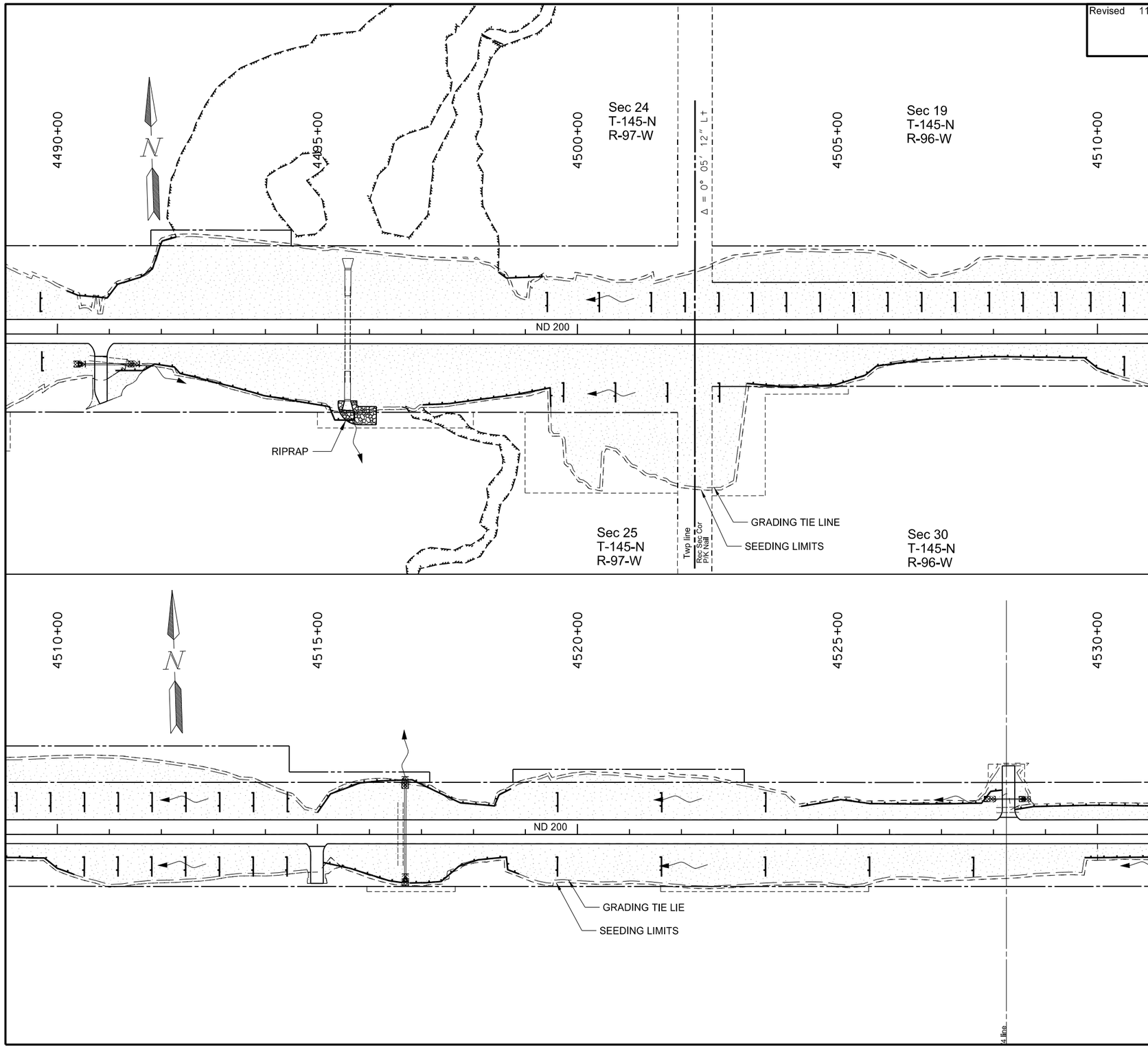
ND Hwy 200
Dunn County

Permanent Erosion Control & Seeding

Sta 4290+00 to 4330+00

Revised 11/03/2015	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	SOIB-5-200(024)075	77	15



251-0200 SEEDING CLASS II

Sta 4490+00 to 4530+00	16.5	AC
TOTAL =	16.5	AC

253-0101 STRAW MULCH

Sta 4490+00 to 4530+00	16.5	AC
TOTAL =	16.5	AC

WASTE SITES

251-0200 SEEDING CLASS II

Sta 4515+00 - 1,000' Lt	11.6	AC
TOTAL=	11.6	AC

253-0101 STRAW MULCH

Sta 4515+00 - 1,000' Lt	11.6	AC
TOTAL=	11.6	AC

LEGEND

- Fiber Rolls
- S — Silt Fence Supported
- Riprap
- ECB Type 3
- Seeding Class II
- Wetland Seed

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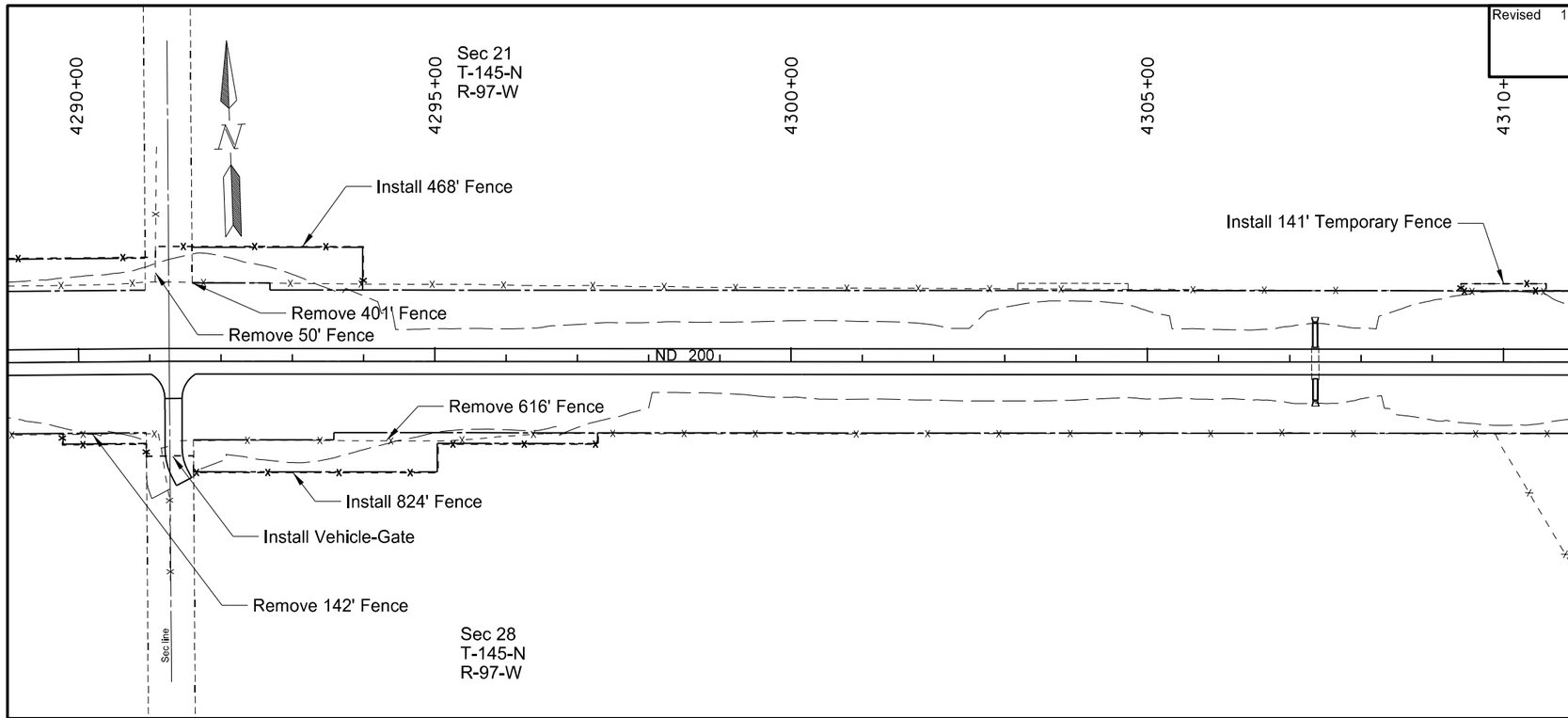
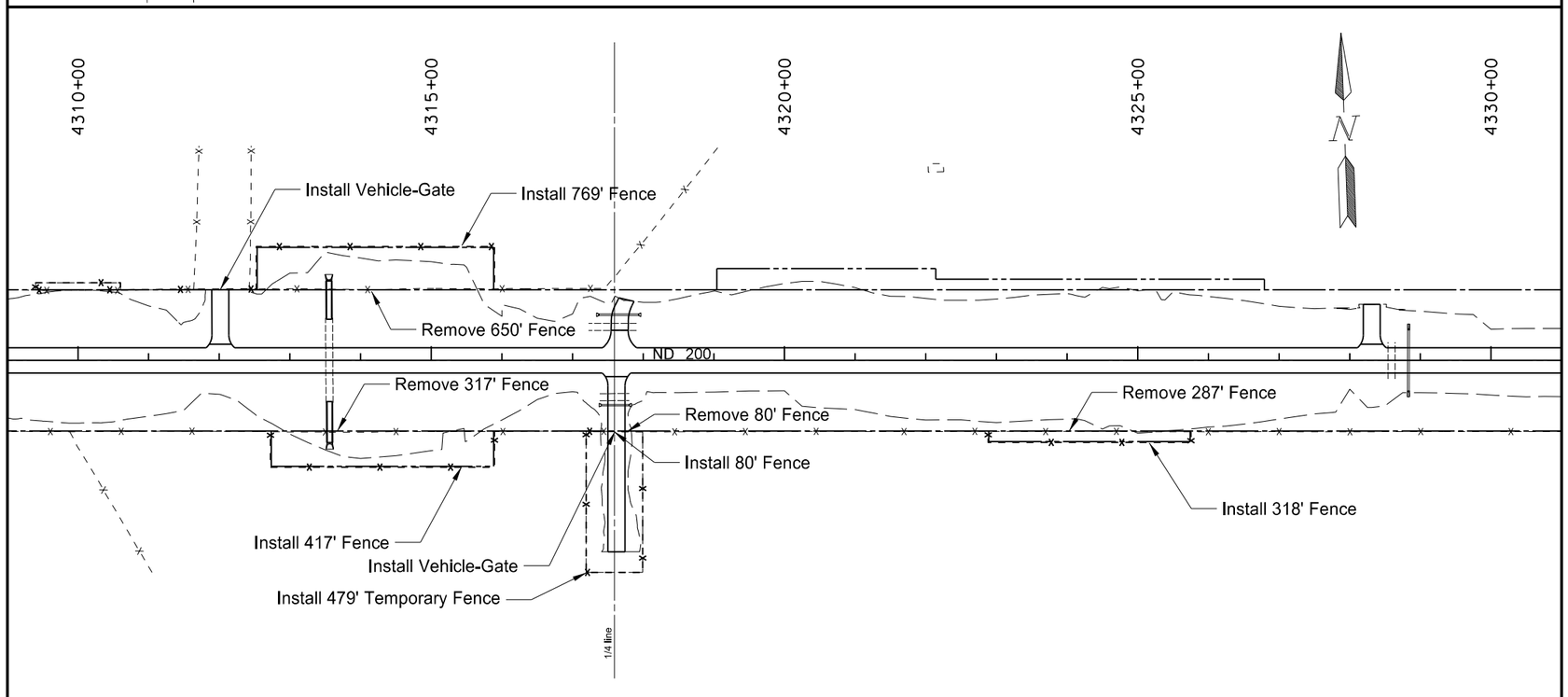
ND Hwy 200
Dunn County

Permanent Erosion Control & Seeding

4490+00 to 4530+00

Revised 11/03/2015	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	SOIB-5-200(024)075	80	10





202-0312 REMOVE EXISTING FENCE

Sta. 4290+00 to 4293+99 Lt	401	LF
Sta. 4290+00 to 4291+16 Rt	142	LF
Sta. 4291+08 to 4291+09 Lt	50	LF
Sta. 4291+15 to 4297+29 Rt	616	LF
Sta. 4309+40 to 4315+89 Lt	650	LF
Sta. 4312+72 to 4315+89 Rt	317	LF
Sta. 4317+19 to 4317+99 Rt	80	LF
Sta. 4322+88 to 4325+75 Rt	287	LF
TOTAL=	2542	LF

752-0320 FENCE BARBED WIRE 4 STRAND-STEEL POST

Sta. 4290+00 to 4293+99 Lt	468	LF
Sta. 4290+00 to 4297+29 Rt	824	LF
Sta. 4309+40 to 4315+89 Lt	769	LF
Sta. 4312+72 to 4315+89 Rt	417	LF
Sta. 4317+19 to 4317+99 Rt	80	LF
Sta. 4322+88 to 4325+75 Rt	318	LF
TOTAL=	2876	LF

752-0900 FENCE TEMPORARY INSTALL & REMOVE

Sta. 4309+40 to 4310+60 Lt	141	LF
Sta. 4317+19 to 4317+99 Rt	479	LF
TOTAL=	620	LF

752-2100 GATE-VEHICLE

Sta. 4291+26 133' Rt	1	EA
Sta. 4312+03 101' Lt	1	EA
Sta. 4317+62 100' Rt	1	EA
TOTAL=	3	EA

752-3150 CORNER ASSEMBLY BARBED WIRE-WOOD POST

Sta. 4290+94 116' Rt	1	EA	Sta. 4311+64 101' Lt	1 EA
Sta. 4290+94 133' Rt	1	EA	Sta. 4312+43 101' Lt	1 EA
Sta. 4291+09 146' Lt	1	EA	Sta. 4312+52 101' Lt	1 EA
Sta. 4291+09 161' Lt	1	EA	Sta. 4312+52 161' Lt	1 EA
Sta. 4291+16 133' Rt	1	EA	Sta. 4312+72 101' Rt	1 EA
Sta. 4291+61 133' Rt	1	EA	Sta. 4312+72 151' Rt	1 EA
Sta. 4291+61 156' Rt	1	EA	Sta. 4315+89 101' Lt	1 EA
Sta. 4293+99 109' Lt	1	EA	Sta. 4315+89 161' Lt	1 EA
Sta. 4293+99 161' Lt	1	EA	Sta. 4315+89 101' Rt	1 EA
Sta. 4295+04 116' Rt	1	EA	Sta. 4315+89 151' Rt	1 EA
Sta. 4295+04 156' Rt	1	EA	Sta. 4322+88 100' Rt	1 EA
Sta. 4297+29 101' Rt	1	EA	Sta. 4322+88 116' Rt	1 EA
Sta. 4297+29 116' Rt	1	EA	Sta. 4325+75 101' Rt	1 EA
			Sta. 4325+75 116' Rt	1 EA
			TOTAL=	27 EA

752-4140 DOUBLE BRACE ASSEMBLY BARBED WIRE-WOOD POST

Sta. 4309+40 99' Lt	1	EA
Sta. 4317+19 101' Rt	1	EA
Sta. 4317+99 101' Rt	1	EA
TOTAL=	3	EA

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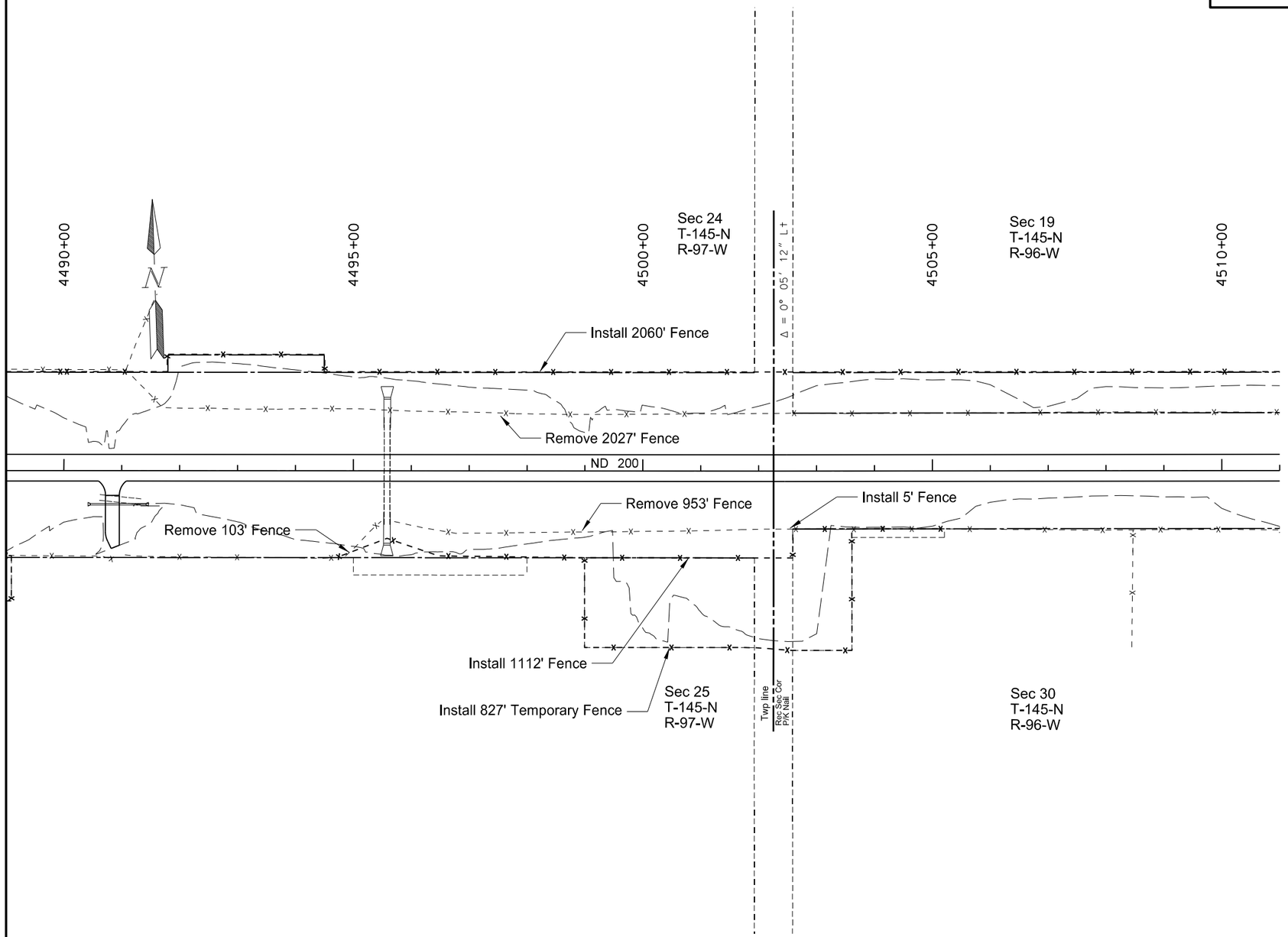
ND Hwy 200
Dunn County

Fencing Layout

Sta 4290+00 to 4330+00

Revised 11/03/2015	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	SOIB-5-200(024)075	80	15



202-0312 REMOVE EXISTING FENCE

Sta. 4490+00 to 4510+00 Lt	2027	LF
Sta. 4494+70 to 4495+48 Rt	103	LF
Sta. 4495+71 to 4505+21 Rt	953	LF
TOTAL=	3083	LF

752-0320 FENCE BARBED WIRE 4 STRAND-STEEL POST

Sta. 4490+00 to 4510+00 Lt	2060	LF
Sta. 4494+70 to 4505+21 Rt	1112	LF
TOTAL=	3172	LF

752-0900 FENCE TEMPORARY INSTALL & REMOVE

Sta. 4499+00 to 4503+61 Rt	827	LF
TOTAL=	827	LF

752-3150 CORNER ASSEMBLY BARBED WIRE-WOOD POST

Sta. 4491+06 171' Lt	1	EA
Sta. 4491+78 171' Lt	1	EA
Sta. 4491+78 201' Lt	1	EA
Sta. 4494+50 171' Lt	1	EA
Sta. 4494+50 201' Lt	1	EA
Sta. 4495+58 116' Rt	1	EA
Sta. 4496+47 150' Rt	1	EA
Sta. 4502+59 100' Rt	1	EA
Sta. 4502+59 150' Rt	1	EA
TOTAL=	9	EA

752-4140 DOUBLE BRACE ASSEMBLY BARBED WIRE-WOOD POST

Sta. 4494+70 150' Rt	1	EA
Sta. 4504+49 171' Lt	1	EA
Sta. 4505+21 100' Rt	1	EA
TOTAL=	3	EA

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ND Hwy 200
Dunn County

Fencing Layout

Sta 4490+00 to 4510+00

Revised 11/3/2015

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SOIB-5-200(024)075	100	1

SIGN NUMBER	SIGN SIZE	DESCRIPTION	AMOUNT REQUIRED BY PHASE NO. 1	2	3	4	5	TOTAL AMOUNT REQUIRED	UNITS PER AMOUNT	UNITS SUB TOTAL
D3-36	36"x6"	STREET NAME SIGN (Sign and installation only)							6	
G20-1a-60	**60"x24"**	**ROAD WORK NEXT __ MILES**	**2**	**2**	**2**	**2**	**2**	**2**	**34**	**68**
G20-1b-60	**60"x24"**	**WORK IN PROGRESS/ NO WORK IN PROGRESS (Sign and installation only)**	**1**	**1**	**1**	**1**	**1**	**1**	**26**	**26**
G20-2a-48	**48"x24"**	**END ROAD WORK**	**2**	**2**	**2**	**2**	**2**	**2**	**19**	**38**
G20-4-36	**36"x18"**	**PILOT CAR FOLLOW ME**	**2**	**2**	**2**	**2**	**2**	**2**	**18**	**36**
G20-10-108	**108"x48"**	**CONTRACTOR SIGN**	**2**	**2**	**2**	**2**	**2**	**2**	**64**	**128**
G20-50a-72	**72"x36"**	**ROAD WORK NEXT __ MILES RT & LT ARROWS**	**32**	**32**	**32**	**32**	**32**	**32**	**37**	**1184**
G20-52a-72	**72"x24"**	**ROAD WORK NEXT __ MILES RT or LT ARROW**	**2**	**2**	**2**	**2**	**2**	**2**	**30**	**60**
G20-55-96	**96"x48"**	**SPEED LIMIT ENFORCED - MINIMUM FEE $80 WHEN WORKERS PRESENT**	**2**	**2**	**2**	**2**	**2**	**2**	**59**	**118**
M1-1-36	36"x36"	INTERSTATE ROUTE MARKER (Post and installation only)							10	
M1-4-24	24"x24"	U.S. ROUTE MARKER (Post and installation only)							10	
M1-5-24	24"x24"	STATE ROUTE MARKER (Post and installation only)							10	
M3-1-24	24"x12"	NORTH (Mounted on route marker post)							7	
M3-2-24	24"x12"	EAST (Mounted on route marker post)							7	
M3-3-24	24"x12"	SOUTH (Mounted on route marker post)							7	
M3-4-24	24"x12"	WEST (Mounted on route marker post)							7	
M4-8-24	24"x12"	DETOUR (Mounted on route marker post)							7	
M4-9-30	30"x24"	DETOUR ARROW RIGHT or LEFT/AHD AND RT or LT							15	
M4-10-48	48"x18"	DETOUR ARROW RIGHT or LEFT							23	
M5-1-21	21"x15"	ARROW AHD AND RT or LT(Mounted on route marker post)							7	
M5-2-21	21"x15"	ARROW AHD UP & RT or LT (Mounted on route marker post)							7	
M6-1-21	21"x15"	ARROW RT or LT (Mounted on route marker post)							7	
M6-2-21	21"x15"	ARROW UP & RT or LT (Mounted on route marker post)							7	
M6-3-21	21"x15"	ARROW AHD (Mounted on route marker post)							7	
R1-1-48	**48"x48"**	**STOP**	**25**	**25**	**25**	**25**	**25**	**25**	**32**	**800**
R1-1a-18	**18"x18"**	**STOP and SLOW PADDLE Back to Back**	**10**	**10**	**10**	**10**	**10**	**10**	**5**	**50**
R1-2-60	60"x60"	YIELD							29	
R2-1-48	**48"x60"**	**SPEED LIMIT __**	**22**	**22**	**22**	**22**	**22**	**22**	**39**	**858**
R2-1a-24	**24"x18"**	**MINIMUM FEE $80 (Mounted on Speed Limit post)**	**22**	**22**	**22**	**22**	**22**	**22**	**10**	**220**
R3-7-48	48"x48"	LEFT or RIGHT LANE MUST TURN LEFT or RIGHT							35	
R4-1-48	**48"x60"**	**DO NOT PASS**	**2**	**2**	**2**	**2**	**2**	**2**	**39**	**78**
R4-7-48	48"x60"	KEEP RIGHT SYMBOL							39	
R5-1-48	48"x48"	DO NOT ENTER							35	
R6-1-36	36"x12"	ONE WAY RIGHT or LEFT							13	
R7-1-12	12"x18"	NO PARKING							11	
R10-6-24	24"x36"	STOP HERE ON RED							16	
R11-2-48	**48"x30"**	**ROAD CLOSED**	**6**	**6**	**6**	**6**	**6**	**6**	**28**	**168**
R11-2a-48	48"x30"	STREET CLOSED							28	
R11-3a-60	**60"x30"**	**ROAD CLOSED __ MILES AHEAD LOCAL TRAFFIC ONLY**	**2**	**2**	**2**	**2**	**2**	**2**	**31**	**62**
R11-3c-60	60"x30"	STREET CLOSED __ MILES AHEAD LOCAL TRAFFIC ONLY							31	
R11-4a-60	60"x30"	STREET CLOSED TO THRU TRAFFIC							31	
W1-3-48	48"x48"	RIGHT or LEFT SHARP REVERSE CURVE ARROW							35	
W1-4-48	**48"x48"**	**RIGHT or LEFT REVERSE CURVE ARROW**	**8**	**4**	**4**	**4**	**4**	**8**	**35**	**280**
W1-4b-48	48"x48"	DOUBLE RIGHT or LEFT REVERSE CURVE ARROW							35	
W1-6-48	**48"x24"**	**LARGE ARROW**	**4**	**82**	**82**	**82**	**82**	**82**	**26**	**2132**
W3-1-48	48"x48"	STOP AHEAD SYMBOL							35	
W3-3-48	48"x48"	SIGNAL AHEAD SYMBOL							35	
W3-4-48	**48"x48"**	**BE PREPARED TO STOP**	**10**	**10**	**10**	**10**	**10**	**10**	**35**	**350**
W3-5-48	**48"x48"**	**SPEED REDUCTION AHEAD**	**2**	**2**	**2**	**2**	**2**	**2**	**35**	**70**
W4-2-48	48"x48"	RIGHT or LEFT LANE TRANSITION SYMBOL							35	
W5-1-48	48"x48"	ROAD NARROWS							35	
W5-8-48	48"x48"	THRU TRAFFIC RIGHT LANE							35	
W5-9-48	48"x48"	ROAD WORK TRAFFIC ONLY DOWN & LT or RT ARROW							35	
W6-3-48	48"x48"	TWO WAY TRAFFIC SYMBOL							35	
W8-1-48	**48"x48"**	**BUMP**	**10**	**10**	**10**	**10**	**10**	**10**	**35**	**350**
W8-3-48	**48"x48"**	**PAVEMENT ENDS**	**6**	**6**	**6**	**6**	**6**	**6**	**35**	**210**
W8-7-48	**48"x48"**	**LOOSE GRAVEL**	**10**	**10**	**10**	**10**	**10**	**10**	**35**	**350**
W8-9a-48	**48"x48"**	**SHOULDER DROP-OFF**	**2**	**2**	**2**	**2**		**2**	**35**	**70**
W8-11-48	**48"x48"**	**UNEVEN LANES**				**2**		**2**	**35**	**70**
W8-12-48	48"x48"	NO CENTER STRIPE							35	
W8-53-48	**48"x48"**	**TRUCKS ENTERING HIGHWAY**	**4**	**4**	**4**	**4**	**4**	**4**	**35**	**140**
W8-54-48	**48"x48"**	**TRUCKS ENTERING AHEAD or __ FT.**	**4**	**4**	**4**	**4**	**4**	**4**	**35**	**140**
W8-55-48	48"x48"	TRUCKS CROSSING AHEAD or __ FT.							35	
W8-56-48	**48"x48"**	**TRUCKS EXITING HIGHWAY**	**4**	**4**	**4**	**4**	**4**	**4**	**35**	**140**
W9-3a-48	48"x48"	CENTER LANE CLOSED SYMBOL							35	
W12-2-48	48"x48"	LOW CLEARANCE SYMBOL							35	
W13-1-24	24"x24"	__ MPH ADVISORY SPEED PLATE (Mounted on warning sign post)							11	
W13-4-48	48"x60"	RAMP ARROW							39	
W14-3-48	48"x36"	NO PASSING ZONE							23	
W20-1-48	**48"x48"**	**ROAD WORK AHEAD or _FT or _ MILE**	**32**	**32**	**32**	**32**	**32**	**32**	**35**	**1120**
W20-2-48	48"x48"	DETOUR AHEAD or __ FT							35	
W20-3-48	48"x48"	ROAD or STREET CLOSED AHEAD or __ FT.							35	
W20-4-48	48"x48"	ONE LANE ROAD AHEAD or __ FT.							35	
W20-5-48	48"x48"	RIGHT or LEFT LANE CLOSED AHEAD or __ FT.							35	
W20-7a-48	**48"x48"**	**FLAGGING SYMBOL**	**10**	**10**	**10**	**10**	**10**	**10**	**35**	**350**
W20-7k-24	**24"x18"**	**__ FEET (Mounted on warning sign post)**	**6**	**6**	**6**	**6**	**6**	**6**	**10**	**60**
W20-8-48	48"x48"	STREET CLOSED							35	
W20-51-48	48"x48"	EQUIPMENT WORKING							35	
W20-52-54	54"x12"	NEXT __ MILES (Mounted on warning sign post)							12	
W21-1a-48	48"x48"	WORKERS SYMBOL							35	
W21-2-48	**48"x48"**	**FRESH OIL**				**2**	**2**	**2**	**35**	**70**
W21-3-48	48"x48"	ROAD MACHINERY AHEAD or __ FT							35	

SIGN NUMBER	SIGN SIZE	DESCRIPTION	AMOUNT REQUIRED BY PHASE NO. 1	2	3	4	5	TOTAL AMOUNT REQUIRED	UNITS PER AMOUNT	UNITS SUB TOTAL
W21-5-48	**48"x48"**	**SHOULDER WORK**	**2**		**2**	**2**	**2**	**2**	**35**	**70**
W21-5a-48	48"x48"	RIGHT or LEFT SHOULDER CLOSED							35	
W21-5b-48	48"x48"	RIGHT or LEFT SHOULDER CLOSED AHEAD or __ FT.							35	
W21-6a-48	48"x48"	SURVEY CREW AHEAD							35	
W21-50-48	48"x48"	BRIDGE PAINTING AHEAD or __ FT.							35	
W21-51-48	**48"x48"**	**MATERIAL ON ROADWAY**	**2**	**2**	**2**	**2**	**2**	**2**	**35**	**70**
W22-8-48	48"x48"	FRESH OIL LOOSE ROCK							35	
	24"x24"	TAKE TURNS (6" D letters) (Mounted on stop sign post)							11	

SPECIAL SIGNS

SPEC & CODE

704-1000	**TRAFFIC CONTROL SIGNS**	**TOTAL UNITS 9936**

SPEC & CODE	DESCRIPTION	UNIT	QUANTITY BY PHASE NO. 1	2	3	4	5	TOTAL QUANTITY
704-0100	**FLAGGING**	MHR	**100**	**100**	**100**	**100**	**100**	**500**
704-1041	ATTENUATION DEVICE-TYPE B-55	EACH						
704-1043	ATTENUATION DEVICE-TYPE B-65	EACH						
704-1044	ATTENUATION DEVICE-TYPE B-70	EACH						
704-1050	TYPE I BARRICADES	EACH						
704-1051	TYPE II BARRICADES	EACH						
704-1052	**TYPE III BARRICADES**	EACH	**74**	**74**	**74**	**74**	**66**	**74**
704-1060	**DELINEATOR DRUMS**	EACH	**165**	**108**	**108**	**108**	**108**	**165**
704-1065	TRAFFIC CONES	EACH						
704-1067	**TUBULAR MARKERS**	EACH	**30**					**30**
704-1070	DELINEATOR	EACH						
704-1072	FLEXIBLE DELINEATORS	EACH						
704-1080	**STACKABLE VERTICAL PANELS**	EACH	**2745**	**2726**	**2726**	**2726**		**2745**
704-1081	**VERTICAL PANELS - BACK TO BACK**	EACH	**57**	**57**				**57**
704-1085	SEQUENCING ARROW PANEL - TYPE A	EACH						
704-1086	SEQUENCING ARROW PANEL - TYPE B	EACH						
704-1087	SEQUENCING ARROW PANEL - TYPE C	EACH						
704-1088	SEQUENCING ARROW PANEL - TYPE C - CROSSOVER	EACH						
704-1095	TYPE B FLASHERS	EACH						
704-3501	PORTABLE PRECAST CONCRETE MED BARRIER	LF						
704-3510	**PRECAST CONCRETE MED BARRIER - STATE FURNISHED**	EACH	**64**					**64**
704-4011	**PORTABLE CHANGEABLE MESSAGE SIGN**	EACH	**2**	**2**	**2**	**2**	**2**	**2**
762-0200	RAISED PAVEMENT MARKERS	EACH						
762-0420	SHORT TERM 4IN LINE - TYPE R	LF						
762-0430	**SHORT TERM 4IN LINE - TYPE NR**	LF	**3700**				**151608**	**155308**
762-1500	**OBLITERATION OF PVMT MK**	SF		**540**				**540**
772-2110	FLASHING BEACON - POST MOUNTED	EACH						

NOTE:
If additional signs are required, units will be calculated using the formula from Section III-19.06 of the Design Manual.
http://www.dot.nd.gov/

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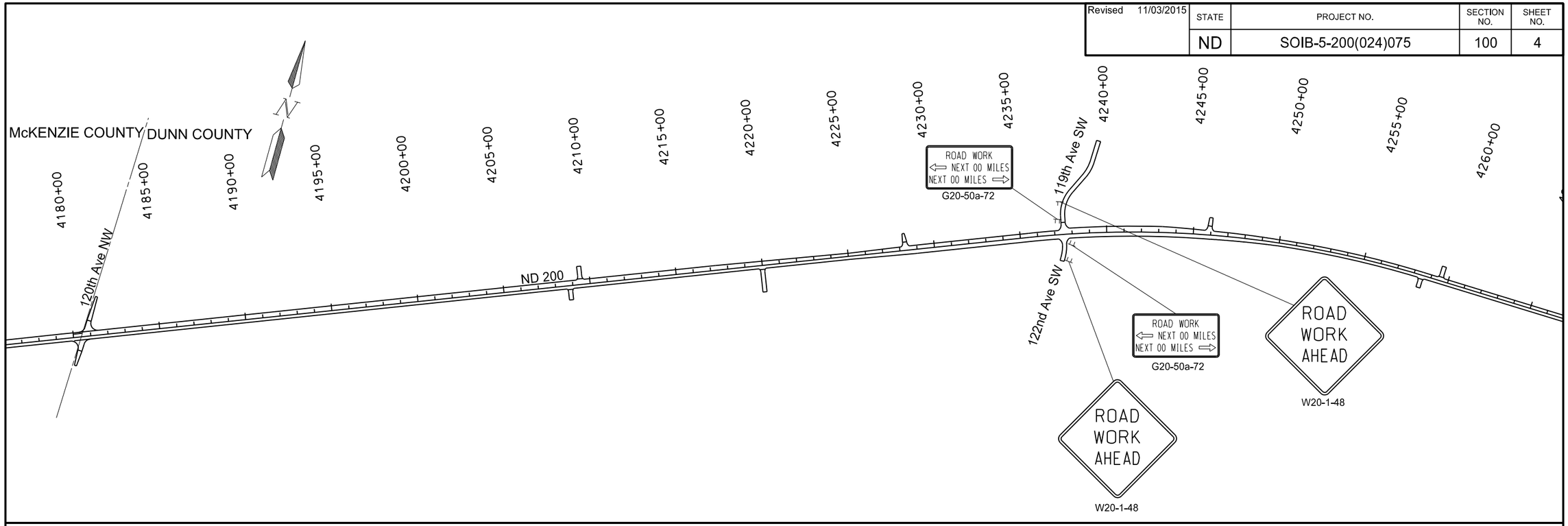
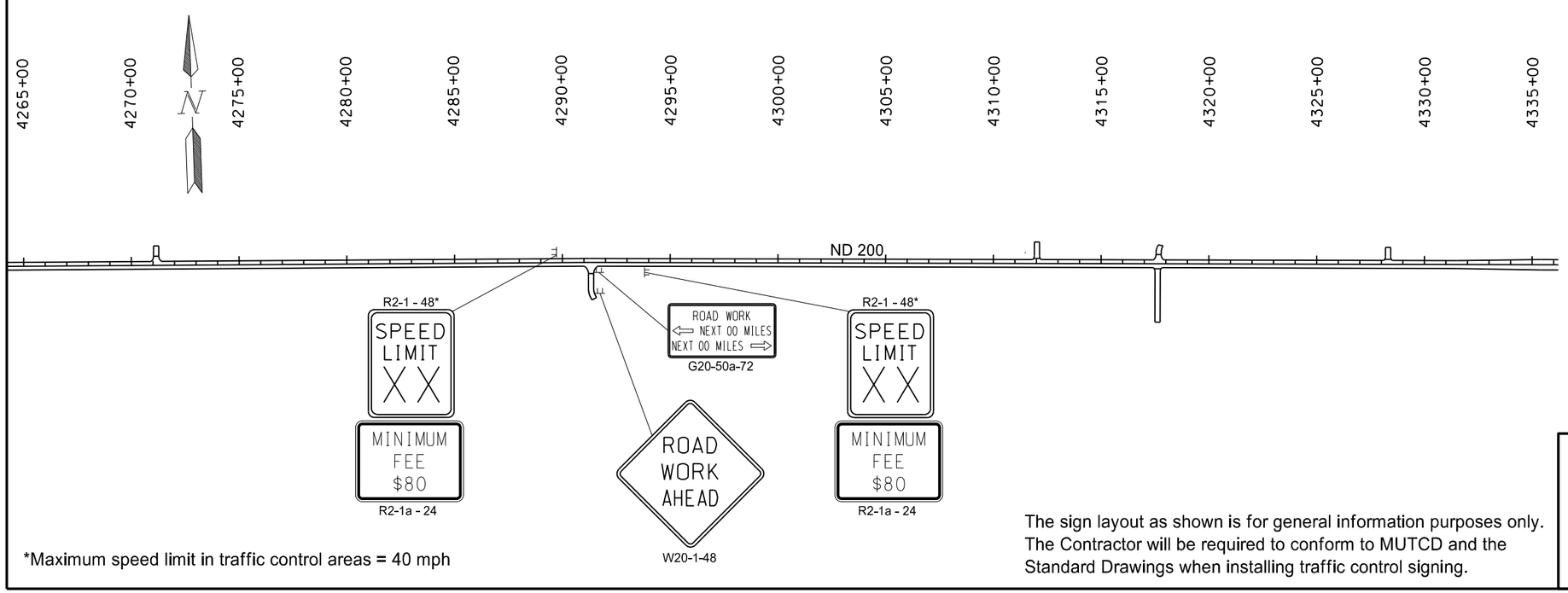
Traffic Control Devices List

Revised 11/03/2015	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	SOIB-5-200(024)075	100	4





*Maximum speed limit in traffic control areas = 40 mph

The sign layout as shown is for general information purposes only. The Contractor will be required to conform to MUTCD and the Standard Drawings when installing traffic control signing.

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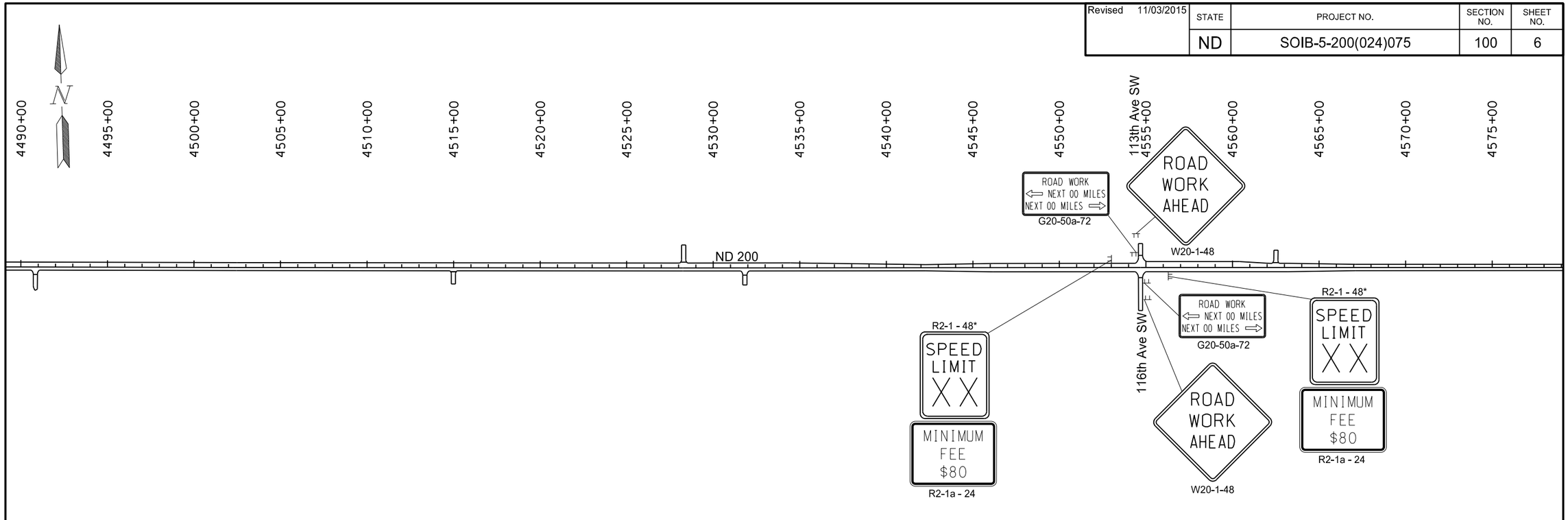
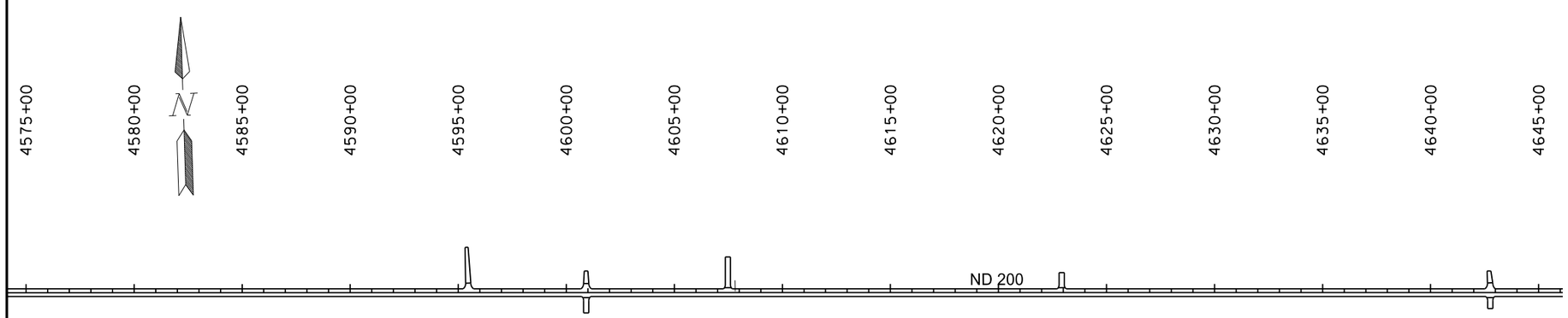
ND Hwy 200
Dunn County

Work Zone Traffic Control

Sta 4180+00 to 4335+00

Revised 11/03/2015	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	SOIB-5-200(024)075	100	6





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ND Hwy 200
Dunn County

Work Zone Traffic Control

Sta 4490+00 to 4645+00

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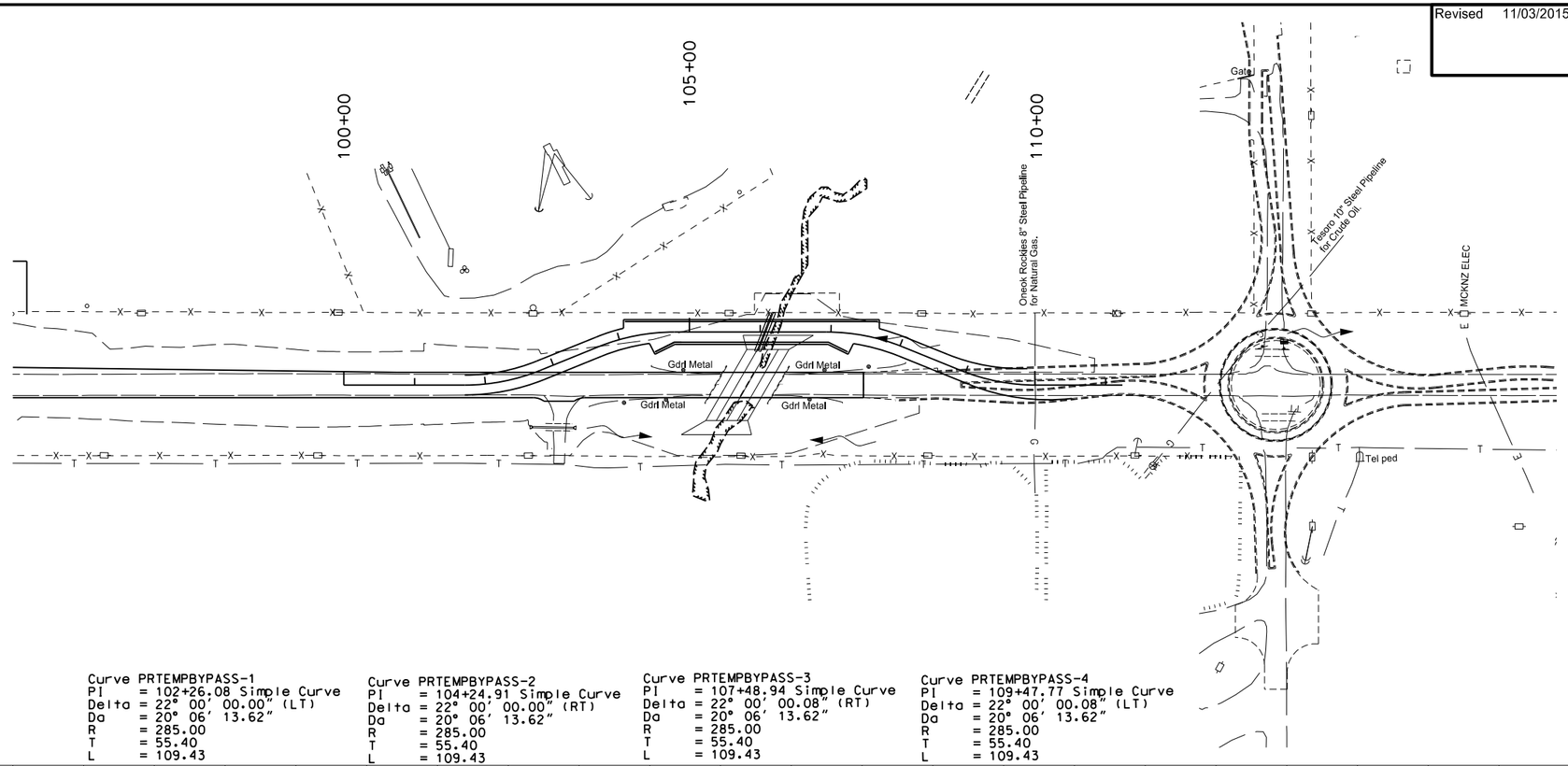
*Maximum speed limit in traffic control areas = 40 mph

Revised 11/03/2015	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	SOIB-5-200(024)075	100	10



Temporary Bypass

Common Excavation - Type A	1564	CY
Salvaged Base Coarse	1656	TON
Tack Coat	263	GAL
Superpave FAA 45	808	TON
PG 58-28 Asphalt Cement	48	TON
Pipe Conduit 36IN	132	LF
Embankment 30% Shrinkage	964	CY

Note: These are the estimated quantities for construction of the RCBC Temporary Bypass. These quantities are included in the overall roadway quantities.

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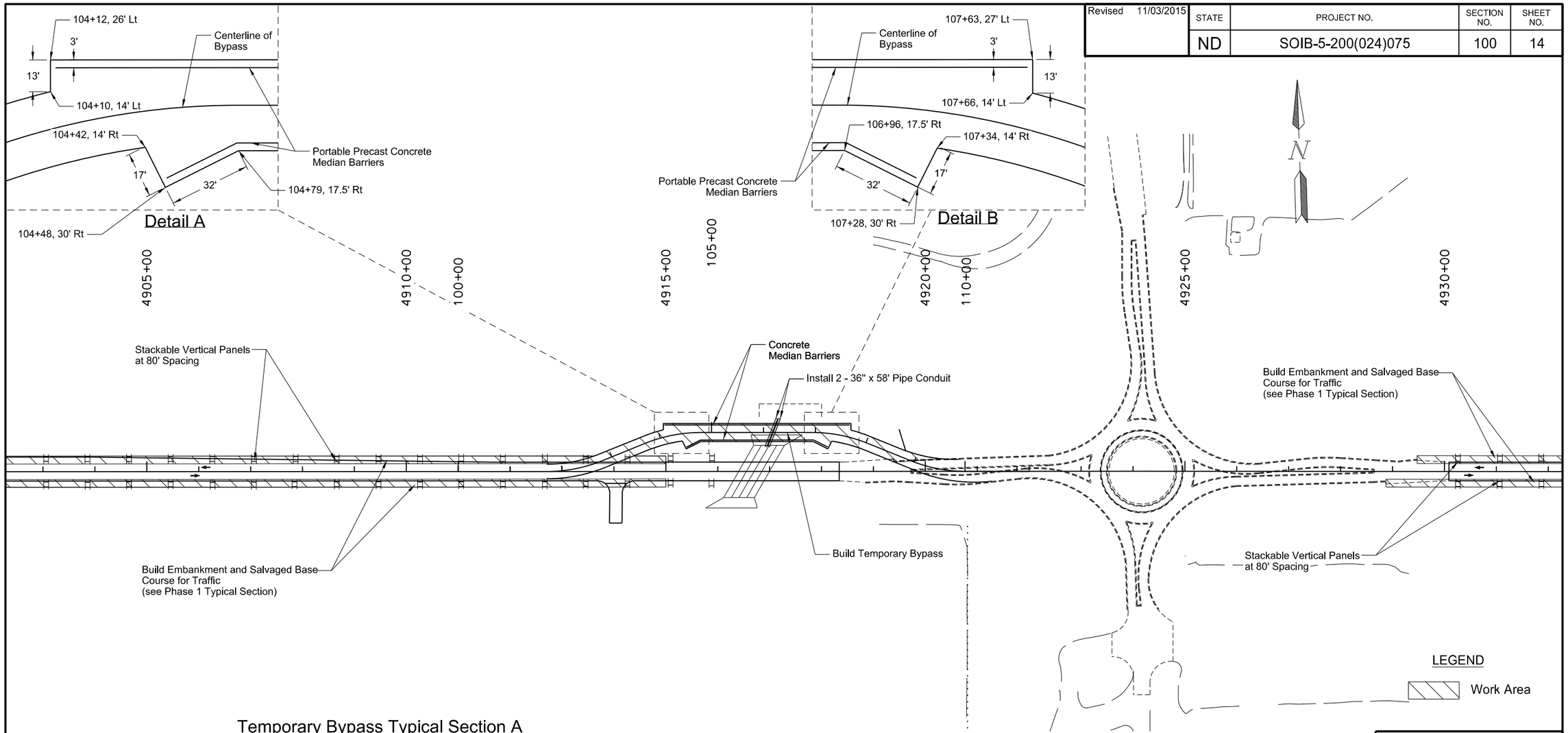
ND Hwy 200
Dunn County

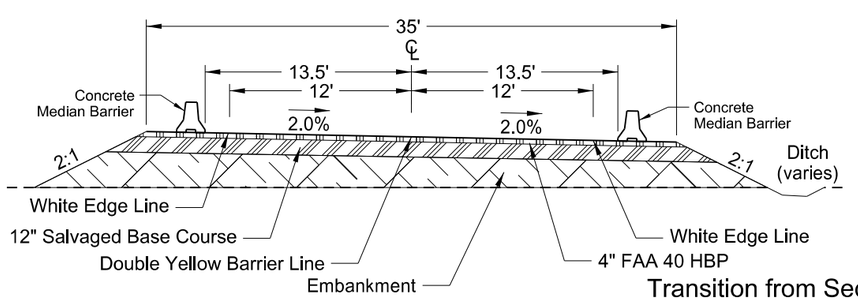
Temporary Bypass Plan & Profile

Revised 11/03/2015	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	SOIB-5-200(024)075	100	14



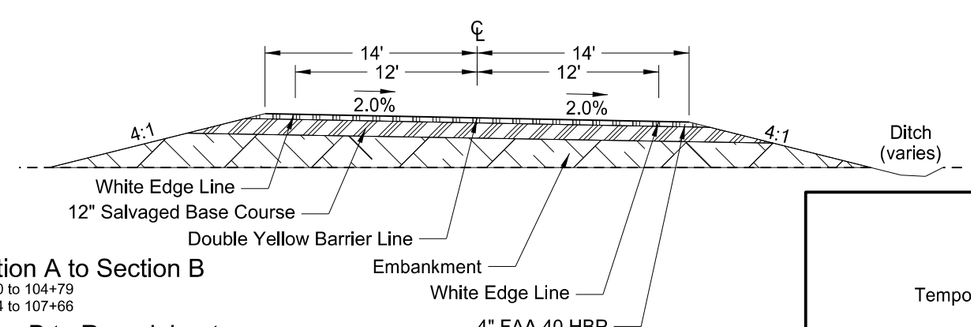
Temporary Bypass Typical Section A

Station 104+79 to 106+94



Temporary Bypass Typical Section B

Station 101+71 to 104+10
Station 107+66 to 108+67



Transition from Section A to Section B

Station 104+10 to 104+79
Station 106+94 to 107+66

Transition from Section B to Roundabout

Station 108+67 to 110+52

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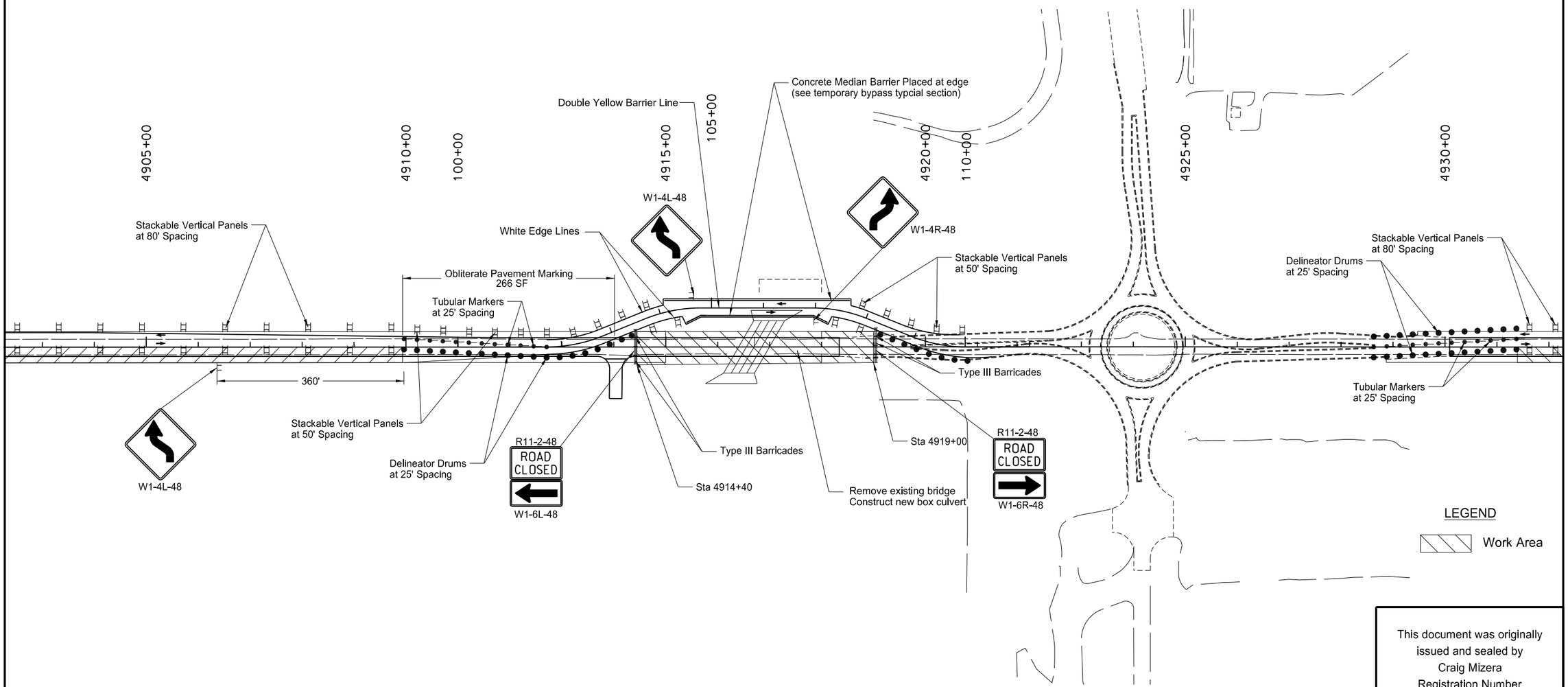
ND Hwy 200
Dunn County

Temporary Bypass - Phase 1

Typical Sections

Revised 11/03/2015	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	SOIB-5-200(024)075	100	15



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ND Hwy 200
Dunn County

Temporary Bypass - Phase 2

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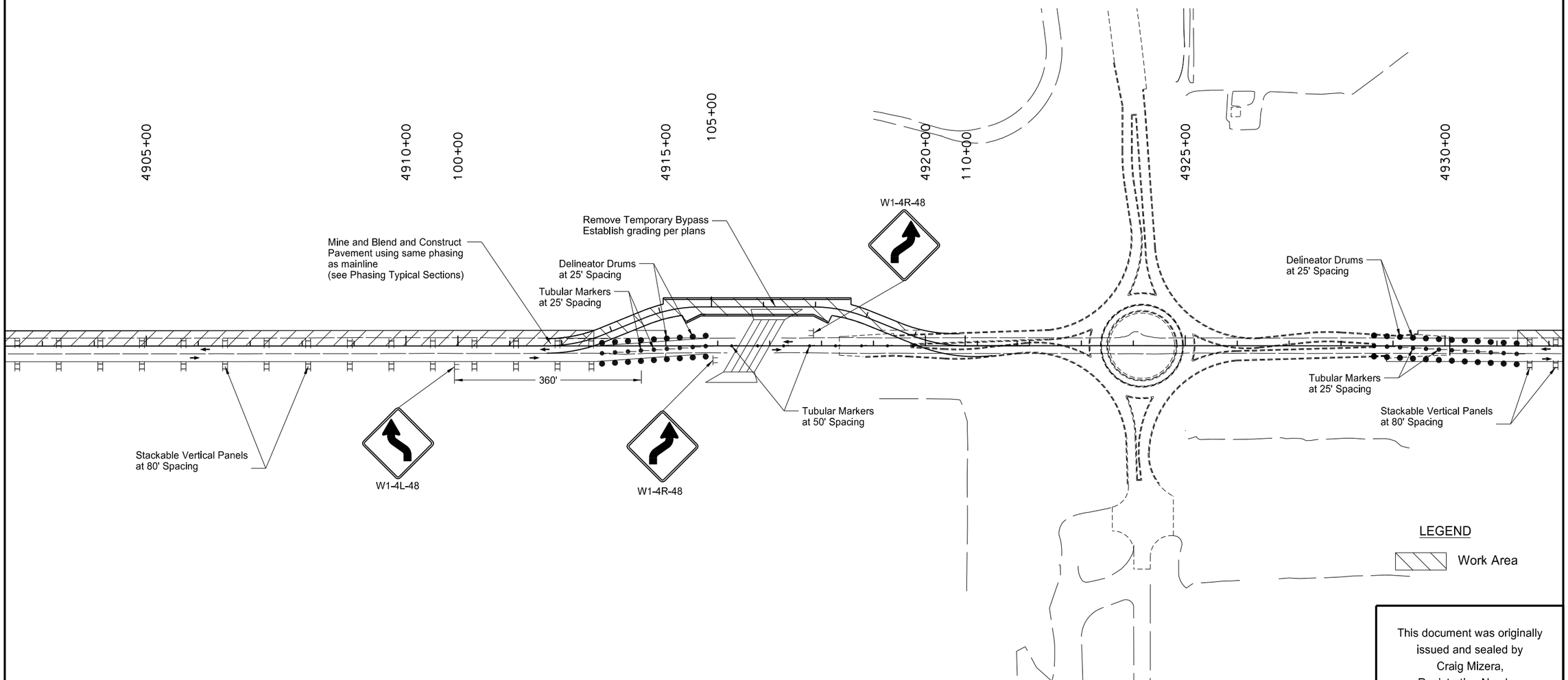
Revised 11/03/2015	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	SOIB-5-200(024)075	100	16

Temporary Bypass	EA
Removal of Temporary Bypass	1 EA



LEGEND

Work Area

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ND Hwy 200
Dunn County

Temporary Bypass - Phase 3

The sign layout as shown is for general information purposes only. The Contractor will be required to conform to MUTCD and the the Standard Drawings when installing the traffic control signing.

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
N.D.	SOIB-5-200(024)075	110	1

Revised 11/03/2015

Sta/RP	Sign No.	Assembly No.	Flat Sheet For Signs IV SF	Flat Sheet For Signs XI SF	Sign Support Length 1st LF	Sign Support Length 2nd LF	Sign Support Length 3rd LF	Sign Support Length 4th LF	Support Size	Max Post Len LF	Sleeve Length 1st LF	Sleeve Length 2nd LF	Sleeve Length 3rd LF	Sleeve Length 4th LF	Sleeve Size	Anchor EA	Anchor LF	Anchor Size	Reset Sign Panel EA	Reset Sign Support EA	Break-Away EA	Comments
1014+08 Rt		1		5.2	10.7				2.25 x 2.25 12 ga	13.7						1	4	2.5 x 2.5 12 ga				
1051+50 Rt	SA-2E			5.2	12.2				2.25 x 2.25 12 ga	13.3						1	4	2.5 x 2.5 12 ga	1			
1055+80 Rt		20		9.0	13.2				2.25 x 2.25 12 ga	14.1	4.5				2 x 2 12 ga	1	4	3 x 3 7 ga			1	
1061+80 Rt		20		9.0	12.7				2.25 x 2.25 12 ga	14.1	4.0				2 x 2 12 ga	1	4	3 x 3 7 ga			1	
3964+76 Lt		2		7.5	7.7				2.25 x 2.25 12 ga	9.6						1	4	2.5 x 2.5 12 ga				
3965+07 Lt		2		7.5	11.7				2.5 x 2.5 10 ga	14.6						1	4	3 x 3 7 ga			1	
3966+57 Rt		372	7.0		12.7				2.5 x 2.5 12 ga	14.1						1	4	3 x 3 7 ga				
3968+57 Lt	SN-1		38.0		12.6	13.4	14.1		2.5 x 2.5 10 ga	15.2	3.4	4.2	4.9		2.19 x 2.19 10 ga	3	4	3 x 3 7 ga			3	
3970+57 Rt		9		5.0	12.0				2.25 x 2.25 12 ga	15.0						1	4	2.5 x 2.5 12 ga				
3972+57 Lt		414	11.2		14.4				2.5 x 2.5 12 ga	16.7	3.8				2.25 x 2.25 12 ga	1	4	3 x 3 7 ga			1	
3976+57 Lt		399	6.2		12.8				2.5 x 2.5 12 ga	15.9						1	4	3 x 3 7 ga				
3977+67 Rt	SN-3	9		5.0	12.0				2.25 x 2.25 12 ga	15.0						1	4	2.5 x 2.5 12 ga				
3980+57 Lt		21		16.0	13.6	14.1			2.25 x 2.25 12 ga	15.7	4.0	4.5			2 x 2 12 ga	2	4	3 x 3 7 ga			2	
3980+57 Rt		21		16.0	13.6	14.1			2.25 x 2.25 12 ga	15.7	4.0	4.5			2 x 2 12 ga	2	4	3 x 3 7 ga			2	
3985+00 Rt	SA-A		12.3		12.2				2.5 x 2.5 12 ga	13.3	4.2				2.25 x 2.25 12 ga	1	4	3 x 3 7 ga			1	
3987+63 Rt		40	12.0		12.0				2.5 x 2.5 12 ga	13.5	3.8				2.25 x 2.25 12 ga	1	4	3 x 3 7 ga			1	
4005+10 Lt		9		5.0	12.0				2.25 x 2.25 12 ga	15.0						1	4	2.5 x 2.5 12 ga				
4007+60 Rt		9		5.0	12.0				2.25 x 2.25 12 ga	15.0						1	4	2.5 x 2.5 12 ga				
4017+57 Rt		1		5.2	10.8				2.25 x 2.25 12 ga	13.7						1	4	2.5 x 2.5 12 ga				
4130+30 Lt		20		9.0	13.2				2.25 x 2.25 12 ga	14.1	4.5				2 x 2 12 ga	1	4	3 x 3 7 ga			1	
4136+30 Lt		20		9.0	13.2				2.25 x 2.25 12 ga	14.1	4.5				2 x 2 12 ga	1	4	3 x 3 7 ga			1	
4142+41 Rt	SA-B		14.0		12.6				2.5 x 2.5 10 ga	15.0	3.4				2.19 x 2.19 10 ga	1	4	3 x 3 7 ga			1	
4175+00 Lt		9		5.0	12.2				2.25 x 2.25 12 ga	15.0						1	4	2.5 x 2.5 12 ga				
4178+85 Rt	SN-4		13.5		11.8				2.5 x 2.5 10 ga	14.1	3.3				2.19 x 2.19 10 ga	1	4	3 x 3 7 ga			1	
4180+25 Lt	SA-2B			5.2	11.5				2.25 x 2.25 12 ga	12.3						1	4	2.5 x 2.5 12 ga	1			
4180+44 Rt		1		5.2	10.8				2.25 x 2.25 12 ga	13.7						1	4	2.5 x 2.5 12 ga				
4182+18 Lt	SN-5		15.0		12.1				2.5 x 2.5 10 ga	12.8	4.4				2.19 x 2.19 10 ga	1	4	3 x 3 7 ga			1	
4185+00 Rt		9		5.0	12.0				2.25 x 2.25 12 ga	15.0						1	4	2.5 x 2.5 12 ga				
4227+61 Lt		9		5.0	12.0				2.25 x 2.25 12 ga	15.0						1	4	2.5 x 2.5 12 ga				
4237+10 Rt		9		5.0	11.3				2 x 2 12 ga	11.5						1	4	2.25 x 2.25 12 ga				
4237+27 Lt	SA-2B			5.2	11.5				2.25 x 2.25 12 ga	12.3						1	4	2.5 x 2.5 12 ga	1			
4237+77 Rt	SA-2B			5.2	11.5				2.25 x 2.25 12 ga	12.3						1	4	2.5 x 2.5 12 ga	1			
4254+90 Rt		9		5.0	12.0				2.25 x 2.25 12 ga	15.0						1	4	2.5 x 2.5 12 ga				
4270+10 Lt	SA-A		12.3		12.2				2.5 x 2.5 12 ga	13.3	4.2				2.25 x 2.25 12 ga	1	4	3 x 3 7 ga			1	

Basis of Estimate
Sign Support Lengths

The sign support lengths have been calculated using the following vertical clearances:

Rural Roadway - 60"

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Sign Summary
Perforated Tube

ND Hwy 200

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
N.D.	SOIB-5-200(024)075	110	2

Revised 11/03/2015

Sta/RP	Sign No.	Assembly No.	Flat Sheet For Signs IV SF	Flat Sheet For Signs XI SF	Sign Support Length 1st LF	Sign Support Length 2nd LF	Sign Support Length 3rd LF	Sign Support Length 4th LF	Support Size	Max Post Len LF	Sleeve Length 1st LF	Sleeve Length 2nd LF	Sleeve Length 3rd LF	Sleeve Length 4th LF	Sleeve Size	Anchor EA	Anchor LF	Anchor Size	Reset Sign Panel EA	Reset Sign Support EA	Break-Away EA	Comments
4311+34 Rt	SA-A		12.3		12.2				2.5 x 2.5 12 ga	13.3	4.2				2.25 x 2.25 12 ga	1	4	3 x 3 7 ga			1	
4327+83 Lt		9		5.0	12.0				2.25 x 2.25 12 ga	15.0						1	4	2.5 x 2.5 12 ga				
4339+00 Lt		9		5.0	11.8				2.25 x 2.25 12 ga	15.0						1	4	2.5 x 2.5 12 ga				
4343+69 Lt	SA-2B			5.2	11.5				2.25 x 2.25 12 ga	12.3						1	4	2.5 x 2.5 12 ga	1			
4344+23 Rt	SA-2B			5.2	11.5				2.25 x 2.25 12 ga	12.3						1	4	2.5 x 2.5 12 ga	1			
4349+00 Rt		9		5.0	12.3				2.25 x 2.25 12 ga	15.0						1	4	2.5 x 2.5 12 ga				
4353+84 Rt		9		5.0	12.0				2.25 x 2.25 12 ga	15.0						1	4	2.5 x 2.5 12 ga				
4426+20 Lt	SA-B		14.0		13.0				2.5 x 2.5 10 ga	15.5	3.3				2.19 x 2.19 10 ga	1	4	3 x 3 7 ga			1	
4432+00 Rt		20		9.0	13.2				2.25 x 2.25 12 ga	14.1	4.5				2 x 2 12 ga	1	4	3 x 3 7 ga			1	
4438+00 Rt		20		9.0	13.2				2.25 x 2.25 12 ga	14.1	4.5				2 x 2 12 ga	1	4	3 x 3 7 ga			1	
4445+11 Rt		9		5.0	12.2				2.25 x 2.25 12 ga	15.0						1	4	2.5 x 2.5 12 ga				
4453+90 Lt		9		5.0	12.2				2.25 x 2.25 12 ga	15.0						1	4	2.5 x 2.5 12 ga				
4461+00 Lt		20		9.0	13.2				2.25 x 2.25 12 ga	14.1	4.5				2 x 2 12 ga	1	4	3 x 3 7 ga			1	
4467+00 Lt		20		9.0	13.2				2.25 x 2.25 12 ga	14.1	4.5				2 x 2 12 ga	1	4	3 x 3 7 ga			1	
4472+80 Rt	SA-B		14.0		12.7				2.5 x 2.5 10 ga	15.0	3.5				2.19 x 2.19 10 ga	1	4	3 x 3 7 ga			1	
4486+26 Rt		19		6.3	12.7				2.5 x 2.5 12 ga	14.5						1	4	3 x 3 7 ga				
4489+56 Lt		372	7.0		12.8				2.5 x 2.5 12 ga	14.1						1	4	3 x 3 7 ga				
4492+12 Rt		372	7.0		12.6				2.5 x 2.5 12 ga	14.1						1	4	3 x 3 7 ga				
4544+77 Lt		9		5.0	12.0				2.25 x 2.25 12 ga	15.0						1	4	2.5 x 2.5 12 ga				
4551+40 Rt	SN-6		36.0		13.2	13.8	14.3		2.5 x 2.5 10 ga	16.3	3.2	3.8	4.4		2.19 x 2.19 10 ga	3	4	3 x 3 7 ga			3	
4554+44 Lt	SA-2B			5.2	11.5				2.25 x 2.25 12 ga	12.3						1	4	2.5 x 2.5 12 ga	1			
4554+94 Rt	SA-2B			5.2	11.5				2.25 x 2.25 12 ga	12.3						1	4	2.5 x 2.5 12 ga	1			
4558+01 Lt	SN-7		36.0		13.2	13.7	14.3		2.5 x 2.5 10 ga	16.3	3.2	3.8	4.3		2.19 x 2.19 10 ga	3	4	3 x 3 7 ga			3	
4572+11 Rt		9		5.0	12.0				2.25 x 2.25 12 ga	15.0						1	4	2.5 x 2.5 12 ga				
4587+27 Lt	SA-A		12.3		12.2				2.5 x 2.5 12 ga	13.3	4.2				2.25 x 2.25 12 ga	1	4	3 x 3 7 ga			1	
4659+96 Lt	SA-2B			5.2	11.5				2.25 x 2.25 12 ga	12.3						1	4	2.5 x 2.5 12 ga	1			
4660+46 Rt	SA-2B			5.2	11.5				2.25 x 2.25 12 ga	12.3						1	4	2.5 x 2.5 12 ga	1			
4680+43 Rt	SA-A		12.3		12.2				2.5 x 2.5 12 ga	13.3	4.2				2.25 x 2.25 12 ga	1	4	3 x 3 7 ga			1	
4693+88 Lt		9		5.0	12.0				2.25 x 2.25 12 ga	15.0						1	4	2.5 x 2.5 12 ga				
4712+75 Lt	SA-2B			5.2	11.5				2.25 x 2.25 12 ga	12.3						1	4	2.5 x 2.5 12 ga	1			
4713+26 Rt	SA-2B			5.2	11.5				2.25 x 2.25 12 ga	12.3						1	4	2.5 x 2.5 12 ga	1			
4722+93 Rt		9		5.0	12.3				2.25 x 2.25 12 ga	15.0						1	4	2.5 x 2.5 12 ga				
4761+00 Lt		9		5.0	12.0				2.25 x 2.25 12 ga	15.0						1	4	2.5 x 2.5 12 ga				
4765+50 Lt	SA-2B			5.2	11.5				2.25 x 2.25 12 ga	12.3						1	4	2.5 x 2.5 12 ga	1			
4770+00 Rt		9		5.0	12.2				2.25 x 2.25 12 ga	15.0						1	4	2.5 x 2.5 12 ga				
4792+25 Lt	SA-2B			5.2	11.5				2.25 x 2.25 12 ga	12.3						1	4	2.5 x 2.5 12 ga	1			

Basis of Estimate
Sign Support Lengths

The sign support lengths have been calculated using the following vertical clearances:

Rural Roadway - 60"

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Sign Summary
Perforated Tube

ND Hwy 200

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
N.D.	SOIB-5-200(024)075	110	3

Revised 11/03/2015

Sta/RP	Sign No.	Assembly No.	Flat Sheet For Signs IV SF	Flat Sheet For Signs XI SF	Sign Support Length 1st LF	Sign Support Length 2nd LF	Sign Support Length 3rd LF	Sign Support Length 4th LF	Support Size	Max Post Len LF	Sleeve Length 1st LF	Sleeve Length 2nd LF	Sleeve Length 3rd LF	Sleeve Length 4th LF	Sleeve Size	Anchor EA	Anchor LF	Anchor Size	Reset Sign Panel EA	Reset Sign Support EA	Break-Away EA	Comments
4795+77 Lt	SA-B		14.0		12.6				2.5 x 2.5 10 ga	15.0	3.4				2.19 x 2.19 10 ga	1	4	3 x 3 7 ga			1	
4800+59 Rt		20		9.0	13.2				2.25 x 2.25 12 ga	14.1	4.5				2 x 2 12 ga	1	4	3 x 3 7 ga			1	
4806+59 Rt		20		9.0	13.2				2.25 x 2.25 12 ga	14.1	4.5				2 x 2 12 ga	1	4	3 x 3 7 ga			1	
4814+67 Rt		9		5.0	12.2				2.25 x 2.25 12 ga	15.0						1	4	2.5 x 2.5 12 ga				
4822+48 Lt		9		5.0	12.2				2.25 x 2.25 12 ga	15.0						1	4	2.5 x 2.5 12 ga				
4830+56 Lt		20		9.0	13.2				2.25 x 2.25 12 ga	14.1	4.5				2 x 2 12 ga	1	4	3 x 3 7 ga			1	
4836+56 Lt		20		9.0	13.2				2.25 x 2.25 12 ga	14.1	4.5				2 x 2 12 ga	1	4	3 x 3 7 ga			1	
4871+75 Rt	SA-2B			5.2	11.5				2.25 x 2.25 12 ga	12.3						1	4	2.5 x 2.5 12 ga	1			
4872+90 Lt	SA-2B			5.2	11.5				2.25 x 2.25 12 ga	12.3						1	4	2.5 x 2.5 12 ga	1			
4914+25 Lt		9		5.0	12.0				2.25 x 2.25 12 ga	15.0						1	4	2.5 x 2.5 12 ga				
4956+75 Lt	SA-A		12.3		12.2				2.5 x 2.5 12 ga	13.3	4.2				2.25 x 2.25 12 ga	1	4	3 x 3 7 ga			1	
5005+06 Rt		20		9.0	13.0				2.25 x 2.25 12 ga	14.1	4.3				2 x 2 12 ga	1	4	3 x 3 7 ga			1	
5016+58 Rt		9		5.0	12.0				2.25 x 2.25 12 ga	15.0						1	4	2.5 x 2.5 12 ga				
5020+58 Rt		391			13.5				2.5 x 2.5 12 ga	15.9						1	4	3 x 3 7 ga	1			
5022+55 Lt		1		5.2	10.6				2.25 x 2.25 12 ga	13.7						1	4	2.5 x 2.5 12 ga				
5022+58 Rt		53			14.5				2.25 x 2.25 12 ga	16.1	4.4				2 x 2 12 ga	1	4	3 x 3 7 ga	1		1	
Sub Total			318.7	399.3			**Total**	1163.7								**Total**	376		18	0	42	
Grand Total			318.7	399.3			**Total**	1163.7								**Total**	376		18	0	42	

Basis of Estimate
Sign Support Lengths

The sign support lengths have been calculated
using the following vertical clearances:

Rural Roadway - 60"

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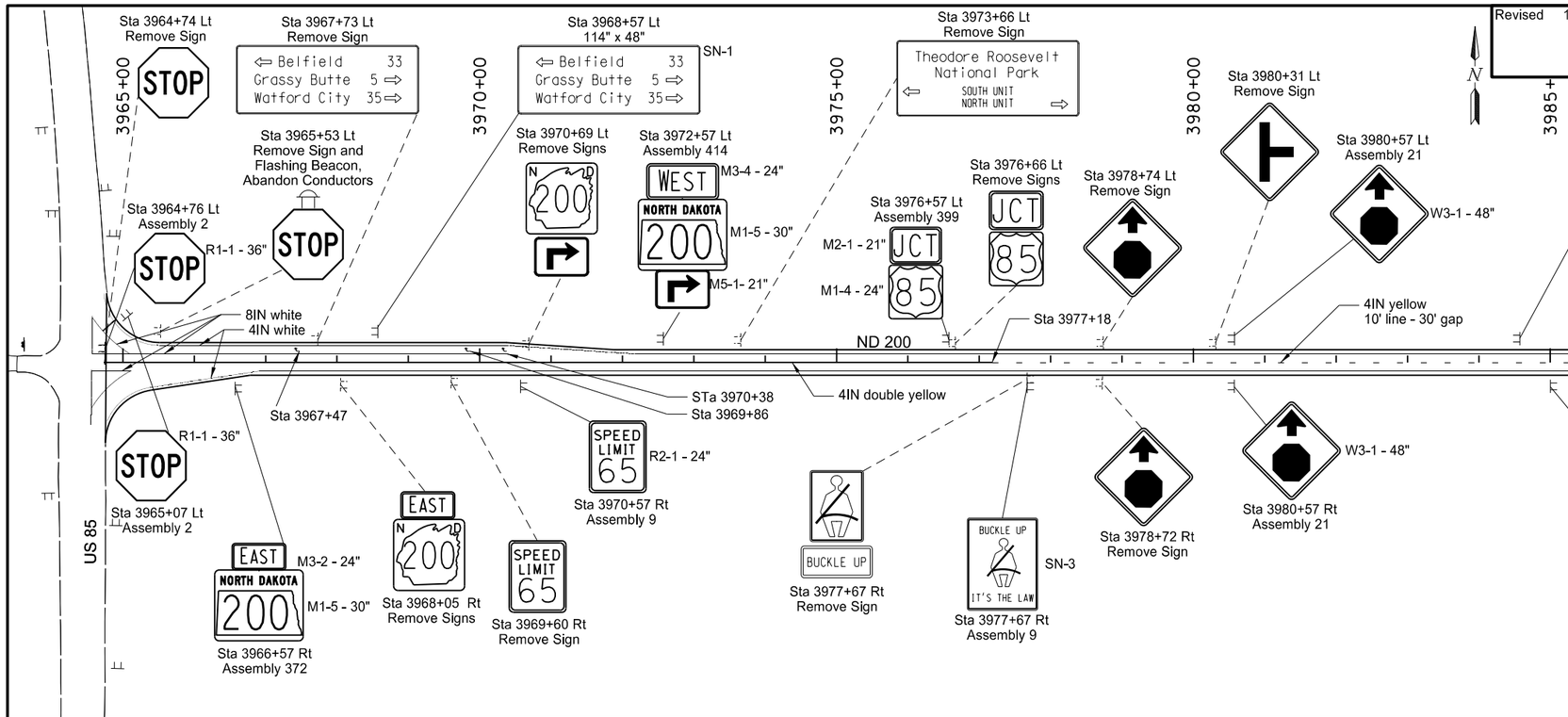
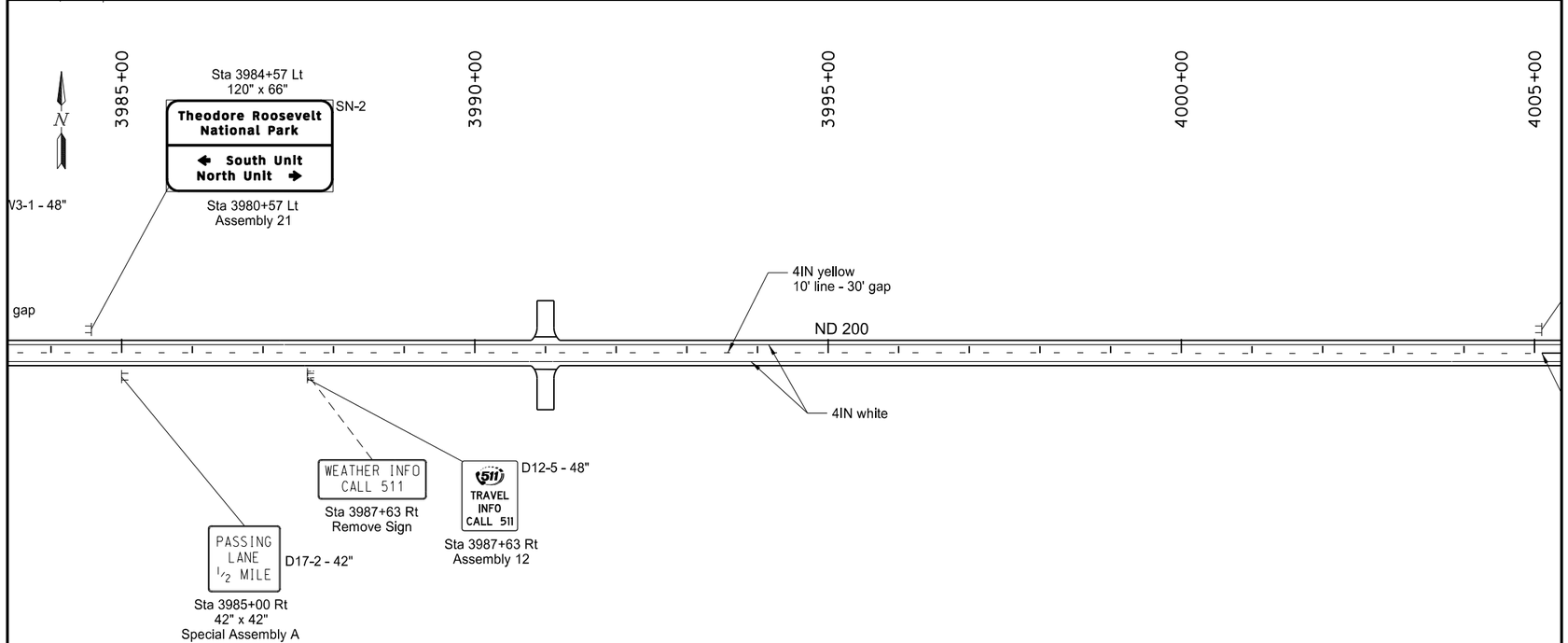
Sign Summary
Perforated Tube

ND Hwy 200

Revised 11/03/2015	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	SOIB-5-200(024)075	110	5





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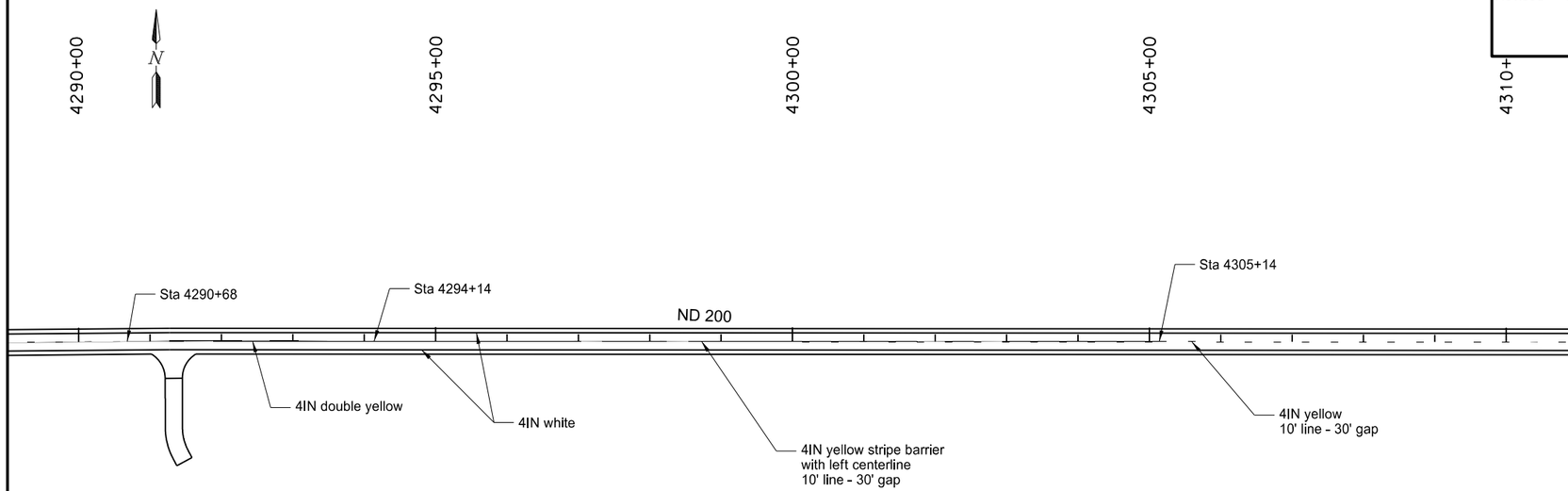
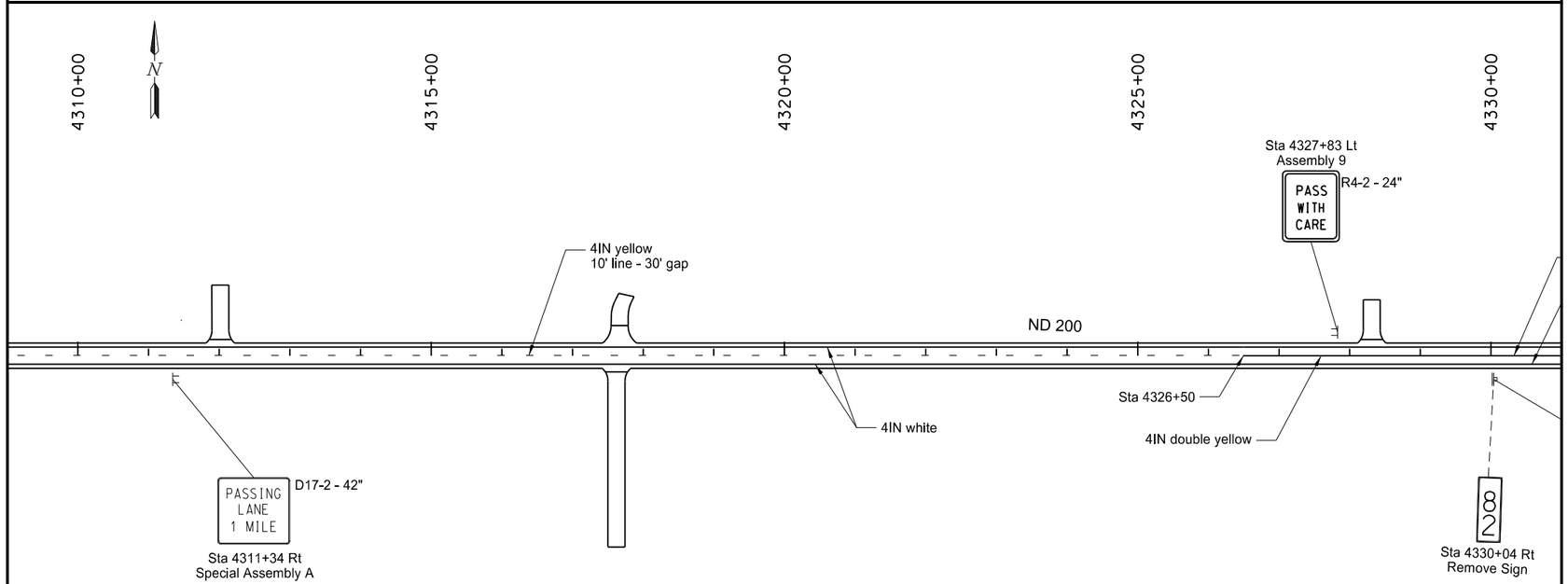
ND Hwy 200
McKenzie County

Sign Layout/Pavement Marking Layout

Sta 3965+00 to 4005+00

Revised 11/03/2015	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	SOIB-5-200(024)075	110	14





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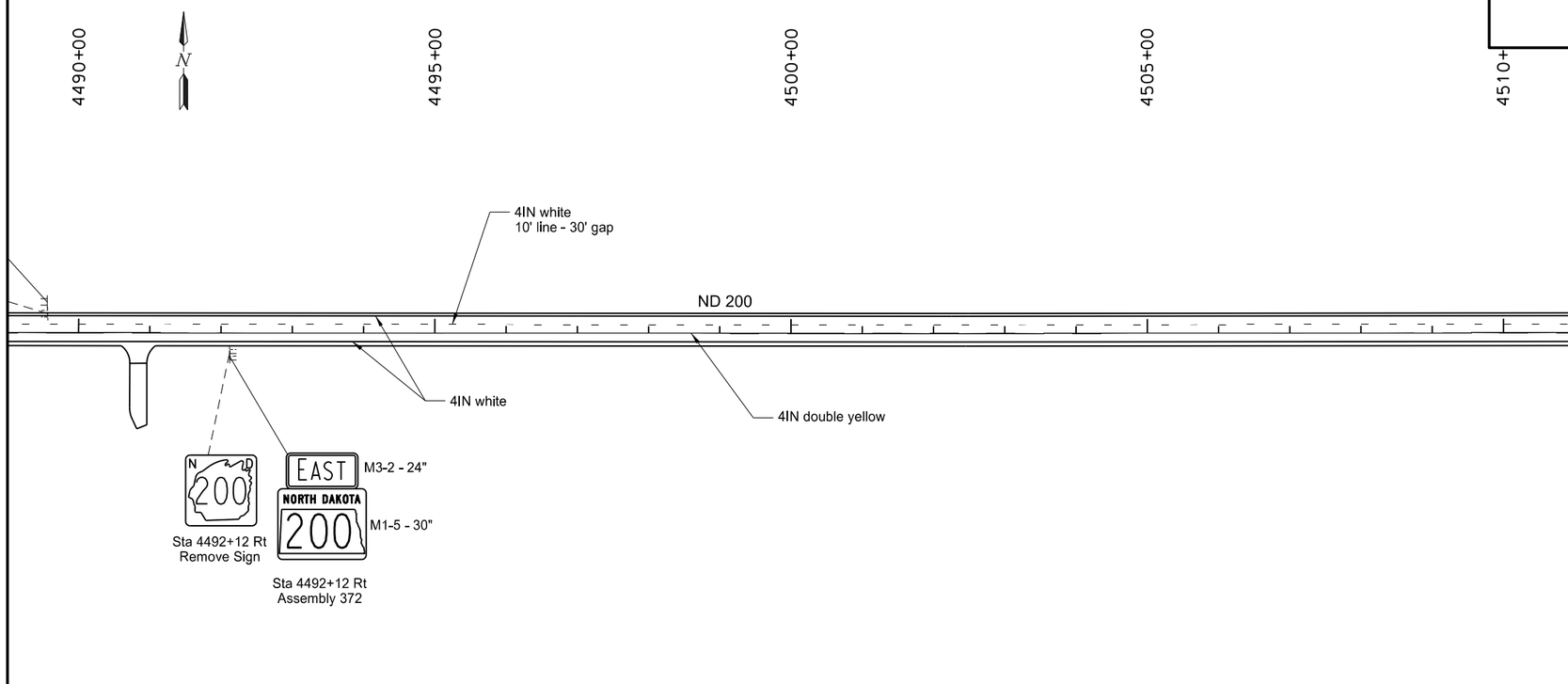
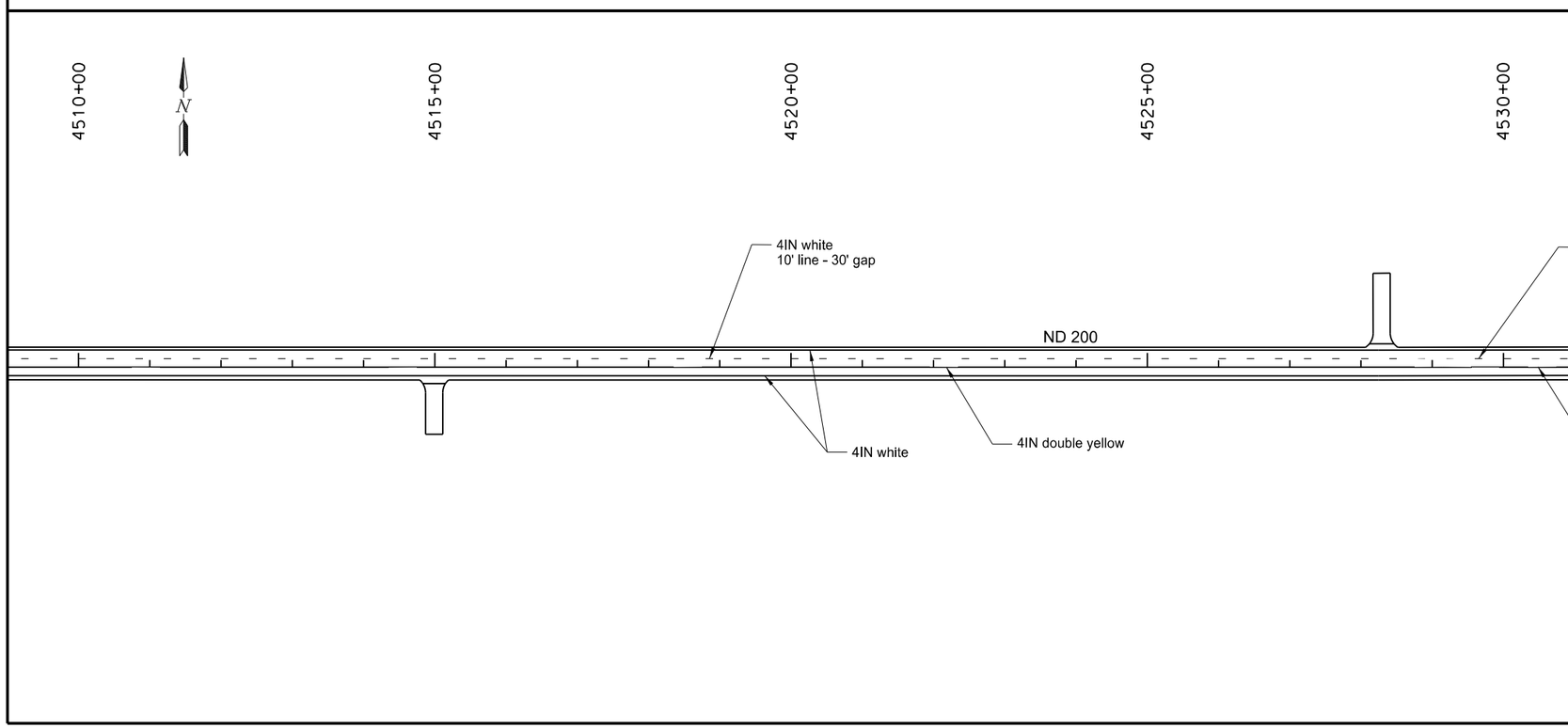
ND Hwy 200
Dunn County

Sign Layout/Pavement Marking Layout

Sta 4290+00 to 4330+00

Revised 11/03/2015	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	SOIB-5-200(024)075	110	19





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ND Hwy 200
Dunn County

Sign Layout/Pavement Marking Layout

Sta 4490+00 to 4530+00